

SECTION 4 - SCOPE OF WORK FOR VENDOR RESPONSE

Following is a list of the services and/or products that the CSU would like discussed and described in your proposal. Your response should be tailored to demonstrate an understanding of the CSU project requirements and address our need for a library service platform and discovery system. Provide examples of your solution when appropriate.

Every proposal is required to include responses to Section A: Systems & Services.

Additionally, proposals must clearly state which category is being proposed:

- Section B: Staff Functions, or
- Section C: Discovery and User Experience, or
- Sections B & C: Both Staff Functions and Discovery and User Experience.

It is expected that your proposal be tailored to reflect the appropriate category. Your proposal must clearly state which section you are responding to and you should respond to or acknowledge each numbered or bulleted point.

Ex Libris: We are proposing both B & C: Staff Functions and Discovery and User Experience.

A. SYSTEMS & SERVICES

Through this RFP, the CSU libraries seek to select and implement a shared library services platform and discovery system, displacing a variety of local systems in order to eliminate current inefficiencies and gain new consortium capabilities. In order to accomplish this goal within a university system as large and diverse as the CSU, the selected library services platform and discovery system must be able to scale to handle millions of records, hundreds of simultaneous transactions, and thousands of simultaneous users.

A.1. SYSTEMS & SERVICES REQUIREMENTS

The library services platform and discovery system must:

- A.1.1 Meet very high reliability expectations and utilize a cloud-computing architecture and, preferably, browser-based staff interfaces. The vendor must be ready, when failures do occur, to mitigate and resolve them quickly and accurately.

Ex Libris: Ex Libris' standard SLA commitment is to deliver service availability of at least 99.5%, measured over any calendar year. The cloud environment is monitored 24x7, with staff attending to any issues in real time.

Based on our experience with thousands of institutions deployed in our cloud environment, a number of which are large consortia, actual system availability is significantly higher. For example, in 2013, average availability was 99.8%.

With Alma, there have been no outages lasting more than a few minutes. In the rare event that an outage occurs, email alerts are sent to clients, and to-date all issues have been resolved within minutes. The Alma cloud environment provides:

- Full System Redundancy
- No service downtime
- Instant failover
- No interruption in service

...and the failover process is instant and completely transparent.

The ExLibris cloud team provides 24x7 coverage for the service by monitoring and alerting on any issues or problems with:

- servers
- operating systems
- network devices (switches/routers)
- backup systems
- server side performance

All incidents of downtime affecting clients are transparently reported by Ex Libris via a designated link on the Customer Portal (the "Downtime Status Page"). In the event of downtime, Ex Libris updates the Downtime Status Page on an hourly basis until resolution of the event. If a downtime incident affects only a single customer, the customer is notified directly by email.

A.1.2 Meet CSU IT security requirements as specified in the CSU General Provisions for IT Acquisitions, Section 30.

Ex Libris: Complies - we can meet these requirements. However, not all of these requirements are relevant for the type of SaaS-based multi-tenant solution that we are proposing. We have noted these items in Section 2 of this response and would like to discuss these requirements with you.

A.1.3 Store library and user data securely and respect user privacy. The library services platform and discovery system should also offer systems for identity management using standard protocols that provide streamlined authentication for end-users and library staff.

Ex Libris: Ex Libris is committed to providing our customers with a highly secure and reliable environment for our cloud-based solutions. We have developed and deployed a multi-tiered security model that covers all aspects of cloud-based Ex Libris systems.

The security model and controls are based on international protocols and standards as well as industry best practices, such as ISO/IEC 27001:2005, the standard for information security management systems (ISMS).

With Alma, all communication between browsers and the Alma cloud is secured. Sensitive patron information (such as ID, email, address) is kept securely encrypted in the Alma database.

As part of the company's focus on security issues, Ex Libris employs a dedicated Security Officer and a dedicated Cloud Services team that is responsible for:

- Applying the security model to all system tiers
- Monitoring and analyzing the infrastructure for suspicious activities and potential threats
- Issuing periodic security reports to Ex Libris management and customers
- Dynamically updating the security model and addressing new security threats

In addition, the Ex Libris Security team is dedicated to:

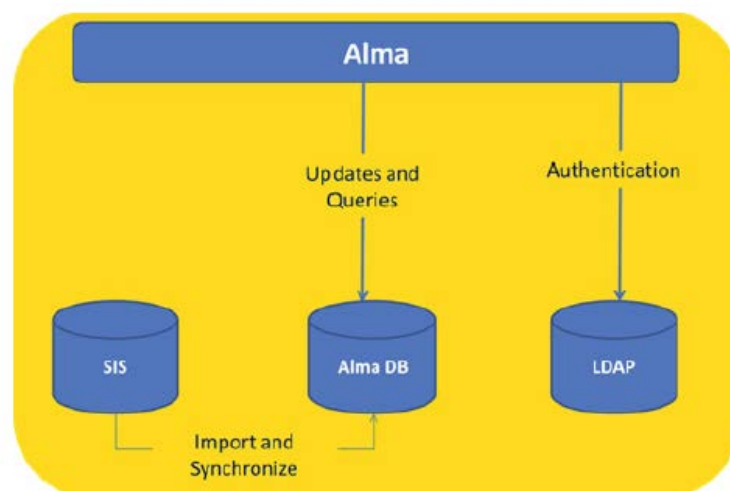
- Systematically examining the organization's information security risks, taking into account threats and vulnerabilities
- Designing and implementing a coherent and comprehensive suite of information security controls and/or other forms of risk treatment (such as risk avoidance or risk transfer) to address the risks that are deemed unacceptable
- Adopting an overarching management process to ensure that the information security controls continue to meet the organization's evolving information security needs

There are two basic types of user accounts in Alma, the staff management solution:

- Internal users – authenticated only within Alma
- External users – authenticated outside of Alma

Internal users are created manually by library staff and are managed entirely within the library's scope. Authentication, updates, and user-related queries are performed using the Alma internal database.

External users are stored and managed outside the library's scope, usually in another system maintained by the institution (for example, in a Student Information System). These users' information is loaded into Alma and synchronized on a regular basis. It is possible to update an external user's information manually in Alma, but these updates are overridden by the next synchronization with the user information system. Authentication of external users is performed outside of Alma; the system supports LDAP and SAML. The diagram below displays the loading of External Users, using LDAP for Authentication:



An Alma user record consists of core user information (such as first name, last name) and the following related segments: identifiers, addresses, phone numbers, email addresses, notes, blocks, and statistics. A user may have multiple occurrences of each segment.

To authenticate an end-user employing Primo to access information from Alma, Primo utilizes Alma's user-related information in several areas, specifically the Get It and My Library Card tabs.

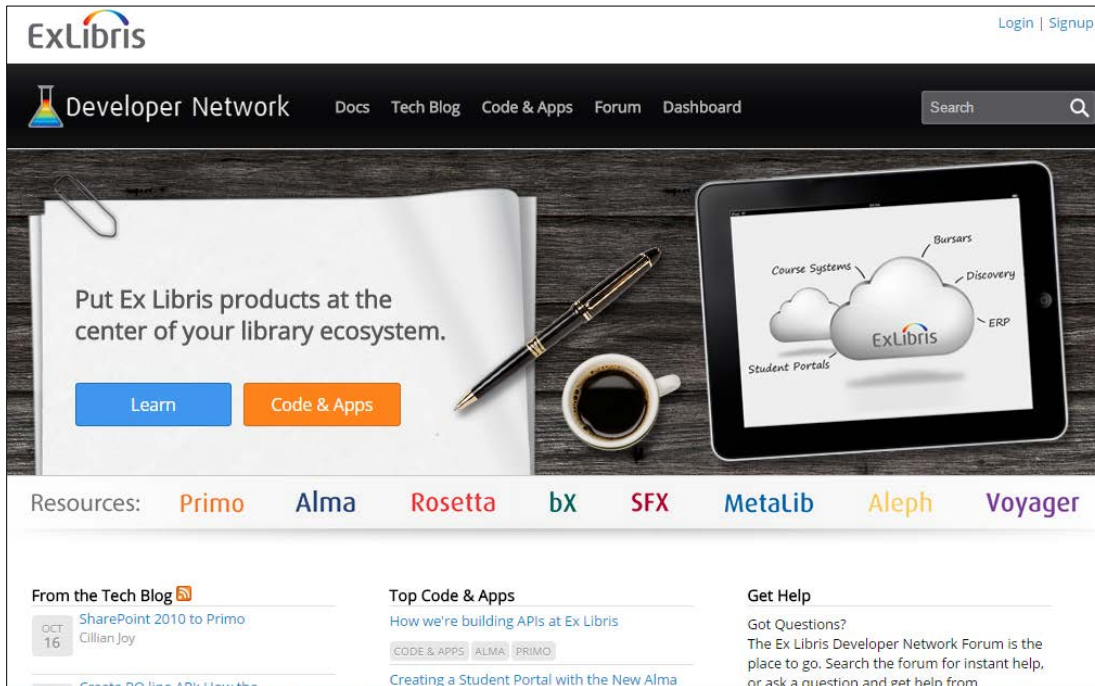
To retrieve such information, the authenticated Primo user must be identified in Alma. Authentication of users is performed based on Primo's PDS (Patron Directory Service) configuration. This configuration also determines the user ID value that is used as a matchpoint with Alma. This can be any user attribute that is returned by the IDP when identifying the user in Primo. When trying to retrieve user-related information from Alma, Alma searches for a user with the user ID value in one of the identifiers that are unique cross-institution.

- A.1.4 Be customizable and extendable to respond to the unique needs of each CSU campus, and should integrate with technologies and metadata standards in use at each campus.

Ex Libris: The CSU campuses will be able to extend and customize Alma and Primo to align with the unique needs of each campus. Both are in use at academic libraries and consortia worldwide, whose users have taken full advantage of both systems' flexibility to work effectively within unique campus settings and with third-party applications.

Above and beyond the systems' built-in customization options, Ex Libris makes available the Developer Network, an open environment in which developers and IT professionals can collaborate across libraries and with Ex Libris to experiment with applications and extensions to the company's solutions. the Developer Network features the following sections:

- API Docs: Comprehensive API and integration documentation and technical guides
- Tech Blog: Advice, technical guidance, and best practice information offered by developers and Ex Libris development team members
- Codes & Apps: Contributions of code and apps, including links to complete code projects hosted on GitHub
- API Console: A testing environment (sandbox) in which customer developers will be able to experiment with Ex Libris APIs
- Forum: Online forums in which developers can share ideas, questions, and answers about how to get the most value out of Ex Libris APIs
- Dashboard: A tool enabling developers to manage their implementations of open interfaces and to view usage analytics.



- A.1.5 Provide comprehensive support and training, during and beyond migration. The CSU desires a long-term partner that can not only deliver a sound, useful system with a strong documentation set, but can also deliver services, training, and support when called upon. The CSU also seeks partners with a history and culture of proactively responding to customer needs and suggestions, and supporting the activity of user groups and communities.

Ex Libris: We view The CSU as a strategic partner and looking forward to extending our past collaborations to now encompass next-generation library services. Customer support is available during the project and after the organization goes live with our proposed solutions. Training is provided throughout the project, according to the project plan agreed upon by the CSU libraries and Ex Libris. After the libraries go live with the solution, CSU may choose to take several roles in Alma's ongoing operation such as:

- Help desk type of support – functioning as Alma experts in resolving tier one issues that are primarily issues related to ‘know-how’;
- Troubleshooting for application issues – such as configuration issues;
- Integration development using Alma’s API and web-services;
- Provide expert services to the CSU members in areas such as advanced reporting and analytics, integrations and customizations;
- Managing users and staff accounts; and
- Provide customized training to the CSU members.

While Alma’s architecture and support model allows for the centralized roles and services highlighted above and more, system administration is flexible and can be done centrally or distributed to each campus or accomplished in a hybrid model – all with assistance and cooperation by Ex Libris.

We also offer the Learning Center, a portal available 24/7 to all Ex Libris customers. The Learning Center enables libraries to maximize the usage of Ex Libris solutions, by offering a variety of lesson types such as:

- Initial, pertaining to new product installations
- Ongoing, providing more advanced and refresher training
- “How to”, focusing on a specific topic or advanced feature
- “What’s new?”, dealing with service packs and new version features
- General, overviewing a product’s purposes and capabilities

Access to the Learning Center is included as part of the Alma subscription at no extra cost to Alma customers.

Ex Libris would welcome the opportunity to discuss with the CSU how we can best enhance our existing relationship, and build a future collaborative partnership. For more information on continued learning and support documentation, please refer to section A8 of this response.

- A.1.6 If a vendor is offering a stand-alone discovery system, that system must fully integrate with any library services platform selected by the CSU.

Ex Libris: We are proposing Alma, our next-generation library services platform, together with Primo, our advanced discovery layer. Alma provides APIs that can be used by clients to integrate with other discovery interfaces. To-date, all Alma clients have elected to also adopt Primo in order to take advantage of the extensive integration between the two solutions, reduce overhead and complexity and optimize the user experience. Primo is in use around the world with a variety of back-office solutions including Voyager, Aleph, and Alma as well as third-party integrated library systems from Innovative Interfaces Inc., SirsiDynix, and others.

A.2. RELIABILITY, SCALABILITY, AND PERFORMANCE

The CSU seeks to maintain the highest possible level of service availability and response times to all CSU campuses in all locations.

Describe or Demonstrate:

- A.2.1. The cloud-based network environment of the system.

Ex Libris: Alma is delivered as cloud-based SaaS solution hosted in Ex Libris’ private cloud. The Ex Libris data centers have a SSAE16 SOC1 service auditor’s report as the result of an in-depth audit of the centers’ control objectives and control activities, including controls over information technology and all other related processes.

Applications in the cloud have firewalls installed to shield them from attack and prevent the loss of valuable customer data. The firewalls are configured to serve as perimeter firewalls to block ports and protocols.

The combination of an intrusion detection system (IDS) and intrusion prevention system (IPS) installed and tracks all illegal activities. The system sends real-time alerts and proactively blocks communication once a suspicious attack is discovered. The system performs various activities on the network: log collection and analysis from the various machines (firewalls, switches, and routers), file integrity checking, and rootkit detection.

Environmental controls implemented at the Ex Libris data center facilities include:

- Servers are locked inside the infrastructure in a designated area.
- The server area is cooled by a separate air conditioning system, which keeps the climate at the desired temperature to prevent service outage.
- The facilities are protected by a fire suppression system, which protects the computing equipment and has built-in fire, water, and smoke detectors.
- The facilities have on-site generators which serve as an alternative power source.
- There is 24-hour video surveillance of all entrances and exits, lobbies, and ancillary rooms. The videos are recorded and monitored, and be retained for later use.
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Physical access to the data center is restricted to personnel with a business need to access the infrastructure. All physical access activities are logged and monitored. All visitors need to be approved beforehand, and the approval is for a limited period of time. Visitors must be accompanied by an authorized employee throughout their visit.

- A.2.2.** Supported web browsers for both staff and end-users. How do you determine which platforms and browsers you will support? Describe any functionality that cannot be successfully completed through a web browser.

Ex Libris: Both staff and end users may employ the same supported browsers, which currently are Internet Explorer 8, Firefox 3+, Chrome 6+. These are supported as the most commonly-used browsers among our customer base. All Alma and Primo transactions are performed through the browser.

- A.2.3.** How the system minimizes business disruption and maximizes system availability, particularly within the context of a geographically large implementation. What kind of “up” time do you typically deliver (also define any terms within your answer as appropriate)? What are the biggest risks to the system in terms of availability (e.g., power outages, network outages, data corruption, software bugs, reliance on external partners), and how are these risks mitigated? Provide any examples you can of large outages that have occurred, how long they lasted, and how you resolved them.

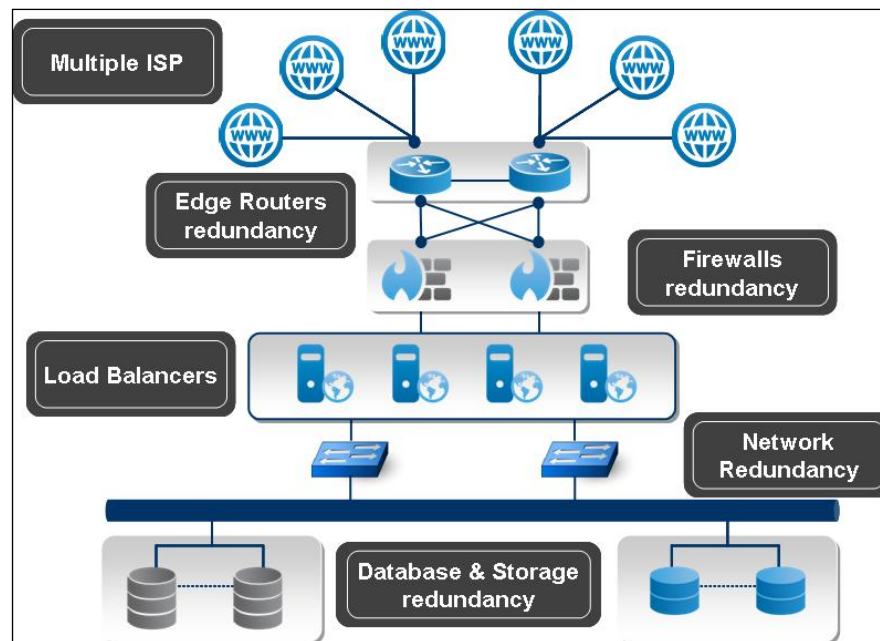
Ex Libris: Ex Libris has developed a high-availability solution to ensure the system can handle any type of disruption. This approach applies to all components of the system, and complies with the fundamental guidelines of business continuity: full redundancy, load balancing, and failover.

We guarantee that the Alma service will be available at least 99.5% of the time, excluding scheduled maintenance; in reality, based on the past several years’ experience in hosting customer applications in the cloud, Ex Libris’ statistics show higher availability numbers. In

2013, for example, Alma's average uptime was 99.8%. Unscheduled downtimes lasted no more than a few minutes; when these occur, email alerts are sent, but to date such incidents have been resolved within minutes.

To deliver this performance:

- All aspects of the physical infrastructure are designed to have no single point of failure in any of the cloud layers: electricity, access to internal networking and switches, load balancers, firewall and storage, as well as edge routers and multiple Internet Service providers (ISPs) to the data center, ensuring high availability and accessibility to the Alma service in the cloud.



In addition, all of Alma's components are redundant and provide high availability:

- All servers support active-active fault tolerance;
- Database components have automatic fail-over;
- Our data center is planned at any given time to provide over 15% of the required capacity. We maintain stand-by servers ready in case of multiple-server failure;
- The Ex Libris data center maintains a clear mitigation plan for any malfunction scenario (hot standby/cold standby, etc.); and
- The Ex Libris data center provides 24x7 support for all hardware components with our vendors, with an SLA for replacement hardware on site when needed.

Recognizing that even the most resilient system may occasionally experience downtime, Ex Libris operates a 24x7 hub (service center) that provides first-line support for any System Down event. The 24x7 hub team focuses on 24x7 monitoring, troubleshooting, correcting and/or escalating problems, assuring that issues are handled in accordance with our SLA and with the highest level of technical performance and quality. The team has developed rigorous procedures that are employed immediately in the event of a down-time alert.

The 24x7 hub team is also responsible for background maintenance of servers, operating systems, network devices such as switches and routers, security devices (e.g., firewalls, IPS/IDS), storage area networks, backup systems, disaster recovery environments, server side performance, end user browser performance, and all background batch jobs.

As part of our ongoing process of evaluating our high availability and improving our ability to handle potential issues, we continually monitor Alma's performance. For example, when we identify batch processes that are overloading the institutions' environment, we move them into a dedicated server area and by doing so, improve performance and reduce any risks presented by the additional loads.

As a cloud-based SaaS solution, Alma's actual user experience is based on several factors. Among these factors are the throughput of the Ex Libris Data Center, the server's performance, and the local institution network and bandwidth. The Ex Libris Cloud Data Center utilizes 1G bandwidth as its backbone, and works with multiple ISP vendors at every point in time. As with every SaaS vendor, we measure the performance of our servers; we do not, however, have control of the 'last mile' at the institution level. We can report that so far our customers report a high performance level for all operations that met web application expectations. We also monitor our application and server throughput 24/7 in order to make sure that transactions are handled and sent to the user browser as expected.

A.2.4. Monitoring and reporting of system reliability and performance. Provide sample reference data or screenshots, as appropriate, of monitoring feedback. In particular, please describe:

- What kind of 24/7 downtime monitoring and support is available;
- How monitoring is staffed and the number of staff members who can support to critical outages over a 24-hour period;
- What is the expected response time for resolving downtime;
- Processes undertaken to minimize downtime;
- If there is a 'status' page to view the current up or down state of services;
- Scheduled down times, or "quiet time," the system requires, noting the frequency, duration and purpose;
- Available tools to continue core functions during down times? How are jobs that are scheduled to run during scheduled and unscheduled down times handled;
- Proactive monitoring of the system by your organization, and any actionable communications to the customer that result from this monitoring. For example, do you warn the customer if certain system limits are being reached, such as record counts or processing availability? How do you alert the customer in the event of planned downtime and unplanned system anomalies? Is there a 'current status' page that would show the known current status (up or down) of the application and/or servers;

- Is there a backup instance of user-facing components that institutions could continue to use during downtime? For example, is there a staging or testing port/server that an institution could link to if downtime occurs?

Ex Libris: Some of these questions have been answered in our response to A.1.4 above regarding the Ex Libris 24x7 hub site and its protocols.

Also, the Ex Libris System Status site allows all multi-tenant customers immediate access to view the current status of their service, and to sign up for email alerts when there are interruptions to the service. On the site customers will find:

- Live and historical data on system status
- Scheduled Maintenance notifications
- An option to sign up for email alerts regarding interruptions to the service

Response levels to reported incidents are as follows:

<u>Response Level</u>	<u>Description</u>	<u>Initial Response</u>
I	<ul style="list-style-type: none"> ■ The Service is not available 	1 hour
II	<ul style="list-style-type: none"> ■ An inoperable production module 	2 hours
III	<ul style="list-style-type: none"> ■ Other production performance related issues, typically a module feature working incorrectly 	1 business day
IV	<ul style="list-style-type: none"> ■ Non-performance related incidents, including: general questions, requests for information, documentation questions, enhancement requests 	2 business days

To make sure processes are running smoothly, a set of application-level monitoring events is defined. For each core process we have defined the expected duration, and each scenario that does not meet the defined threshold is sent as an event to our monitoring system. In addition, we run proactive trend analysis and health check validations as an ongoing performance improvement mechanism.

Operational reports help us track abnormal behavior and detect growth trends; procedures are in place to take proactive actions upon findings (either provisioning decisions or escalation to our development teams).

We define "Scheduled Downtime" as any downtime (i) of which Customer is notified at least seven (7) days in advance, or (ii) during a standard maintenance window, as published by Ex Libris from time to time. In either of the foregoing situations, Ex Libris uses commercially reasonable efforts to ensure that the Scheduled Downtime falls between the hours of Saturday 8:00 PM and Sunday 6:00 AM, U.S. Central time.

A.2.5. Load balancing distribution in your Cloud-based network environment.

Ex Libris: The Alma SaaS environment is built to handle usage fluctuations and peaks in several ways:

1. Access to the Alma application is done via a load balancer that routes customers to an available application server;
2. Online transactions, batch jobs and reports are each performed via dedicated resources to prevent disruption to online transactions caused by heavy jobs or reports run by users; and
3. Deployment of end-point monitoring tools for high visibility.

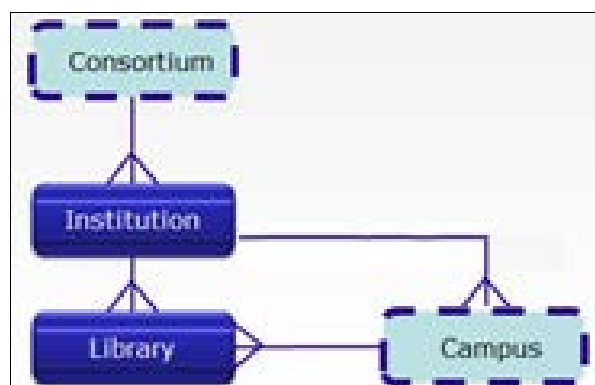
Our monitoring tools help us gauge performance, and in the event of any service degradation, our cloud engineers are supplied with the appropriate tools. For example, if a server's resources are being consumed at a sudden high rate, an engineer is notified, and can change the load balancer rules to allocate more resources for online transactions.

A.2.6. Storage of and architecture of institutional-level data (e.g., is institutional data stored separately? How is individual institution data differentiated architecturally?)

Ex Libris: The Alma hierarchy is based on two organizational levels, the institution and the library:

- The **Institution** is the basic level of data and workflow management in Alma; it also holds all of the institution, or local library, data. Some processes and configurations, however, may be managed at the **Library** level.
- The **Library** is one or more physical locations that are normally housed in a single building or in several buildings that are in close proximity to one another. It has locations and circulation desks that are familiar to the library patrons.

Two additional and optional organizational levels can also play a role in an Alma topology, the consortium and the campus:



Every library can optionally belong to a single **Campus**. The Campus is a group of libraries that can be grouped for the following purposes:

- To allow electronic resources to be available only when discovered from within one of the campus libraries

- To set the priority of the discovered physical resources to match the physical location from which discovery is performed
- To set common allowed pick-up locations for requested physical resources

An institution can be set up with several Campuses, each linked to a number of libraries.

The **Consortium** is where institutions coordinate and share data and processes, and may have one or more different business areas:

Shared Catalog – A shared Metadata Management System, where institutions contribute and make use of a single shared catalog

Acquisitions – Where institutions share and manage a joint acquisitions process and shared electronic inventory

Fulfillment – Where institutions can share fulfillment services and enable patrons to freely use resources of each other

Resource Sharing – Where there is a sharing of resources between the institutions of the consortium through ILL

A.2.7. Limitations or performance issues that may occur during large batch-edit or data operations system-wide.

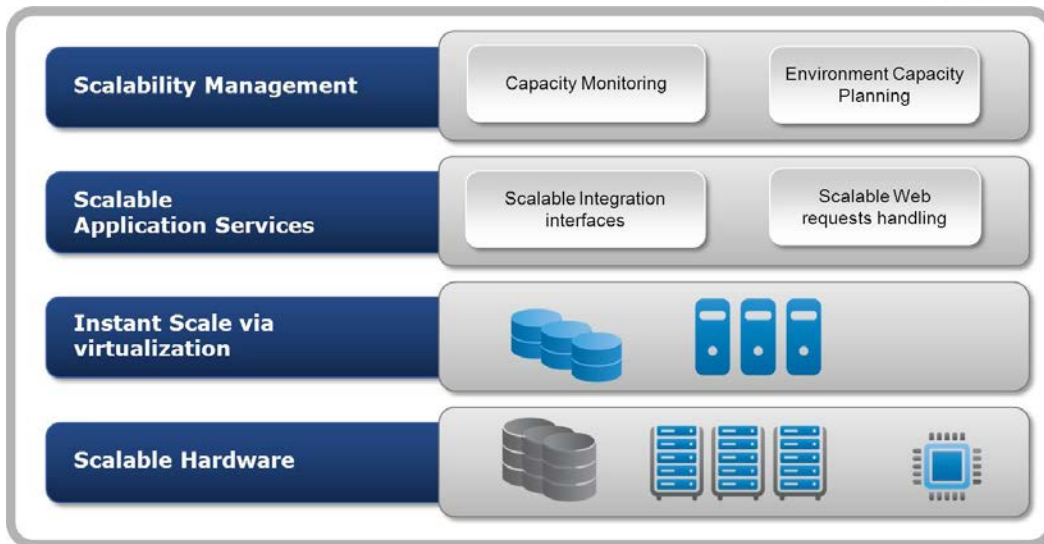
Ex Libris: Batch jobs and processes in Alma are distributed to ensure there is no impact on other institutions' processes. Dedicated batch-jobs servers and resources are allocated for batch job processes, thus eliminating the risk of interference with institutions' processes or resources. This architecture means that Alma can scale virtually infinitely, as the only barrier is server allocation, and there is no dependency on the institution's processing environment.

To make sure processes are running smoothly, a set of application-level monitoring events is defined. For each core process we have defined the expected duration, and each scenario that does not meet the defined threshold is sent as an event to our monitoring system. In addition, we run proactive trend analysis and health check validations as an ongoing performance improvement mechanism.

Operational reports help us track abnormal behavior and detect growth trends; procedures are in place to take proactive actions upon findings (either provisioning decisions or escalation to our development teams). Deploying Alma as a SaaS solution allows ExLibris staff to resolve such performance issues as they happen, either by ad hoc provisioning of additional hardware or by a critical fix deployed in production.

A.2.8. Architecture of the database and any proprietary and open-source components.

Ex Libris: Alma is based on a multi-tenancy architecture in which one instance of Alma supports multiple institutions. To allow for growth in a cost-effective manner, Alma is designed to scale throughout its layers:



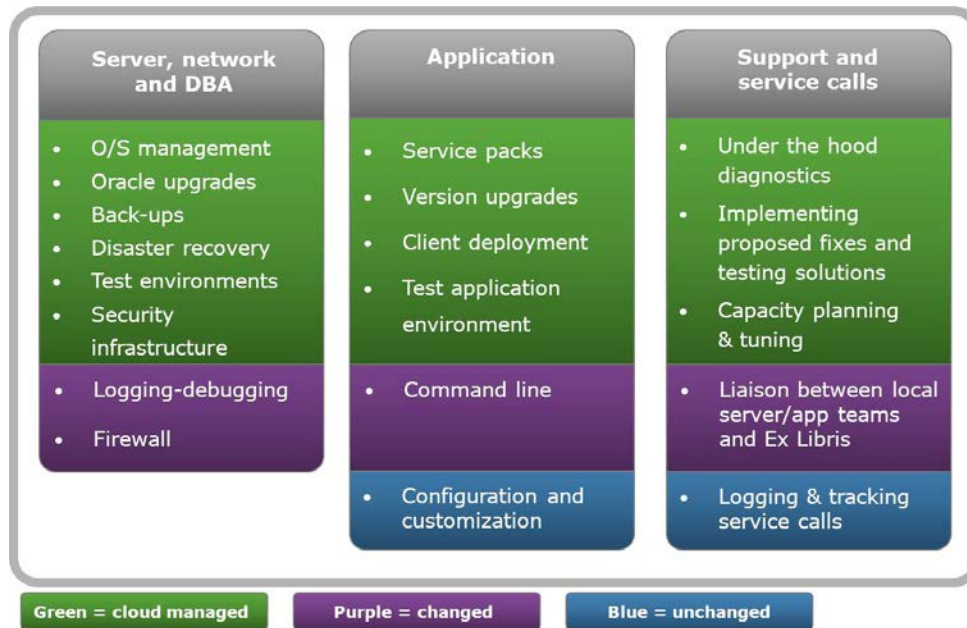
Alma’s multi-tenancy architecture ensures that Alma can expand to meet the needs of a growing organization or a growing collection, and Ex Libris’ cloud management practices for capacity monitoring and request handling will support the variances experienced by CSU over the academic year.

A.2.9. Expected level of local systems staffing required for administering the system, given a university system such as the CSU. What level of support and staffing is necessary at the consortium level?

Ex Libris: As the entire Alma interface is served via a web browser, Alma frees system administration staff from the need to install and maintain clients on local PCs. Providing Alma as a cloud-based SaaS solution eliminates significant aspects of the work done typically by system administrators and DBA staff on systems installed on site. Local operations in Alma are primarily concerned with the administration of users and the configuration of local workflows. Both can be done centrally by the consortium.

The table below summarizes all areas that are traditionally managed by local staff. Marked in **green** are areas that are performed by Ex Libris, and the **purple** areas are tasks that performed by the customer’s staff. Local tasks include setting firewall rules (to allow access to Alma cloud via a standard web port) or command lines that are no longer relevant with Alma since access is done via the application or through a dedicated API and web-services.

As illustrated in the diagram, configuration and customization (in **blue**) are performed at the institution level, while Alma is delivered with settings that allow for faster time to production. Customers report and track service calls through the Ex Libris CRM system, with the benefit of 24x7 monitoring and the Ex Libris hub team.



Alma provides a flexible environment that will allow CSU to maintain many tasks centrally, including integration development, customization, and purchasing. CSU may also distribute all or part of such tasks, and work as a unified system across all members.

A.2.10. The largest system (e.g., sites, record counts) you have deployed for a single customer using the system? When did you implement this system? Describe any significant hurdles you encountered in its implementation and how they were overcome.

Ex Libris: The largest Alma/Primo system we have deployed in North America is the Orbis Cascade Alliance, a consortium of 37 academic libraries in Washington, Oregon and Idaho, including three ARL member libraries. Together, these 37 institutions have over 26 million bibliographic records. The implementation of Alma and Primo for the Orbis Cascade Alliance was scheduled from January 2013 to January 2015. The institutions were grouped into four cohorts, each of 6-11 libraries. The first cohort's project began in January, 2013 and went live in June 2013. The second cohort began implementation in July 2014 and went live in December 2014. The third cohort began implementation in January 2014 and went live in June 2014. 27 institutions from the first three cohorts are live with Alma and Primo today. The fourth and final cohort began implementation in July 2014 and the member institutions are expected to go live throughout November-December 2014 and January 2015.

All major milestones in this implementation project took place on time, and remaining milestones are on track for successful and on time completion. In any project, and especially in one of this scope and complexity, unexpected events may occur, and challenges may be encountered. Project planning and risk mitigation are used to reduce problems as much as possible throughout the project, but when these occur we must be able to address them effectively to keep the overall project on track. Examples of such occurrences in the Orbis Cascade Alliance implementation project are:

- Development of Collaborative Network functionality - Since the Alliance was the first consortium to implement Alma Collaborative Network functionality, the design and development of this area was iterative and ongoing in partnership between Ex Libris and the Alliance. While there were challenges along the way as the related developments were rolled out and fine-tuned, this approach resulted in a stronger overall outcome.
- Scale of Alma-Primo publishing - With the Alliance implementation of Alma and Primo, we encountered the largest yet data publishing process from Alma. Data is published by Alma for harvesting into Primo, where it is normalized, deduplicated, indexed and displayed for end user access. The original design of this process presented some limitations when scaled to the size of the Alliance, which resulted in unsatisfactory processing times for these jobs. To overcome this challenge, Ex Libris redesigned the Alma publishing process to allow centralized publishing and deduplication of data from across Alma institutions within the collaborative network, resulting in much faster processing within Primo. This process is successfully in use today in the Alliance's live Alma and Primo environments.
- Development of consortial training program - There is an extensive Ex Libris training program, which was initially developed around single institution implementation of Alma and Primo. As Collaborative Network functionality was gradually introduced, there was a lack of training material to support this functionality. This presented a challenge to the Orbis Cascade Alliance libraries implementing and adopting this functionality. To address this challenge, Ex Libris provided ad hoc training sessions to fill the need, while simultaneously developing consortial training materials to supplement the existing training program. These training materials are now part of the core training program available to consortial customers.
- Communication channels in a large consortium - The Orbis Cascade Alliance created a new Program Manager position to manage the implementation and ongoing coordination responsibilities for the Alma/Primo system. This position was permanently filled at the beginning of the second of the four implementation cohorts. Since the Program Manager position was permanently filled, there has been a strong central organization focal point who has effectively managed intra-consortium communication channels and consolidated many separate points of contact into one primary contact to coordinate with the single Ex Libris primary contact (Project Manager). The efficiency and effectiveness of this communication approach has had a major positive impact on the outcome of the project to date. As such, Ex Libris strongly recommends a similar approach/staff resource for any consortial implementation project.
- Transitioning from legacy to Alma-based resource sharing - The Orbis Cascade Alliance has a strong history as a resource sharing network; this service model is core to the organization. As such, seamless support for intra-consortial resource sharing throughout the entirety of the implementation project was a requirement. Because of the cohort-based implementation approach for the Orbis Cascade Alliance, some institutions were live on Alma/Primo while others were live on their legacy ILS/Discovery systems. This required integration between Alma, Primo and an external resource sharing provider (OCLC Navigator). The project to develop the bridge between these tools required cooperation between Ex Libris, OCLC and the Alliance, and was undertaken with successful results. Simultaneously, Ex Libris and the Alliance partnered to design a robust Alma-based resource sharing program, which is expected to go live once all Alliance members are live on Alma/Primo, in January 2015. This project has also required tight cooperation between

stakeholders in both organizations, and the development and testing of this solution is on track for successful completion in 2015.

- A.2.11.** Initial configuration or implementation decisions that cannot be later changed, or altered only with great effort or expense.

Ex Libris: Alma is based on configurable workflows and enables great flexibility when it comes to post-implementation configuration. However, the implementation should be used as the period to make important decisions as to how libraries and their data are mapped, to avoid the potential expense and effort of later major changes.

Implementations include two primary areas that may be challenging to change, post-implementation:

1. Decisions related to the organizational structure within Alma - key elements such as libraries and locations. These are fundamental building blocks that will appear in most of the other Alma entities, so changing these configurations later may entail substantial effort.
2. Mapping definitions required for data migration should be carefully defined and verified once a test load is delivered. Massive changes of the data after implementation phase can require great effort and expense.

- A.2.12.** The public-facing web interface architecture (framework used, programming language, the ability for staff to access and modify templates or code.)

Ex Libris: Primo is a web-based discovery solution, written in Java (J2EE) which utilizes a Lucene-based search engine. Institutions may customize the Primo end user interface without Ex Libris intervention. Primo customization capabilities extend to the following areas:

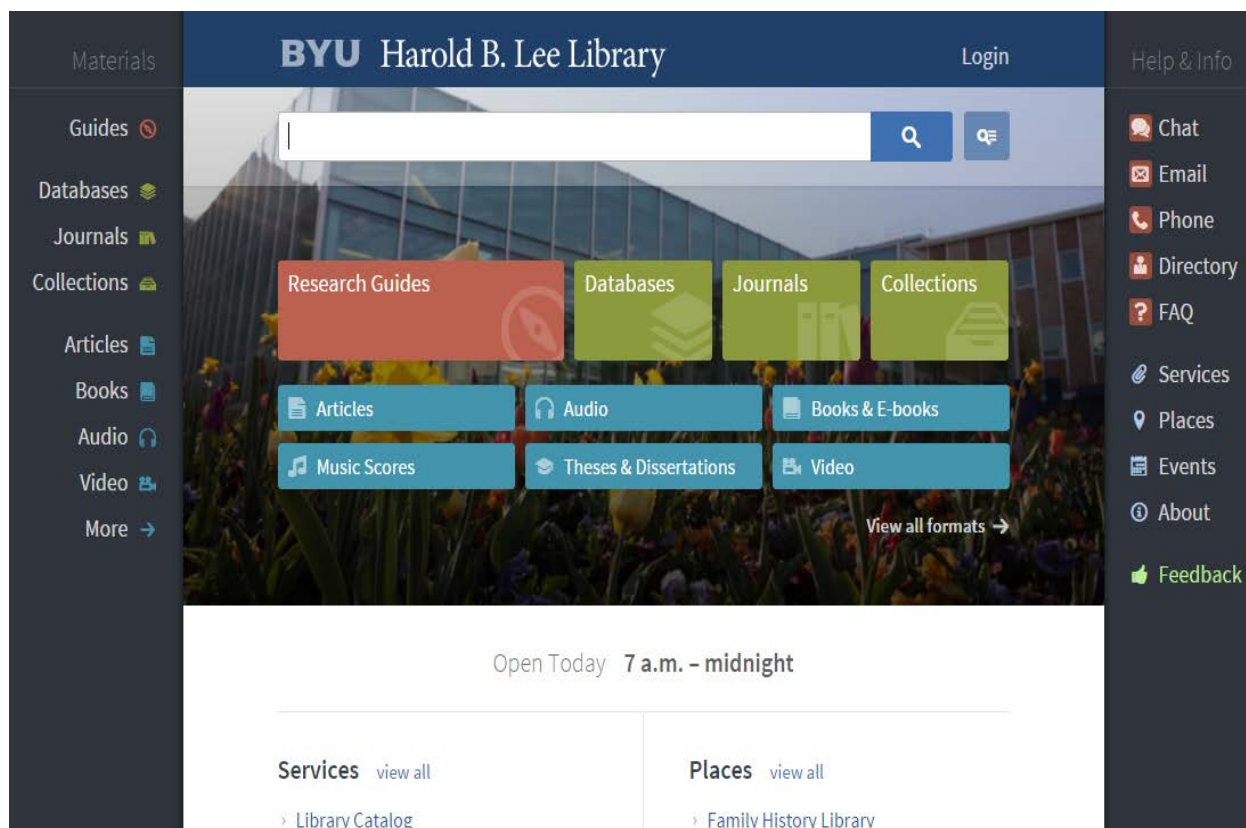
- Libraries can control user-interface layouts and configuration options (such as displaying the facet tile to the right or the left of the results).
- Libraries can customize tiles that may include java script or be JSP tiles as well as change the layout of the out-of-the-box tiles on all pages using a simple drag-and-drop layout editor in the Primo back office.
- The CSS-driven UI enables the library not only to change fonts and colors but also to hide UI components and change their layout.
- Libraries can define views through the intuitive, easy-to-use back-office user interface (view wizard).
- Primo exposes the following types of interfaces: Web services, REST API (X-Service--URLs returning XML), deep links, OpenSearch. Libraries can generate mash-ups using these interfaces.
- Changing the out-of-the-box user interface translation of labels.
- Primo offers application configuration options, such as indexing, facets, and the display of records

- Multiple views, each supporting a specific need, can be created. Each view can contain multiple tabs, for different types of searches. Libraries can update a single view and then propagate these changes to other views so that the work does not have to be duplicated.

Primo's architecture enables libraries to create their own plug-ins for:

- Deep-search functionality
- Text-message (SMS) gateway providers
- Push-to options
- The PNX (Primo Normalized XML) enrichment routine, for enriching or changing an item's metadata
- The PNX extension enrichment routine, for enriching bibliographic records with additional content that is not part of the bib record--such as tables of contents. This material can be indexed for search.
- Normalization routines for normalizing any kind of XML records

See below, a few examples from Brigham Young University, where they have taken full advantage of Primo's flexibility and customization options:



Primo search bar on the library's home page

ebola

Page 1 / 49,737 results

Ebola, culture, and politics : the anthropology of an emerging disease
 Book / Hewlett, Barry S. 1950
 Belmont, CA: Thomson Higher Education, 2007, viii, 183 p.: ill., maps; 24 cm., Student ed., English
 Unavailable
 RA 650.8 .A1 H485x 2008
 1 copy (due 8 Apr)

The hot zone
 Book / Preston, Richard 1954
 New York: Random House, 1994, xiii, 300 p.: ill.; 24 cm., 1st ed., English
 Checked Out
 RC 140.5 .P74 1994
 2 copies (due 29 Oct, 4 Nov)

Ebola
 Article / Ibrahim, A. ; Lee, T. C.

NARROW YOUR SEARCH

Availability (5)

- Online (49,684)
- Peer Reviewed (9,712)
- Available for Checkout (47)
- Unavailable (7)
- Available Only in Library (3)

Type (16)

- Articles (12,663)
- Books (288)
 - Online (238)
 - Print (52)
- Newspaper Articles (34,373)

SHOW MORE ↓

Collection (6)

- Lee Library (61)

Simple search

Advanced Search

Title contains

ISSN is (exact)

Series contains

Type: Theses & Dissertations Collection: Perry Special Collections

Language: Korean Results per page: 10

Date: Any year

Include results the library doesn't have access to

Search

Advanced search

Using CSS files, Alma allows for the customization of certain areas of the user interface, including the color scheme and institution logo, labels, limiters to offer in each search type, and much more.

Primo and Alma's role-based authentication system allow for configurations to be delegated to the appropriate members of staff.

A.2.13. Configuration decisions needed ‘at the consortium level’ versus configuration decisions applicable to a subset of institutions or be determined locally.

Ex Libris: Alma configuration and profiling is done via a set of configuration rules per each process (e.g., acquisition, resource management, fulfillment, etc.). The system-managed workflows automate many currently manual processes, reduce error, and free staff to work on those tasks that require decision making. The configuration of these workflows is done at the institution level. Alma will support the distribution of these configurations to a subset of institutions that are part of the consortium.

In addition, Alma is preconfigured with all batch jobs required for operation of the system. On an institution level, one needs only to decide to opt in or opt out of a scheduled job. This makes the configuration very easy to manage without a need to copy definitions to all institutions at the consortium level.

A.2.14. How upgrades are performed, including feature enhancements, general updates, and fixes.

Ex Libris: In true software-as-a-service solutions, the concept of product versions and platform upgrades is very different from that of legacy systems. Particularly in the case of Alma, there are no “upgrades” or “patches”; instead, new releases are deployed on the first Sunday of every month. A week prior to the monthly release date – i.e., the last Sunday of the previous month – we deploy the new release in all the sandbox environments, allowing customers to test and familiarize themselves with the features.

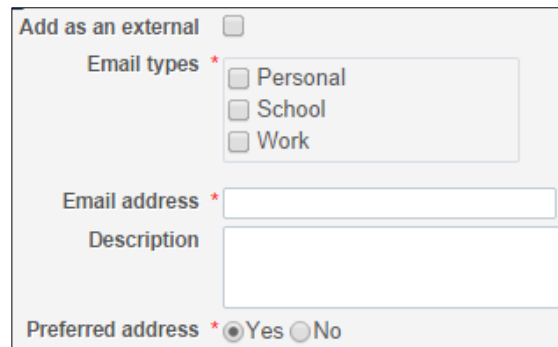
Monthly Release Notes are published with every new release, as well as ‘How-to’ videos and interactive guides to assist users in getting familiar with new features.

All of the Alma software updates are done centrally and for all Alma customers at once, so that all customers are always using the latest version (just as a user will always be on latest Gmail version). Since Alma runs in the Ex Libris cloud, all of the solution’s platform-related tasks are handled by Ex Libris cloud services personnel.

Quality Assurance is conducted as part of the sprints as an ongoing process. This is achieved by the QA staff working together with the development team, testing as early as possible during the sprints. In addition, automatic sanity testing is performed on a weekly basis to ensure that the system is stable during the sprint.

A.2.15. Configuration of email sent from the system. What kind of template options and customizations are possible? Can emails be sent directly from patron records or other points at the system, such as course-reserve records (to email course faculty), acquisition records (to email vendors) etc.? Are email notices scheduled?

Ex Libris: The library may define internal and external user email addresses; there may be multiple email addresses per user, with an indicator as to the preferred one (see screenshot below); emails may be sent directly from patron records and other areas of the system, such as acquisitions.



Alma includes email and SMS templates for a variety of tasks, including communicating with patrons and staff users, and with vendors. The templates may be customized; may include changes to the style, the addition or subtraction of information sent to users, and so forth. Email notices can be scheduled.

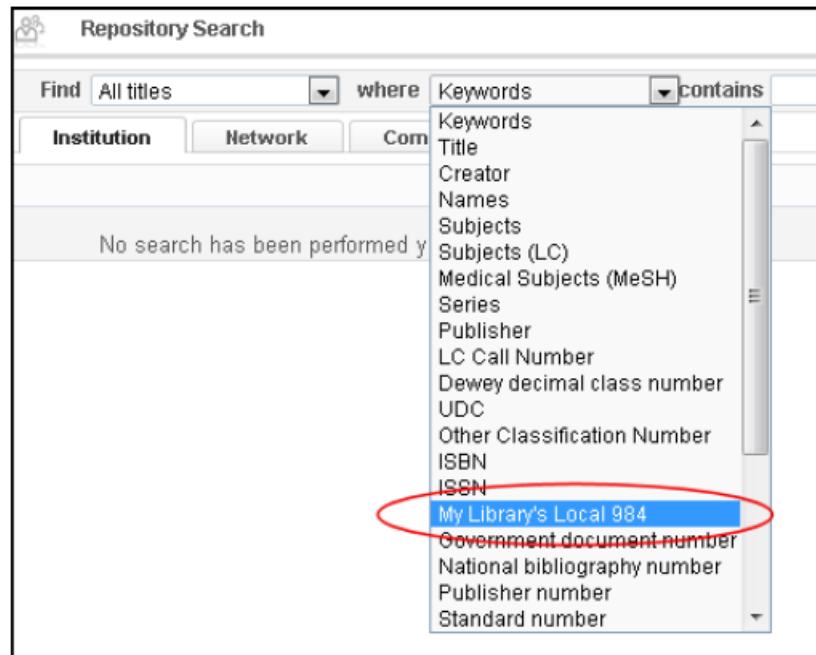
- A.2.16.** Automatically scheduled cron jobs and tasks scheduled by the system. Can the schedule of these jobs be adjusted (For example, if a job typically runs at 2 AM, can it be changed to 4 AM)?

Ex Libris: Alma is preconfigured with all batch jobs required for operation of the system. On an institution level, one needs only to decide to opt in or opt out of a scheduled job.

- A.2.17.** How indexing rules are defined by the system in both staff interfaces and in the discovery system. Can customers modify local indexing rules (example: a library uses a local 99x field in its MARC records for a certain purpose; can they edit indexing rules to include that 99x field in their local indexing rules, that would not affect other consortium libraries' locally defined rules?) Can customers directly change indexing rules or must they be done by the vendor?

Ex Libris: In a cloud-based multi-tenant solution, the fields that are indexed are set by the system, and users can define from the indexed fields which are to be used for searching and sorting. Local 99X fields are indexed in Alma and available for staff to define for search criteria. With over 130 institutions live, we have reached a point where we cover an extensive number of indexed fields that meet our customers' needs.

Alma lets the library configure which indexes are searched when conducting Simple and Advanced searches. You can configure the order that the indexes are searched and whether an index should be included in simple searches, advanced searches, or both. Search index labels can be customized. As shown in the screenshot below, from the repository search, Each MARC tag, such as the 984, is indexed as a separate searchable field and all of its subfields are indexed and searchable when the 984 is selected as an index:



Administrators can configure search indexes from the Mapping Table page in Alma.

- A.2.18.** How and when indexing processes run in the staff interface and in the discovery system (e.g., nightly, upon records being saved, etc.), and any limitations for interacting with the system while indexing or other automated processes are running.

Ex Libris: The Alma architecture is designed to allow for the immediate indexing of new data upon saving. That is, for the fields defined in the system as indexed, when new data is entered by the user for that field, it will be saved when indexing occurs. This type of system architecture and operation does not impact or limit the user experience or performance.

- A.2.19.** The ability of the system to provide error reports.

Ex Libris: SaaS deployment means that many of the current tasks handled by IT and system librarians are done by ExLibris staff. Our proactive monitoring function is responsible for the tracing of the system's stability, including:

- Running operational reports to track abnormal behavior and growth trends such as :
 - Total daily transactions
 - Per customer transactions/sec
 - Min hour transactions /sec
 - Max hour transactions /sec
 - Average transactions /sec
- Performing application health checks:
 - Validity of indexes, triggers, stored procedures
 - System jobs failures

- External interfaces failures

Alma’s multi-tenancy environment, means that if we run into system limitations, we are prepared to handle the issue internally according to defined procedures, and there is rarely the need to communicate the operation to customers. In the event of external interface or system job failures, Alma includes built-in widgets in the Alma portal that will indicate the success and failure of the jobs and interfaces run. Also, the Ex Libris System Status page presents the latest information on the availability of all multitenant Ex Libris instances. You may check this page at any time to see the current status information, or subscribe to be notified via email of interruptions to any individual service. See the screenshot below:

System: Region:

	Instances	Email Alerts	Current Status	Oct-19	Oct-18	Oct-17	Oct-16	Oct-15	Scheduled Maintenance
<input type="checkbox"/>	Alma EU00								
<input type="checkbox"/>	Alma EU01								
<input type="checkbox"/>	Primo EU04								
<input type="checkbox"/>	Primo MT EU01								2014-Oct-19
<input type="checkbox"/>	Primo TC EU00								
<input type="checkbox"/>	Primo TC EU01								
<input type="checkbox"/>	Primo TC EU02								
<input type="checkbox"/>	Primo TC EU03								
<input type="checkbox"/>	Primo TC EU04								
<input type="checkbox"/>	PC CR01								
<input type="checkbox"/>	bx CR01								

Failures caused by local issues (e.g., incorrect data format in files loaded) can be detected and resolved by the customer as part of Alma workflows, and customers can also contact Ex Libris support for assistance. Ex Libris teams also monitor such events and will notify customers if there is a system issue that needs to be handled by Ex Libris, or in cooperation with our customers.

A.3. DATA SECURITY AND DATA ACCESS

Describe or Demonstrate:

- A.3.1.** Data management practices to which the system adheres, including those for patron and circulation transaction information. Include relevant information on standards compliance (such as ISO 27001) and any organizational information technology audits that have been completed.

Ex Libris: Ex Libris has developed a multi-tiered security model that covers all aspects of our

cloud-based systems. Ex Libris is ISO 27001:2005-certified, and our security model and controls are based on this and other international protocols and standards such as ISO/IEC 27002.

Ex Libris employs a dedicated cloud services team who are responsible for the following security tasks:

- Applying the security model to all system tiers;
- Monitoring and analyzing the infrastructure for suspicious activities and potential threats;
- Issuing periodic security and service level agreement (SLA) reports to Ex Libris management and customers; and
- Dynamically updating the security model and addressing new security threats.

Another group, the Ex Libris security team, performs the following tasks, which are based on the Information Security Management System ISO/IEC 27001 standard:

- Examining the organization's information security risks, while mapping the related threats and vulnerabilities;
- Designing and implementing a comprehensive series of information security controls and measures to answer underlying risks that are evaluated as unacceptable; and
- Adopting an ongoing management process to ensure that the controls taken meet the company's evolving security needs.

Ex Libris has developed extended authorization controls to protect customer data with role-based access control (RBAC):

- Staff members must authenticate prior to accessing Alma
- Each staff member has privileges and access to data limited to his/her role
- Only authorized staff members have access to view and edit patron data
- Alma's browser sessions are encrypted using SSL.

Alma also maintains an audit trail of access to patron data that has been exported out of the system.

Alma does utilize row level security by leveraging the multi-tenancy solution, Oracle VPD (Oracle Virtual Private Database). This means that any key in the database includes the unique institution ID, thus ensuring separation between institutions at all levels, as well as the ability to ensure uniqueness across all institutions. Since access to the Alma database always includes the institution ID, uniqueness is delivered and maintained at all areas of the system with no limitation.

A.3.2. Can data access be segmented -- for example, can institutions decide what patron information is viewable by staff at other institutions?

Ex Libris: As each library within the CSU would have its own institution, staff at other institutions would not have access to patron information, unless it were specifically granted. With each school having a separate Alma institution, each will essentially have its own system. Vendor accounts, licenses, funds, patrons, and overall configurations can all be separate.

- A.3.3.** Use of and support for secure protocols to safeguard data in transit (e.g., secure FTP loading).

Ex Libris: Alma is designed to safeguard data throughout the data lifecycle, including data in transit. Alma utilizes SSL encryption (based on a commercial SSL certificate), which creates an encrypted channel between the client computer and the Web server, and between the application server and the database server. Encryption channel also covers all Alma communication including Secured FTP, secured SIP communication and secured communication with email servers.

- A.3.4.** Encryption in backups and in replica sets.

Ex Libris: Alma encrypts patrons' personal information such as email, address, phone, etc. This data is kept encrypted in the database. Ex Libris uses a standard mechanism for handling encryption keys: all encryption keys are random, and are stored separately from the credential management zone. Encryption keys are never exposed in a clear form, and they are destroyed at the end of their designated period. The encrypted data remains as such, as well as in the backups we make to our cloud data.

- A.3.5.** Prevention of data loss and disaster recovery plans. How is data recovered or rolled back to specific points in time in the event data loss does occur? Also describe the process through which data is recovered. For example, is the recovery process a self-service mechanism? Or, must the customer contact your organization to request data recovery? What is the typical turn-around time to have data recovered? How compartmentalized is the data with respect to data recovery? In other words, can a customer recover a subset of bibliographic records, a subset of patrons, or a particular range of transactions? Or, is system recovery or rollback only possible in its entirety?

Ex Libris: Ex Libris is responsible for recovery, and maintains a business continuity plan which is implemented following a disruption to service. The Ex Libris cloud services group has classified disasters and emergencies into the following three levels – minor, major and catastrophic:

Minor Disaster - A minor disaster is characterized by an expected downtime of no more than 48 hours. Damage can be to hardware, software, and/or operating environment. Ex Libris cloud services could be restored to normal operations at the primary site and repairs can be started as soon as possible:

Major Disaster - A major disaster is characterized by an expected downtime of more than 48 hours but less than 7 days. A major disaster will normally have extensive damage to system hardware, software, networks, and/or operating environment. Ex Libris cloud services could be restored to normal operation with the assistance of certain recovery teams who will be called to direct restoration of normal operations at the primary site.

Catastrophic Disaster - A catastrophic disaster is characterized by expected downtime of greater than 7 days. The facility is destroyed to the extent that an alternate facility must be used.

Damage to the system hardware, software, and/or operating environment requires total replacement / renovation of all impacted systems. The implementation of the Disaster Recovery Plan in a remote recovery site is required to restore Ex Libris cloud services to normal operation.

In the event of a major or catastrophic event, data recovery is performed using backups retrieved from the disaster site from the offsite backup locations. Backups can take on various forms of media including hard drives and magnetic tapes. After identifying salvageable equipment, early data recovery efforts first focus on restoring the operating system(s) for each system. Next, mission critical system data is restored. After system data is restored, individual customer data is restored.

Please note that Ex Libris has a well-developed backup plan consisting of multiple daily snapshots including a full daily backup. The backups are made to a separate set of disks which offers a much more reliable fast retrieve backup media, and is stored at the site and in a remote secured location over a private dedicated fast secured line. This guarantees that at any point in time, in case of a disaster, Ex Libris holds copies of the data onsite and in a remote and secured disk backup. On a regular basis, Ex Libris performs a system backup to back up application files, database files, and storage files. The privacy controls in practice at the company apply as well to all backup files. All backup files are subject to the privacy controls in practice at Ex Libris. Ex Libris has a 10 week retention policy. The restore procedures are tested on an ongoing basis to ensure rapid restoration in case of data loss.

On-site backup – Full backup for OS platform, application, and customer data are performed at least daily (multiple snapshots during the day for critical services/systems) using storage snapshot technology. The backups are kept for one week on-site at a separated set of disks. The snapshots are automatically mounted with specific access restriction values seen by the operating system in a special set of directories allowing for an easy and immediate restore at any time by Ex Libris authorized personnel.

Off-site backup – Full backup for OS platform, application, and customer data are performed daily using snap mirror technology over a private dedicated fast secured network connection from the primary data center to an off-site backup location using the same storage technology as the storage at the primary location. Subject to the privacy controls in practice at Ex Libris, Ex Libris

Part of the overall Ex Libris recovery plan includes the recovery of the entire institution's data to the last point a backup was taken. Ex Libris takes several data snapshots per day and also maintains a full backup at an offsite remote secured location. This data includes the entire institution's data and configuration.

A.3.6. Architecture of data storage and redundancy (for example, multi-tenancy, cloud distributed, etc.). Describe the regional or global distribution of data centers.

Ex Libris: Alma/Primo are deployed in Ex Libris' private cloud, based on a SaaS, multi-tenancy architecture in which one instance of Alma/ Primo supports multiple customers. Ex Libris maintains a North American data center in the Chicago, Illinois area, as well as data centers in Amsterdam and Singapore.

A.3.7. Protocols for addressing unauthorized access to or disclosure of confidential data?

Ex Libris: The Executive Incident Management Team (EIMT) oversees the handling of security incidents involving personal data (i.e., Personally Identifiable Information" - PII). An EIMT may also oversee the response to other high-severity incidents, but the primary purpose is to deal with incidents involving personal data. The purpose of the EIMT is to provide executive guidance to the response process: a) to insure an appropriate, timely, and legal response, b) to make decisions related to the incident, and c) to notify appropriate parties. The team consists of:

- 1) Ex Libris Chief Operating Officer (COO)
- 2) Head of affected product Business Unit
- 3) Ex Libris General Counsel
- 4) Representative from Product Management teams

If the SIRT determines that personal data has been or may have been breached, the SIRT will immediately notify the COO. The SIRT will oversee additional analysis to gather as much information as possible about what happened, being sure to properly protect evidence.

If after analysis the COO and SIRT have confirmed that personal data was not breached, no further special action is required and normal incident response procedures may continue. However, the security of the affected system should be carefully assessed.

If the analysis confirms that personal data was breached, the COO will convene the EIMT as quickly as possible. The EMIT will oversee the response, addressing the following issues:

- Determine which customers need to be notified, how soon they should be notified, and the appropriate method for notification
- Determine the exact scope of the personal data breach (which individuals were affected, what data was compromised, etc.)
- Provide affected customer(s) with a description of the breach, the type of data that was the subject of the breach, and other information customer(s) may reasonably request concerning the affected individuals.
- Assist the affected customer(s) in handling any required notifications to third parties (such as content of public statements, notice to affected individuals, regulators, or others as required by law or regulation)

A.3.8. Data validation the system performs on records as they are created or edited, and indicates whether this is different for batch jobs as compared to single records.

Ex Libris: Records are automatically validated when being edited in the metadata editor. Additionally, records may be validated upon import or on demand. A record failing to validate will result either in warnings that will notify staff of an invalid record, or blocks that will prevent the record from being saved until it is validated.

Alma supports the ability to import records in bulk on demand, or according to a schedule. The process preserves unique fields and lowered encoding levels, though each condition may be

logged when the incoming records are validated. The process is governed by library-defined “import profiles”. Each library may set up many import profiles—for records from different sources, containing different data types, etc. Then, Alma goes through the specific steps of the appropriate import profile, validating each record for encoding and content. It checks for matching records that already exist in the catalog, then can be set up to either merge, overlay, ignore (importing anyway), or flag matched records for review. Finally, it runs additional services. For example, an additional service might be to extract inventory information and create holdings and item records.

- A.3.9.** How changes are tracked to records (patron, item, bibliographic, etc.) Is there an audit trail or version control for edits? Is it possible to revert to previous versions of a record? Is the audit trail available for all records in the system or only a subset?

Ex Libris: As described in our response to question A.3.1 above, Ex Libris has developed extended authorization controls to protect customer data with role-based access control (RBAC):

- Staff members must authenticate prior to accessing Alma
- Each staff member has privileges and access to data limited to his/her role
- Only authorized staff members have access to view and edit patron data
- Alma’s browser sessions are encrypted using SSL.

Alma also maintains an audit trail of access to patron data that has been exported out of the system. Alma provides audit trail capabilities by logging events for the various entities managed in the system. For example, for metadata records, the system keeps a full version history of the commits made, and it is possible to restore a metadata record from one of the history commits made.

- A.3.10.** Simultaneous edits to records by multiple users. For example, if a cataloger is editing an item record, can the circulation desk check out that same item, or is the record locked? If simultaneous edits are allowed, how are different simultaneous edits reconciled?

Ex Libris: For bibliographic records in Alma, we have implemented a locking mechanism where at any given time, only one user can edit a specific record; however the record can be viewed by others at that time. Once the user who edited the metadata record saves it, Alma automatically releases the locking of the record.

- A.3.11.** The ability to allow for granular, function-by-function authorizations, so that fund and payment data cannot be compromised and separation of functions can meet audit requirements.

Ex Libris: The role-based access control model described above handles the permissions for staff at your institution, and ties the permissions to specific roles and functions. Alma’s authorization system structure is based on roles and privileges, such that:

- Required privileges are bound to entities such as:

- Menu options
- Screen lists/tables/forms/buttons
- Server-side actions
- Roles bind privileges, so that assigning a role to user is equivalent to granting the user all of the privileges that are bound to that role;
- Only users who have roles mapped to the required privileges will have access to the relevant menu/screen elements/server side actions.

A.4. AUTHENTICATION, AUTHORIZATION AND IDENTITY MANAGEMENT

Describe or Demonstrate:

- A.4.1.** How the system can leverage existing identity stores (e.g., Active Directory, LDAP), for both staff and patron accounts. Describe also how such capabilities can co-exist alongside identities natively managed within the proposed system.

Ex Libris: Alma and Primo support both Active Directory and LDAP. The solution also supports the SAML 2.0 protocol and the Alma internal identity store.

Alma can authenticate users using either a federated single-sign-on authentication system that is based on the SAML 2.0 browser SSO Profile, or using a non-federated authentication. Currently, non-federated authentication options include an LDAP-based authentication, in addition to authentication based on Alma managed identities and passwords. The LDAP and Alma-based options may be configured in the same system, for example, for authenticating externally managed users using LDAP and internally managed users based on the Alma identity management.

- A.4.2.** The extent to which the system has been designed to comply with laws and regulations governing the storage and use of “protected” user data. Examples of such laws and regulations include: Family Educational Rights and Privacy Act (FERPA), Health Insurance Portability and Accountability Act (HIPAA), and Payment Card Industry Data Security Standards (PCI-DSS).

Ex Libris: Alma conforms to FERPA guidelines by providing multi-tier access control based on the security industry’s best practices. Such controls consist of (but are not limited to):

- Staff member authentication prior to accessing Alma
- Each staff has privileges and access to data according to his/her role
- Only authorized staff members have access to patron data, to view and edit
- Alma’s browser sessions are encrypted using SSL
- Sensitive Patron information is encrypted

Alma maintains an audit trail of access to patron data that has been exported. This information may be used in conjunction with the institutions’ written approvals by students and/or their parents to track any export of patron’s data outside of Alma.

Alma does not store health or financial information relating to users, so HIPAA and PCI-DSS do not apply.

- A.4.3.** Policies on backing up, recovering, securing and purging user-supplied data. For example, how might you handle a user who has accidentally deleted a resource list created in your system?

Ex Libris: In general, there are no mechanisms other than privilege restricted access to deletion of data from the system, and the recovery options listed below, are intended mainly for recovery from system problems, not from user errors. Some deletions in Alma, such as inventory deletions, are managed as logical deletions that remain in the database and are easily recoverable, but require Ex Libris assistance for achieving a recovery.

As described in our response to question A.3.4, our backup and recovery policies are as follows:

We perform multiple daily snapshots including a full daily backup. The backups are made to a separate set of disks which offers a much more reliable fast retrieve backup media, and is stored at the site and also in a remote, secured location accessed over a dedicated, secure fast connection. This guarantees that at any point in time, in case of a disaster, Ex Libris holds copies of the data onsite as well as a remote and secured disk backup. On a regular basis, Ex Libris performs a system backup to backup application files, database files, and storage files. All backup files are subject to the privacy controls in practice at Ex Libris. Our policy is retain the files for 10 weeks. The restore procedures are tested on an ongoing basis to ensure rapid restoration in case of data loss.

On-site backup – Full backup for OS platform, application, and customer data are performed at least daily (multiple snapshots during the day for critical services/systems) using storage snapshot technology. The backups are kept for one week on-site at a separated set of disks. The snapshots are automatically mounted with specific access restriction values seen by the operating system in a special set of directories allowing for an easy and immediate restore at any time by Ex Libris authorized personnel.

Off-site backup – Full backup for OS platform, application, and customer data are performed daily using snap mirror technology over a private dedicated fast secured network connection from the primary data center to an off-site backup location using the same storage technology in use at the primary location.

Part of the overall Ex Libris recovery plan includes the recovery of the entire institution's data to the last point a backup was taken. Ex Libris takes several data snapshots per day and also maintains a full backup at an offsite remote secured location. This data includes the entire institution's data and configuration.

- A.4.4.** Support for single sign-on authentication and authorization systems (e.g., CAS, Shibboleth, and/or EZProxy).

Ex Libris: Alma and Primo both support the option to authenticate staff users via secured

LDAP connections. Also, both solutions have well-defined integration interfaces to existing proxy servers such as EZProxy. Shibboleth is supported, if the institution's Shibboleth implementation uses SAML 2.0.

CAS is supported by Primo (via PDS, the Patron Directory Service), and it is on the 2015 roadmap for Alma as well.

- A.4.5.** How workflows for loading patrons where different identity management systems may be employed by different campuses using the system. CSU campuses may have a variety of identity management systems - how will a shared environment accommodate user data from a variety of sources?

Ex Libris: There is no limit as to the number of identity management systems which may be used, so long as uniqueness of the identifiers between the different systems is managed and enforced by the institutions outside of Alma.

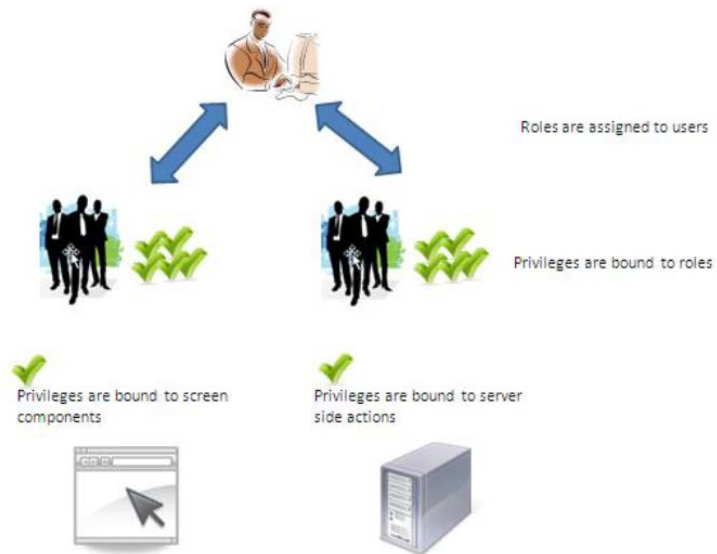
In other words, as long as each campus uses a separate identity management system but does not supply to Alma a user feed with user IDs from another campus' feed, then each campus may submit its feeds using a single Alma Integration Profile, in the same way that a single campus would be doing. Overlapping IDs are supported, as in such a scenario feeds from one system may override those of another system.

- A.4.6.** How staff administrative rights and staff accounts are assigned within the system. Can administrative rights and staff accounts be assigned to identities stored in external identity stores, such as Active Directory? Can administrative rights be assigned to groups, as well as users? Does the system allow compartmentalizing of administrative rights on a per-institution basis? For example, can you limit the effect of administrative rights assignment to a single institution?

Ex Libris: Authorizations are managed by the authenticated user's assigned roles, which are stored and managed within Alma. The assigned roles control:

- The menus displayed to the user
- The screens accessible by the user
- The tables/lists/forms accessible by the user
- The actions are allowed within screens
- The system jobs that can be triggered by the user

This is illustrated below:



Roles are assigned to users with specific scopes, setting the specific organization unit to which the role applies. The scopes may be set up as:

- Institutional scope – Role with an institutional scope is granted relevant privileges in the entire institution.
- Library scope – Role with a library scope is granted relevant privileges only within the scope’s library. For example, a Circulation Operator may be assigned a scope of a library, and a particular circulation desk.

Roles may be assigned manually, but this is normally done via role templates. The templates bind roles and scopes, enabling the profiling of common function profiles that characterize library staff work. Role templates may then be automatically assigned to users based on user attributes such as user group, job category and job title.

Permissions and privileges are based on the authenticated user’s roles, which are stored and managed within Alma. Each role and scope controls the actions the user may perform in the system, and the scope in which the actions may be performed. Below is a screenshot of the roles that may be applied to an Acquisitions Manager, for example:

- Fulfillment			
	<input type="checkbox"/>	Role	Description
1	<input checked="" type="checkbox"/>	Circulation Desk Manager	Manages circulation desk actions such as loan, return, renew etc., with expanded block override options
2	<input type="checkbox"/>	Circulation Desk Operator	Manages circulation desk actions such as loan, return, renew etc.
3	<input type="checkbox"/>	Circulation Desk Operator - Limited	Manages limited circulation desk actions
4	<input checked="" type="checkbox"/>	Course Reserves Manager	Manages the library's Course Reserves actions and reading list assignments
5	<input type="checkbox"/>	Course Reserves Operator	Operates the library's Course Reserves actions such as reading lists and move requests
6	<input type="checkbox"/>	Fulfillment Administrator	Manages Fulfillment related configurations such as policies, terms of use, Fulfillment Units and Circulation Desks
7	<input checked="" type="checkbox"/>	Fulfillment Services Manager	Manages the library's authoritative fulfillment services actions such as the course reading list assignments
8	<input type="checkbox"/>	Fulfillment Services Operator	Manages the library's fulfillment services such as reading lists and move requests
9	<input checked="" type="checkbox"/>	Patron	Receives services from the library, such as places requests and receives loans
10	<input type="checkbox"/>	Requests Operator	Manages the steps of the requests fulfillment. Picks items from shelves, placed items in transit and on hold shelves
11	<input type="checkbox"/>	Resource Sharing Partners Manager	Manages the resource sharing partners and rotas
12	<input type="checkbox"/>	Work Order Operator	Manages the internal library requests such as digitization actions

Because Ex Libris is proposing a unique Alma institution for each CSU campus, access rights will be confined to roles within each institution.

A.4.7. How your system addresses group-based permissions for staff. Also describe any differences in what permissions and privileges can be managed for a group vs. an individual account.

Ex Libris: Roles are grouped by topic or area of responsibility (Acquisitions, Fulfillment, Cataloging, etc.). In addition to assigning individual roles to a user, the institution may also define role templates or profiles, consisting of multiple roles per profile.

As mentioned earlier, a user can be assigned roles based on a template. However, it is always possible to remove certain rights that are bundled in the template, and also to add other rights that are not part of the template.

A.4.8. The level of granularity of access controls for staff functions (principle of least privilege). E.g., can certain data elements be made read-only for some staff and read-write for others?

Ex Libris: Alma's authorization system structure is based on roles and privileges.

Required privileges are bound to entities such as:

- Menu options
- Screen lists/tables/forms/buttons
- Server side actions

Roles bind privileges, so that assigning a role to user is equivalent to granting the user all of the privileges that are bound to that role; however, only users who have roles mapped to the required privileges will have access to the relevant menu/screen elements/actions.

A.4.9. Some CSU staff and patrons may have identities with multiple institutions (e.g., some staff are also graduate students; some are staff at institution A while graduate students at institution B, etc.). How would users with multiple affiliations be supported in the system, with respect to authentication, permissions assignment to their account, and permissions on their accounts? Can hierarchies be defined

(e.g., if staff is also a grad student, but grad students have more privileges, use the grad student's privileges)?

Ex Libris: Different Institutions' user lists are loaded separately. A user who is a graduate student at institution A and staff at B will be loaded in two separate feeds into two separate Alma user management systems – as graduate patron at institution A and staff at institution B. There is no link in the system between these two records. In other words, the same patron when requesting fulfillment services from institution A will be identified as a graduate student and when requesting fulfillment services from institution B will be identified as a staff.

Our future plans for Alma enable the two feeds to include a consortially unique ID that will enable Alma to link the institution A and institution B records. Still, fulfillment services at each institution will be applied as per the patron attributes that have been loaded into that same institution.

A.4.10. The ability for deploying unique authentication systems at the local level (e.g. affiliated/ community / alumni / public.)

Ex Libris: In addition to supporting SAML-based federated authentication, there is no limit as to the number of local authentication systems that may be used at any given point, based on Alma managed identities or on secure LDAP. As long as there is no overlap in the identifiers that are managed by the different systems, they can all be loaded into a single Alma user management system. Alma will try to authenticate a given user with each of the linked systems.

A.4.11. The dimensions by which patrons' accounts can be personalized for them. For example, if data on a student's major is present in a campus identity store such as PeopleSoft, can that data be used to automate recommendations based on their major, etc.?

Ex Libris: Currently, we have not facilitated auto-assignment of personalized services such as ranking or recommendations based on data supplied from the campus systems such as Peoplesoft. Categories must be explicitly set by the SIS feed.

Primo's ScholarRank technology, the only such service available in the discovery market, takes into account certain characteristics of the user to provide personalized ranking. Applying information about the user's area of research, ScholarRank can boost materials related to the user's discipline which are appropriate for the topic and the user's research level; for example, for a query submitted by a researcher who holds a Ph.D., in-depth items would be among the highest ranked.

To determine the position of an item on a result list, the Primo ScholarRank technology takes into account the following three elements:

- The degree to which the item matches the query
- A score representing the item's scholarly value (calculated from factors that are unrelated to the query such as citation counts and other usage based data)
- Information about the user and the user's research need at the specific point in time

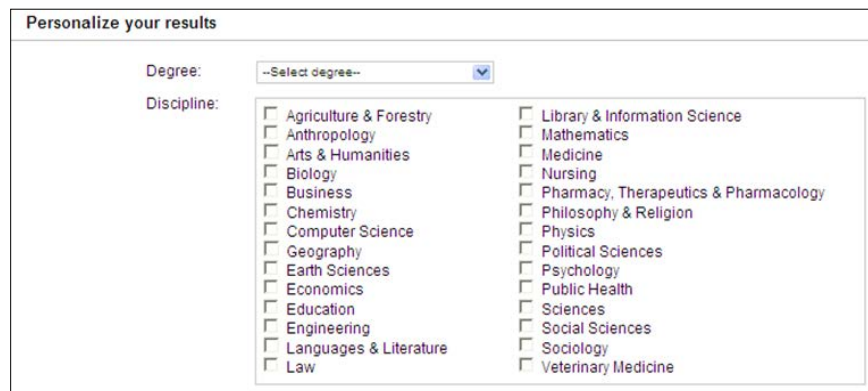
The match between a query and an item is calculated according to information retrieval (IR) methods that have been adapted to the structure of the specific type of information (metadata,

abstract, or full text). For example, not only do the proximity and order of the query terms in a result record have an impact on the ranking, but the field in which the query terms appear also has an effect; if the terms appear in an item’s title, the item is likely to be more relevant to the user than an item for which the query words appear only in the full text.

Primo ScholarRank technology also takes into account certain characteristics of a user to provide personalized ranking. Applying information about the user’s area of research, for example, ScholarRank can boost materials related to the user’s discipline when the topic that is inferred from the query is ambiguous.

If provided by the user, information about the user’s academic degree enables ScholarRank to boost materials that would be considered appropriate for that level; for example, for a query submitted by a researcher who holds a Ph.D., in-depth items would be among the highest ranked.

Below, the selection box the user employs to select disciplines:



The screenshot shows a web interface titled "Personalize your results". It contains two main sections: "Degree:" and "Discipline:". The "Degree:" section has a dropdown menu with the text "--Select degree--". The "Discipline:" section has a list of 25 academic disciplines, each with a checkbox to its left. The disciplines are arranged in two columns:

- Agriculture & Forestry
- Anthropology
- Arts & Humanities
- Biology
- Business
- Chemistry
- Computer Science
- Geography
- Earth Sciences
- Economics
- Education
- Engineering
- Languages & Literature
- Law
- Library & Information Science
- Mathematics
- Medicine
- Nursing
- Pharmacy, Therapeutics & Pharmacology
- Philosophy & Religion
- Physics
- Political Sciences
- Psychology
- Public Health
- Sciences
- Social Sciences
- Sociology
- Veterinary Medicine

Finally, a user’s specific information need (a particular item or materials on a particular subject) is factored into the relevance-ranking equation. By analyzing a query, the Primo ScholarRank technology “infers” the user’s need and adapts to the type of search (a known-item search, narrow-topic search, broad-topic search, or author-related search). For example, in a broad-topic search, reference materials or review articles are likely to be more relevant to the user than an article dealing with a specific aspect of the subject matter.

A.5. INTEGRATION AND EXTENSIBILITY

Describe or demonstrate:

- A.5.1.** The library services platform’s integration with third-party commercial discovery systems. Which discovery system are supported and to what degree? Describe any data or functionality that is supported in your own discovery system that is *not* made available to third-party systems. (For vendors only submitting a proposal for discovery system, see section C below for a similar question.)

Ex Libris: Recognizing an institution’s need to leverage existing investments made in

discovery solutions, Alma is designed to be 'discovery neutral', allowing the integration of Alma with other third-party discovery solutions using Alma's open interfaces. This allows an institution the ability to fully leverage existing investments and benefit from real freedom of choice.

To-date, no other vendors have leveraged Alma's APIs to provide integrated services with their discovery system that are comparable to the capabilities outlined below with Primo. This is one reason, in addition to reduced overhead and complexity, single vendor support with aligned roadmaps, as well as best of breed capabilities that all clients using Alma have also adopted Primo.

Alma's integration options with discovery systems include:

I. Primo

Alma and Primo tightly integrate numerous capabilities, such as publishing, online viewing, smart fulfillment, and more. This end-to-end interoperability allows both library staff and end users to enjoy the rich functionalities of both systems without referring to another system or interface. As a result, institutions running both Alma and Primo enjoy a seamless, unified experience for resource management and resource discovery.

Integration of the two systems enables users to:

- Search and access Alma-managed resources via the Primo interface
- Access library services in Alma directly from the Primo interface, including:
 - Electronic access to an e-resource
 - Location information for physical items
 - Digital services where applicable
 - Request options specific to the item location and patron type
 - Course Reserve Information
 - My Account details

The benefits of integrating Alma with Primo are:

a. Publishing

To expose information in Alma in the Primo discovery layer, Alma supports out-of-the-box, pre-configured, publishing profiles for full and incremental publishing of repository material into a format and location that can be harvested by Primo. Information that can be published in this way includes areas such as:

- **Electronic Records:** Descriptive information (e.g., a MARC21 bibliographic record) and electronic availability
- **Physical Records:** Descriptive information, detailed holdings, and availability information
- **Digital Records:** Descriptive information and access rights information
- **Course Reserves:** Titles from Course Reserve lists that are managed in Alma will be

enriched by the addition of Course and Instructor information in the electronic, physical, and digital records. This will give users the ability to search by course name or number, department, or instructor in the Primo interface.

b. Smart Fulfillment

Alma-Primo integration enables an advanced and sophisticated fulfillment of users' requirements. For example, end users do not need to choose between identical items in different locations; rather, they will be able to select the terms with which they obtain the item, for example the loan period and the collection venue.

Based on rules and policies defined in Alma, the end user will be presented with service options that are relevant for the user type and the material being requested, thus streamlining fulfillment processes for patrons and staff at once.

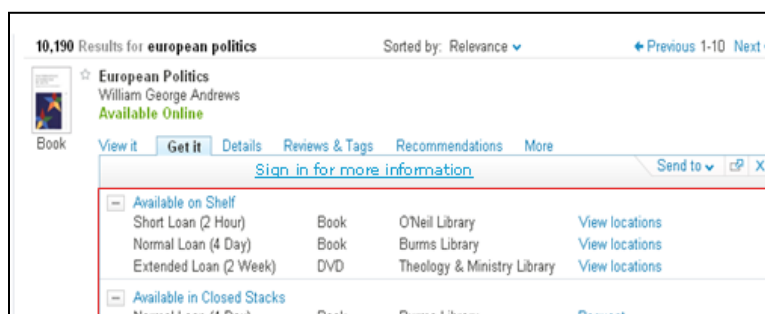
As part of the Smart Fulfillment capability, Alma attempts to fine-tune responses for services based on information about the user. The suggested responses are dependent on whether:

- The user is logged into Primo, in which case users' role and patron group are taken into account; or
- The user is not logged in in which case they receive information appropriate for a guest with a sign-in link presented by Primo.

c. Fulfillment Services

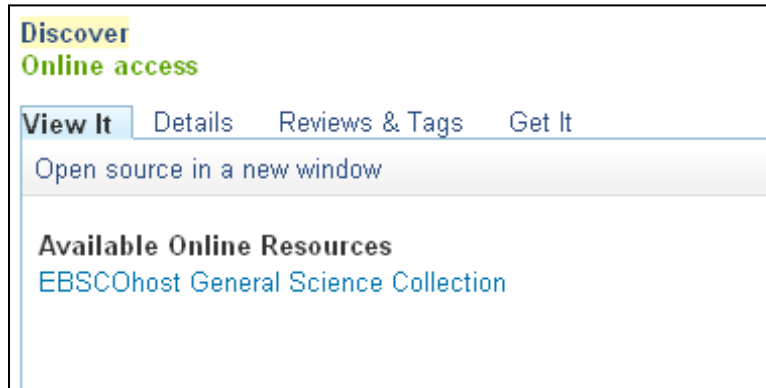
Two main categories of services can be accessed by an end user in Primo: online services, called "View It" services; and mediated services, called "Get It" services. The type of service provided depends on the type of material— physical, electronic, or digital—as well as on the end user's privileges.

Primo offers these services, managed by Alma, in the Get It or View It tabs. Note the image below for an example of these two service tabs.



View It Tab

The View It tab in Primo displays electronic and digital resources. The content of the View It tab is provided by Alma as a response to an OpenURL request, for example for an electronic journal article:

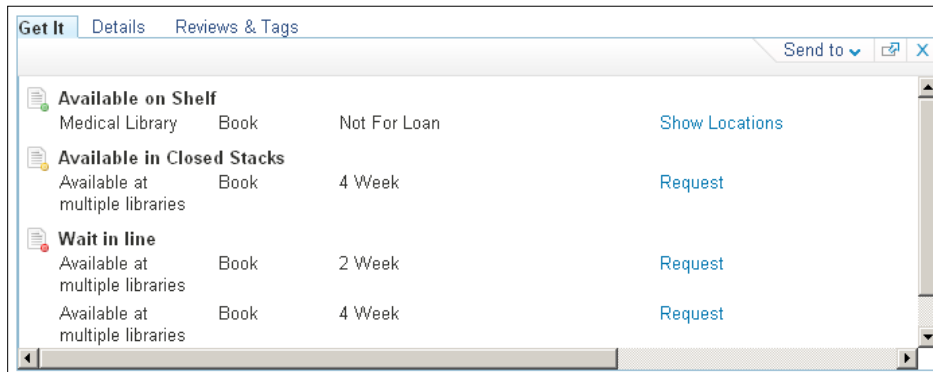


Get It Tab

The Get It tab in Primo displays a number of library service options:

- Available on Shelf – Describing items that are physically available on an open shelf, so that the patron may view them at the library, or borrow them for use outside of the library. The information for this service includes:
 - The library in which the item is shelved
 - The loan period – showing both the policy description and the actual loan time. This will be shown only if the user is logged in.
 - The material type
 - The item’s location
- Available by Request – Describing items that are physically available on a shelf and may be accessed with assistance from Library staff. The information for this service includes:
 - The library in which the item may be picked up
 - The loan period – showing both the policy description and the actual loan time
 - The material type
 - Earliest Supply – The earliest time the item may be made available. This is calculated by routing time configuration tables in Alma.
- Currently Out - Describing items that are temporarily not available, for example items that are classified as On Loan, On Hold shelf for another requester, At Bindery, In Digitization, etc.
 - The information that will be included for this service is similar to the information that is displayed for items that are available by request.
- Other Services - Describing additional services that can be requested by the user such as:
 - Digitization/Document Delivery
 - Acquisition of this item
 - Links to external ILL systems (e.g., ILLiad, D2D, etc.)
 - Alma Resource Sharing Requests

- All Holdings - Describing all the library items. The information included for this service includes:
 - The library in which the item is shelved
 - Item Location
 - Detailed Holdings information (e.g., Summary Holdings) when available



d. My Account

In addition to accessing discovery and delivery services, users can obtain services managed by Alma, directly from the Primo interface. Users can renew loans; see hold requests, fees, and fines; and update their contact information, all from the Primo My Account screen.



e. Demand Driven Acquisitions

Alma and Primo streamline the process for patron-driven acquisition, including e-books, by loading potential candidates to discovery, managing automatic approval plans, managing billing from the vendors and automatically adding purchased books to the institution's catalog and inventory. The PDA workflow can be described as follows:

- A PDA profile is created:



- Vendor candidate e-records (with URLs) are loaded into the Alma repository
- Alma publishes the records to the discovery tool (Primo)
- Users discover and use the e-resources, triggering purchases

- The vendor sends PO Lines via EOD and invoices via EDI
- After a defined period, the candidate e-resources that were not used (or usage did not exceed the defined threshold) are removed from the Alma repository and from the discovery tool.

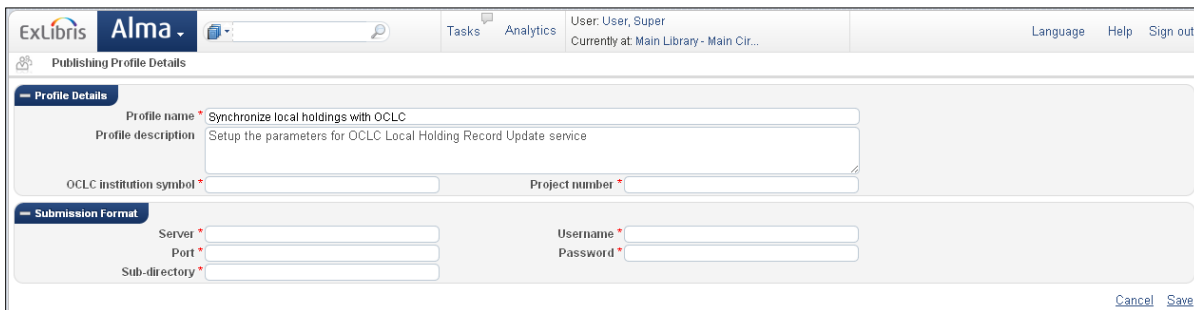
As briefly described above, based on the library’s approval profile, the vendor will provide bibliographic records which Alma will automatically load into the library’s catalog and make available through Primo for discovery. As patrons select the resources via Primo, the Primo-Alma interoperability will ensure that the management processing for ordering and invoicing is automated based on the library’s business rules. In most cases, this can be a completely automated and unmediated process, requiring only that the library set up access for receipt of the vendor records (typically done via standard FTP today) and rules internal to Alma for ordering, fund management, and payment.

f. Single Vendor Support and Roadmap Enhancements

When a library chooses to use Alma in conjunction with Primo, this gives them the added benefit of working closely with a single vendor for support issues, as well as enhancement requests and fully taking advantage of roadmap functionality for both products. Alma was specifically developed to work closely with Primo, and many roadmap features for both products are closely tied to each other.

II. OCLC Discovery Interfaces

An OCLC Publishing Profile may be used to define the parameters required for setting an on-going automatic publishing process that exposes Alma’s holdings information to the discovery interface.



Specific records or specific record profiles may be excluded from OCLC publishing.

III. Scholarly Search Indexes (Primo Central/Google Scholar)

In the same manner as for the institutional repository discovery interfaces, Alma repository content may be made linkable from indexes such as Primo Central or Google Scholar. This is achieved by utilizing publishing profiles for setting an automatic publishing process that will make Alma’s content linkable for any of these interfaces.

When users access the discovery layer, they are associated with a given institution, based on:

- The link they accessed
- The IP they came from
- Their login

This is needed for the discovery layer to communicate with the correct Alma institution/campus so it can:

- Provide correct availability and coverage
- Provide the relevant services, based on institutional policies
- Receive requests from identified and authorized users.

A.5.2. The ability to create, edit, store, publish and enable the discoverability of archival metadata records (e.g., Dublin Core, EAD, MODS, METS) and to integrate with digital object and metadata repositories. Describe the system's ability to adapt to emerging metadata standards in the future, such as BIBFRAME.

Ex Libris: As a unified solution, Alma is designed to manage, in addition to electronic and print resources, a broad range of digital collections. Digital content managed in Alma utilizes the same unified workflows as other resource types, also leveraging the same consistent user interface while providing extended functionality to accommodate the special needs of digital collections.

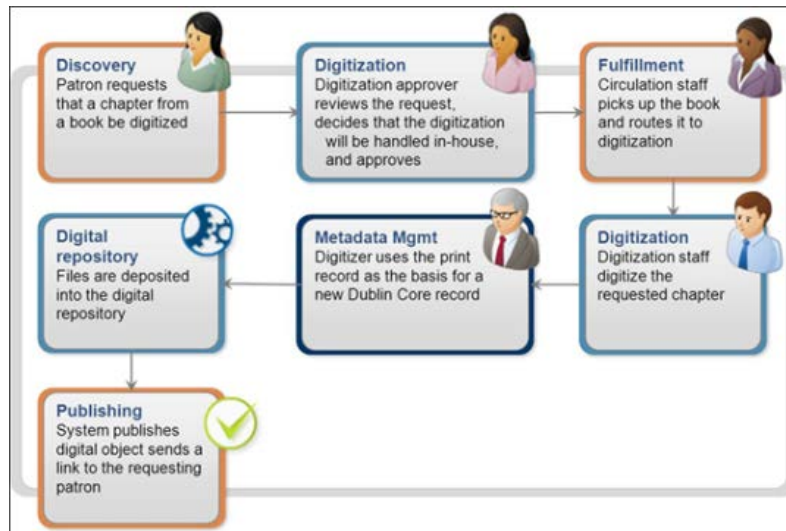
For example, Alma will support the ability to define workflows for various deposit processes (theses submissions, the submission of faculty papers, research data, etc.). The deposit workflow process (“Material Flow”) is based upon rules and can accommodate different scenarios based upon material type and other factors. Authorized staff can view deposited materials that are waiting to be approved and processed and can move them to the next step in the workflow, assign them to another user or reject them.

The submission process will also include the following elements:

- Generation of thumbnails
- Generation/validation of checksums
- Virus checking (as part of Alma’s Cloud security)

Libraries can take advantage of Alma for digital collections and also leverage the ability to have restricted collections reside in on-premise Digital Asset Management systems. For digital collections stored on-premise, Alma can manage descriptive metadata, location-agnostic URI’s and workflow integration.

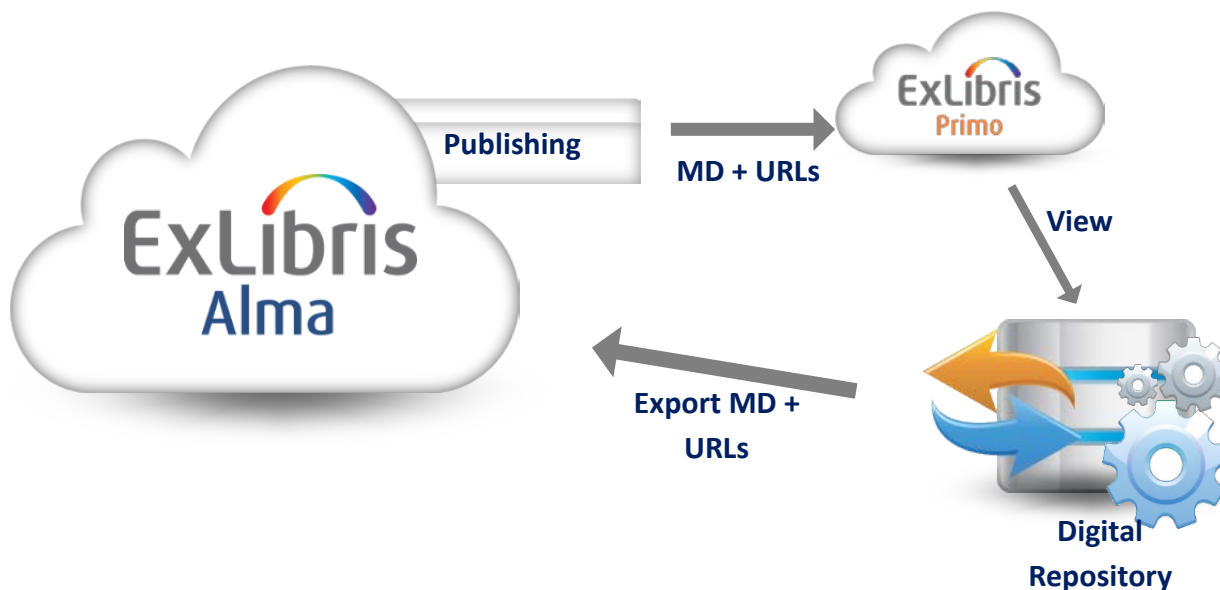
Alma also supports digitization on demand workflows, coordinating the activities of staff across library organization units. A patron-initiated digitization request triggers an alert and a pick slip at a specific digitization location. A staff member can report a copyright clearance status. The full process is shown in the image below:



All digital content can be assigned access rights that can range from full public access to restricted delivery. Actual access rights for digital content can be maintained separately from discovery publishing solutions. Alma's flexible access right controls can be defined for each item, and according to the user's rights.

Each digital entity in the inventory is associated with descriptive metadata from Alma's Metadata Management System (MMS), and contains one or more representations, which are themselves made up of one or more files.

Another important feature of Alma that is already supported is the ability to integrate with digital repositories such as: Fedora, DSpace, Rosetta, Digitool and CONTENTdm using standard OAI-PMH functionality:



Alma's digital component is still in development, and is planned to include the following features:

- A delivery module which provides viewers for common file types such as PDF, Jpeg2000, Tiff, Audio and Video, and more.
- A mechanism for user submitted deposits, including a deposit widget that may be used in the library portal.
- A mechanism for bulk deposit (i.,e. ingest), using different formats:
 - DC
 - MARC
 - Excel/CSV
- Cloud based file storage management
- Integration with local DAM solutions such as CONTENTdm (already supported)
- Publishing of digital resources to Discovery systems
- Collection Management:
 - Collection Discovery
 - Collection Indexing and Publishing
- Reporting and Analytics for Digital Resources

The Alma digital component is being developed in phases, with enhanced digital functionality scheduled over the next 2 to 3 years. Currently, OAI-PMH harvesting in Alma is supported, so records from remote digital asset management systems can be imported into Alma and their descriptive metadata will then be managed in Alma.

Ex Libris is closely following emerging standards such as Library of Congress' BIBFRAME initiative. Alma has been designed as an open and flexible architecture to support open metadata format architecture, with the ability to add new formats utilizing a flexible linking structure.

Ex Libris sees the potential of linked data to make libraries a vivid part of the web information infrastructure as a whole, making the libraries' contributions more visible and attractive to end users; we are therefore following the linked data initiatives with very high interest. More and more customers are indeed reporting their interest in LD technology in general, especially in enriching the discovery experience. This is done in many ways, increasingly using URIs. We also are aware that publishing library data in linked data structures is also an important topic for big metadata providers.

Ex Libris is currently involved in Linked Data projects, including Europeana, the European Digital Library project. Our experience has shown that:

- On-the-fly linking of triples in distributed data stores is rather slow and does not allow sophisticated discovery. Search engine technology harvesting the metadata is necessary;
- Most of the current metadata sources do not provide RDF triple. A conversion of metadata is needed; and
- New problems arise as to how to keep RDF triples up-to-date in the index. This is a matter of scale.

While Alma's continued development will be informed by our experiences with these projects, we can say that:

- The Alma Community Catalog will work with library data using an open license; and
- Alma's metadata management is designed with FRBR in mind.

- A.5.3.** How the system works with Automated Storage and Retrieval Systems (ASRS) such as Dematic or HK. Describe the ability to sync inventory data with these systems; how are new records loaded into the ASRS from the system, and how is the system updated with information from the ASRS?

Ex Libris: We have worked closely with Dematic to develop integrated workflows between Alma and the ASRS system. Alma can communicate with the Dematic/HK Automated Storage Retrieval System. When items are moved into the Dematic managed storage, Alma can send messages to the Dematic remote storage so that it can update its database of inventory. In addition, Alma can send a message to the Dematic remote storage whenever a request is created, so that the system can automatically pull the proper bin off the shelf and supply the requested item.

ASRS integration falls into Alma's Remote Storage management paradigm, which involves:

- Library locations that have a special 'Remote Storage' attribute which triggers the below listed implications.
- An integration profile that is optionally linked to the remote storage controls how items are requested from the remote storage (in terms of which technology – FTP, API call, etc.) will be used to transfer the request to the remote storage.

The following basic workflow actions are integrated with the ARS in order to be able to establish a working process with the system.

1. Addition of items to the ARS database when items are added or updated in Alma that will be stored in the ARS
2. Notification from Alma to the ARS system when items are deleted or no longer defined as being in compact storage
3. Processing of hold requests made in Alma where the requested physical items are stored in a storage unit controlled by ARS
4. Return of items back to the Remote Storage

Alma is a cloud system which communicates over secured HTTPS protocol. The Dematic ARS receives messages over TCP, and exchanges them in a non-secured manner within the local network.

To solve this functional and security gap with the ASRS system, a local server will be installed at the users' premises, running Stunnel (<https://www.stunnel.org/>). The Stunnel program is a free application that is designed to work as an SSL encryption wrapper between remote clients and local or remote servers. It serves both the purpose of securing the communication between Alma and local applications such as the Dematic ARS server, as well as bridging over the protocol gap. It may be freely downloaded and installed on Windows or Unix platforms, and is in production, bridging between Alma in the cloud and local SIP2 running self check machines. Ex Libris designs the integration with the Dematic ASRS, configures it during the project, and supports the integration on an ongoing basis. If issues arise Ex Libris will address them with CSU as necessary.

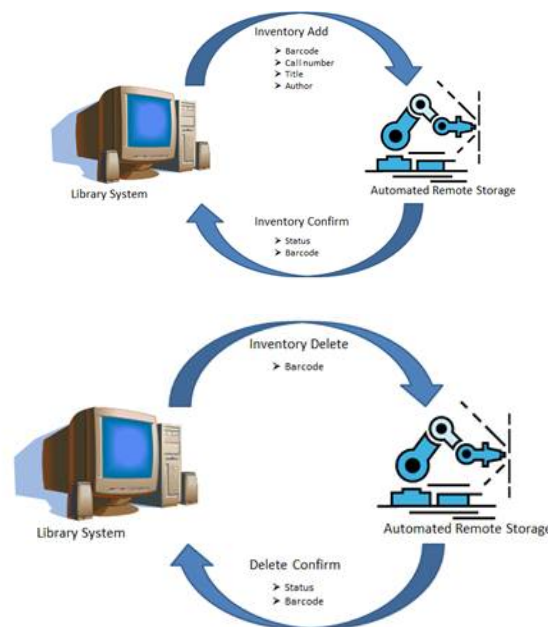


An SLL certificate is downloaded from Alma and installed at the Stunnel running server, allowing proper and secure SSL communications to be managed between Alma, the Stunnel gateway and the ARS server.

Alma may need to update the ARS in one of two cases:

- New item is to be shelved at the Remote Storage
- Item is removed from the remote storage

Alma will send an update message, which will be responded by the ARS with an action status report. Following is an illustration of this integration:



- A.5.4.** The system’s integration with campus financial systems, as used for ordering, invoicing and other functions, as well as collection agency services; and ability to accept and process payments via cash, check, credit card, PayPal, Square, student campus cash cards, etc.

Ex Libris: Alma features bi-directional integration with an ERP or an institution's financial system. This integration can be used to export payment information, as well as import payment confirmation for specific invoices and fund allocation information.

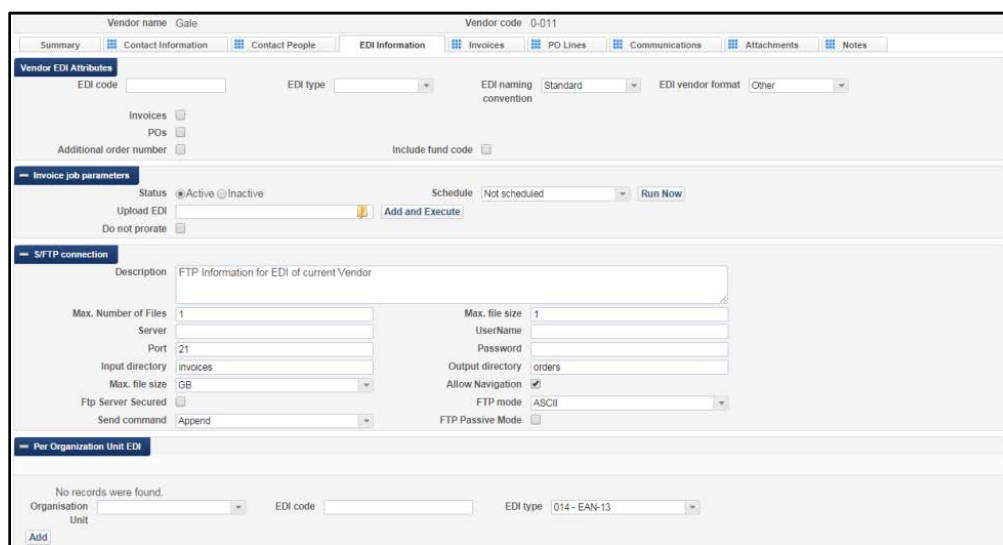
The Alma acquisitions environment utilizes Alma’s workflow engine to provide automated and integrated acquisitions process where traditionally a manual process was required. The entire lifecycle of an order may be fully integrated with external ordering and invoicing systems. Alma’s

open APIs and interface adaptors enable institutions to interoperate with a variety of external systems, including campus enterprise solutions such as PeopleSoft.

Orders may be registered in Alma via Embedded Order Data (EOD) files. Based on flexible definitions in Alma's Import Profiles, an EOD file may be placed at an FTP location, where Alma will automatically upload it. Parsing the file, Alma will:

- Create the bibliographic metadata of the ordered resource;
- Create the holdings and inventory metadata for the ordered resource; and
- Create the order record

Following manual review, or skipping the manual review, the orders will be exported to the vendor systems via email, or through the vendor's EDI interface if one is supported. Alma may export order information via EDI to any EDI-enabled vendor.

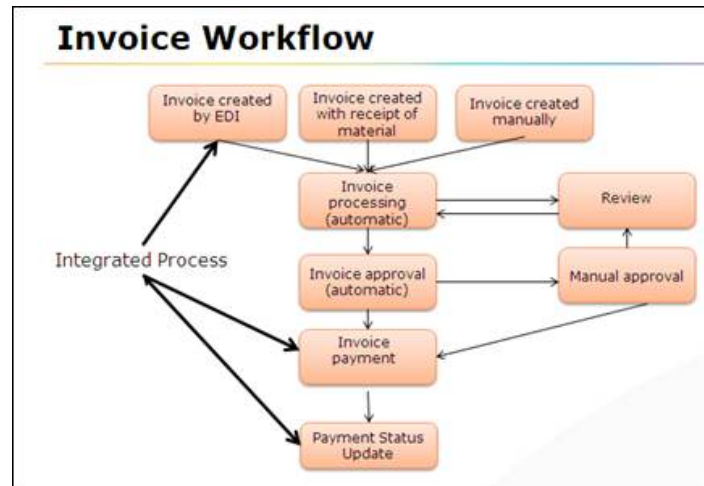


Invoices may be manually created, or uploaded into the system based on EDI communications, if the vendor supports them. EDI communications are based on the EDI-enabled vendor supplying the EDI invoices and placing them at an FTP location for Alma to upload.

Following approval, the invoices are automatically exported to the institutional payment system, based on definitions set in Alma's Integration Profile framework. The export is in an XML format, to an FTP location defined in the Integration Profile framework.

Approval from the payment system may be received, based on Integration Profile definitions, resulting in automatic closure of the invoice and the order process.

The fully integrated invoice workflow may be summarized as follows:



The Alma framework for utilizing integration points with third-party systems is the Integration Profile. The Integration Profile is where integration definitions may be set up for the type of Alma-supported integration, including systems such as:

- Self-check
- Resource sharing systems
- Link resolution and proxies
- Collection agency services
- Discovery interfaces
- Cataloging clients

Fine and fee payments may be registered at the library. In support of the common practice of exporting these for management by dedicated collection agency systems, Alma's Integration Profile framework enables the export to take place in a number of ways:

1. As exportable information that is exported to the Collection Agency based on institution-defined policies and intervals. The institution may define profiles for the export based on:
 - a. The type of fee
 - b. The type of user
 - c. The owner of the fee
2. As exportable information that is exported on an individual patron basis, per request of the patron.

The integration with the Collection Agency is XML-based and is managed in Alma's Integration Profile framework:



Alma has a number of options for integrating with payment systems:

1. Via SIP2 – payment systems that can communicate using this protocol can communicate payment information using standard supported SIP2 messages
2. Via Alma web services – Alma supplies a number of currently SOAP based web services for submitting payment information to the system. These services are planned to be migrated to RESTfull equivalents as part of the near future Alma roadmap
3. System specific integration has been developed for systems, such as the WPM Education system, widely popular in the UK. Additional system specific integrations will require specific development.

A.5.5. How the system connects to campus information systems such as PeopleSoft to create and update patron records. Describe the ability to communicate fines and payment information to campus bursar systems, or the ability to indicate the fines and other charges have been transferred to the campus bursar system. Describes how campus blocks and holds due to fines can be communicated to central campus systems. For example, if fines are paid through a central campus bursar's office, can the patron's account be updated in real-time or through harvesting when payments are made through the campus office? Describe how the system can provide data to integrate library Information in a campus portal or third-party system.

Ex Libris: Alma's design includes built-in integration points where Web Services may be used to integrate Alma with enterprise applications such as PeopleSoft. The integration may happen in a number of ways, such as supplying or ingesting data, triggering the launching of internal Alma processes, or triggering actions at the external application. Integration points are based on existing as well as evolving market standards.

Like other Alma integrations, integrations with campus systems such as PeopleSoft are based on Alma's Integration Profile, shown below:

ExLibris Alma - External System

Code: PEOPLESOFT Name: PeopleSoft Integration Type: Payment

General Information Actions Contact Info

External System

Code * PEOPLESOFT Name * PeopleSoft

Integration Type * Payment SIFTP Connection Type * FTP Ex Libris

System Type

Description: PeopleSoft ERP

Created By: admin1 (11/16/2012) Updated By: admin1 (04/04/2013)

Cancel Save

External System

Code *

Integration Type *

Description

Created By

- Augmentation Definition
- Bursar
- Discovery Interface
- LDAP
- OCLC Client
- Payment
- Proxy Definition
- Remote Storage
- SAML
- Self Check
- Sms
- User
- Z3950

ExLibris Alma - External System

Code: PEOPLESOFT Name: PeopleSoft Integration Type: Payment

General Information Actions Contact Info

Actions

Import

Active * Active Non Active

Plugin

Input File Path

Run

Schedule: Every day at 11:00

Export

Active * Active Non Active

Plugin

Output File Path

Run

Schedule: Every day at 11:00

Use New file format (Version 2)

Cancel Save

The Alma Developers Platform is a core part of Alma. Being an extension and integrations platform, Alma Developers is based from the bottom-up on an extensible architecture that supports the seamless addition of new integrations

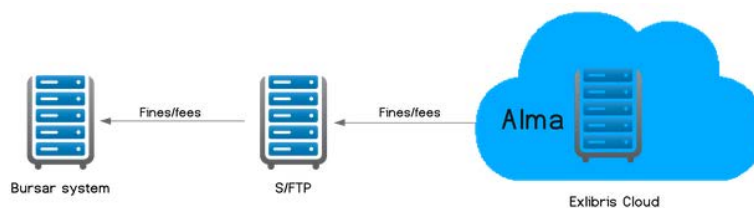


Alma Developers utilizes the following components:

- Web Services and Restful APIs – For on-line integrations with applications. This includes but is not limited to integrations with financial systems, Student Information Systems, Bursar systems, LMS and more.

Patrons can be charged fees for various types of activities, such as signing up for a course, extra education services, and so forth. Thus, many institutions handle patron-related charges in a dedicated bursar system. This can be the institution’s ERP system or a system that is in charge of patron-related finance. Institutions export fine and fee information from Alma to the bursar system. Exported fines and fees are considered closed in Alma, since they are handled outside of the library’s scope.

In general, the export of fines and fees is handled using XML files that are placed by Alma at a predefined FTP location. These XML files can then be fetched by the bursar system. The workflow is illustrated in the following diagram:



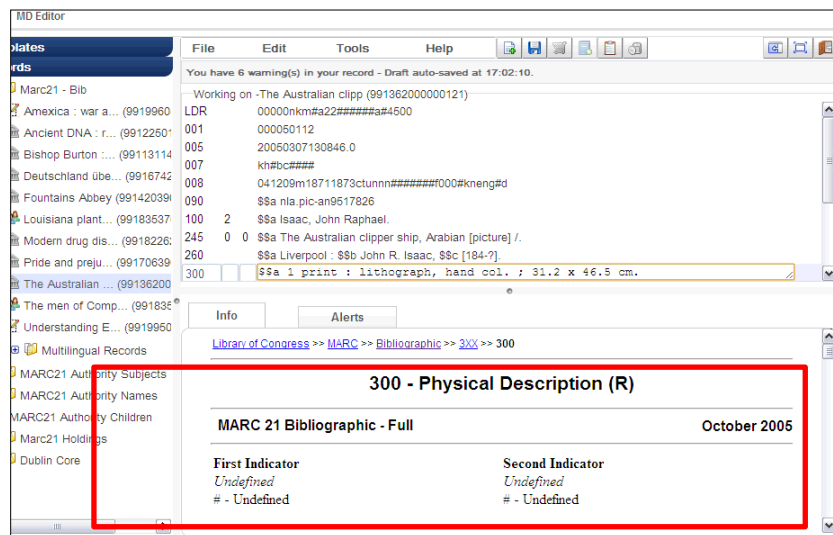
A.5.6. How the system works with tools such as GOBI, Cataloger's Desktop, and RDA Toolkit. Describe procedures for automatically ingesting bibliographic record updating services (e.g., OCLC Bibliographic notification services).

Ex Libris: Alma integrates with commonly used external selection portals such as YBP’s GOBI platform with automated import capabilities through extensive support for vendor-specific import profiles and embedded order data (EOD) records.

CSU can greatly benefit on workflow savings through this type of integration. For example,

using YBP GOBI's selection platform, the library operator can select content to be purchased and the orders for the purchased content are reflected in Alma in real time. This initiates an acquisitions workflow in Alma, creating relevant purchase order line details and creating the relevant resources in the Alma repository.

While viewing a record in the metadata editor, staff can view help information inline. This displays contextually on a per-field basis, depending on the field being edited. The following shows a reference to the MARC21 bibliographic standard; comparable help can be set up for other schemas (including linking out to content resources such as the RDA toolkit on a contextual, per-field basis), as seen in the screenshot below.

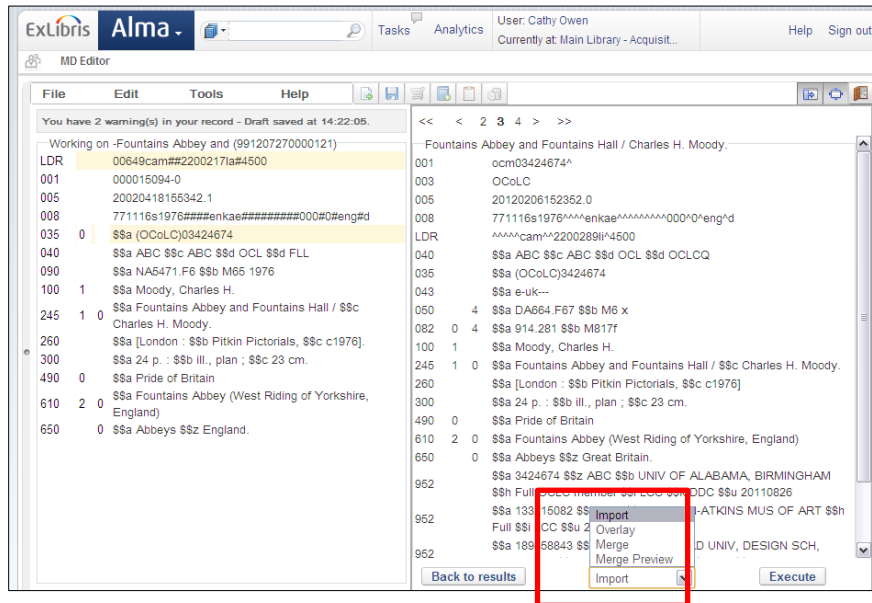


It may be possible to integrate Cataloger's Desktop in the metadata editor by pointing to the Cataloger's Desktop pages for a MARC field instead of the Library of Congress page. This is dependent on how the Cataloger's Desktop works; linking out to Library of Congress is done through URL based access, per field, in the Metadata Editor.

As part of Ex Libris' open approach to system functionality and data, Alma is built to interoperate with multiple and disparate sources of data. This includes not just the ability to load records from a variety of sources in a variety of formats, but also automated interaction with external cataloging tools, e.g., OCLC Connexion.

Alma supports the ability to import and export bibliographic, inventory, and authority records in their native formats, including MARC 21 XML or binary and Dublin Core XML. Integration with the OCLC Connexion client is supported via the Connexion Export function, which will allow staff to work entirely within the Connexion client and synchronize the edited record with Alma.

Import processes may be handled for individual records in the metadata editor as shown below. In the following image, an external catalog has been searched, and staff may now choose how to import a matching record—whether to bring in a new copy, overlay the record being edited, or merge the edited record with the external record.



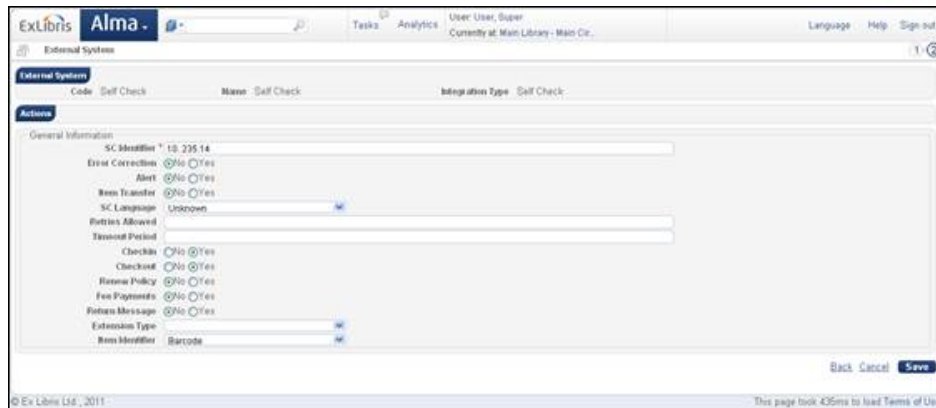
Additionally, they may be launched as bulk processes according to a predefined import profile. Imports according to each profile may be launched manually or scheduled to reoccur at a regular basis with no intervention (e.g., to automatically download records from a vendor each week). Any exceptions encountered during the import process will be logged to a task list for operator review.

A.5.7. Support for RFID Systems, including automated materials handling, such as AMH from Lyngsoe and self-check-out systems (e.g., 3M Self-Check).

Ex Libris: Alma's support for Self-Check is based on the SIP protocol, including its version 2.0 capabilities. Because many localized extensions of the protocol have been implemented at various institutions, Alma's SIP2.0 support may be complemented by localized extensions. The basic functionalities supported by Alma's SIP2.0 support are around the commonly-used actions of:

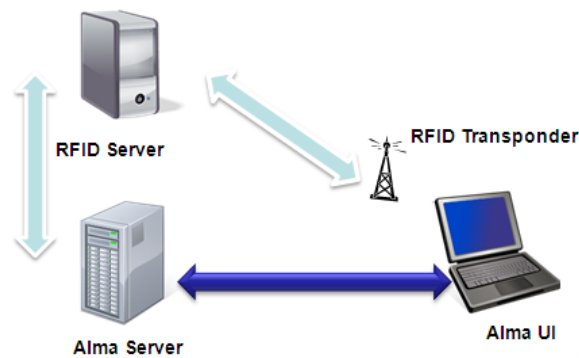
1. Self check-out
2. Self check-in
3. Self fine & fee payment

Alma supports all relevant SIP2.0 messages needed to accomplish these tasks. Like other Alma integrations, the Self-Check integration is configured and managed by Alma's Integration Profile framework, as shown below:



Lyngsoe systems are SIP2-compatible, and can therefore integrate with Alma based on this supported standard.

Integration with RFID machines is yet another integration that Alma does based on standard protocols such as SIP2. Being a cloud application, integrating Alma with RFID enabled machines can be best done based on a server-to-server type of integration, such as is provided by many RFID vendors. This type of integration is described below:



The RFID enabled machines may interact with Alma using this protocol, to:

1. Get feedback on loan/return actions that took place at the desk, signaling the RFID enabled machine that an update of the security bit is required.
2. Self Check – RFID enabled machines can send SIP2 messages to inform that a check-out/check-in action has taken place at the machine. Alma will reply with SIP2 messages that include bin information for the return machine to be able to determine where the item needs to be reshelved.
3. Update of RFID tags – updating barcodes on the items via Alma's item forms.

A.5.8. How the system supports the NISO Circulation Interchange Protocol (NCIP / ANSI/NISO Z39.83), including reference to successful implementations. Which application areas are supported (e.g. Direct Consortial Borrowing, Circulation/ILL, Self-Service Circulation)? Which NCIP messages are supported and does the system support both the roles of initiator and responder? Does your implementation include secure transport (e.g. HTTPS) wherever possible?

Ex Libris: The NISO Z39.83 Circulation Interchange Protocol (NCIP) plays a major role in two

aspects of resource sharing:

1. Integrating third party resource sharing systems with Alma in deployments where Alma is intended to make use of existing third party systems for managing the resource sharing communication, taking on itself the management of the internal library processes on which the resource sharing process relies, such as:
 - Identifying the most suitable library resource for fulfilling a request
 - Making the requested resource available for the requester
 - Checking out/in a resource that is loaned as part of a resource sharing process

In this model, NCIP is the key building stone by which the Alma integration with the resource sharing system is achieved.

2. Managing a full and independent resource sharing process. Alma's NCIP capabilities may be implemented also for directly obtaining resource sharing related information, such as holdings availability and patron eligibility for requesting a resource sharing service, as well as orchestrating the process of identifying the most suitable library resource, making it available to the requester and managing the fulfillment lifecycle of the supplied resource.

NCIP support is an attribute of Alma's resource sharing Integration Profiles. As each integration profile may be specifically tailored to the specific integration it is intended to facilitate, the NCIP message support may be specifically profiled per the use of the specific integration it is part of. The Alma-supported version of NCIP is 2.0.

Alma supports the OCLC CIRC ILL and Relais application profiles for both borrowing and lending, as well as the responder role for the following NCIP messages: RequestItem, CheckOutItem, CheckInItem, AcceptItem, LookupUser.

NCIP is supported in the context of ILL systems integrations. It is currently used in production in this manner integrating with Relais, OCLC Navigator and INN-Reach. Reference to specific libraries may be supplied. Additional implementations of NCIP, such as for remote storage handling and peer to peer ILL processes, are being developed.

Alma's support for NCIP is over HTTPS secure protocol.

A.5.9. How the system supports vendor-led protocols such as 3M's SIP2.

Ex Libris: Alma supports vendor-led protocols such as SIP2. SIP2.0 is supported for managing self-check actions such as:

- Self check-out
- Self check-in
- Self payment of fines/fees

All of the SIP2.0 messages that are required for supporting these actions are currently supported in Alma, including:

- 11,12 – Check -Out

- 09,10 – Check- In
- 37,38 – Fee Paid
- 93,94 – Login
- 23,24 – Patron Status Request
- 63,64 – Patron Information

A Self-Check Integration Profile is used to define which of the above listed actions is to be supported by the institution's different self-check machines. The Self-Check Integration Profile is also linked to an Alma Circulation Desk, inheriting attributes from the attached desk such as which physical locations are served by the self-check machine.

- A.5.10.** Your organization's participation in new NISO standards development as well as ongoing standards maintenance. How quickly have your products incorporated new application areas or messaging capabilities of an evolving protocol? Are the new features available as part of general releases of the software or are they custom-developed per client?

Ex Libris: Achieving Alma's seamless handshaking with external systems, integration points are based on both evolving and well-established trend market standards. In addition to standards, Alma's integration approach makes use of plugin capabilities, allowing institution-specific adaptations to specific systems and needs.

Ex Libris closely follows all changes in library standards, and quickly incorporates changes made into our products. Additionally, we participate in many groups that contribute to standards development.

Alma's Agile development methodology is based on the concept of frequent sprints, which are task-and time-delineated. This allows the Alma Development, Implementation and Operations Teams to encounter and solve development issues on an ongoing basis, greatly contributing to the quality of the product. The Agile methodology also allows Ex Libris to rapidly deploy new functionality as well as critical fixes and security patches to all our customers. This means that we are able to address the needs of our customers in months versus. To date, since Alma was originally released in 2012, Ex Libris has established a track record of new Alma releases each month. These monthly releases have consistently been on time and delivered when promised to our customers. This methodology means that over 500 new enhancements are introduced into Alma each year.

All new features in Alma are available to all customers upon their general release and are delivered automatically to the customer.

- A.5.11.** The system's technical integration with content providers and various DRM systems: e.g. Overdrive, Adobe Digital Editions, Adobe Content Server, Ebrary, Safari, iLibrary, EBSCO.

Ex Libris: Alma includes an extensive and rich Central Knowledge Base (CKB) utilized in an integrated way as part of different workflows. The Alma CKB includes the following types of electronic resources from major scholarly publishers:

- object portfolios
- full text object portfolios

- eBooks portfolios:
- bib-records (objects)
- peer reviewed journals
- packages
- full text packages
- selective packages (targets)
- aggregator packages (targets)

The CKB is tightly integrated with Alma acquisition workflows and electronic management workflows.

Every institution in the consortium can search the CKB for electronic resources of different types, choosing resources as part of the selection workflow, and/or initiating a purchasing workflow for the selected resources. An institution can also activate CKB electronic resources using an activation wizard. The Central Knowledge Base electronic resources details can be overwritten with an institution's local information.

Since the CKB is maintained by Ex Libris, any CKB change related to the electronic resources used by the institution will be reflected in the institutional inventory, keeping the institution's electronic resources up to date, and taking into account any localization of the electronic resource.

Electronic resources linked to the CKB electronic resources can be resolved just as any other electronic resource, using the embedded OpenURL link resolver.

- A.5.12.** Technical integration with copyright and rights management services: e.g. SipX, Copyright Clearance Center (CCC) Get it Now.

Ex Libris: Copyright and license management, in the context of resource sharing and fulfillment, is done at both the borrowing side and the lending side of the request processing:

Borrowing Side

Outgoing borrowing requests for receiving digital material are tracked by the system, based on a defined profile. For example, a request for a title which has a publishing date later than a defined date will be counted. When the number of fulfilled requests (within a defined period of time) reaches a threshold, management of subsequent requests for the same title are blocked until copyright cleared. Clearing the block is done by managing the relevant copyright aspects, such as paying the relevant fees.

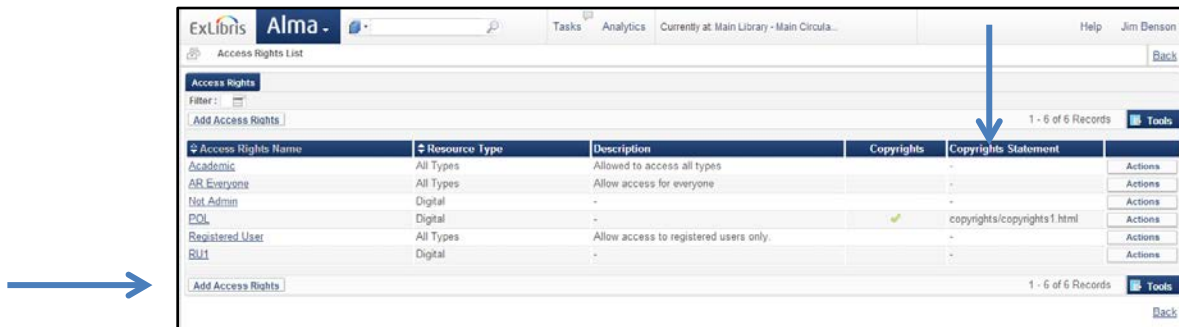
Lending Side

The lending side may fulfill incoming requests by using digital or electronic material of two types:

1. Digitally Stored Material—A resource sharing operator that consults Alma for a specific resource sharing request's fulfillment options may get a list of suggested electronic resources that can be used for fulfilling the request. In this case, Alma will display the electronic resource's terms of use alongside the resource's link. The operator will be able to view the resource's license in a single click, and make a decision on whether the electronic resource may be used for fulfilling the request or not.
2. Digitizing Physical Material—A resource sharing operator who consults Alma for a specific resource sharing request's fulfillment options may get a list of suggested

physical resources that can be used for fulfilling the request. In this case, Alma supplies alongside the description of the physical resource the possibility to request the use of the physical item in a digital form, i.e. to digitize the material.

Either way, the process may be configured to require copyright clearance. For example, a request for items with a publication date that is later than a specific date will require copyright clearance before the digitization process is complete. If this is the case, the digitization process will not be complete until the copyright clearance is signed off. Below is a screenshot of the operator's ability to add access rights in Alma, along with the option to include copyrights and a copyrights statement:



Primo, the discovery layer to Alma, also offers demand-driven acquisition of e-journal articles through unique integration with the Copyright Clearance Center's "Get It Now" service.

A.5.13. Compatible label printer brands (e.g., RapidX, Zebra) and printing formats (e.g., postscript).

Ex Libris: Alma can integrate with locally-used label printing applications through downloading a local component that utilizes web service to communicate with Alma and the local label printer. You can choose to use the Alma-provided Label Printer BIAF or your existing one.

A.5.14. How the system may be used to integrate library data (such as title lists) into learning management systems such as Moodle/MoodleRooms, Blackboard, Desire2Learn, and Canvas; as well as for content management frameworks such as Drupal and WordPress; and guide management systems such as LibGuides.

Ex Libris: Web Services may be used to extract reading lists in Alma to the learning management system, based on the course ID. The reading list is exported via the API, including both the citations' metadata and the OpenURLs that enable the course management system to link back to the availability information of the citations via a services page. The API for course management system integration was developed for Blackboard integration, but may be used by any other system as well. We are very interested in in partnering with the CSU system regarding your requirements for these types of integrations.

In addition, Primo has the ability to harvest for discovery library selected data sources, including LibGuides.

A.5.15. The product's support for the Library Linked Data model, including the Resource Description Framework (RDF) and RDFa. For example, does the system possess the ability to expose, as linked data, authority-controlled names and holdings?

Ex Libris: Alma has been designed as an open and flexible architecture to support open metadata format architecture, with the ability to add new formats utilizing a flexible linking structure.

Ex Libris sees the potential of linked data to make libraries a vivid part of the web information infrastructure as a whole, making the libraries' contributions more visible and attractive to end users; we are therefore following the linked data initiatives with very high interest. More and more customers are indeed reporting their interest in LD technology in general, especially in enriching the discovery experience. This is done in many ways, increasingly using URIs. We also are aware that publishing library data in linked data structures is also an important topic for big metadata providers.

Ex Libris is currently involved in Linked Data projects, including Europeana, the European Digital Library project. Our experience has shown that:

- On-the-fly linking of triples in distributed data stores is rather slow and does not allow sophisticated discovery. Search engine technology harvesting the metadata is necessary;
- Most of the current metadata sources do not provide RDF triple. A conversion of metadata is needed; and
- New problems arise as to how to keep RDF triples up-to-date in the index. This is a matter of scale.

While Alma's continued development will be informed by our experiences with these projects, we can say that:

- The Alma Community Catalog will work with library data using an open license; and
- Alma's metadata management is designed with FRBR in mind.

As for RDA, we view the implementation of RDA not as a milestone event, but rather an on-going effort. With millions of legacy records in thousands of library catalogs, the implementation of RDA means that library catalogs will contain a mix of AACR2 and RDA records for the foreseeable future.

Alma's metadata management environment features support for multiple metadata schemas. Support for the MARC 21 and Dublin Core standards allows Alma to manage the range of resources in a library's collection. The metadata management infrastructure allows adding additional formats, providing a sustainable platform for future changes in cataloging standards. We plan for Alma to fully support RDA encoded in MARC in which the RDA entities (WEMI) will be all encoded in single bibliographic and authority records.

- A.5.16.** The systems' level of interoperability with common resource sharing systems such as: RapidILL, ILLiad, Odyssey, Ariel, Get It Now, OCLC Article Exchange and OCLC Resource Sharing.

Ex Libris: Alma interacts with external circulation platforms in a number of models:

1. Reflecting the externally managed requests within Alma for supporting the required internal library processes.

The diagram below shows how the external systems communicate the resource sharing requests, while notifying Alma about actions that require supporting library processes. The supporting library processes are managed in Alma.



The supporting library processes that Alma orchestrates include processes such as:

- Fetching the items from shelf
- Moving arrived items to the requested pickup location
- Checking the arrived items out to the requesting patrons
- Checking the items back in from the requesting patron

In this model, Alma integrates with the external systems via NCIP (version 2.0) messages, such as:

- LookupUser
- RequestItem
- CheckOutItem
- CheckInItem
- AcceptItem

External supported systems include:

- ILLiad
- Relais D2D
- OCLC Navigator (NRE)
- INN-Reach

In addition, Alma pushes requests into the external systems, based on its integration capabilities. For example, requested metadata is pushed into ILLiad via an OpenURL.

For example, III INN-Reach integration allows end users to:

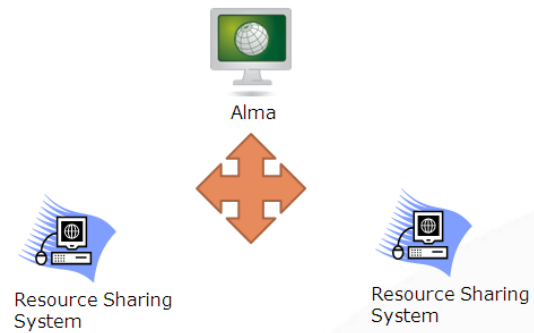
1. Request items using the Primo interface. Citation information is transferred to INN-Reach where the requests are placed
2. View received items together with their due dates in a standard way from My Account in Primo

It allows library staff to:

1. Use INN-Reach DCB to ship lent out items, and check them back in. Actions are automatically updated in Alma
2. Use INN-Reach DCB to receive borrowed items and to ship them back to the lender. Actions are automatically updated in Alma
3. Use standard Alma fulfilment functionality to issue and return the items

Fully managing the request, by managing not only the internal library processes, but also the communications with the non-CSU partner. This includes managing the request's potential suppliers and managing the ILL communications protocols, such as ISO communications and

others. The diagram below illustrates how Alma directly communicates with resource sharing systems:



As an implementation of Alma's standards based design, Alma manages resource sharing communications in a variety of standards, such as (in addition to simple email communication):

- ISO ILL
- British Library ARTEMail
- NCIP

Alma also supports native resource sharing without the need for an external broker. In this mode of resource sharing, Alma manages all aspects of the resource sharing request-related transactions between the resource sharing partners, and the internal library process that support the resource sharing lifecycle.

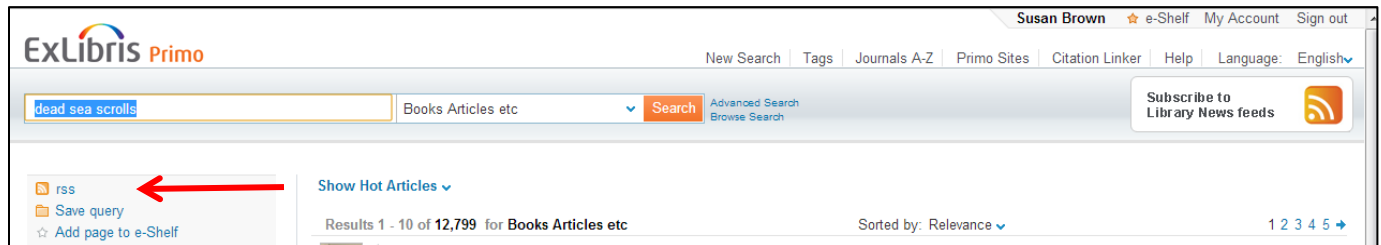
- In this mode, Alma manages both the resource sharing request-related transactions between the resource sharing partners, and the internal library process that supports the resource sharing lifecycle.
 - Communications with resource sharing systems is based on library standards such as IPIG ISO communications, NCIP messages, BL ARTEMail formats, etc.
 - Searching for potential suppliers is based on Z39.50 metadata and holdings searches.

Alma's resource sharing functions suite, being based on standards, is not affected by whether the participating parties share systems, as long as they are able to use standards for communication.

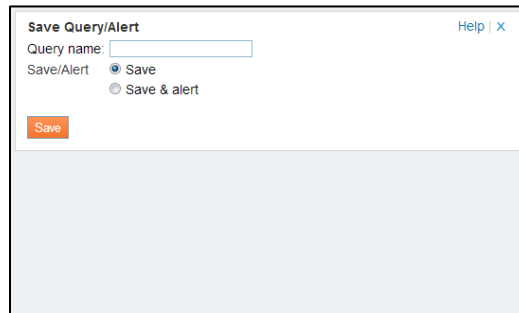
Alma's Integration Profiles platform enables fine tuning of standard protocols usage to match the specific usage that is required by the integrating party. Therefore, any ILS system that supports protocols such as NCIP may integrate with Alma using the standard as tailored via the integration profile.

- A.5.17.** The ability to create and customize RSS feeds and other feeds of data (e.g., feeds of data for use with Twitter/social media APIs) that can then be embedded in web pages/LibGuides. Describe how long RSS feeds are stored before they expire. Describe the ability of users (e.g., students, faculty) to create and subscribe to RSS Feeds.

Ex Libris: Users can save search queries and create email alerts and RSS feeds in Primo, as seen in the screen shots below:



Creating an email alert or RSS feed based upon a user’s search results



The pop-up screen that appears when a user clicks on “Save Query”

Below is the patron view of saved queries, alerts and RSS feeds:

#	Query name	Alert type	Update/Set alert	RSS	Delete
1	Prof Shuber	0	Update	Subscribe	Delete
2	aerospace	Email	Update	Subscribe	Delete
3	Muscle Dysmorphia	Email	Update	Subscribe	Delete
4	hydraulic modeling	Email	Update	Subscribe	Delete
5	Water Treatment	Email	Update	Subscribe	Delete
6	Nursing Research	Email	Update	Subscribe	Delete
7	dna	Email	Update	Subscribe	Delete
8	Pancreatic fistula	Email	Update	Subscribe	Delete
9	Roman Empire Query	Email	Update	Subscribe	Delete
10	Sustainable energy	Email	Update	Subscribe	Delete
11	QSAR	Email	Update	Subscribe	Delete
12	Asperger	Email	Update	Subscribe	Delete
13	Sports injuries	Email	Update	Subscribe	Delete
14	Istanbul Query	Email	Update	Subscribe	Delete
15	psychosomatic	Email	Update	Subscribe	Delete
16	global warmig	Email	Update	Subscribe	Delete
17	tEST	0	Update	Subscribe	Delete

A patron’s saved RSS feeds are stored indefinitely and do not expire.

A.5.18. How library data is made available for indexing via commercial search engines (e.g., Google and Google Scholar) and how the system enables discoverability from outside the system’s own discovery layer?

Ex Libris: Alma repository content may be made linkable from indexes such as Primo Central or Google Scholar. This is achieved by utilizing publishing profiles for setting an automatic publishing process that will make Alma’s content linkable for any of these interfaces.

In the context of Primo, we provide as part of the publishing profile a Google sitemap file to facilitate harvesting by commercial search engines. We have worked with industry search

engine optimization (SEO) experts to ensure that library collections can be discovered by commercial search engines.

When users access the discovery layer, they are associated with a given institution, based on:

- The link they accessed
- The IP they came from
- Their login

This is needed for the discovery layer to communicate with the correct Alma so it can:

- Provide correct availability and coverage
- Provide the relevant services, based on institutional policies
- Receive requests from identified and authorized users.

Because Alma is an open platform, institutions that choose to use discovery solutions with Alma other than Primo will need to leverage Alma's open interfaces and APIs to achieve:

- Search and access Alma-managed resources via the discovery interface;
- Access library services in Alma directly from the discovery interface, including:
- Electronic access to an e-resource;
- Location information for physical items;
- Digital services where applicable;
- Request options fine-tuned to the item location and patron type;
- Course Reserve Information; and
- My Account details

A.5.19. Any facility the system provides for staff workflow automation, using such techniques as keyboard shortcuts, task-oriented macros, keystroke recording, or scripts that can be implemented on the staff interface.

Ex Libris: Streamlining currently labor-intensive processes was one of our primary goals in designing Alma. This goal has been achieved in a number of ways:

1. By providing readily available links to different areas of the system, making required data no more than one click away.
2. By providing task chains. Task chains are lists of actions that are:
 - Automatically carried out when different action are activated, such as when a record is saved or deleted
 - May be manually activated, for example for correcting a record while working on it at the Metadata Editor.

Alma enables usage of hot keys, including functions where a large amount of error-prone, repetitive work is performed. This includes:

- The circulation desk patron services area
- The cataloging metadata editor area

Task-oriented macros may be implemented using Alma's Process Automation capabilities, which allow for tailoring a chain of tasks to be performed on a predefined set of data. This may include:

- Bulk moving of item records
- Normalization of bibliographic records
- Cancellation of requests

- A.5.20.** Interoperability with video streaming software such as Haivision Video Furnace, Kaltura and Kanopy, and ShareStream. Describe how metadata and rights information for streaming / media resources is managed and harvested.

Ex Libris: Streaming video records are indexed and included in Alma just like any other audiovisual or electronic material. Once activated and the bibliographic records imported, they will show in Primo with appropriate media types and URLs.

- A.5.21.** The ability of customers to develop add-on or extension functionality that directly modifies the functionality in the system. In other words, apart from APIs, is there a way to write scripts or functions that modifies functionality within the system itself? Or is there a process for submitting such enhancements for code review for eventual inclusion in the system?

Ex Libris: Because Alma is in a hosted, multi-tenant environment, it is not possible for an individual institution to write scripts or functions that modifies functionality within the Alma system. Customers are welcome to submit enhancement requests, either as a Salesforce Case or to the Alma Product Working Group (discussed in the A8, Support section of this response).

However, in section A.6 below, we discuss Alma's robust API's and open architecture, enabling institutions to customize and integrate the system as they choose.

A.6. APPLICATION PROGRAMMING INTERFACES (APIS)

Describe or Demonstrate:

- A.6.1.** The specific data and functionality that your system exposes via application programming interfaces. Does your system provide these APIs via REST?

Ex Libris: The following APIs are currently available:

Acquisitions:

- Retrieve funds
- Retrieve PO-Lines
- Create PO-Line
- Get PO-Line
- Update PO-Line
- Add an item to a PO-Line
- Receive item
- Retrieve vendors
- Create vendor
- Delete vendor
- Get vendor
- Update vendor

Bibs:

- Cancel Request

Cancel Request
Retrieve Bib record
Update Bib Record
Retrieve booking availability for a Title
Retrieve Holdings list
Retrieve Holdings Record
Update Holdings Record
Retrieve Items list
Retrieve User Requests per Item
Withdraw Item
Retrieve Item information
Retrieve booking availability for an Item
Create user loan
Create request for an Item
Update Request
Retrieve User Requests per Bib
Create request for a Title
Update request

Configuration:

Retrieve Code-table
Retrieve Libraries
Retrieve Library
Retrieve Locations
Retrieve Location

Resource Sharing Partners:

Retrieve Partners
Create Partner
Remove Partner
Retrieve Partner
Update Partner

Users:

Retrieve users
Create user
Delete user
Get user details
Update User Details
Get user fines and fees
Pay user fees
Get user fee
Pay/waive/dispute/restore user fee
Retrieve user loans

Create user loan
Renew loan
Retrieve user requests
Create user request
Cancel user request
Update request
Create user request for resource sharing

Analytics:

Retrieve Analytics Report

Alma APIs are implemented in the REST style. We still have some APIs which are only available as SOAP. We are working to make them available in REST in the coming months. The following APIs are currently available only in SOAP format:

- User Loans- Renew
- User Cash
- Course APIs
- User Authentication

A.6.2. Any licensing or technical restrictions or constraints placed on the use of these tools and services. Are business rules and access controls applied?

Ex Libris: The Developer Network, located at developers.exlibrisgroup.com, provides a platform for Ex Libris customers and developers to share code and other content relating to Ex Libris programs and/or services.

The access to the Developer Network is open for everyone and anyone can register. Like with every site that provides information and access to APIs, it includes Terms of Use that details the license restriction in regards to our APIs and code contribution. The Terms of Use for this site are located at <https://developers.exlibrisgroup.com/termsfuse>.

A.6.3. Authentication mechanisms for interacting with the system's APIs, and how API keys/credentials are generated, stored, and distributed.

Ex Libris: All communication goes through the API proxy/gateway. The API platform also provides API control and analytics. CSU can set policies -- what APIs will be used and by whom, as well as versioning, API Analytics, API monitoring, and Auditing.

Each institution has complete control over who is using the APIs for their institution, how they are used (read only or read/write), and whether they are applied to the sandbox or production. The Admin user can add users with specific permissions.

A.6.4. How costs and fees are assessed if an institution requires additional development in order to integrate with third-party software.

Ex Libris: APIs are continuously added to Alma based on the needs of our client community. New APIs are made available to all Alma customers with no additional fees.

The Alma Developer's Network is the place where code samples and other information can be easily accessed and shared among the developers. This provides customers with:

- Streamlined development and third-party integrations;
- Faster development and delivery: developers obtain documentation in a single place and gain new capabilities for quick implementation and testing of integrations with third-party systems;
- Easy collaboration and sharing: developers will be able to share examples and exchange ideas in blogs in an advanced and intuitive platform.

The Alma Developers Network was introduced earlier this year and is open to everyone, Ex Libris customers and non-customers alike. You can visit it at <https://developers.exlibrisgroup.com>.

A.7. MIGRATION AND IMPLEMENTATION

Describe or Demonstrate:

- A.7.1.** The estimated timeline for migration and implementation and the major steps in the project. Provide a detailed description of your approach and proposed plan for the data migration process.

Ex Libris: Ex Libris assigns a project manager to guide the customer from the beginning of the project to its completion, and to collaborate with the library to create a mutually-agreed-upon plan for the project scope, roles, and timeline during the initial phase of implementation (within the timeline defined in the contract).

Outline:

- Depending on the number of institutions involved in the implementation, the project will take a cohort approach of 6-12 institutions per cohort. Each institution would implement both Alma and Primo simultaneously. See our response to A.7.2 for the resulting overall project timelines.
 - Each institution's project will consist of a readiness phase, a test load of all data included in the migration scope, ongoing training and configuration, and a final load of data. More information about the phases of each project follows.
 - Define (1-2 months). Milestone: cohort project kickoff. Activities: define project plan, configuration and migration workbooks for each institution, initial training.
 - Build (3-4 months). Milestone: delivery of all institutions' production environments with the test load of all data. Activities: data testing, configuration tuning for Alma and Primo, ongoing consultation and training, go-live readiness, administrative certification.
 - Deploy (2 months). Milestone: all institutions' cutovers. Activities: Go live with Alma and Primo for each institution, full access to configuration of each institution's environments, transition to support.
- A.7.2.** The overall timeline for a large university system such as the CSU to migrate and implement your system. Include recommendations regarding the grouping of libraries, and the number of stages.

Ex Libris: While we would, of course, finalize the timeline and details of the project scope upon consultation with your staff, we present here a suggested project outline based on prior successful consortial implementations:

- Simultaneous implementation of about 6-8 months per cohort. As one cohort goes live, the next prepares to kick off.
- Implementation may consist of either two or three cohorts, depending on overall timeline requirements and the total number of institutions implementing Alma and Primo. The overall project timeline can therefore be as follows:
 - Two cohorts: 13-15 months. The assumption is that each cohort will take about seven months, and that the second cohort will kick off toward the end of the first cohort's deploy phase.
 - Three cohorts: 18-20 months. The assumption is that each cohort will take around six months (given the smaller number of institutions per cohort), and that the second and third cohorts will kick off during the preceding cohorts' deploy phases.
- Any sites that choose to implement Primo without Alma would typically take 3-5 months and be scheduled on an ad-hoc basis, to be defined based on the overall project schedule.

A.7.3. Your previous ILS and ERM/link resolver migration experience.

Ex Libris: Ex Libris has decades of experience migrating thousands of libraries from legacy ILS platforms, link resolvers, and ERMs. For Alma migrations, Ex Libris has completed close to 150 library migrations including Millennium, Symphony, Evergreen, and Ex Libris' Voyager and Aleph among many other ILS systems worldwide. Ex Libris is already adapting the Millennium tools for currently implemented Sierra libraries to support Sierra migration in a seamless manner.

Our approach to migration and mapping configuration into Alma is to provide migration and configuration workbooks that allow you to define how to map data from one system to another, alongside supporting documentation that allows you to make these mapping and configuration decisions. We have distinct documents for each source ILS that outline the process for providing us with your data to be migrated, how data will map from the source system to Alma, and pointers to where the mapping is not exact and will, for example, migrate data from the source system into a free text note. These workbooks and documentation will be provided by your Ex Libris project manager.

Because Alma includes link resolver and e-resource management functionality, Alma implementations will typically include a migration of data from a link resolver, and in some cases an ERM as well. Past projects have included migration from SFX, 360 Link and Resource Manager, Millennium ERM, and other vendor offerings and locally developed solutions. For migrations from SFX, activated e-resources migrate to Alma with automatic tools and without any need for specific mapping decisions. For other vendors' link resolvers, a workbook allows you to identify which e-resources active in your current system are available in Alma's electronic Knowledge base (which is included in Alma's global community zone); this workbook is processed and loaded as part of your migration. For ERM data (administrative data and licenses), Ex Libris specifies the specific data format in which this data may be provided, which will be processed and loaded with other migrated data.

- A.7.4.** The process for migrating acquisitions data from an ILS other than your own system into your system. Is there any data that does not migrate? Is there any data that is not fully functional and reportable in your system after migration, including, but not limited to, local notes (free text), payment and vendor history, fund allocations and encumbrances?

Ex Libris: The process for migrating any data (including acquisitions data) from a non-Ex Libris ILS into Alma consists of providing Ex Libris with data extracts from the source system in our specified format, which Ex Libris will then transform, load, and index into Alma. As noted in A.7.3 above, this includes guidance on how data maps from the source ILS into Alma and workbooks that allow you to define specific mapping when relevant.

The scope of acquisitions data migration can include all vendors and orders and will typically include the current fiscal year's ledgers, funds and encumbrances. All invoices may be included when valid invoice data can be provided, including historical fund and full expenditure information. All data areas must be provided to Ex Libris in the required format. (Documentation about the format is included in the relevant ILS migration guides, which will be provided by your Ex Libris project manager.) Migrating orders and invoices will automatically create encumbrance and expenditure fund transactions (respectively). Most source system export or reporting functions allow this data to be extracted. Some key challenges have included:

- Invoices: The scope and format of the data from the source system will define whether the data can be delivered in a properly structured format. This will depend not just on the source system capabilities, but also which aspects of that system you have licensed. If invoices are unable to be migrated as their own data element, they will typically migrate to order lines as payment notes for librarian reference.
- Serials and issues: Alma uses a model of one item record per issue or bound volume for periodicals, grouped together under MARC holdings records. Depending on the ILS capabilities and components licensed, the source system may have detail about each issue that can be delivered to Alma to build item records. In some cases, the source system may only have a textual statement that can be used to build a textual holdings summary in the holdings record.

Alma data migration includes many data elements that may be transient or dynamic. These may include checkouts, holds, item status, patron status and patron blocks. Suppressed MFHDs and Bibs are retained when migrating records to Alma as are transient status indications. Item and circulation history are not included in the migration scope to Alma. However, a full historical circulation report is provided along with the migration outputs from the legacy system. Hold requests are fully migrated except for unfilled holds, which are reported during migration for library staff to take manual action, where necessary. Other listed elements are fully migrated. There is a short time during the cutover period when circulation activities are frozen in the source system, and performed offline to be migrated to Alma as a final step before going live with Alma (which allows uninterrupted circulation throughout the project, including during the final cutover).

Please see our response to question A.7.10 for more information about the scope of data migration into Alma.

- A.7.5.** The process of migrating each library’s electronic resource/bibliographic records to the new system.

Ex Libris: Because we rely on open standards for migration whenever possible, the process of migrating bibliographic records is relatively straightforward as long as they are provided in MARC21 format. These catalog records attain relationships with holdings and items (if the resource is physical) or portfolios/e-collections (if the resource is electronic); part of the migration process consists of the library identifying which inventory and related orders are for e-resources so they may be transformed into the appropriate format as part of migration.

Additionally, data is migrated from each institution’s link resolver and (when contracted for) ERM system. For link resolver information, the data is either migrated from SFX or provided by the library to be activated in Alma; in either case the relevant e-collections and the vast majority of titles will be activated within the community zone —this includes both linking information from the Central Knowledge Base and bibliographic records from the Community Catalog. Local e-records may also be included. If the library’s catalog duplicates bibliographic records into the ILS system via services such as the Ex Libris MARCIt!—which imports CONSER records for activated SFX resources—the resultant migration may include duplicate bibliographic records from the local and community catalogs. In that case, the migration can look for link resolver identifier prefixes to identify those potential duplicates and not migrate them (in favor of the Community Zone record).

Finally, Alma’s ERM information allows enriching data which is migrated from the ILS and/or the link resolver system (DLF-ERMI-based licenses and platform administrative information) when provided in the required format.

- A.7.6.** Preparation steps and implementation steps necessary to ensure appropriate migration of data (bibliographic, acquisitions, item, holdings, license, etc.) and to avoid data loss, the need for data clean-up projects, and related problems.

Ex Libris: While completely optional, some data preparation may help make the smoothest possible transition to Alma. The following are a number of recommendations that we have gathered during the past several years as part of our experience working with the sites implementing Alma. This information is also available alongside other preparation guidance in documents such as “Getting Ready for Alma Implementation”.

- **Bibliographic, holdings, and item data**
 - Clean up chronology and enumeration (item/issue description) for serials; Alma displays this item information to end users.
 - Identify and delete duplicate Bibs.
 - Consolidate multiple holding records for identical item copies for the same location/call number.
 - Create/ensure unique collection/location names for each library that will be established in Alma
 - Assign a value for empty collection/location for items/holdings, if applicable.

- **Statuses and codes**
 - Standardize and consolidate statuses and codes. Review and reduce purchase order statuses, if applicable.

- Review non-standard MARC fields (alphanumeric tags, for instance), revising records as appropriate. Note that migration allows mapping to local 9XX fields.
- Review and consolidate material types for items (for example, BK, Book, Monograph)
- **Old data**
 - Clean up and/or purge patron records that are inactive or expired and have no outstanding items, fines, fees, or other transactions.
 - Clean up and/or purge patron records with fines, fees, or other transactions that are older than a certain date and/or less than a certain amount.
 - Clean up and/or remove purchase orders that are old drafts or tests.
 - Clean up and/or remove invoices that are old drafts or tests.
 - Clean up standing orders and subscriptions that are old or should have been closed.
- **E-resources and package resources**
 - Establish clear categorization of e-resources and electronic collections to easily identify them. These will be transformed to the electronic inventory format in Alma. For example, organize electronic records by location, library, local field, or otherwise distinguishable manner.
 - Mark PDA BIB records clearly so that they can more easily be found in Alma and marked for PDA workflows in Alma..
- **Patron, vendor, library contact names**
 - Establish how name fields are stored (Last name, First Name, or First Name/Last Name) when names are entered in one field
 - Standardize how country information is entered such USA, U.S.A., United States, etc. for patron, vendor, and library contact information.
- **Authority records**
 - Identify local modifications to authority records, if relevant (keeping in mind the Alma CZ will have various national authorities automatically available globally; you only need retain and extract those that are local or customized and which you desire to continue to maintain in Alma).

A.7.7. Information required from non-library campus units, such as information needed from campus IT departments regarding LDAP and identity management. Provide examples of forms used to collect this information where available.

Ex Libris: Because Alma is designed to integrate with other campus and vendor systems, coordination with the campus IT departments is essential to facilitate data synchronization. File-based synchronization may depend on scripted conversion of campus data (such as user records or invoice payment requests) to and from the Alma XML format. All such data formats are described in detail on the Ex Libris Developer Network. (For more information, see resources below.)

In order to transfer such data, it may require opening campus firewall ports for certain standard protocols. (See examples below for the targeted communication methods and protocols.) As Alma is a cloud system, individual client sessions are handled via web

browser, which typically does not require any kind of IT coordination for installation, upgrades, or opening new ports for local clients. Authentication with Alma and Primo requires a local authentication system (LDAP, SAML 2.0, etc.) that communicates with Alma and Primo to authenticate end users in Primo and (optionally) staff in Alma. This integration requires the connection be secured by a recognized certificate authority.

The following is a selected list of integrations and communication channels to give examples of the range of documented integration options to help individual institutions define their requirements and plan with their IT departments.

Initiator	Target	Protocol	Ports	Comment
Student Information System	Alma	Secure FTP	21/22	Scripted conversion from SIS to Alma XML also required.
Self-check (SIP2 via stunnel)	Alma	SIP2 via SSL	6443	Secured stunnel setup required
OCLC Connexion	Alma	TCP	5500	
Z39.50 Gateway	Alma	TCP	1921/210	
Alma	LDAP	SSL-secured	636	One of several authentication options for Alma

During the project and after going live, a range of resources are available to help plan, develop, and support integrations. These include resources targeted to systems librarians, IT staff, and developers. The following are some key examples:

- Getting Ready for Alma Implementation: document describing basic planning and data delivery requirements for migration prior to project initiation. Audience: Library project team, systems librarians.
- Technical Requirements for Alma Implementation: describes the types of integrations that may require access to local systems, IP ranges for which to selectively open access, etc. Helps initial planning prior to project initiation. Audience: Library project team, systems librarians, IT staff.
- Integrations with External Systems: a set of documents describing the major points of integration, how that integration is accomplished, and configurations required to set up that integration in Alma. Also included in the Alma online help. Audience: Library project team, systems librarians.
- Third-Party Integration workbook: spreadsheet listing every major integration, designed to track ownership, priority, and milestones in setting up each integration. A planning tool to keep track of the many individual activities for your library's integration needs. Audience: Library project team.
- Ex Libris Developer Network: a platform that describes integration capabilities, APIs, file formats, and contains tools to share and discussion integrations and extensions with other Alma libraries. This is an open resource constantly updated with the most recent Alma platform capabilities and will be used during and after the implementation project. Audience: Systems librarians, IT staff, developers.

<https://developers.exlibrisgroup.com/>

- A.7.8.** Outline the roles and responsibilities of the library and the vendor during the data migration process. Describe the required involvement of library staff in the migration process.

Ex Libris:

Responsibilities of the library

1. Implement Alma within the agreed upon timeframe, according to the agreed upon scope.
2. Manage the internal library implementation team.
3. Form a library implementation team of functional experts and appoint a project manager who serves as the primary contact for the Ex Libris project manager and manages the library implementation team.

The following roles are involved in an Alma project (see more details for each role below):

- Project Manager
- Institutional Leads (in case of multi-institution organizations)
- Functional and Data Experts
- Public Services
- IT Representatives

Alma Project Team Roles/Skills:

- Project Manager
 - Leads and coordinates activities related to the implementation of Alma for the institution
 - Responsible for ensuring that institutional staff resources are available to assist as necessary
 - Manages internal and external communications about the status and priorities of the project
 - Acts as the primary point of contact with the Ex Libris project manager – including the following specific activities:
 - Arranging access to data and the necessary space allocation required for data extraction (for Ex Libris products) or delivering data (for non-Ex Libris products).
 - Managing the library implementation team in determining and reviewing migration and configuration settings
 - Preparing, scheduling, and training the library staff
 - Managing and overseeing the testing processes and providing feedback
- Project Team - Functional Experts
 - **Acquisitions** – has overall familiarity with workflows in the current system including ledgers/funds, POs and invoices, and acquisition of print monographs and serials

- **E-Resources** – has overall familiarity with workflows in current system including procurement, licensing, and management of all electronic resources acquired by the institution
- **Fulfillment** –has overall familiarity with workflows in the current system including patron registration and management, circulation policies, and calendars
- **Interlibrary Loan** –has overall familiarity with workflows in the current system including lending and borrowing and external resource sharing management applications
- **Resource management** – has overall familiarity with workflows in the current system including bibliographic and authority records, inventory, and local practices

- Project Team - Data Experts
 - **Acquisitions** – has full understanding of the institution’s acquisitions data including ledgers/funds, POs, and invoices
 - **E-Resources** – has full understanding of the institution’s electronic resources data including procurement, licensing, and management
 - **Fulfillment** –has full understanding of the institution’s patron and circulation data including patron import, circulation policies, and calendars
 - **Interlibrary Loan** – has full understanding of the institution’s policies for lending and borrowing, profiles for external resource sharing applications, and integration with NCIP
 - **Resource management** – has full understanding of the institution’s bibliographic, authority and inventory data, and access to external resources

- Public Services staff
 - Reviews the end-user systems that are impacted by Alma implementation
 - Assists in planning the transition from the OPAC or former discovery layers to Primo

- IT Representative:
 - Is aware of Alma implementation project and schedule as it relates to external systems managed by IT; this may include firewall rules configuration, integration with university ERP, authentication, and other systems
 - Allocates staff resources and expertise as needed

A.7.9. Your experience migrating data from Innovative Interfaces Millennium and Sierra and Ex Libris Voyager systems. Describe any specific considerations or difficulties in migrating bibliographic, acquisitions, serials, check-in, electronic resource, content license, patron and circulation records and data from these systems into your system.

Ex Libris: Please see our response to A.7.3 and A.7.4 above, which includes information about our approach to migration and notes about invoices and serials holdings. Ex Libris has migrated dozens of institutions from Innovative Interfaces systems as well as our own Voyager ILS.

- A.7.10.** Which data entities can be migrated per library activity area. Detail data from library areas that cannot be migrated. Migration must include ERM (Electronic Resource Management) data.

Ex Libris: Data migration includes two rounds (test and cutover) of migration.

The following data entities may be migrated from Voyager and Millennium and from the current Link Resolver and ERM systems, when contracted with Ex Libris:

- Bibliographic records (MARC21)
- Inventory
 - Print - Item records, Holdings records
 - Electronic - E-Package/E-Collection Targets and full text services, Bibliographic information, Portfolios
- Patrons
- Fulfillment
 - Loans (current)
 - Hold requests (current on hold shelf)
 - Fines & Fees (current)
- Acquisitions
 - Print - Vendors (vendors are migrated during the test round and are not re-migrated during cutover round), Funds, Purchase orders, Invoices (Invoice information from Millennium/Sierra is typically able to be extracted as payment notes, which will migrate as purchase order line notes rather than invoices)
 - Electronic – Interfaces, Licenses, Electronic inventory enrichment (provided from ERM in the specified Ex Libris data format)
- Course reserves
 - Course Information
 - Reading lists
 - Citations

Additional data modification or clean-up of any type is not included in the scope of the migration.

Ex Libris will:

- Provide migration guides and questionnaires
- Provide data extract and transform tools for Ex Libris source systems
- Provide guidelines for reviewing migrated data in Alma
- Provide support during the migration and review period

Customer will:

- Extract data from Non-Ex Libris source systems following the data format requirements provided by Ex Libris – which for Millennium / Sierra closely follows the native export formats the source systems are able to provide - and from Ex Libris systems using Ex Libris-provided and supported tools.
- Provide input via migration and configuration questionnaires
- Provide data structure description for non-Ex Libris source systems
- Provide input data for print to electronic transformation during migration
- Review and test data migrated to Alma and provide feedback in the defined time frame

- Review and test Alma configuration and workflows, and provide feedback in the defined time frame

A.7.11. The ability to retain and preserve transient or temporal data, such as checkouts, holds, item status, item statistics (such as total checkouts), patron status and patron blocks, through the migration process.

Ex Libris: Alma data migration includes many data elements that may be transient or dynamic. These may include checkouts, holds, item status, patron status and patron blocks. Holds are fully migrated except for unfilled holds, which are reported during migration for library staff to take manual action. Item statuses that don't map exactly to Alma statuses will be flagged and clearly marked within Alma to indicate the potential need to review or clear the flag. Statuses that map cleanly will migrate directly into the relevant status in Alma. There is a short time during the cutover period when circulation activities are frozen in the source system, and performed offline to be migrated to Alma as a final step before going live with Alma, which allows uninterrupted circulation throughout the project (including during the final cutover).

A.7.12. The ability during migration to merge similar bibliographic records without loss of locally created data.

Ex Libris: Merging bibliographic records relates to data cleanup, which is not included in the scope of migration to Alma. Any duplication is typically transparent to end users in Primo where results are de-duplicated.

A.7.13. How the integrity and quality of the data will be maintained in the migration process.

Ex Libris: Alma migration tools are based on standard metadata formats when they exist, such as MARC for bibliographic data, and DLF ERM for license data. The Alma implementation includes migration tools for Ex Libris source systems as well as defined migration formats for data extractions to be used for other ILSs such as Millennium. Ex Libris provides a structured form for the library to record additional information and details about the structure of the source system data.

The process of migrating to Alma also has three tiers of data validation to account for different potential issues with data integrity and usefulness. The first tier is validation of library-submitted data prior to loading. This is a scripted set of validations to ensure that all required fields are included in the submitted data and that it is complete enough to load successfully. This will capture core issues with the data structure or format that would prevent it from loading.

The second tier of validation occurs when loading the data into Alma. Loader routines will flag errors that prevent loading or lead to unusable data in Alma, which are then reviewed and either corrected by the Ex Libris implementation team or reported back to the library for correction. Once the load is complete, the Ex Libris implementation team will check the environment and verify that the data loaders and workbooks functioned as expected and resulted in an environment ready for library testing and training.

The final and broadest tier of data validation is the delivery of this test load data that completes the project's Define phase. From the kickoff, the focus of the project is on readying a test environment with a test load of the institution's data. Training is oriented around essential concepts that will allow you to begin testing that data. Once this environment is delivered with

the complete test load, the project's Build phase begins. During this phase, the library will have the opportunity to continue testing not just data validity, but how well the data supports your work in Alma. Any issues or improvements identified during this phase will feed back into optimizations to the data in the source ILS or updates to the migration workbook, so that the final load may be improved.

A.7.14. How invalid data (data found in the current system that will need to be cleaned or corrected before migration) is handled. Will libraries receive reports of data found to have problems during migration?

Ex Libris: See our response to A.7.13 above. Yes; if the issue must be corrected in the source ILS or source data, then that will be reported for library correction. Our migration reports consist of reports for each major area of data that was migrated, including lists of data with errors and the reason for the error. For broader issues that are detected during the Build phase, a plan will be worked on between the Ex Libris and library teams to identify a plan to correct the data for the final load.

A.7.15. The ability during migration to handle and resolve duplicate barcodes.

Ex Libris: While Alma does not allow duplicate barcode, it includes an automatic routine that will de-duplicate them upon loading and report the issue. (Specifically, the duplicate will automatically have the item ID appended to it. E.g., the second instance of "533285" would become "533285-i14650" in Alma.) This allows the migration to move forward while the library determines whether to correct the issue before or after moving to Alma.

A.7.16. Your approach with regards to system configuration and customization by the library. What tools will be available for library staff to configure and customize various parameters?

Ex Libris: We take a service-oriented approach, whereby Ex Libris performs the initial configuration, data migration, and other implementation tasks, based on the library's input and local expertise. The input is gathered using streamlined workbooks that the library will fill out with the help of the Ex Libris implementation team. This allows Ex Libris to deploy an environment with comprehensive configuration so that the library can begin testing data and workflows. Based on feedback from this testing and training, the Ex Libris consultant will update and tune the configuration to better meet the library's needs. The goal here is to allow the library to focus on learning the workflows and functional aspects of the system while leaving the detailed configuration that supports that work to the Ex Libris consultant.

As the Build phase approaches cutover, key contacts at the library will begin the process of administrative certification. This combination of recorded and live web training is designed to prepare key staff members to administer Alma once the library goes into production. Administrative certification culminates in a test which, once passed, will allow the library full access to Alma configuration after cutover.

A.7.17. The training program content provided during implementation, the method of delivery, and materials. How much on-site training is provided? How much online? Are there opportunities for both synchronous and asynchronous training?

Ex Libris: Throughout the implementation, training is conducted via several channels..

These channels are listed here, followed by more comprehensive explanations of each.

1. Recorded functional training
2. Live technical and functional calls
3. Alma workshop
4. Alma administrative certification
5. Continuing education

1. Recorded functional training

Audience: Library project team (including testers, functional experts, and trainers)

Format: Recorded sessions and hands-on activities

Timing: Begins immediately after project kickoff and continues throughout Define phase

Description: Initial training covers all major functional areas of Alma and Primo, including initial training on configuration. The key goal is to cover fundamentals so that the library staff are prepared to test the initial data migration and begin adapting the workflows to suit local needs. Each session includes recorded presentation and demonstrations, hands-on activities, and the presentations used by our trainers so that library trainers can refer to them and adapt them to train other library staff. The delivery of these sessions is scheduled throughout the Define phase and paired with topical Q&A sessions for the relevant week's training.

In order to promote interactive testing of Alma workflows prior to the delivery of the migrated data, a sandbox environment is provisioned at project kickoff. Once access is granted, these functional trainings (including all subsequent updates based on ongoing system development) will continue to be available for the lifetime of your Alma subscription. Initial trainings serve as a good resource to brush up on unfamiliar topics or to train staff that are new to Alma.

2. Live technical and functional calls

Audience: Library project team, functional experts

Format: Live web demonstrations and discussions

Timing: Build phase through project close

Description: Once the initial data migration is delivered in a configured Alma environment, the focus of training shifts from "vanilla" workflows to workflows customized to the needs of the library. This is handled via weekly functional calls (with additional calls being scheduled as needed). Having the topical calls scheduled on a week to week basis allows the project teams to dive into much more detailed questions than prerecorded training affords. These functional calls continue throughout the life of the project, and the topics are determined by discussions with the libraries as the project progresses.

3. Alma workshop

Audience: Library team, functional experts

Format: Onsite discussion and demonstration, 2-4 days per cohort

Timing: Near the beginning of the Build phase, once initial data testing is complete

Description: As the libraries' attention shifts to adapting basic workflows to its own needs, the project has an onsite visit scheduled. This is an opportunity to discuss any open questions from the initial training, the needs of the libraries, and the range of configuration possibilities in Alma. The format is typically guided demonstration, where the Ex Libris product expert will demonstrate end-to-end workflows in the migrated environment. This demonstration will be launching point for answering questions, discussing the goals of workflows and how to adapt them efficiently in Alma, and what additional configuration decisions need to be made. This then sets the tone for the following functional calls—focused on the needs of the library and

how the systems can support those needs. This event will take place once per implementation cohort, with representatives from all cohort institutions gathered in a single location.

4. Alma administrative certification

Audience: System librarians who will configure Alma

Format: Recorded trainings, live web sessions, final test

Timing: Near the end of the Build phase before cutover begins

Description: To prepare the library to configure Alma after go-live, a separate administrative certification program is offered. Each library chooses at least two representatives who will be the local experts at administering Alma and performing the more advanced aspects of configuration. This certification process both cultivates local expertise and provides a path for further development of the more advanced aspects of Alma administration. The initial part of the program consists of recorded trainings, followed by live sessions devoted to discussing configuration of each major functional area of Alma. The program culminates in an online test to be taken by each participant. Once the test is passed and the library has gone live with Alma, configuration access will be opened so that administrators have full control over configuration of the local institution.

5. Continuing education

Audience: Any library staff who use Alma or Primo

Format: Recorded sessions, release notes, “What’s New” videos, “Ask the Expert” sessions, Ex Libris Technical Seminar

Timing: Ongoing

Description: Because of the rapid development of Ex Libris products and the growing user base for our next generation solutions, Ex Libris maintains a considerable investment in ongoing education. Our goal is to make a variety of formats available to support different learning styles and different depths of background knowledge. The following are the key channels:

- **Recorded sessions:** As functionality develops, extended training in the Ex Libris Learning Center continues to be generated and updated. This is a mix of new sessions on advanced topics and updates to existing training.
- **Release notes:** New functionality is always described in the notes for each release, including a link to more extended documentation when appropriate. Release notes are an excellent starting place to determine what new features might be relevant to your library.
- **“What’s New” videos:** Certain new features are complex or novel enough to warrant more demonstration. In such cases, short (typically about 5 minutes) recorded overviews will highlight how to use these functions via demonstration within the system. “What’s New” videos are embedded in the online help in the relevant section, so users can find them when referencing the standard documentation as well.
- **Ask the Expert:** Regular live web sessions are held in which a product expert covers a predefined topic in depth. These function like a Q&A in which some answers are demonstrated in the system.
- **Ex Libris Technical Seminar:** Ex Libris hosts an annual technical meeting immediately prior to the annual user group meeting (hosted by ELUNA). This consists of meetings between Ex Libris and library developers from institutions using all Ex Libris products. The event includes many advanced training and topical sessions sharing how systems

have been adapted based on local needs. This meeting has a significant Alma and Primo focus, including live versions of some recorded trainings and topics.

A.8. SUPPORT, MAINTENANCE, AND ENHANCEMENTS

The CSU seeks a long-term systems partner committed to customer service and open to customer feedback. Vendor customer support and training services should be easily accessible, with a rapid turnaround time for service requests, and available 24 hours a day/seven days a week. Customer service should be efficient and thorough.

Describe or Demonstrate:

- A.8.1.** Your customer support venues (e.g., web, phone, email), periods of coverage, and expected response times.

Ex Libris: Ex Libris is committed to providing customers with timely and accurate customer service. We hire highly skilled professionals with extensive library experience; many of these individuals are degreed librarians. New staff members participate in our ground-up training program to become proficient in all areas of our products, from installation and implementation to general application support. To keep our support staff informed, we conduct regularly-scheduled refresher programs that include knowledge sharing with our implementation group. Access to the Ex Libris support staff is provided five days a week, 8:30 am to 5:30 pm U.S. Central time. Support for critical issues, such as a down system, is provided 24x7 including weekends and holidays.

Ex Libris customers have access to our Salesforce Customer Portal, which allows customers to open, update, and track support Cases handled by Ex Libris Support. Each Case is assigned a Case number for tracking, and is included in all communications about a particular Case. Customers also have access to the Ex Libris Customer Center, which provides central access to product documentation, Ex Libris news, the Salesforce system, and other customer resources via a single secure login provided by Ex Libris.

For down systems or components, support is available around the clock, 24 hours a day, 7 days a week, 365 days a year. To report a down system or component, the customer follows the following procedure:

1. When an entire production system or component is unusable for all users, open a Case via the Salesforce Customer Portal with "System Down" as the priority level.
2. Send an email to 24X7hub@exlibrisgroup.com with the following details:
 - Name of institution
 - Staff person name
 - A phone number (with the country code) or an e-mail address where we can reach you
 - Support case number
 - Name of the product which is experiencing a problem

3. If the customer cannot send an email, he or she can contact the 24x7 Hub by phone or instant message (including Windows Live Messenger or via Skype). A support representative will respond to you within one hour.

Requests for Support sent as Cases from our Salesforce system are assigned response levels to help us prioritize issues, communicate in a timely manner and provide a means for us to measure our performance. See the response prioritization schedule below:

Response Level	Definition	Initial Response
I	An inoperable production system	1 hour
II	An inoperable production module	2 hours
III	Other production performance related issues	1 business day
IV	Non-performance related incidents, including: general questions, requests for information, documentation questions, enhancement requests	2 business days

Because Alma is a SaaS solution, Ex Libris monitors the system proactively and continually, so that we are aware of any service interruptions and can act on them immediately.

Ex Libris also offers a public website presenting up-to-date system status for Ex Libris multitenant environments <http://status.exlibrisgroup.com/>. The Ex Libris System Status site is based on the latest technology for monitoring and publishing the status of cloud-based services, used by the most advanced SaaS companies worldwide. The site enables us to provide the Ex Libris community with consistently high levels of service and communication.

Ex Libris customers whose services are hosted in multitenant environments can view the current status of their service and sign up for email alerts when there are interruptions to the service.

The site includes:

- Live and historical data on system status
- Scheduled Maintenance notifications
- An option to sign up for email alerts regarding interruptions to the service

A.8.2. How your customer service system tracks and responds to issues.

Ex Libris: As stated above, Ex Libris customers have access to our Salesforce Customer Portal, which allows customers to open, update, and track support Cases handled by Ex Libris Support. Each Case is assigned a Case number for tracking, and is included in all communications about a particular Case. Customers also have access to the Ex Libris Customer Center, which provides central access to product documentation, Ex Libris news, the Salesforce system, and other customer resources via a single secure login provided by Ex Libris.

- A.8.3.** The documentation, including format, accessibility, and ease of use. Is documentation clear, concise, searchable and easily understood with screenshots and other examples? Does it include context-sensitive functional module

integration? How are updates and documentation distributed (e.g., listserv, document center, etc.).

Ex Libris: All software documentation is located in the documentation center in the customer center. All documentation is thorough, with many screenshots and step by step examples. Alma documentation is also available from directly within the application, from where it may also be downloaded and reproduced. Alma includes context-sensitive online help screens, as well as What's New videos following each monthly Alma release, and a step-by-step "Show Me How" function for specific areas of functionality in Alma.

Knowledge Center Support (KCS) is a portal within the Customer Center that organizes information into three types of articles:

- How-To
- Solutions
- Questions and Answers

KCS articles are designed to be short and to the point, with clear, comprehensive, and easy to understand answers. Article content is reviewed and updated regularly by certified Ex Libris KCS support analysts, based on new experiences and information. Article scope will improve constantly as Ex Libris adds and updates articles with customer collaboration.

Every time a customer submits a new Case, the Salesforce system automatically provides a list of relevant articles based on the Case Title. From this list, the customer can:

- Filter the list by product to locate more relevant articles;
- Modify search terms to locate more relevant articles;
- Link his or her case to an article that provides a solution to the issue or to the question, enabling the customer to close the case on their own; and
- Link the case to an article related to the issue or question to help resolve the problem.

How does KCS benefit the customer?

- As the KCS Article database grows, customers will find solutions to known problems and new questions more quickly; and
- Because KCS Articles are based on actual customer experiences, they are an excellent teaching tool for library staff.

Additionally, the Developer Network was introduced this year; the Developer Network not only refreshed the technology used for developing code extensions, it has provided a brand new, open environment for sharing, experimenting, and managing the lifecycle of developments that extend Ex Libris products. In addition, it offers new ways for users to access, share and collaborate around APIs and developments.

The Developer Network consists of dedicated sections for each Ex Libris product, and includes:

- **API Docs:** Comprehensive API and integration documentation and technical guides
- **Codes and Apps:** an advanced portal for sharing, experimenting, and managing the lifecycle of developments, hosted on GitHub
- **Tech Blog:** Advice, technical guidance, and best practice information offered by developers and Ex Libris development team members
- **API Console:** a testing environment (sandbox) in which users will be able to experiment with Ex Libris APIs before implementing them in their solutions.

- **Forums:** Online forums in which developers can share ideas, questions, and answers about how to get the most value from Ex Libris APIs
- **API Dashboard:** A tool enabling developers to manage their implementations of open interfaces and view usage analytics

The Developer Portal means better, updated documentation and increased ease of use for our customers. The portal was released in 2014 and the full set of Primo APIs will be available on the portal in early 2015.

- A.8.4.** Your customer support model. For example, would you accept support requests from any CSU Libraries staff member, or only from designated representatives? Do you provide a primary contact(s) for a given customer account, or do you provide support by geographic region, or by area of specialty (e.g., circulation, cataloging)?

Ex Libris: Clear communication between the institution and Ex Libris Support is central to our mutual success. To facilitate that, we ask that you define a specific set of individuals to synthesize your internal communications and provide us with an overall picture of your needs and priorities. We believe that your organization is in the best position to determine how many individuals are needed to accomplish that, factoring in your structure and the products you use.

Our support organization takes advantage of Ex Libris' global structure to provide high quality, timely support on a regional basis. Within the North American support team, our analysts have broad and deep knowledge of the systems they support. At the same time, there are areas that require deeper specialization, and we assign more complex incidents accordingly within the team.

In addition to working with individual analysts, you will also have direct access to Ex Libris Team Leads and Managers who can make sure we understand your needs and priorities, and who can serve as escalation points when needed.

- A.8.5.** Is there an active user group for your product? What is their scope and role? Describe any customer community activities you sponsor or support, such as online or in-person venues to allow customers to share ideas and systems. Include information about annual conferences and attendance, and regional interest groups (particularly in California).

Ex Libris: ELUNA, the Ex Libris Users of North America, is the group for users of all Ex Libris products. ELUNA facilitates communication between product users and Ex Libris, and represents user needs to Ex Libris. ELUNA meets once a year at or near a customer site, and it maintains a number of product-specific listservs as well as a web site. The California State System is, in fact, already a member of ELUNA and has hosted the annual meeting in the past.

ELUNA's stated goals are to:

- Serve as an educational group for users of Ex Libris' products.
- Facilitate communication between product users and Ex Libris; especially, represent user needs to Ex Libris by:
 - Providing feedback on general company directions.
 - Assisting the company in identifying needed major enhancements to existing products and new products.
 - Setting priorities for the company's product enhancements.

- Assisting the company in setting general priorities for meeting other user needs.
- Working with the company on the development of functional and technical specifications for both small and large-scale development; reviewing, testing, and providing feedback on development work.
- Facilitate communication among users of Ex Libris' products and provide educational opportunities for users of Ex Libris' products by:
 - Organizing user conferences.
 - Maintaining e-mail discussion lists for the entire membership and appropriate subsets of the membership.
 - Maintaining a Web site for the organization.
 - Providing a means for sharing locally developed documentation and reports.
 - Providing forums for sharing best practices, e.g., workshops presented by users.
 - Facilitating formation of interest groups for users that share similar concerns.

The group maintains a constitution and by-laws, and elects a steering committee who represents the organization's membership in meetings with Ex Libris, particularly those that involve general communication with users, overall company direction, large-scale product enhancement, and integration of product functionality.

Ex Libris participates in approximately 50 events per year including all the major conferences attended by academic libraries. Additionally, Ex Libris is very responsive to the interests of our customers, and is always open to participating in or sponsoring events for those who have shown an interest in our support. ELUNA has regional groups as well, including the Southwest User's Group, which includes California.

- A.8.6.** Does the user group have an active community of programmers and developers adding functionality to the system? What is the process for sharing custom developed add-ons or scripts with other users of the system?

Ex Libris: Yes, and this is achieved by our customers through the Ex Libris Developers Portal, described above. Our user community boasts an active developer cohort, and we are proud to be providing this advanced platform for collaboration, sharing, and development of new applications and integrations. The network reaffirms the Ex Libris commitment to openness—a commitment that is appreciated by our customers and by the wider library community. The Developers Portal is open and accessible to all, customers and non-customers alike. You can visit the site at <https://developers.exlibrisgroup.com>.

- A.8.7.** The product enhancement process and the role that customers play in identifying and prioritizing new features and enhancements. Describe any changes or updates you have made to your system in the past year as a direct result of customer feedback. Describe typical time frames for items on a development road map (e.g., quarterly, 6 months, etc.)

Ex Libris: ELUNA has defined a product enhancement process. Most Ex Libris products have their own Product Group within ELUNA, whose leaders are responsible for organizing the enhancement process, and communicating with Ex Libris product managers, their ELUNA counterparts, and users of the product. Members identify and provide feedback on suggested enhancements, and work with Ex Libris on future developments and strategic goals. Only

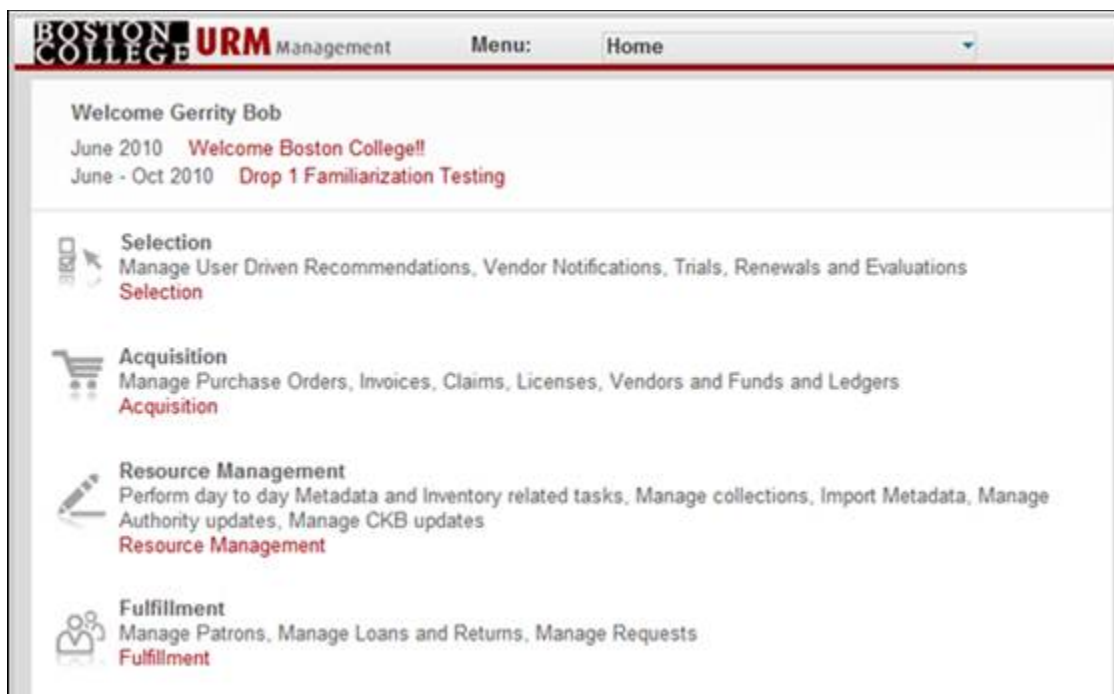
member institutions have the opportunity to vote on enhancements.

In designing Alma, Ex Libris engaged several academic libraries to collaborate in the development of the system. These include the libraries at Boston College, Princeton University, Purdue University and Katholieke Universiteit Leuven in Belgium.

Ex Libris delivered periodic partner releases to these libraries, including working versions of the software, in specific functional areas. Partners had the opportunity to experience early versions of the software, and provide feedback and suggestions. The initial release of Alma was strongly influenced by the contributions from our partner libraries. We later also worked with eleven early adopter customers to further refine Alma.

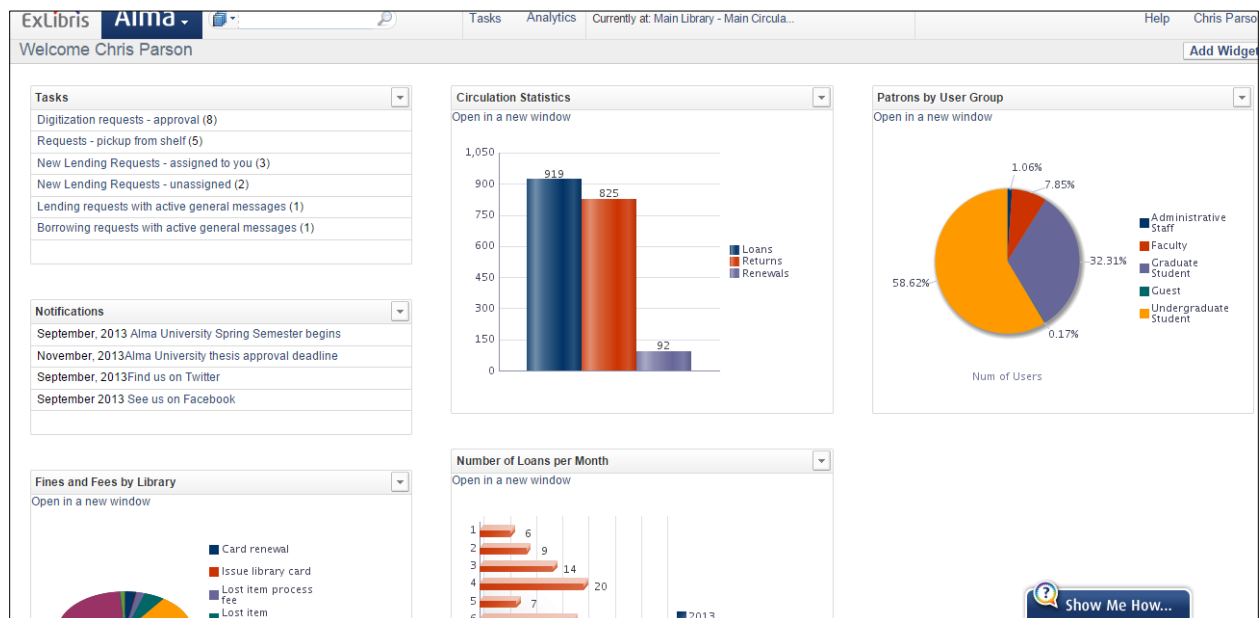
The Agile development approach allowed us to evaluate user requests, including those relating to the usability, functionality, and other ideas for enhancements, on an ongoing basis, and to discuss the suggestions with our customers to understand their needs. We maintain this consultative approach for each of our products; we have established a Product Working Group for each product, and the result of that group’s efforts is a list of features and requests usually voted upon by the group, that are added in short cycles to the product.

For example, below you can see the “before” and “after” Alma user interface. We received feedback about the UI from our development partners and early adopters, and were able to incorporate their feedback and revamp the interface’s entire look and feel. In addition, we conducted focus group with UI experts who evaluated and designed the Alma user interfaces to make sure they meet the highest usability standards.



Above is Alma’s first home page. Following feedback, and as the result of work with the Alma UI focus team, we revamped the home page to a new concept, the Alma Dashboard, which is task

and business-driven, as shown below.



Above is the current Alma dashboard – the ability to customize the look & feel and logo existed in Alma from the early development phase, but customer feedback enhanced its usability. Ex Libris constantly evaluates Alma functionality and we welcome feedback from our customers on ways to further improve our product. We see this ongoing discussion with our customers as an important and major channel for product improvements, and as an evidence of the well-established Ex Libris Product Working Groups per each product, managed and led by our customers.

Specifically for Primo, Ex Libris has committed to develop ten of the top voted enhancement requests (based on customer voting) in each of the coming three years (2014-2016). In addition, Ex Libris will develop five of the top voted OPAC via Primo enhancement requests in 2014 (a separate customer voting process). For example, enhancements requested by customers that Ex Libris has committed to providing include greater Alma-Primo integration, virtual browse display, context-sensitive autocomplete, integration with course management systems, and the display of images (similar to the Google image search).

The time frames for enhancements to both Alma and Primo can vary, although a new release of Alma is currently released to customers each month, and each monthly release contains new functionality and enhancements.

A.8.8. The parameters of your “typical” Service Level Agreement (SLA) with a large partner such as the CSU system. How well does the system meet established intended service targets?

Ex Libris: Ex Libris’ standard SLA commitment is to deliver service availability of at least 99.5%, measured over any calendar year. In addition, our standard SLA for responding to system down events is one hour. The cloud environment is monitored 24x7, with staff attending

to any issues in real time, as described in this response.

For Alma, in 2013 our lowest uptime was 99.8%. Unscheduled downtimes have not lasted more than a few minutes. When these occur, email alerts are sent, but to date they have been resolved within minutes. The Alma cloud environment provides:

- Full System Redundancy
- No service downtime
- Instant failover
- No interruption in service

A.8.9. The process of escalating support requests. What are the levels of severity / importance for support calls? Describe the 24/7 support response for critical problems (e.g., system outages).

Ex Libris: Please see our response to A.8.1 above.

A.8.10. What enhancements are planned for development over the next 24 months?

Ex Libris: Please see the roadmap highlights document supplied in the confidential section (Section 2) of this response.

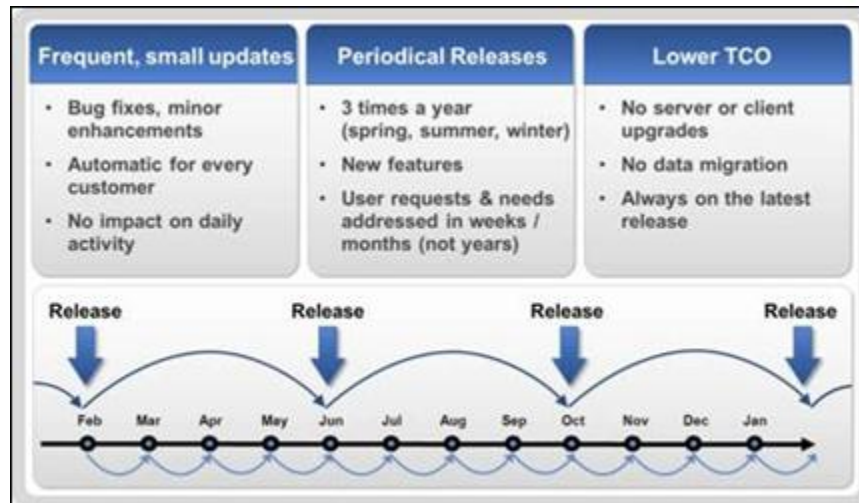
A.8.11. The frequency and scope of both major and minor releases. How long do you support a major platform release after it has been superseded by a new version?

Ex Libris: In true software-as-a-service solutions, the concept of product versions and platform upgrades loses its traditional meaning. All of the Alma software updates are done centrally and for all Alma customers at once, so that all customers are always using the latest version (just as a user will always be on latest Gmail version). Since Alma runs in the Ex Libris cloud, all of the solution's platform-related tasks are handled by Ex Libris cloud services personnel.

Alma's Agile development methodology is based on the concept of frequent sprints, which are task-and time-delineated. This allows the Alma Development, Implementation and Operations Teams to encounter and solve development issues on an on-going basis, greatly contributing to the quality of the product. The Agile methodology also allows Ex Libris to rapidly deploy new functionality as well as critical fixes and security patches to all our customers. There are several release types:

On-going releases: Includes bug fixes and minor enhancements, and does not impact day-to-day business, nor require training.

Periodic Releases: Occur approximately three times a year, and include mainly new features. Training may be required and is delivered online.



A.8.12. The content and delivery method (context-sensitive, online, knowledgebase, etc.) of administrative and end-user documentation sets, as well as the frequency of documentation updates. Also describe the availability of user-authored content, such as community wikis.

Ex Libris: The Ex Libris Customer Center is the source for:

- Documentation, which is updated as enhancements are added to our products;
- The Learning Center, a repository of recorded training sessions on all Ex Libris products (please see the detailed description immediately below); and
- News about Ex Libris products.

The Ex Libris Developer Network, described earlier in this section, includes:

- **Codes and Apps:** an advanced portal for sharing, experimenting, and managing the lifecycle of developments, hosted on GitHub
- **API Docs:** Comprehensive API and integration documentation and technical guides
- **Tech Blog:** Advice, technical guidance, and best practice information offered by developers and Ex Libris development team members
- **API Console:** a testing environment (sandbox) in which users will be able to experiment with Ex Libris APIs before implementing them in their solutions.
- **Forums:** Online forums in which developers can share ideas, questions, and answers about how to get the most value from Ex Libris APIs
- **API Dashboard:** A tool enabling developers to manage their implementations of open interfaces and view usage analytics

The Learning Center is an online, 24/7 service offering an ever-growing repository of interactive lessons about Ex Libris solutions, including:

- Initial training for libraries with a newly-installed Ex Libris solution
- Refresher courses and more advanced training for staff members that have already had initial training

- "How to" lessons, which focus on a specific topic or advanced product features
- "What's new?" lessons, which cover service packs and new version features
- General training, a technical overview of product purposes and capabilities

The Learning Center provides institutions with access to knowledge that will enable staff members to maximize the capabilities of Ex Libris solutions. The Learning Center is based on the popular Moodle learning management system.

Alma documentation is available from directly within the application, from where it may be downloaded and reproduced. Both Alma and Primo include staff user manuals, technical user guides, and system administration guides. Primo also includes an end-user help guide. Documentation is updated on a regular basis, as upgrades and enhancements are released in the applications.

Both systems also include context-sensitive Help screens.

- A.8.13.** The availability of training for systems staff and systems administrators at each institution. Describe the various levels of training for staff according to technical expertise. Provide examples of configuration changes that can only be accomplished on the vendor side and cannot be completed by staff at each institution.

Ex Libris: Throughout the implementation, training is conducted during different stages. The focus of each stage is intended to correspond with various phases in the project plan and to offer training for each of Alma's functional areas. Training will be delivered by different means depending on the phase of implementation. Please our detailed response to A.7.17 above regarding training, especially #5, ongoing training, and the response immediately above regarding the Learning Center.

B. STAFF FUNCTIONS

B.1. RESOURCES MANAGEMENT, CATALOGING, & ACQUISITIONS

The work product of technical services staff is a point of service for library patrons, providing access to materials in all available formats in the most efficient way possible. The CSU libraries are seeking to minimize repetitive technical services staff tasks performed at the local level that can be done more efficiently as part of a single, shared system. A large part of this greater efficiency and flexibility will be the sharing of data among local sites to manage collection development and resource management in a shared database.

B.1.1. REQUIREMENTS

The system should:

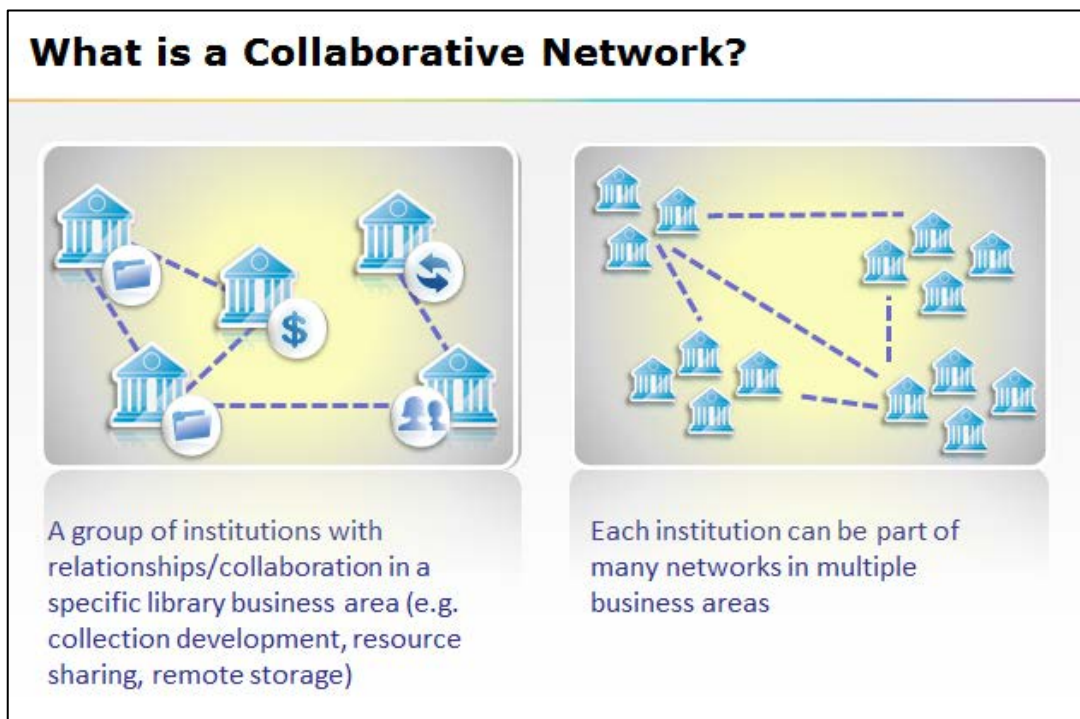
- Include essential technical services staff functions and operations currently available in, and common to Integrated Library Systems, including acquisitions, cataloging and both print and electronic management capabilities.

- Offer flexibility and extensibility to allow the consortial sharing, viewing, editing and exchange of records of all types as well as the ability for individual institutions to locally control and customize those same record types.
- Offer a robust and feature-laden ERM application to allow for the efficient and effective management, analysis, and evaluation of e-resources.

Ex Libris: Alma provides for all these essential functions, as our detailed responses in this section demonstrate.

B.1.2. COLLABORATION

Ex Libris: Alma will allow for collaboration among Alma institutions through resource sharing and fulfillment networks, as well as an acquisition network. In addition, Alma enables sharing among all Alma institutions in our Community Zone, which contains shared bibliographic and authority records, and e-resource packages. Alma Analytics allows custom reports developed by one institution to be shared with the community.



Please see Section A. High Level System Requirements, number 3, Consortium Capabilities for more information about the different types of collaborative networks.

After all of the members of CSU have migrated and implemented Alma, the second phase of the project would be to build shared cataloging functionality in the Network Zone.

Describe or Demonstrate:

- B.1.2.1. What type of records can be shared across institutions to streamline workflows (bibliographic, authority, order, check-in, item, license, patron, fiscal, vendor, etc.)

Ex Libris: The Alma repository includes bibliographic records, authority records, and inventory records (holdings and items for physical material and portfolios for electronic resources). The repository consists of the Institution Zone (IZ) and the Community Zone (CZ) and, for collaborative network environments, the Network Zone (NZ). Information in the IZ is managed by the institution. Information in the CZ is managed by Ex Libris but can be used by all our members as part of their various workflows and business processes (e.g. the Knowledge Base can be used for activation of electronic collections).

The hybrid environment of a Community Zone of records which can be accessed by any Alma institution, and a library-specific Institution Zone allows for the best of all options – collaboration where it adds value, and autonomy where it is necessary. Many libraries will be able to shift the burden of metadata management to the community and also see a reduction in record loading and/or copy cataloging costs, particularly for e-books through use of the community catalog.

Institutions (individual libraries) can:

- link to records in the CZ, eliminating the need to maintain the record locally
- copy/download records from CZ if desired (and then make changes to them)
- import catalog records from OCLC, etc.
- do original cataloging (Alma provides inline help, validation, etc.)
- use EOD
- have notes in holdings and item records that are particular to that library

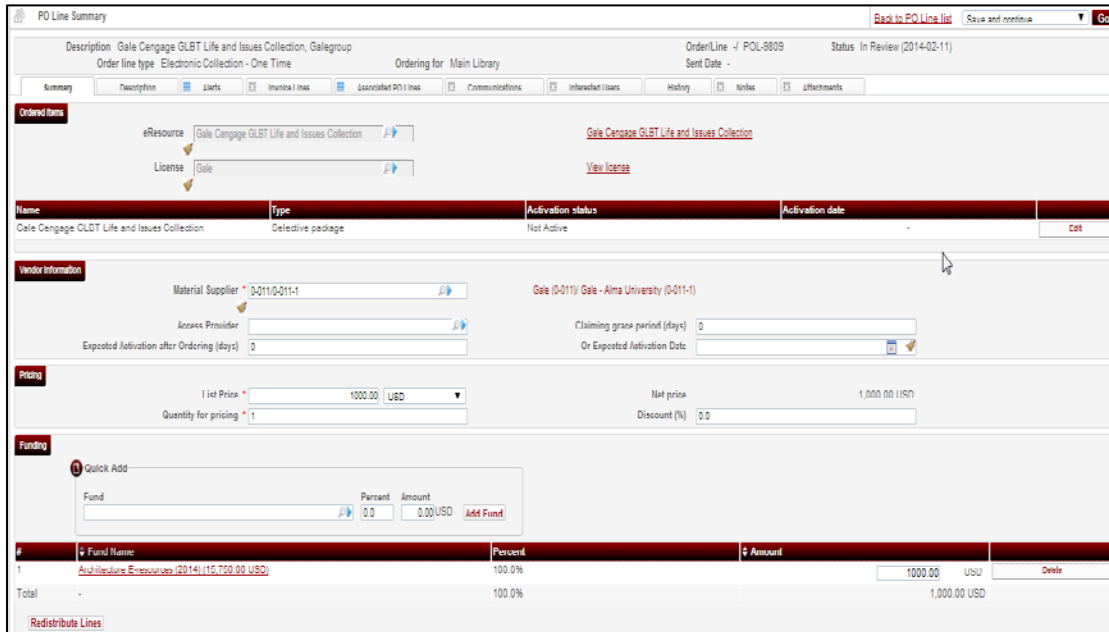
The Community Zone also provides automatic authority record updates. The Alma CZ incorporates global authority files from the Library of Congress, the National Library of Medicine, and the German National Library (GND). The CZ also includes the Central Knowledge Base (CKB). The CZ repository content enables validation of records (preferred/non-preferred terms) and collection development (ordering physical and electronic resources).

Collaborative cataloging within CSU will be possible once a shared catalog has been created in the NZ during the second phase of the project.

Shared electronic resources:

The Alma acquisitions network will enable CSU members to work together by purchasing and/or negotiating e-resources (packages, databases, titles) jointly, supported by a consortial buying office. The central office may purchase electronic resources on behalf of members, and electronic resources are managed in a Network Zone. Acquisition of resources is managed in the NZ and is based on shared funds.

The central office creates an order for an electronic collection in the CZ, and activates the collection for the relevant institutions using a license, vendor, and fund managed in the NZ:



PO Line Summary

Description: Gale Cengage GLBT Life and Issues Collection, Galegroup
 Order Line type: Electronic Collection - One Time
 Ordering for: Main Library
 Order Line #: POL-8009
 Status: In Review (2014-02-11)
 Sent Date: -

Ordered Items

eResource: Gale Cengage GLBT Life and Issues Collection
 License: Gale

Name	Type	Activation status	Activation date
Gale Cengage GLBT Life and Issues Collection	Collective package	Not Active	-

Vendor Information

Material Supplier: 0-0110-011-1
 Vendor: Gale (0-011) Gale - Alma University (0-011-1)
 Invoice Provider: -
 Expected Activation after Ordering (days): 0
 Claiming grace period (days): 0
 Or Expected Activation Date: -

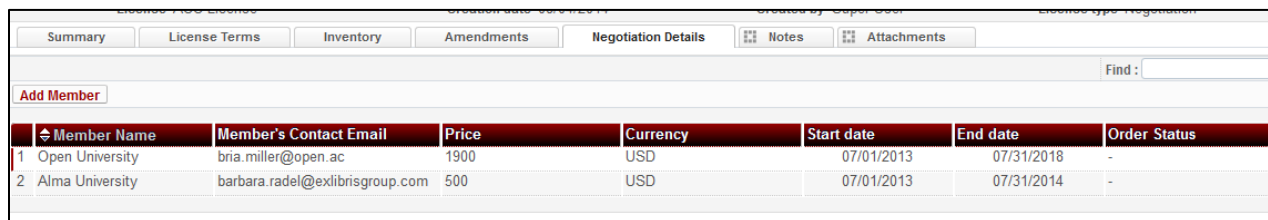
Pricing

List Price: 1,000.00 USD
 Net price: 1,000.00 USD
 Quantity for pricing: 1
 Discount (%): 0.0

Funding

#	Fund Name	Percent	Amount
1	Available E-resources (2014) (15,750.00 USD)	100.0%	1,000.00 USD
Total		100.0%	1,000.00 USD

The other model is the shared negotiation model. For electronic resource management at the Central Office level, the Alma Network Zone will support the option of a consortial license record. It differentiates from a standard license in that there is an option to define the license as a Negotiation License (in other words, the Central Office negotiates a license on behalf of its members).



Member Name	Member's Contact Email	Price	Currency	Start date	End date	Order Status
1 Open University	bria.miller@open.ac	1900	USD	07/01/2013	07/31/2018	-
2 Alma University	barbara.radel@exlibrisgroup.com	500	USD	07/01/2013	07/31/2014	-

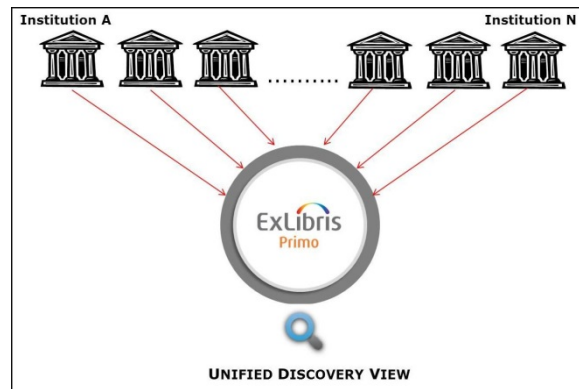
Negotiation license

In the Negotiation License, the Central Office defines the license details (price, start and end of license, etc.) for each member subscribing to the package. The Central Office will be able to define which members of the consortium will have access to given packages.

Shared patron records:

Typically, borrowing and lending starts with patrons utilizing a discovery solution to locate items of interest. The integration of Alma and Primo provides a Unified Discovery View that allows for smooth and streamlined discovery across all of an organization's institutions, while still providing the patron with a single view into the institution's holdings, using Primo's "view" functionality.

While patron records are managed at the institution level, this capability provides a flexible way for patrons to conduct discovery at the consortium level, from a single interface, as well as in the patron's own institution. This is shown in the diagram below.



The Unified Discovery View is provided irrespective of how the consortium’s institutions manage their cataloging and inventory. This means the unified discovery view can be provided based on records separately and independently published by the consortia members (and de-duplicated in Primo) or based on a shared catalog in the Network Zone. This maintains complete separation between the discovery interface and the cataloging and inventory management methods.

Once an item has been selected using Primo, the patron can initiate a request in Alma. The request may be one of two:

1. To be fulfilled by a Fulfillment Network
2. To be fulfilled based on a Resource Sharing Network

Fulfillment Network:

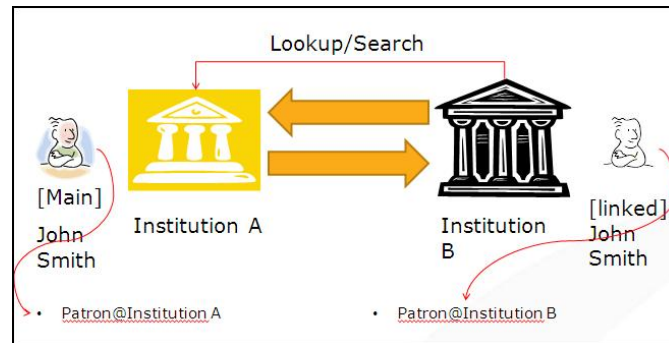
Members of this type of network work together by allowing their patrons to interact directly with the other institutions. Additionally, these members may accept and process items from other institutions, and ship them back. Two primary use cases are currently supported:

- Walk-in Registration
- Direct requesting

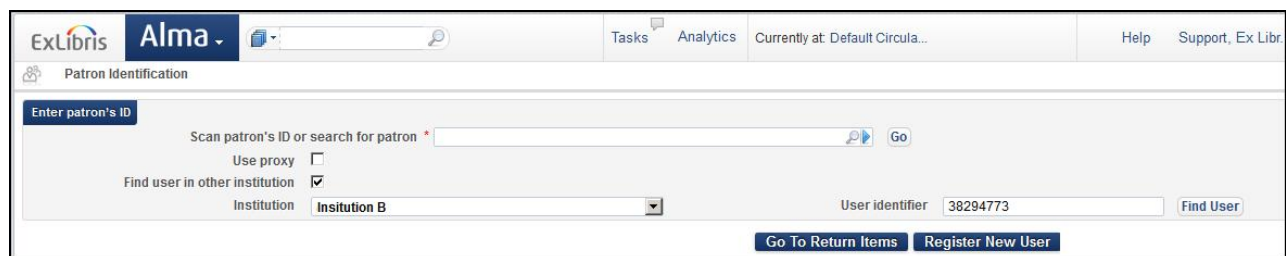
In a Fulfillment Network process, Alma’s standard loan and item transit processes are used. In other words, as long as the item is held by the borrower, the standard loan control mechanisms for tracking overdue loans are used. After the item is checked in, standard transit routines are used to track where the item has been put in transit, where the item has been put in transit to, and when it is expected to arrive at its target destination.

A single institution may participate in multiple fulfillment networks.

Walk-in scenarios take place when a patron of another member institution directly walks into a library of another institution, requesting services. The guest user will be considered a patron of the host institution from a fulfillment perspective. Walk-in patron identification may be described as in the diagram below, where John Smith of institution A walks into institution B and requests to borrow an item of institution B:



Below is a screen shot of the interface used by the circulation desk operator to identify a patron who is registered at another institution:



By clicking 'Find User', the patron information will be fetched from the patron's home institution. The copied information includes address information, email address and phone numbers, as well as the patrons' general information. Note that identifiers, being an institution-specific attribute, are not copied over from the home institution. Attributes, such as the imported patron's user group and expiry dates, may be set up at the target institution by rules that depend on where the patron record is copied from.

The user group which is applied to the patron at the host institution will be used in the fulfillment rules of that institution. This effectively enables institutions to use standard fulfillment rules to set the terms of use that will be applied to fulfillment services that are given to guest patrons.

After copy-over, patron records are independent of their source. The patrons will receive fulfillment services and have their fines and fees independently managed at the host institution, based on the copied patron record and its attributes. That said, updates of the source record automatically update the target record whenever the patron is active at the target institution.

Direct Requesting is a service that allows patrons of one institution to discover requestable resources of another institution, and directly place hold requests to be fulfilled by the owning institution. The Direct Requesting service depends on the participating institutions managing a shared Primo view into which records of all of the institutions are published, and a shared PDS (Patron Directory Service) that can authenticate users regardless of their home institution.

The Direct Requesting process starts with a patron discovering a record that is owned by more than one institution. A 'More' indication will indicate that the record is owned not only by his home institution.

Using the 'More' link allows the patron to view the request options of the other institutions and directly place a request at one of these institutions. Clicking on the Request link enables placing a request that will be fulfilled at a pickup location that is physically in one of the libraries of the owning institution, as per its local configurations.

Institutions	
My Institution: Alma University	● Available
Other Institutions: Open University	● Available
University of Knowledge	● Available

Additional Institutions in Primo

☆ **The Lowell lectures on the ascent of man,**
Henry Drummond 1851-1897. 1894

● Check holdings

[Get It](#) [Details](#)

➔ **University of Knowledge** More(1) [Actions](#)▼

Request Options: [Request](#) | [Digitization](#) | [Resource sharing request](#) |

Location The Yoel Academy of Library and Information Science The Yoel Academy Down [Hide Details](#)
Town QH368 .D75

Availability: (1 copy, 1 available)

1 - 1 of 1 Records

Barcode	Type	Policy	Description	Status
41256	Book	4 Days		Item in place

When placing direct requests, the patron record is automatically copied over from the patron's home institution to the owning institution that will be fulfilling the request as a walk in service.

The Fulfillment Network workflows described above will be enhanced in the future with additional workflows, including:

- **Return Anywhere:** Patrons will be able to check in items at library locations at any of the network member institutions. This will be based on defined relations between the network institutions that enable the network members to update other members about the check in action. The owning institution will be notified that a check-in took place at some other institution, and be able to mark the loan record as checked in.
- **Pickup Anywhere:** Patrons will be able to fill request forms with requested pickup locations that are not physically in one of the libraries of the owning institution. The pickup locations will include the libraries at the patron's home institution, as well as libraries in other institutions that are neither at the patron's home institution nor at one of the owning institution's libraries. The owning institution will be able to define which institutions may serve as pickup locations for its items. In addition, the owning institution is where the request and loan will be tracked. The owning institution will be automatically updated when the item is placed at the distant hold shelf and when a loan takes place

Resource Sharing Network:

Members of this type of network work together by requesting and/or providing their resources to other institutions. This type of network is characterized:

- Interaction between the patron’s library and the library that owns the resource, rather than direct interaction between the patron and the library that owns the resource.
- Interaction between the libraries is protocol based, for example using ISO 10160/10161 messages.

A Resource Sharing Network process is managed using Alma’s temporary locations. A shipped item is registered as temporarily shelved at the resource sharing library at both the lender and borrower institution, throughout the resource sharing process. Being registered at a temporary location at both the borrower and lender side, standard processes for managing temporarily shelved inventory are used for managing the items.

Alma supports two models of interlibrary loan management:

- Broker Model
- Peer to Peer Model

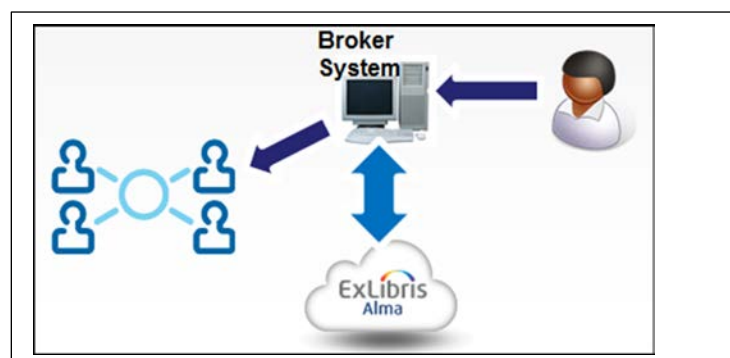
Broker model:

In this model, a mediatory system serves as a broker between the requesting institution and the responding institution:

- Alma internally maintains the request for the purpose of managing the internal library processes that are needed for the fulfillment
- Bridging the gap between Alma and the Resource Sharing System may be done:
 - By manually double typing
 - By an NCIP-based integration of the systems.

Alma currently supports the following systems:

- Relais ILL/D2D
- OCLC Navigator
- VDX
- INN-Reach



Peer to Peer Model

Alma can manage resource sharing requests as the owner of the request, directly communicating with peer resource sharing partners (suppliers or requesters) using ISO

10160/10161-compliant messages, or plain email messages. Managing the potential suppliers for a specific resource sharing request is based on:

- The requester institution's defined list of resource sharing partners
- The existence of holdings at the target partner (if discoverable)

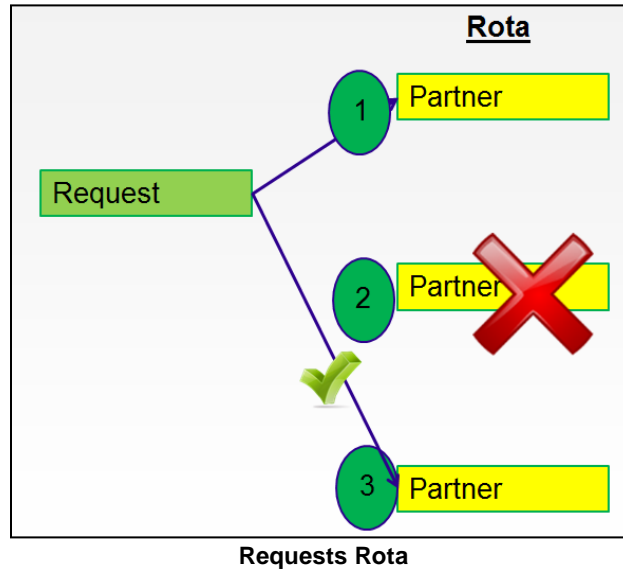


Alma manages the lifecycle for all supply formats – Physical, Electronic or Digital. For example, the lending institution may decide to:

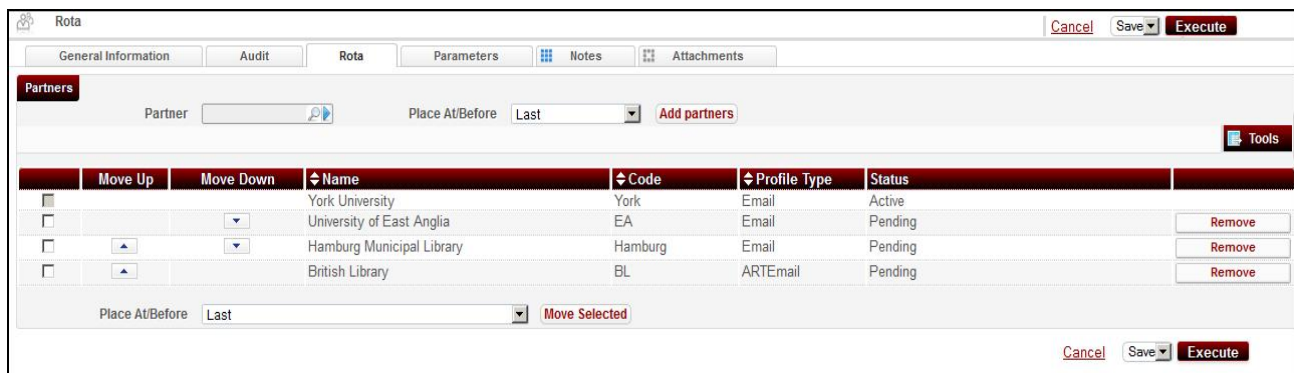
- Ship the physical item
- Digitize a physical item and send the digital file
- Create a digital file for an electronically held item (after consulting the electronic resource license terms), and ship the digital file
- Create a physical printout for an electronically held item (after consulting the electronic resource license terms), and ship the physical printout

Managing a resource sharing request's potential suppliers for a request is done in two tiers:

1. Each institution defines profiles of target institution (rota templates). Each such rota template is an ordered or non-ordered list of potential suppliers. The rota templates will be used as a list of targets to request from, one at a time. Different rota templates may be used for different purposes. For example, a rota template may be defined for requests that require speedy delivery regardless of costs as opposed to requests that may take longer to supply and will be supplied at a lower cost.
2. The suppliers on a rota template are checked before being applied to a borrowing request as a rota of suppliers, to see whether they own relevant holdings. Potential suppliers will be contacted only if they appear to own relevant holdings. Alma assigns the request to the first potential supplier on the rota, and then to the next potential supplier on the list whenever the active supplier fails to supply the requested material.



Below is a screen shot of a sample rota:



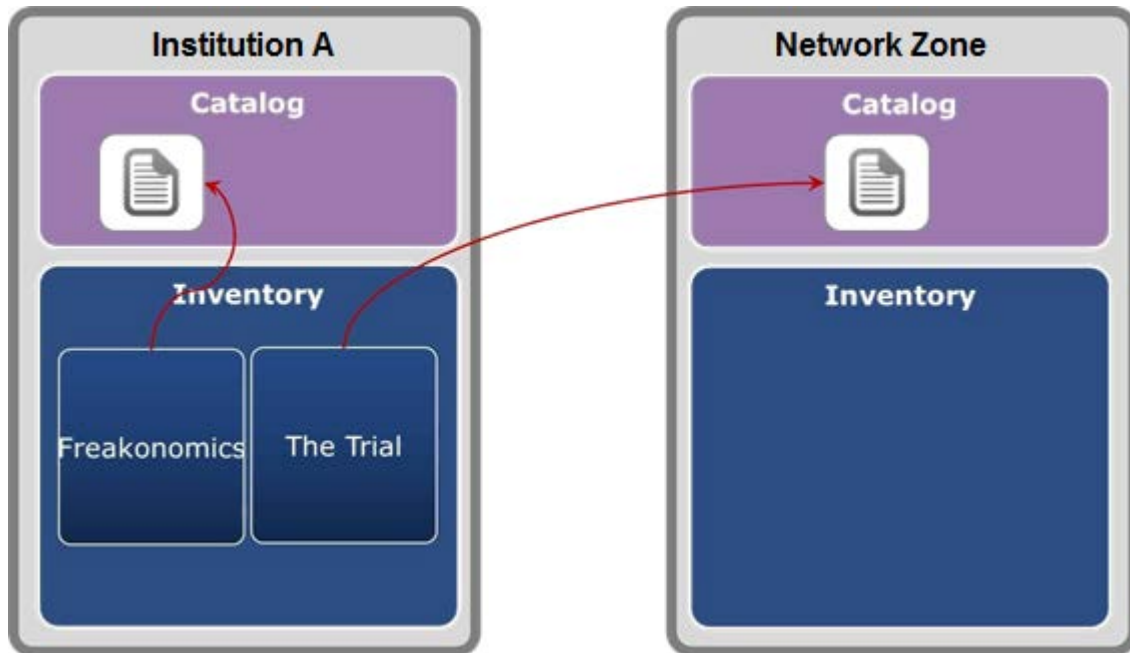
From the end user perspective, there is no difference between a regular resource request and a resource sharing request. From a system and staff user perspective, these involve different workflows and costs. Alma's roadmap plans are to enable transforming one type into the other, based on the situation and institutional policies.

Please refer to the description of vendor and fund information in the response to B.1.2.4. below.

Phase 2 of our proposed project, planned following Go Live with all institutions, includes a Network Zone for shared cataloging. Members of this type of network maintain a shared catalog which is contributed to by all members of the network, and which is maintained by agreed upon and consolidated cataloging conventions and practices. The Cataloging Network enables the network members to collaborate their metadata management, typically by using a Network Zone as the platform in which they collaboratively manage their shared catalog. Members of a Collaborative Cataloging Network enjoy the benefits of collaborative metadata management, including batch imports, as well as searching in the shared catalog.

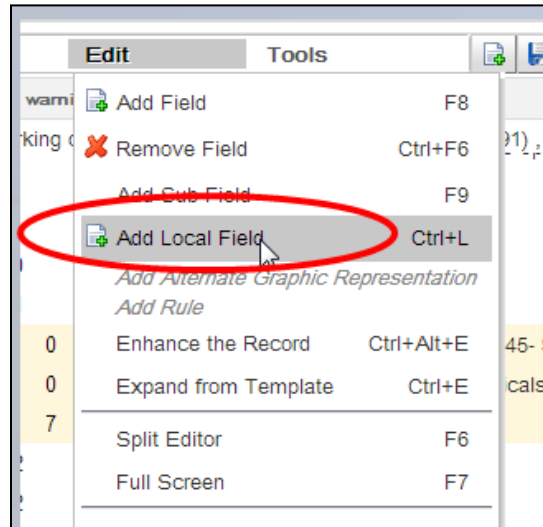
An institution which is a member of a Network Zone can make use of the shared NZ catalog records by linking its inventory records to the metadata records in the Network Zone,

eliminating the need to download these records to the local catalog. This is described in the following diagram.



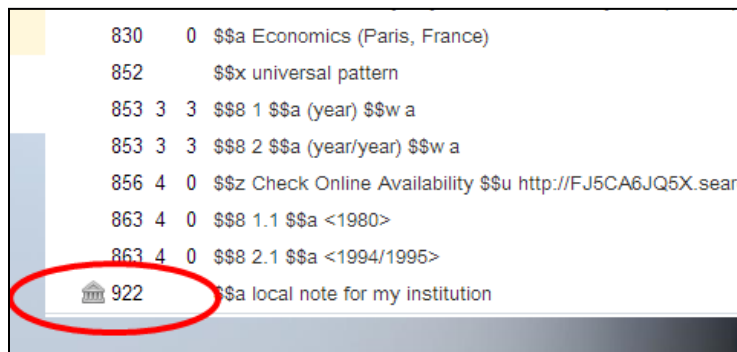
The benefit of this hybrid model is the ability to combine local data with shared descriptive information, so sites have flexibility in sharing records, depending on how useful the record may be to the broader community.

By linking to centrally described records, libraries do not lose the option to attach local note fields that are locally indexed and searchable, and may be published to the discovery tool for end users. In this way, institutions can benefit from the option of sharing and jointly handling the metadata records while still maintaining the ability to apply local conversions and locally managed record attributes.



Adding Local Fields to Shared Records

The local fields are displayed only when viewing the record in the context of the institution the owning institution, with a local icon indicating the note is local.

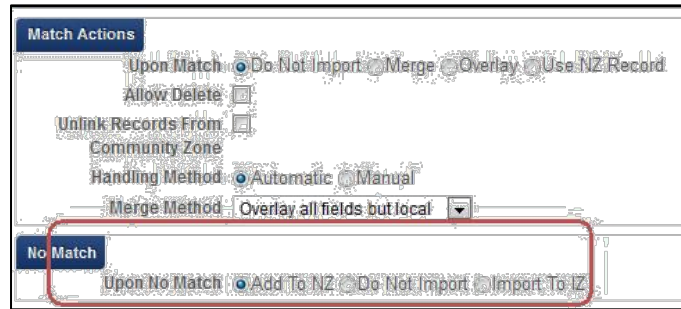


Shared Record's Local Fields

Batch-loading of metadata records in Alma is managed using Import Profiles. In the same manner, batch importing of records to the shared catalog is also achieved using Import Profiles, which define all aspects of the loading process, including whether imported records will use Network Zone or Institution Zone parameters.



Import Profile linked to the NZ

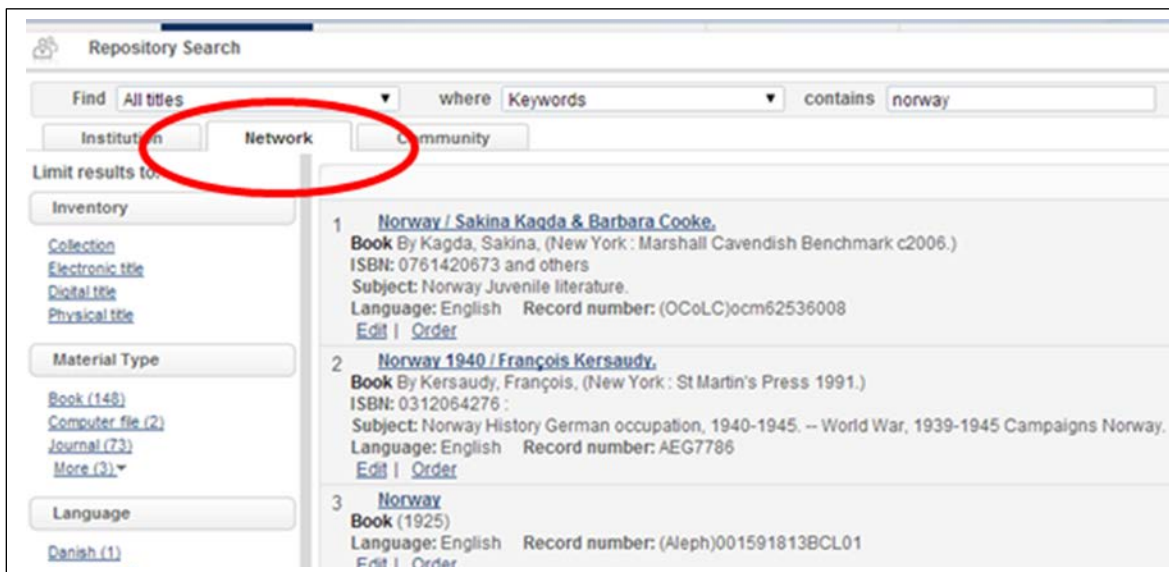


NZ Attributes of Import Profile

Alma supports the seamless searching of NZ managed descriptive catalog records. Staff users are able to search in their institution, as well as in the shared Network Zone. A search that is done within the shared NZ catalog may be the first step in a number of workflows, such as to directly start editing a found shared catalog record, link to a shared record or start a local purchasing process based on the retrieved shared record.

From a staff user perspective, searching in the catalog and inventory is integrated and seamless. When searching for a record in Alma, staff users may search in their local institution as well as in the consortium; this allows them to view other institutions' resources as well as the Network Zone catalog.

The screen shot below displays this capability:



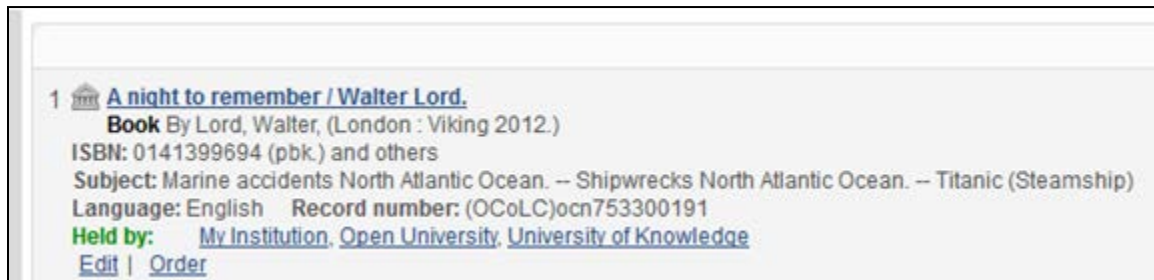
Visual icons next to the title indicate to the user in a simple and user friendly manner if the record originated in the Community Zone (👤), or came from the Network Zone (🏛️).

When searching the Network Zone, users can see the libraries that hold a Record. An 🏛️ icon is used to indicate if the record is held in the staff user's institution.

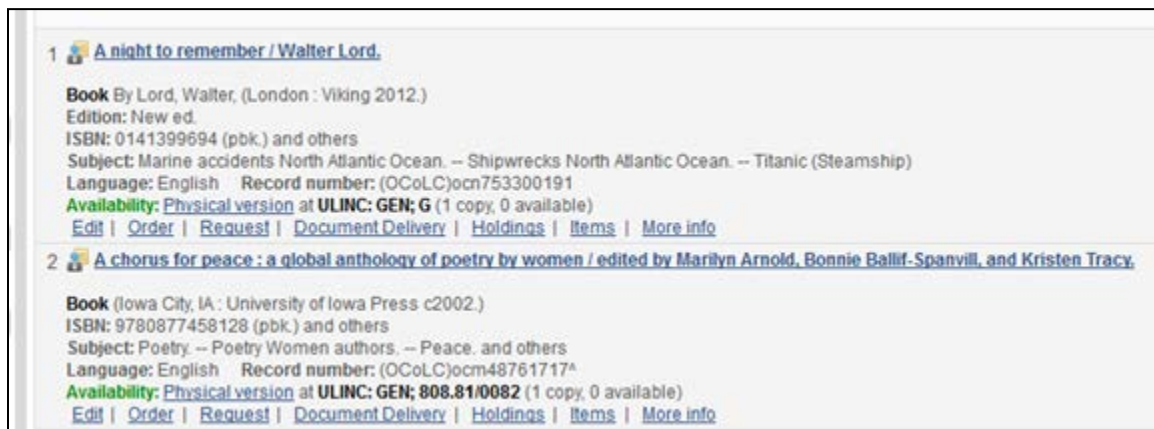
When a user views his/her own institution's records, Alma provides a visual indication that a

resource is using a linked record to describe it. Clicking on this leads the staff user to view the linked record in the Network Zone catalog.

Below are examples of Network Zone records, as viewed when searching in the Network Zone and as viewed when searching in local institution.



Network Zone Record with 'Held By' Information



Locally viewed record that is linked to the Network Zone

- B.1.2.2. How dynamic and flexible record sharing is, and the ease or difficulty of changing sets of records from local control to shared control, and vice versa.

Ex Libris: As shown in the response to B.1.2.2, an institution can easily link to a record from the Network Zone, or copy it to the Institution Zone. Similar principles apply when using a record from the Community Zone. In addition, it is possible either singly or in batch to 'contribute' locally managed records to the shared catalog in the Network Zone.

- B.1.2.3. How the system supports the ability of libraries to perform cooperative collection development in a shared environment through access to common files of on-order materials, cancelled subscriptions, circulation data, check-in records, etc., in a shared environment. For example how are local sites made aware of what other libraries are purchasing, and still limit the sharing of confidential financial agreements or other confidential information? Would the system allow local sites to be notified automatically when another library cancels a publication or de-accessions a title to which both of them subscribe or own?

Ex Libris: With a Network Zone (shared catalog), staff users can search across the consortium and see each institution's holdings. A given result in the staff search interface also displays summary information of the holdings for a specific resource. This includes all formats (physical, electronic and digital):



ISBN: 0-203-87732-2 and others
Availability: [Electronic version](#) at ebrary Perpetual Titles: Full Text
[MMS Debug Screen](#) | [View It](#) | [Edit](#) | [Order](#) | [Request](#) | [Add to reading list](#) | [Package List](#) | [View License Information](#) | [More info](#)

12 [Pelican History of England](#)
Book (Penguin, Harmondsworth : 2000)
 Subject: Great Britain History
Availability: [Physical version](#) at **ULINC: GEN; HV875 .T591** (0 copies, 0 available)
[Physical version](#) at **ULINC: N/A** from:6 until:6
[Electronic version](#) at Provider name not available: Full Text
[MMS Debug Screen](#) | [View It](#) | [Get It](#) | [Edit](#) | [Order](#) | [Request](#) | [Add to reading list](#) | [Package List](#) | [View License Information](#) | [View holdings](#) | [View items](#) | [More info](#)

13 [Encyclopedia of African History](#)
Book (Fitzroy Dearborn London 2004)
 ISBN: 0-203-48386-3 and others
Availability: [Electronic version](#) at ebrary Perpetual Titles: Full Text

Our road map plans include adding on an indication in the NZ search if something is on order by a member.

Alma Analytics is capable of creating reports in various subject areas of the system. Currently, analytics reports are based on a single institution's data. The planned Analytics Network will allow for the defining and running of reports from within the Network Zone, making use of combined data from multiple institutions. Users authorized to log into the Network Zone will be able to launch the Network Zone's Analytics component to create reports for a single selected member, or a combined report for all of the network members. In addition, the road map for network level reporting will allow the generation of reports and analysis of cancelled subscriptions.

B.1.2.4. How the system will handle access to local and consortial fund and vendor codes in a shared environment.

Ex Libris: Alma supports managing vendor license negotiations by the central office on behalf of the network members. The negotiation is managed in the Network Zone (NZ), where the central office creates a license of the type Negotiation which includes negotiation details, member name, member contact email, and more. Please see additional details in B.1.2.7.

Order electronic resources negotiated and managed in the NZ by members: This feature allows individual members to purchase electronic resources that are negotiated and managed for them by the central office in the Network Zone

B.1.2.5. How each site will handle local information (e.g., binding information, donor information, electronic bookplates, processing notes, etc.) in a shared environment.

Ex Libris: Alma provides the ability to add and edit local extensions to a bibliographic record that is maintained in the Network Zone (shared catalog). The purpose of the local extensions is to provide a place for you to enter local information and, at the same time, maintain the integrity to the original and ongoing updated versions of the NZ record for other NZ members.

Specifically, you can enter local information in the 9XX fields. These fields are always identified

as local fields. Also, the 09X, 59X, and 69X fields may contain local information. However, these fields may also be a part of the NZ record.

- B.1.2.6. How the system will allow for the management and maintenance of a shared bibliographic and authority control database, so that individual campuses can derive bibliographic and authority records centrally or from other campuses.

Ex Libris: As described in B.1.2.1., the Alma Community Zone includes global authority files from the Library of Congress, the National Library of Medicine, and the German National Library and are updated by Ex Libris on a regular basis. There are available for all Alma customers with no additional fees.

Alma supports the ability to authorize local headings from a shared authority file in the Community Zone. Ex Libris will load these authorities into the Community Zone, as well as keep them up to date based on changes distributed by the authorizing agency. Any institution may use these records to authorize headings in their local bibliographic records. Institutions that use unaltered authority files will be able to use this and no longer manage local authorities. This significantly lowers the barrier to authority control, by allowing institutions who do not make significant changes to external authority files to avoid managing any local authorities.

The Alma Community Zone also contains shared bibliographic records for the use of the Alma community. Governed by the Alma community, the Community Catalog comprises metadata records that are open for use and enrichment by libraries that are using the Alma library management service. The purpose of the Community Catalog is to streamline resource-management processes, including acquisitions, cataloging, and fulfillment. The *Alma Community Catalog: Cataloging Standards, Policies, Rights, and Responsibilities* document can be found on the Ex Libris website at <http://www.exlibrisgroup.com/files/Products/Alma/AlmaCommunityCatalogCatalogingStandardsPolicies.pdf>.

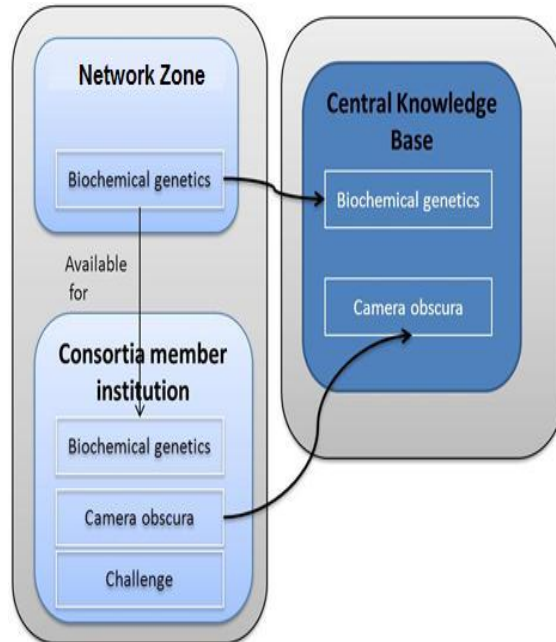
As discussed in B.1.2.1, during the projected Phase 2 of the project, CSU libraries will also be able to collaborate in a dedicated Network Zone with a shared catalog.

- B.1.2.7. How will local sites' links to electronic resources be stored and displayed in a shared environment?

Ex Libris: Alma's Central Knowledge Base (CKB) describes vendor offerings for electronic resources and is maintained by Ex Libris in the Community Zone (CZ).

The Central Knowledge Base can be used in a collaborative environment for the use of the individual institutions, as well as the consortium. Electronic resources of any type -- Database, Interface, Collection, Titles -- can be locally created in the institution, the Network Zone, or can link to a Central Knowledge Base electronic resource.

The diagram below illustrates the relationships between the consortium members, the Network Zone and the Central Knowledge Base in relation to electronic resource management:



Relationships among Consortium Members

In the example above:

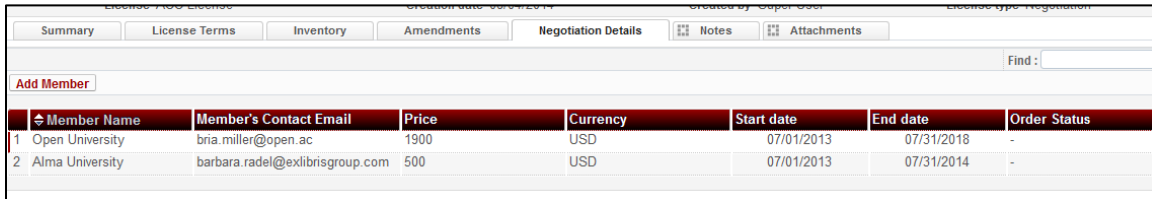
- The consortium negotiated a purchase of the electronic journal title 'Biochemical genetics' for a member institution and the electronic journal title is available via the CKB.
- The consortium member independently purchased an electronic journal title, 'Camera obscura', which is available via the CKB.
- The consortium member independently purchased the electronic journal, 'Challenge', which is not part of the CKB.

The CKB is tightly integrated with Alma acquisition workflows and electronic management workflows:

- Every institution in the consortium can search the CKB for electronic resources of different types, choosing resources as part of the selection workflow, or/and initiating a purchasing workflow for the selected resources.
- An institution can also activate CKB electronic resources using an activation wizard. The Central Knowledge Base electronic resources details can be overwritten with an institution's local information.

Because Alma was planned as a unified system, thereby integrating Electronic Resource Management, Acquisitions and Link Resolution, there is no need to load additional descriptive records when acquiring electronic resources based on the CKB. In other words, all electronic resources managed in the CKB will contain a descriptive record linked to locally activated resources. As policy, Ex Libris attempts to provide as full a description as possible for the CKB resources; for example, by enriching the records based on CONSER information (for e-journals). This makes any additional loading of full descriptive records into the local catalog unnecessary.

As described earlier, the Alma NZ supports the option of a consortial license record. It differentiates from a standard license in that there is an option to define the license as a Negotiation License (in other words the Central office is negotiating a license on behalf of its members).

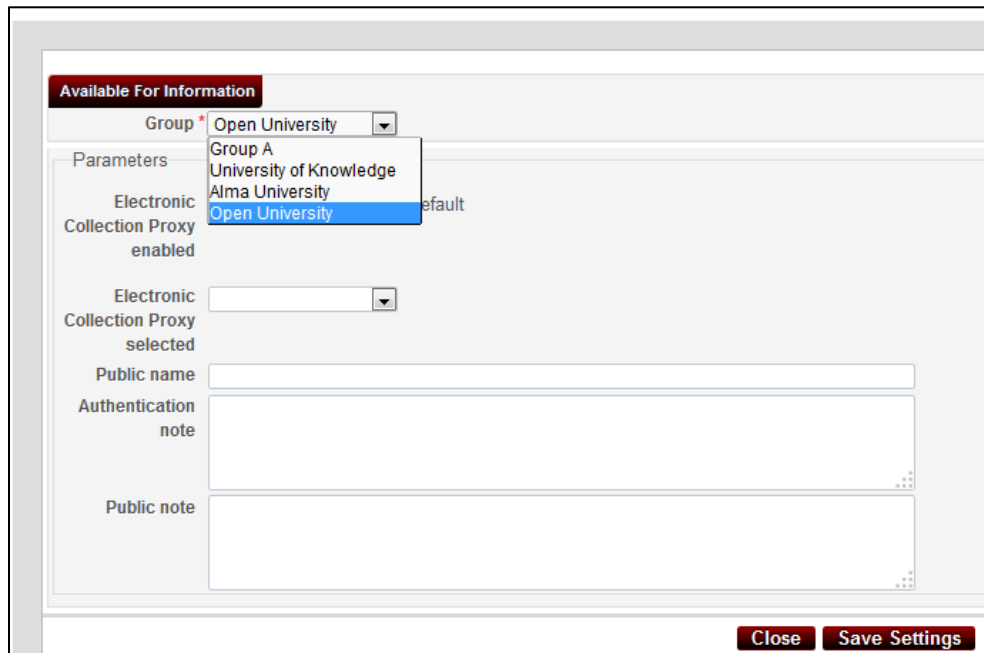


Member Name	Member's Contact Email	Price	Currency	Start date	End date	Order Status
1 Open University	bria.miller@open.ac	1900	USD	07/01/2013	07/31/2018	-
2 Alma University	barbara.radel@exlibrisgroup.com	500	USD	07/01/2013	07/31/2014	-

Negotiation license

On the Negotiation Details tab, the Central office defines the license details (price, start and end of license, etc.) for each member subscribing to the package.

Functionality related to managing e-resource packages in the NZ allows for defining information (in the Group Settings tab) related to the members of the consortia that will have access to a package. Members can be collected together into groups (e.g. Group A,) or defined separately



Available For Information

Group * Open University

- Group A
- University of Knowledge
- Alma University
- Open University (default)

Parameters

Electronic Collection Proxy enabled

Electronic Collection Proxy selected

Public name

Authentication note

Public note

Close Save Settings

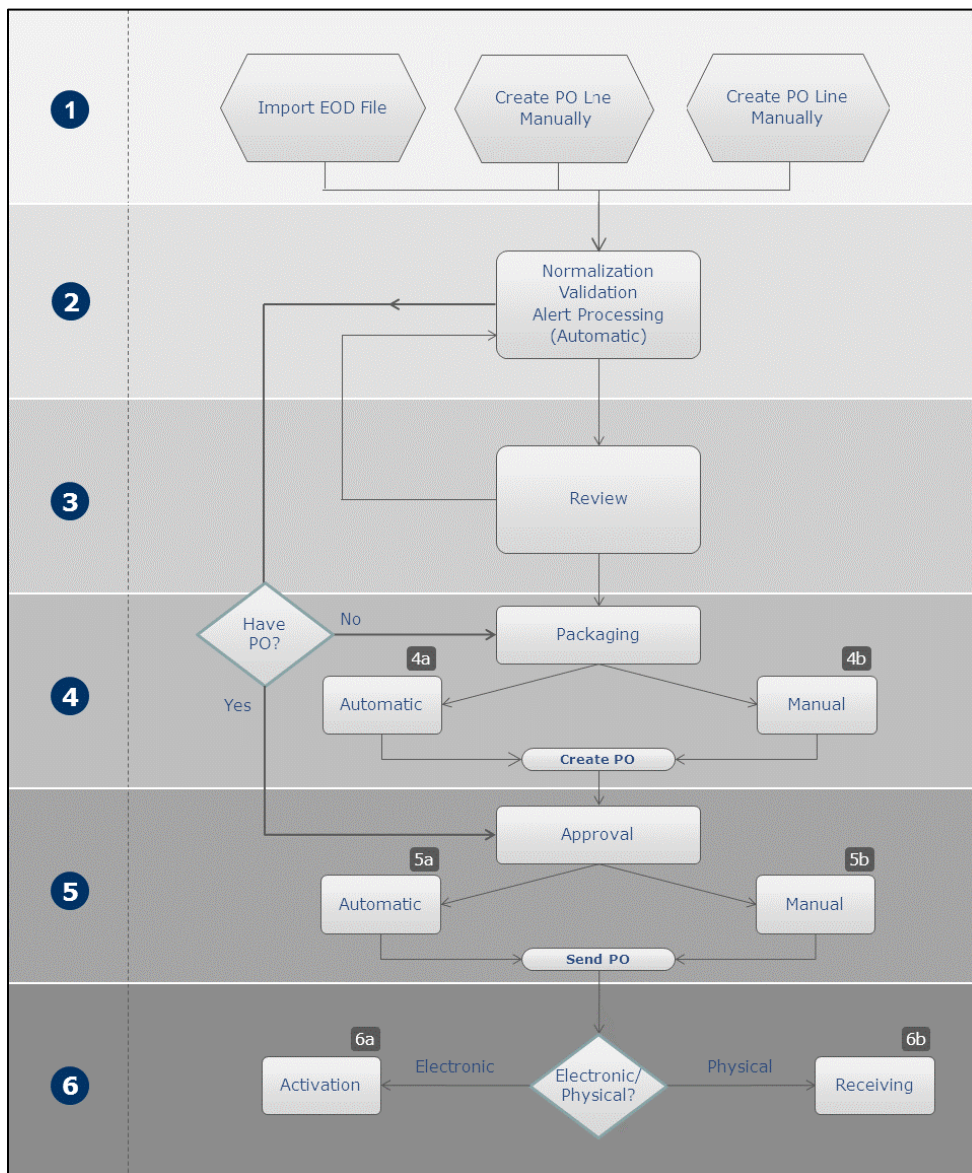
Group settings for a package

B.1.3. SYSTEM INTEGRATION

Describe or Demonstrate:

- B.1.3.1. The system's integrated workflow from resource selection to circulation. Demonstrate this for both physical and electronic resources and how workflow functions can be automated.

Ex Libris: Alma is a unified platform which handles resources of all types, regardless of format. This means that much of the functionality for e-resource management uses the same workflows as for physical resource management, allowing for consistent training, reporting, and a platform for workflow enhancements that applies to resources of any type. For acquisition of electronic resources, the workflow is similar to print, but can apply to individual titles (journals or e-books), or to packages of vendor offerings.



Alma streamlines and simplifies library workflows with its built-in workflow engine, which uses a library-defined set of rules to manage many activities automatically, and to alert staff to exceptional conditions that require operator handling. Such exceptions are handled in Alma through a Task list that is automatically generated based on customizable workflow rules. One example of this can be seen in Acquisitions, which begins with the selection of material as the first stage.

Purchasing

The next stage of the general acquisitions process is the purchasing process, which supports the work of purchasing staff from the receipt of a purchase order line, to the start of the receiving or activation process. Purchase order lines may be created via bulk loads of order lines (Embedded Order Data, or EOD), from approved selection items, or by staff.

Purchase order lines are enriched to provide information to support the decision making process. Enrichment will include (but not be limited to) the following processes:

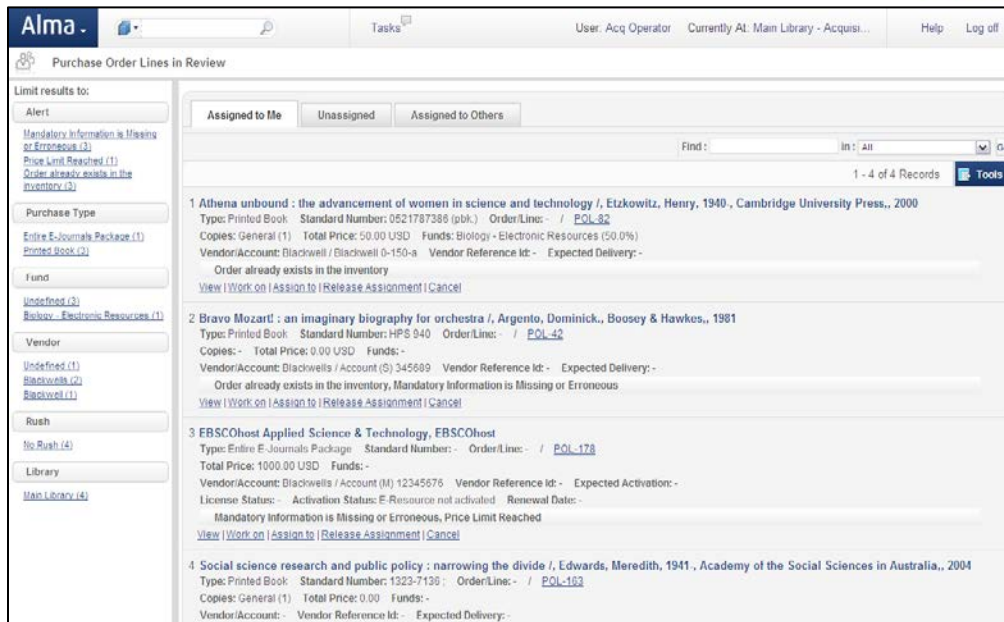
- Checks for institutional ownership;
- Checks for previous duplicate purchase order lines; and
- Price limits exceeded.

The purchasing process includes automated processing of purchase order lines across electronic and print formats, as well as staff mediation task lists for approval and exception handling, per the institution's rules. Automation in the purchasing workflow handles the following functions:

- Assignment for mediated handling to specific staff members
- Automatic approval based on policies.

The majority of order lines are processed automatically in Alma, and flow from order line creation directly onto a purchase order to the vendor. Order lines that require review are flagged and placed on an operator's task list (this is described in more detail in F.1.2.4). The screen shot below shows an acquisition staff member's "task list" for purchase order lines in review.

Purchase Order Line "In Review" Task List:

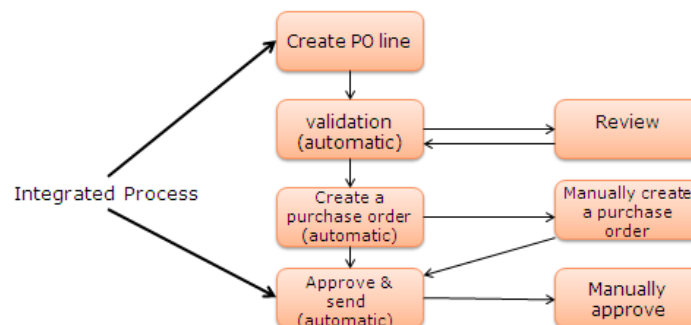


Purchasing staff can correct the purchase order line when data is missing or not valid, cancel the order or defer the decision. In addition, they may begin a trial for evaluation.

Once a purchase order line has been approved (by staff users or automatically) it moves to the next stage, where purchase orders are generated and sent to the vendors. In cases where an order does not need to be sent (e.g., Approval Plans), the purchase order process ends when the order is created.

The full purchasing workflow can be summarized as follows:

PO Line Work Flow

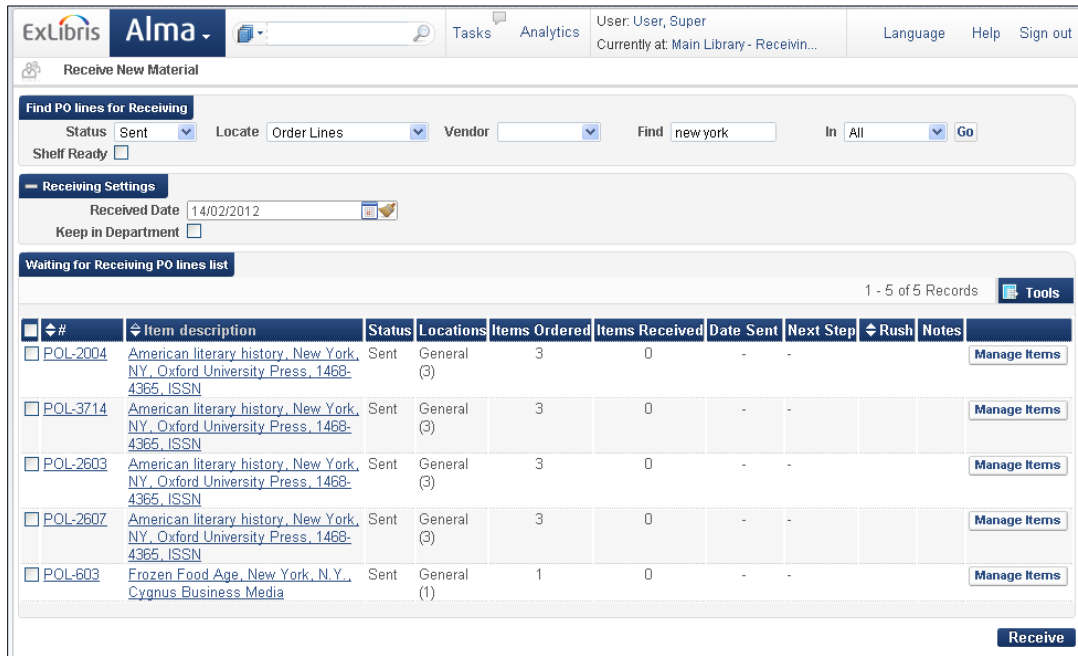


Receiving/Activation

The next phase of the workflow varies, depending on the format of the material. For print material, staff needs to receive it. For electronic resources, staff needs to activate them. Staff receives new print material into the system using a dedicated receiving “workbench”. Staff locate the relevant purchase order line with the material received, and then receive it. Additionally, staff can perform various activities related to managing the item itself, such as adding in barcode information, performing copy cataloging, etc. When relevant, they can also indicate whether further work must be performed (i.e., it needs to remain in Technical Services)

before the material is available to the library for which it was ordered.

Alma Receiving Workbench:



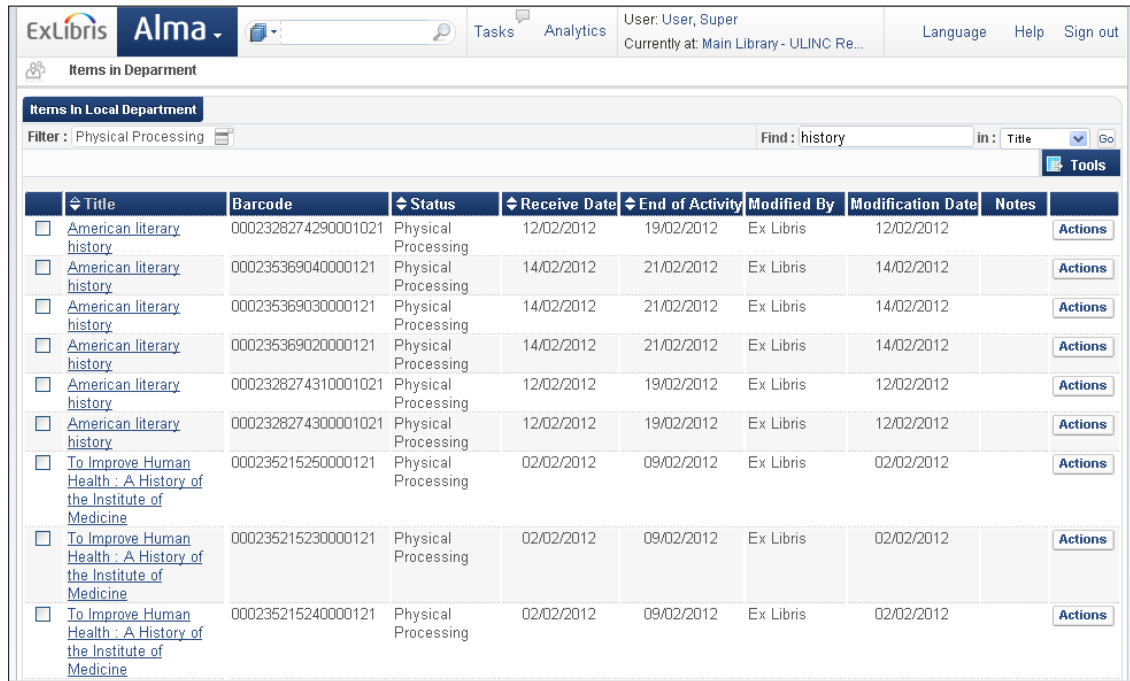
The screenshot shows the Alma Receiving Workbench interface. At the top, there is a navigation bar with the ExLibris Alma logo, a search bar, and user information (User: User, Super; Currently at: Main Library - Receiving...). Below the navigation bar, there is a section titled "Receive New Material". This section includes a "Find PO lines for Receiving" search area with filters for Status (Sent), Locate (Order Lines), Vendor, Find (new york), and In (All). There is also a "Receiving Settings" section with a "Received Date" field (14/02/2012) and a "Keep in Department" checkbox. Below these sections is a "Waiting for Receiving PO lines list" section, which displays a table of 5 records. The table has columns for #, Item description, Status, Locations, Items Ordered, Items Received, Date Sent, Next Step, Rush, and Notes. Each row includes a "Manage Items" button. At the bottom right of the table, there is a "Receive" button.

#	Item description	Status	Locations	Items Ordered	Items Received	Date Sent	Next Step	Rush	Notes
POL-2004	American literary history, New York, NY, Oxford University Press, 1468-4365, ISSN	Sent	General (3)	3	0	-	-		
POL-3714	American literary history, New York, NY, Oxford University Press, 1468-4365, ISSN	Sent	General (3)	3	0	-	-		
POL-2603	American literary history, New York, NY, Oxford University Press, 1468-4365, ISSN	Sent	General (3)	3	0	-	-		
POL-2607	American literary history, New York, NY, Oxford University Press, 1468-4365, ISSN	Sent	General (3)	3	0	-	-		
POL-603	Frozen Food Age, New York, N.Y., Cygnus Business Media	Sent	General (1)	1	0	-	-		

Alma streamlines the process of receiving items and allows for Shelf-ready materials to be processed simply by scanning their barcode, saving staff time and effort.

Alma provides a task list to manage material that needs to be further processed before being shelved. Items in this process have distinct statuses assigned to them so they can be tracked and moved among the relevant units for physical processing, cataloging and temporary storage.

Alma Receiving Department Tasks:



Title	Barcode	Status	Receive Date	End of Activity	Modified By	Modification Date	Notes
American literary history	0002328274290001021	Physical Processing	12/02/2012	19/02/2012	Ex Libris	12/02/2012	
American literary history	000235369040000121	Physical Processing	14/02/2012	21/02/2012	Ex Libris	14/02/2012	
American literary history	000235369030000121	Physical Processing	14/02/2012	21/02/2012	Ex Libris	14/02/2012	
American literary history	000235369020000121	Physical Processing	14/02/2012	21/02/2012	Ex Libris	14/02/2012	
American literary history	0002328274310001021	Physical Processing	12/02/2012	19/02/2012	Ex Libris	12/02/2012	
American literary history	0002328274300001021	Physical Processing	12/02/2012	19/02/2012	Ex Libris	12/02/2012	
To Improve Human Health: A History of the Institute of Medicine	000235215250000121	Physical Processing	02/02/2012	09/02/2012	Ex Libris	02/02/2012	
To Improve Human Health: A History of the Institute of Medicine	000235215230000121	Physical Processing	02/02/2012	09/02/2012	Ex Libris	02/02/2012	
To Improve Human Health: A History of the Institute of Medicine	000235215240000121	Physical Processing	02/02/2012	09/02/2012	Ex Libris	02/02/2012	

Once this process is complete, or if items were received without needing to be retained for further processing, the material will be routed to its intended location. In cases where it was received in a different library than where it was intended to be stored, it will be routed accordingly.

Similarly, staff members activate new electronic resource material in the system using a dedicated “Waiting for Activation” task list. Here staff performs various activities related to activating the resource, including verification that the resource is available (using Alma’s embedded link resolver functionality), determination of the specific contents and coverage of the resource, and then making it available for end users to discover it.

Fulfillment

Once a resource has been made available (on the shelf or activated), it will automatically be published to the Discovery interface. Electronic resources can be viewed online from the Discovery System, using the View It Tab, which provides access to electronic resources or digital resources. Where a single resource exists, access is supplied directly to the resource itself (e.g., full text). Where multiple resources exist, they are listed for the user to select one. Electronic resources can also be exposed to any OpenURL compliant sources via the Alma link resolver.

- B.1.3.2. The interaction, movement, and editing between system components (acquisitions, cataloging, serials, electronic resources, interlibrary loan, fiscal, public discovery interface, etc.). Does the system provide seamless interaction between all components?

Ex Libris: As a next-generation solution, Alma does not have different components or modules; rather, there are several entry points for performing particular functions within the system. The following screenshot shows the Alma menu, displaying links to all of the relevant tasks and functions for each staff member available from anywhere in the system.

The screenshot displays the ExLibris Alma interface with a navigation menu on the left and a main content area. The navigation menu includes sections like 'ACQUISITIONS', 'RESOURCE MANAGEMENT', 'FULFILLMENT', and 'ADMINISTRATION'. The main content area is divided into four columns corresponding to these sections. On the right side, there are two widgets: 'Top 10 E-Journal Usage' and 'Expenditure by Classification'.

Top 10 E-Journal Usage

E-Journal Title	Usage
Journal of the Chemical Society	~10,500
Journal of the Royal Society	~8,500
Organic Letters	~7,500
Journal of Organic Chemistry	~7,000
European Journal of Organic Chemistry	~6,500
Journal of Organic Chemistry	~6,000
New York Times	~5,500
PC magazine	~4,500
Journal of the Royal Chemical Society	~3,500

Expenditure by Classification

Classification	Expenditure		
	2012	2013	2014
Agriculture (General)			200
America			50
American literature	20	50	618
Animal culture		2	
Anthropology		100	75
Archaeology			284
Architecture		15	254
Arts in general			6
Astronomy	10	120	35
Astrophysics			35
General	10	120	
Biology (General)		1,860	906
Book industries and trade			30
Building construction			50
Chemical technology			12

In addition, there are many links among relevant areas. For example, the metadata record will always be accessible for viewing and editing when working with an item without the need to exit one area of Alma to enter another. Note that only staff with the appropriate assigned role can access and make changes in the metadata editor. Changes to item status are made using the Physical Item Editor, accessible through an item's listing in the Repository Search.

B.1.3.3. The system's ability to display modifications to bibliographic records, circulation status, etc., in the discovery layer in real-time.

Ex Libris: Primo delivers availability status for print, electronic and digital items in both the brief and detailed views. Primo offers unique integration with Alma, leveraging Alma's advanced Smart Fulfillment capabilities to present real-time availability information and advising end users about the best method to access resources, taking into account user entitlements, library preferences and time to delivery. Availability elements (such as the call number, item status, location) are library-defined.

The process of making Alma inventory available to end user discovery comprises two stages:

1. Publishing, which is done by Alma; and
2. Harvesting, which is performed by Primo.

The process of publishing is based on publishing profiles, depending on the publishing target. Alma supports two types of publishing processes:

- Full Publishing—publishing of complete inventory according to publishing profile

configuration. Full publishing usually only occurs on first go live, and should not be selected without consent from Ex Libris support staff.

- Incremental Publishing—publishing subsets of records that were added, deleted or changed since the previous publishing, based on a log which tracks the Alma Metadata Management System (MMS) and inventory changes.

The incremental publishing schedule can be determined by the library and performed once daily or every six hours.

- B.1.3.4. How the system supports the integration between interlibrary loan and acquisitions to provide support for purchase-on-demand programs.

Ex Libris: Alma supports patron-driven acquisition for electronic resources. Alma streamlines this process by loading potential candidates to discovery, managing automatic approval plans, managing billing from the vendors and automatically adding purchased books to the institution's catalog and inventory. Un-purchased candidate records are also automatically cleaned up from the catalog and discovery environment. PDA acquisitions are tracked separately from other types of purchases, enabling sophisticated analytics and reporting on these transactions.

Primo, the discovery layer to Alma, also offers demand-driven acquisition of e-journal articles through unique integration with the Copyright Clearance Center's "Get It Now" service.

There are also roadmap plans for 2015 to develop a service in which the patron submits a request to purchase a specific resource.

- B.1.3.5. How the system integrates with book, periodical, and other content and coverage providers.

Ex Libris: Alma integrates with commonly-used external selection portals such as YBP's GOBI platform with automated import capabilities through extensive support for vendor-specific import profiles and embedded order data (EOD) records.

- B.1.3.6. The system's ability to develop and maintain local, customized workflows for tangible and electronic resources.

Ex Libris: The various components of the system are configured by the library as part of the implementation process, and they may later be altered by authorized library operators. All configurations are performed in Alma's web-based configuration interface and can be done centrally by the consortium (once using a consortial implementation).

For example, the acquisition workflows may be configured as to purchase orders, invoices, licenses, and other activities, and this includes setting rules for these processes.

Alma has the capability to configure the internal workflow steps that a library must perform before making an electronic resource available to the end user. As part of the activation task list, the library can set up the status types that an e-resource can be in before making it available. This can be statuses such as setup proxy, test access, setup public notes, or any other status they choose.

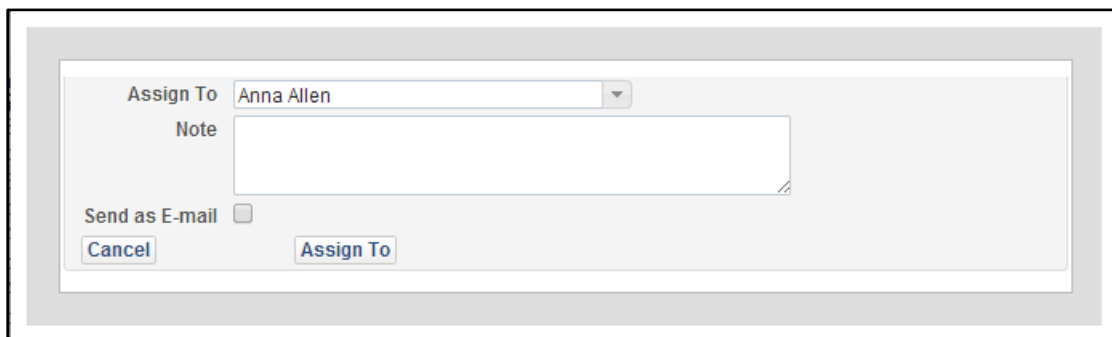
- B.1.3.7. The system’s support for automated reminders, ticklers or alerts, for workflow tracking, renewal reminders, claims, system outages, bindings, etc.

Ex Libris: Automated reminders or alerts are achieved via task lists in Alma. The task list is automatically generated based on customizable workflow rules. For example, in Acquisitions, rules can determine under which conditions a purchase order line needs to be reviewed by staff, and by which staff role. Conditions can take into account the vendor, the type of order and even specific alerts about an order.

The information provided here is role-sensitive, so that appropriate staff only sees relevant tasks. Tasks can also be assigned to specific staff. For instance, the Reading List Task List page has the following tabs:

- Assigned to Me – Displays reading lists that are assigned to the user that is logged in
 - Unassigned – Displays reading lists that are unassigned
 - Assigned to Others – Displays reading lists that are assigned to other users.
- Assignments can be released (so they become unassigned) or reassigned to a particular staff member.

Additionally, staff can write messages to other staff members as they assign a specific task:



When a subscription is nearing conclusion, Alma will prompt staff (via the task list) to initiate an evaluation process for the package. In the evaluation function, staff may view information about usage, cost, and how the package has changed, in order to decide whether to renew or cancel the subscription. Cancellation will automatically remove the descriptive records from the catalog.

When a purchase order line is overdue, an alert is generated. Once the claim alert has been created, Alma adds the item to an operator’s task list for review. The operator then reviews his or her task list to resolve the outstanding claims. Possible actions include updating the expected receipt date based on new information provided by the vendor or cancelling the purchase order line if necessary. Updating the item information resets the expected receipt date “clock” and removes the item from the task list.

By default, claims are configured to be processed automatically. They can, however, also be generated on-demand. Automatic claims are created for a Purchase Order (PO) line that has not been received within the expected number of days after placing the order (based on parameters defined in the vendor record).

Invoicing—In Alma, an invoice can be created in several ways:

- Electronic data interchange (EDI) with a vendor;
- Creating an invoice from the PO;
- Creating an invoice manually; or
- Loading invoices from an Excel file.

Receiving and invoicing can be done together or separately, depending on the library's workflows. Alma uses library-defined rules to automatically process an invoice to determine whether there are elements that require special attention. If there are issues that require attention, the invoice is surfaced via the task list for review by a staff user.

Alma supports workflows related to binding, but reminders are not generated automatically. Staff can review a list of issues and create a bound volume. All of the item records for the issues incorporated in the bound volume will be marked as withdrawn, and will not display in the discovery tool.

Ex Libris offers a public website presenting up-to-date system status for Ex Libris multitenant environments. The System Status site is based on the latest technology for monitoring and publishing the status of cloud-based services, used by the most advanced SaaS companies worldwide. The site enables us to provide the Ex Libris community with consistently high levels of service and communication.

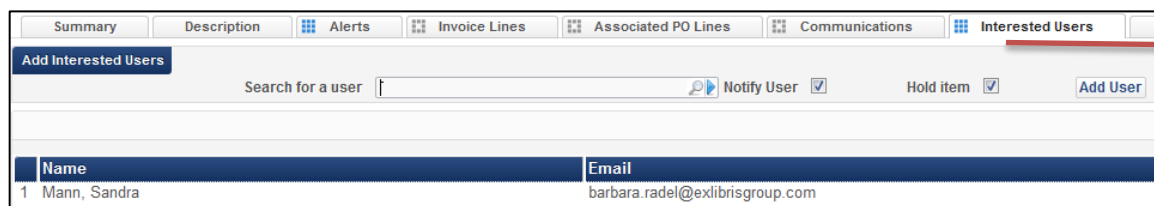
Ex Libris customers can view the current status of their service and sign up for email alerts when there are interruptions to the service. The site includes:

- Live and historical data on system status
- Scheduled Maintenance notifications
- An option to sign up for email alerts regarding interruptions to the service

Notification of upcoming maintenance or system updates is displayed upon logging in to Alma.

- B.1.3.8. The system's notification functionality. For example, can the system automatically email staff or patrons when an item is received (print materials) or activated (electronic materials)?

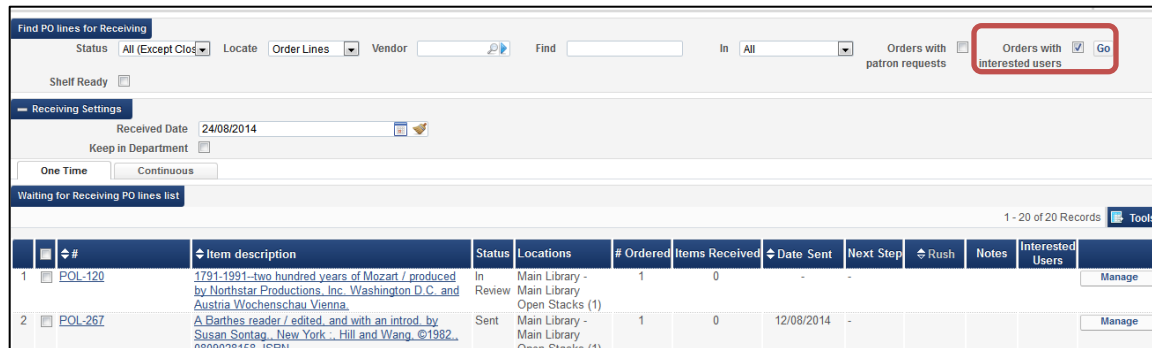
Ex Libris: Yes. From the Interested Users tab it is possible to place a reservation for a patron, or to mark that the patron (or staff) be notified when the item arrives or is available:



Adding Interested Users to the Order

When the items arrive, staff will receive items from the Receive function. It is possible to filter

received items by 'Interested Users'



#	Item description	Status	Locations	# Ordered	Items Received	Date Sent	Next Step	Rush	Notes	Interested Users
1	POL-120 1791-1991--two hundred years of Mozart / produced by Northstar Productions, Inc. Washington D.C. and Austria Wochenschau Vienna.	In Review	Main Library - Main Library Open Stacks (1)	1	0	-	-			
2	POL-267 A Barthes reader / edited and with an introd. by Susan Sontag. New York : Hill and Wang, ©1982.	Sent	Main Library - Main Library Open Stacks (1)	1	0	12/08/2014	-			

Receiving items with Interested Users filter

When the item is received, the Interested User will receive an email:



obv sg
Order Interested In 22.07.2014
 Mann Sandra
 Main Library
 The Main Library
 Austria
 Vienna
 AUT
 Dear Sir/Madam Mann
 You were specified as an 'Interested In' for the following order:
 Order Number: : POL-251
 Title: : Homogenous social groups Jürgen Backhaus, Konstanz, Fachbereich Wirtschaftswiss d Univ Konstanz, 1977.

Interested In email to user

B.1.4. ACQUISITIONS MANAGEMENT

Describe or Demonstrate:

- B.1.4.1. How the system supports the acquisitions workflow, including, but not limited to, ordering, receiving, invoicing, claiming, payment, etc.

Ex Libris: Alma streamlines and simplifies library workflows with its built-in workflow engine, which uses a library-defined set of rules to manage many activities automatically, and to alert staff to exceptional conditions that require operator handling. Such exceptions are handled in Alma through a Task list that is automatically generated based on customizable workflow rules.

Alma supports the work of purchasing staff from the receipt of a purchase order line, to the start of the receiving or activation process. Purchase order lines may be created via bulk loads of order lines (Embedded Order Data, or EOD), from approved selection items, or by staff. Purchase order lines can also be created via real time integrations with vendors.

Purchase order lines are enriched to provide information to support the decision making

process. Enrichment will include (but not be limited to) the following processes:

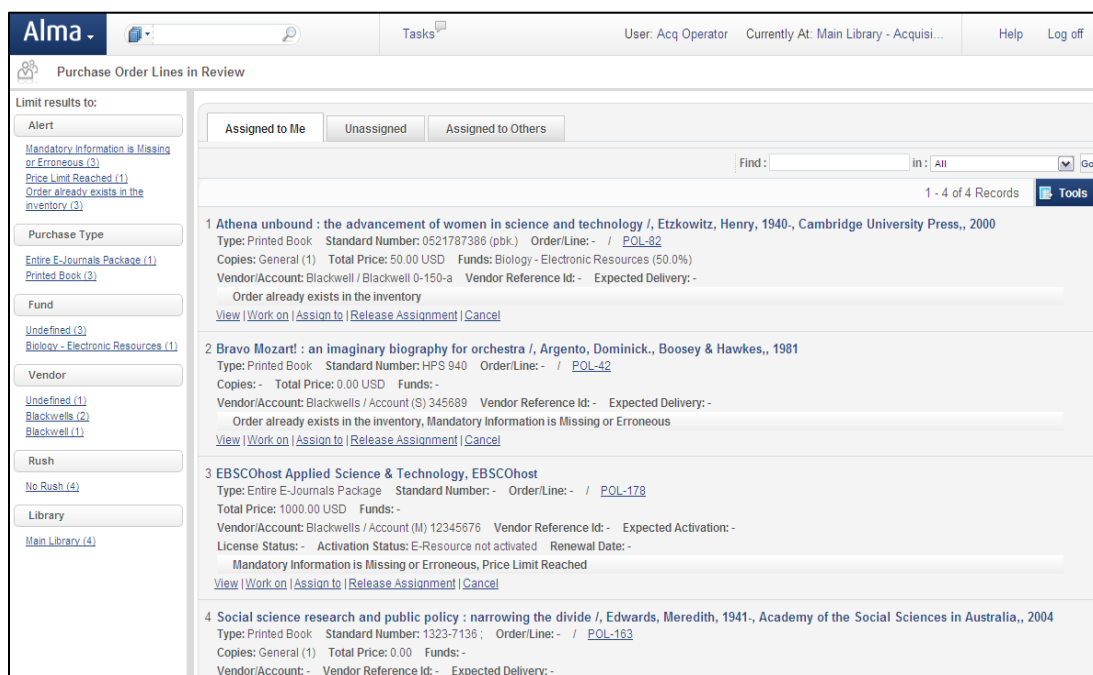
- Checks for institutional ownership;
- Checks for previous duplicate purchase order lines; and
- Price limits exceeded.

The purchasing process includes automated processing of purchase order lines across electronic and print formats, as well as staff mediation task lists for approval and exception handling, per the institution’s rules. Automation in the purchasing workflow handles the following functions:

- Assignment for mediated handling to specific staff members
- Automatic approval based on policies.

The majority of order lines are processed automatically in Alma, and flow from order line creation directly onto a purchase order to the vendor. Order lines that require review are flagged and placed on an operator’s task list. The screen shot below shows an acquisition staff member’s “task list” for purchase order lines in review.

Purchase Order Line “In Review” Task List:



The screenshot displays the Alma interface for 'Purchase Order Lines in Review'. The top navigation bar includes the Alma logo, a search bar, and user information: 'User: Acq Operator', 'Currently At: Main Library - Acquisi...', 'Help', and 'Log off'. Below the navigation, there are tabs for 'Assigned to Me', 'Unassigned', and 'Assigned to Others'. A search bar with 'Find:' and 'in:' dropdowns is present, along with a 'Go' button and a record count of '1 - 4 of 4 Records'. The main content area lists four purchase order lines:

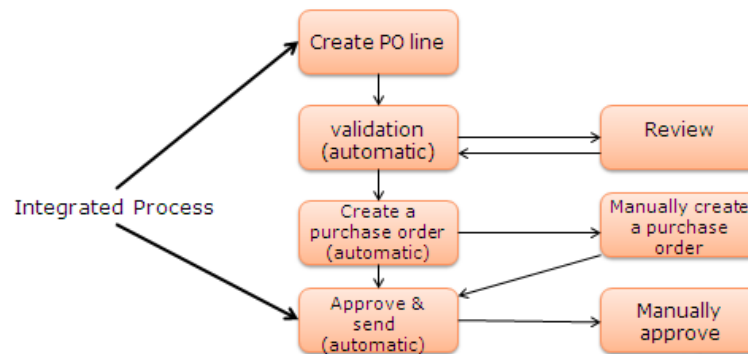
- 1 Athena unbound : the advancement of women in science and technology /, Etkowitz, Henry, 1940-, Cambridge University Press, 2000**
Type: Printed Book Standard Number: 0521787386 (pbk.) OrderLine: - / [POL-82](#)
Copies: General (1) Total Price: 50.00 USD Funds: Biology - Electronic Resources (50.0%)
Vendor/Account: Blackwell / Blackwell 0-150-a Vendor Reference Id: - Expected Delivery: -
Order already exists in the inventory
[View](#) | [Work on](#) | [Assign to](#) | [Release Assignment](#) | [Cancel](#)
- 2 Bravo Mozart! : an imaginary biography for orchestra /, Argento, Dominick., Boosey & Hawkes., 1981**
Type: Printed Book Standard Number: HPS 940 OrderLine: - / [POL-42](#)
Copies: - Total Price: 0.00 USD Funds: -
Vendor/Account: Blackwells / Account (S) 345689 Vendor Reference Id: - Expected Delivery: -
Order already exists in the inventory, Mandatory Information is Missing or Erroneous
[View](#) | [Work on](#) | [Assign to](#) | [Release Assignment](#) | [Cancel](#)
- 3 EBSCOhost Applied Science & Technology, EBSCOhost**
Type: Entire E-Journals Package Standard Number: - OrderLine: - / [POL-178](#)
Total Price: 1000.00 USD Funds: -
Vendor/Account: Blackwells / Account (M) 12345676 Vendor Reference Id: - Expected Activation: -
License Status: - Activation Status: E-Resource not activated Renewal Date: -
Mandatory Information is Missing or Erroneous, Price Limit Reached
[View](#) | [Work on](#) | [Assign to](#) | [Release Assignment](#) | [Cancel](#)
- 4 Social science research and public policy : narrowing the divide /, Edwards, Meredith, 1941-, Academy of the Social Sciences in Australia., 2004**
Type: Printed Book Standard Number: 1323-7136 OrderLine: - / [POL-163](#)
Copies: General (1) Total Price: 0.00 Funds: -
Vendor/Account: - Vendor Reference Id: - Expected Delivery: -

Purchasing staff users can correct the purchase order line when data is missing or not valid, cancel the order or defer the decision. In addition, they may begin a trial for evaluation.

Once a purchase order line has been approved (by staff users or automatically) it moves to the next stage, where purchase orders are generated and sent to the vendors. In cases where an order does not need to be sent (e.g., Approval Plans), the purchase order process ends when the order is created.

The full purchasing workflow can be summarized as follows:

PO Line Work Flow



Receiving/Activation

The next phase of the workflow varies, depending on the format of the material. For print material, staff needs to receive it. For electronic resources, staff needs to activate them. Staff members receive new print material into the system using a dedicated receiving “workbench”. Staff locate the relevant purchase order line with the material received, and then receive it. Additionally, staff can perform various activities related to managing the item itself, such as adding in barcode information, performing copy cataloging, etc. When relevant, they can also indicate whether further work must be performed (i.e., it needs to remain in Technical Services) before the material is available to the library for which it was ordered.

Alma Receiving Workbench:

The screenshot shows the Alma Receiving Workbench interface. At the top, there's a navigation bar with 'ExLibris Alma' and user information. Below that, there's a search section for 'Find PO lines for Receiving' with filters for Status (Sent), Locate (Order Lines), Vendor, and Find (new york). There are also 'Shelf Ready' and 'Receiving Settings' sections. The main part of the interface is a table titled 'Waiting for Receiving PO lines list' showing 5 records. The table has columns for Item description, Status, Locations, Items Ordered, Items Received, Date Sent, Next Step, Rush, and Notes. Each row has a 'Manage Items' button.

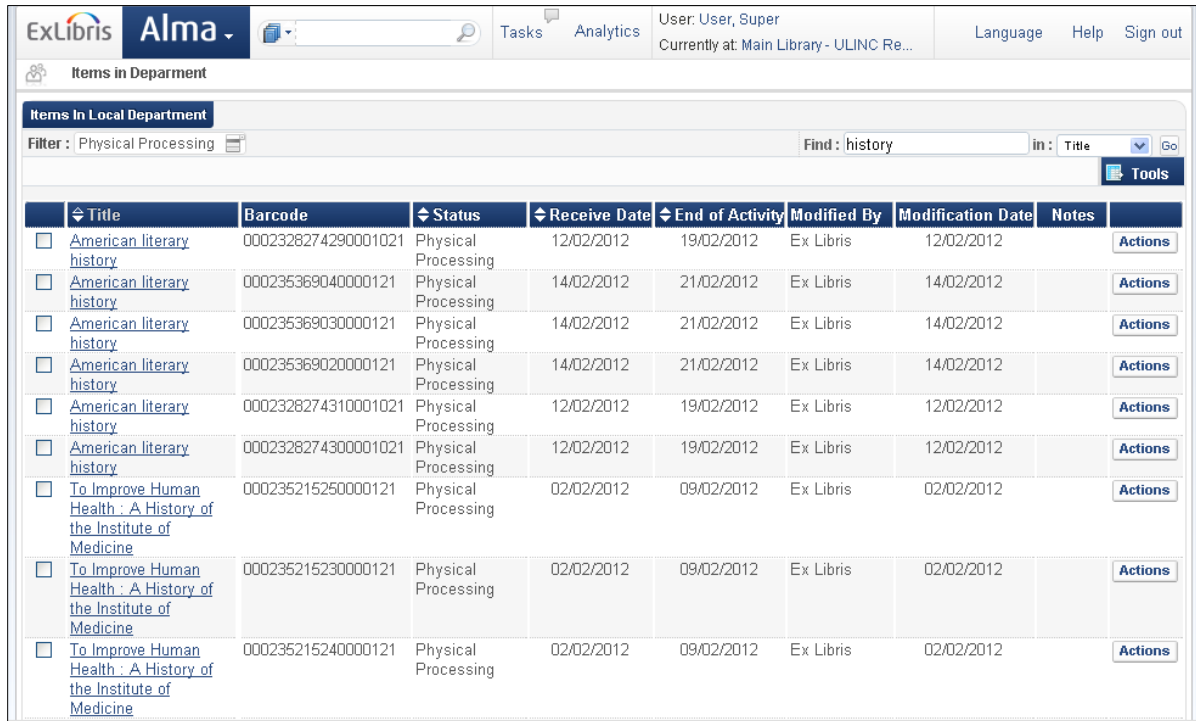
#	Item description	Status	Locations	Items Ordered	Items Received	Date Sent	Next Step	Rush	Notes
POL-2004	American literary history, New York, NY, Oxford University Press, 1468-4365, ISSN	Sent	General (3)	3	0	-	-		Manage Items
POL-3714	American literary history, New York, NY, Oxford University Press, 1468-4365, ISSN	Sent	General (3)	3	0	-	-		Manage Items
POL-2603	American literary history, New York, NY, Oxford University Press, 1468-4365, ISSN	Sent	General (3)	3	0	-	-		Manage Items
POL-2607	American literary history, New York, NY, Oxford University Press, 1468-4365, ISSN	Sent	General (3)	3	0	-	-		Manage Items
POL-603	Frozen Food Age, New York, N.Y., Cygnus Business Media	Sent	General (1)	1	0	-	-		Manage Items

Alma streamlines the process of receiving items and allows for Shelf-ready materials to be processed simply by scanning their barcode, saving staff time and effort.

Alma provides a task list to manage material that needs to be further processed before being

shelved. Items in this process have distinct statuses assigned to them so they can be tracked and moved among the relevant units for physical processing, cataloging and temporary storage.

Alma Receiving Department Tasks:



<input type="checkbox"/>	Title	Barcode	Status	Receive Date	End of Activity	Modified By	Modification Date	Notes	Actions
<input type="checkbox"/>	American literary history	0002328274290001021	Physical Processing	12/02/2012	19/02/2012	Ex Libris	12/02/2012		Actions
<input type="checkbox"/>	American literary history	000235369040000121	Physical Processing	14/02/2012	21/02/2012	Ex Libris	14/02/2012		Actions
<input type="checkbox"/>	American literary history	000235369030000121	Physical Processing	14/02/2012	21/02/2012	Ex Libris	14/02/2012		Actions
<input type="checkbox"/>	American literary history	000235369020000121	Physical Processing	14/02/2012	21/02/2012	Ex Libris	14/02/2012		Actions
<input type="checkbox"/>	American literary history	0002328274310001021	Physical Processing	12/02/2012	19/02/2012	Ex Libris	12/02/2012		Actions
<input type="checkbox"/>	American literary history	0002328274300001021	Physical Processing	12/02/2012	19/02/2012	Ex Libris	12/02/2012		Actions
<input type="checkbox"/>	To Improve Human Health : A History of the Institute of Medicine	000235215250000121	Physical Processing	02/02/2012	09/02/2012	Ex Libris	02/02/2012		Actions
<input type="checkbox"/>	To Improve Human Health : A History of the Institute of Medicine	000235215230000121	Physical Processing	02/02/2012	09/02/2012	Ex Libris	02/02/2012		Actions
<input type="checkbox"/>	To Improve Human Health : A History of the Institute of Medicine	000235215240000121	Physical Processing	02/02/2012	09/02/2012	Ex Libris	02/02/2012		Actions

Once this process is complete, or if items were received without needing to be retained for further processing, the material will be routed to its intended location. In cases where it was received in a different library than where it was intended to be stored, it will be routed accordingly.

Similarly, staff members activate new electronic resource material in the system using a dedicated “Waiting for Activation” task list. Here staff perform various activities related to activating the resource, including verification that the resource is available (using Alma’s embedded link resolver functionality), determination of the specific contents and coverage of the resource, and then making it available for end users to discover it.

Electronic Resources:

A Central KnowledgeBase tracks the most up-to-date vendor offerings in the shared data services environment. When acquiring a new package, libraries may search the Central KnowledgeBase and, when they find the package they wish to acquire, initiate an acquisition workflow based on either the full package or a selective subset of titles they’ve licensed from the vendor. The workflow may begin with a trial, pass through purchasing, and ultimately end up in activating the resource. These workflows can be applied at both the level of the individual institution and the broader consortium. Additionally, link resolution is built in; Alma will respond to any requests from discovery environments, with a menu with links to full text for all resources types: print, electronic and digital.

The automated workflows in Alma allow for tracking electronic resource purchasing from the trial, through acquisition, activation, and availability to patrons.

Invoicing:

In Alma, an invoice can be created in several ways:

- Electronic data interchange (EDI) with a vendor;
- Creating an invoice from the PO;
- Creating an invoice manually; or
- Loading invoices from an Excel file.

Receiving and invoicing can be done together or separately, depending on the library's workflows. Alma uses library-defined rules to automatically process an invoice to determine whether there are elements that require special attention. If there are issues that require attention, the invoice is surfaced via the task list for review by a staff user.

Claiming:

When a purchase order line is overdue, an alert is generated. Once the claim alert has been created, Alma adds the item to an operator's task list for review.

An operator then reviews their task list to resolve the outstanding claims. Possible actions include updating the expected receipt date based on new information provided by the vendor or cancelling the purchase order line if necessary. Updating the item information resets the ERD "clock" and removes the item from the task list.

The screenshot below shows the claims review task list for an acquisitions staff member.



The screenshot displays the ExLibris Alma interface. At the top, the user is identified as John Smith. The main content area shows a 'Claim' task list. On the left, there are filters for 'Limit results to:' with categories like 'Alert', 'Purchase Type', and 'Fund'. The 'Alert' filter is selected, showing a list of alerts: 'Items already exist in the repository (1)', 'Overdue po line (1)', and 'Duplicated active orders (1)'. The 'Purchase Type' filter shows 'Printed Book (1)'. The 'Fund' filter is currently empty. The main list shows one item: '1 A voice for children., Flekkoy Malfrid G., Jessica Kingsley., 1991.'. Below the item title, detailed information is provided: 'Type: Printed Book Standard number: 1853021180 OrderLine: PO-5020000121 / POL-8040000121', 'Copies: Microforms (1) Total price: 100.00 USD Funds: AIIIII (100.0%)', and 'Vendor/Account: A D & L Vendors / Account (M) 123456 Vendor reference ID: - Expected delivery: 17/05/2011'. A summary line indicates 'Items already exist in the repository, Duplicated active orders , Overdue po line'. At the bottom of the item entry, there are links for 'View | Edit | Cancel | Update Date'.

Payment:

Alma features bi-directional integration with the campus financial system used by the institution. This integration can be used to export payment information, as well as import payment confirmation for specific invoices and fund allocation information. The receipt of payment notification from the campus financial system or ERP, where supported by the system, can be automated by loading payment information on a scheduled basis, or using Alma web services called by the campus financial system.

B.1.4.2. How order data is stored in relationship to bibliographic and item data.

Ex Libris: The purchase order is linked directly to the metadata records in the system; there is no need for duplicate records in Alma. Order lines are linked directly to bibliographic records, or to package records in the case of groups of e-resources. Item records, which describe the resources in the library's inventory, are linked to the metadata record, which is in turn linked to the purchase order line.

Alma provides flexible options to create a purchase order for one or multiple titles, based on a library's individual requirements. Alma provides automatic aggregation of purchase order lines into a purchase order, based on the library's policies. Effectively, one order may be linked to a single resource or to multiple resources when necessary.

B.1.4.3. The system's support for automated selection, ordering, invoicing, and claiming using standards like EDIFACT and X12. Demonstrate how these transactions can be completely automated. How is data sent and received in this manner integrated with acquisitions, serials management, and financial modules? How does the system check for duplicate records or transaction errors?

Ex Libris: For workflows such as ordering and invoicing, Alma relies on standard protocols to facilitate automated interoperability with other systems—significantly streamlining workflows and reducing the time to make new resources available to the campus community.

Alma supports electronic data interchange (EDI) using the UN/EDIFACT standard for electronic communications of order and invoice information. This information includes vendor EDI attributes, S/FTP connection information, individual library EDI information, and EAN information per vendor account. These details allow for maximum flexibility when there are multiple libraries within an institution, or when a library has multiple accounts with a vendor (e.g. for multiple formats, material types, approval plans, etc.).

Alma also streamlines electronic ordering through improved management of embedded order data records. Once a vendor EOD profile has been created, the process is fully automated. Rule validation and the auto-generation of purchase orders takes place without the need for staff intervention. As EDI orders are sent and EDI invoices are received, the EDI files are linked to the vendor's record and available from the attachments tab. Alma provides tools including analytics to track purchase order status and budget information.

EDI claiming is currently not included in Alma but is on the roadmap, scheduled for late 2015/early 2016. The new functionality will allow institutions to work with vendors using the standard EDI protocol for claims, shelf ready workflows and order cancellation.

B.1.4.4. The system's ability to input and output data and records using FTP, APIs, or other data exchange standards.

Ex Libris: Based on flexible definitions in Alma's Import Profiles, an EOD file may be placed at an FTP location, where Alma will automatically upload it from. Parsing the file, Alma will:

- Create the bibliographic metadata of the ordered resource;
- Create the holdings and inventory metadata for the ordered resource; and

- Create the order record

Following manual review, or skipping the manual review, the orders will be exported to the vendor systems via email, or through the vendor's EDI interface if one is supported. Alma may export order information via EDI to any EDI-enabled vendor.

Currently, Alma includes the following acquisitions related APIs:

- Retrieve funds
- Retrieve PO-Lines
- Create PO-Line
- Get PO-Line
- Update PO-Line
- Add an item to a PO-Line
- Receive item
- Retrieve vendors
- Create vendor
- Delete vendor
- Get vendor
- Update vendor

In addition, new acquisitions related services on the roadmap include:

- Vendor search and management API
- Update Order API
- Invoice Read API

As well as Fund Management APIs:

- Search and View transactions for a fund
- Create/Update/Delete funds
- Business functions: Allocate, Transfer

B.1.4.5. How the system allows and supports processing of the above functions with vendors who do not support Electronic Data Interchange (EDI) transactions.

Ex Libris: Orders can be created manually using EOD or real time acquisitions workflows, described elsewhere in this response. Staff operators with the appropriate role can also manually create invoices.

B.1.4.6. The system's ability to import bibliographic records individually or in batches from a vendor, including, but not limited to, the automatic creation of order, invoice, and/or item records from data supplied by the local site.

Ex Libris: Alma supports the ability to import records in bulk on demand or according to a schedule. It will preserve unique fields and lowered encoding levels, though each condition may be logged when the incoming records are validated. The rules by which it imports records are set up in "import profiles." Each site may set up many import profiles—for records from different sources, containing different data types, etc.

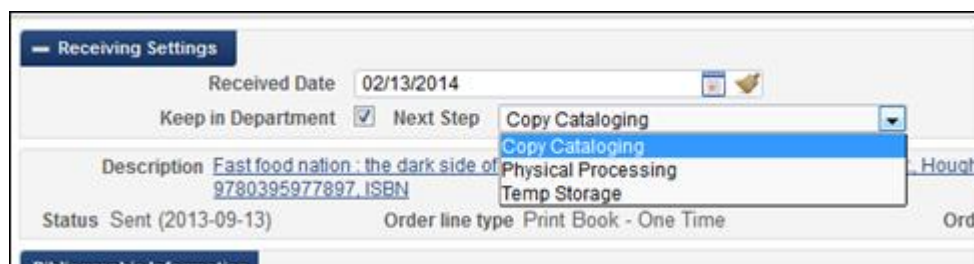
Import profiles are components of the Resource Management infrastructure that are closely tied to other areas of the system. They can interact with various Acquisition functionalities

such as purchase orders and the Embedded Order Data (EOD) import workflow. They can also be used to import bibliographic or authority records without EOD. Import profiles enable the library to define how to import metadata and order information in the Alma repository. Profile definitions include source format, mapping definitions, and normalization routines to be executed during the import process.

If the library is importing using EOD, it can use one or more profiles that have been created for a particular vendor with specific configurations for the kinds of purchases that are being processed. A vendor can have multiple import profiles with specific configurations for a particular purchase type. For example, different import profiles might exist for purchases being funded through different funds, or for purchases for different libraries in the institution.

For resources that are shelf-ready at the time of receipt, items will be routed to intended shelving location. The rules that define this logic are configurable by the library.

An example of receive options can be seen in the following screen capture:



- B.1.4.7. The system’s support for ordering and claiming, including, but not limited to, print and electronic submissions and what electronic submission protocols are supported.

Ex Libris: Alma currently supports EDI for orders and invoices, and there are 2015 roadmap plans for EDI claims, fulfillment, cancellation, acknowledgement, reports, and claims response. Please see the responses B.1.4.1., B.1.4.3., B.1.4.4. and B.1.4.5. above, which describe Alma’s support for ordering and claiming in detail.

- B.1.4.8. The system’s ability to manage subscription renewals within the system.





Ex Libris: Renewals are processed as follows:

On a daily basis, Alma checks for all PO lines whose status is Waiting for Renewal and whose renewal date is equal to the current date. For the purposes of this calculation, the renewal date refers to the renewal date (according to the PO line) minus the renewal notification period.

- If the PO line is marked as automatic, the Renewal date is automatically incremented according to the Renewal cycle. The PO line is then saved back in the repository for further processing.
- If the PO line is marked as manual, it appears in the renewals task list and staff are required to manually update the Renewal date and/or any other fields in the

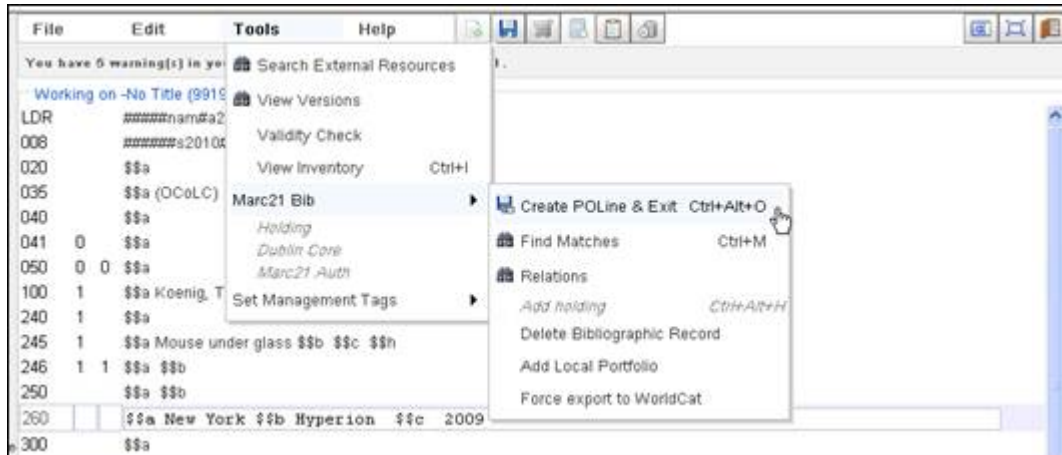
Renewals section of the PO Line Summary tab.

Following is a screenshot for the manual renewal task list showing both print and electronic subscriptions:

<p>4 California Western law review, School of Law California Western University, Vol. 1, no. 1 (spring 1965)-, 0008-1639, ISSN</p> <p>Assigned to: - </p> <p>Type: Print Journal - Subscription Standard number: 0008-1639 Order/Line: PO-11306 / POL-14508 Copies: Main Library - General (1) Total price: 400.00 USD Funds: Anthropology Monographs (100.0%) (2014) Vendor/Account: National Booksellers / General Account 0-135-1 Vendor reference ID: - Expected delivery: 08/30/2013 Renewal date: 04/01/2014 Receiving note: This title has interested users Sent Date: 08/25/2013 Items already exist in the repository, Reporting code is missing, Overdue PO line, No item was received in more than 30 days. Edit Relink Change Bib Reference Close Cancel</p>
<p>5 Cambridge archaeological journal., Cambridge University Press, Vol. 23, 0959-7743, ISSN</p> <p>Assigned to: - </p> <p>Type: Print Journal - Subscription Standard number: 0959-7743 Order/Line: PO-18710 / POL-29209 Copies: Main Library - General (1) Total price: 0.00 USD Funds: - Vendor/Account: Gale / Gale - Alma University 0-011-1 Vendor reference ID: - Expected delivery: 03/01/2014 Renewal date: - Receiving note: Please send notice to Dr. White when new issues are received Sent Date: 09/24/2013 Overdue PO line, No item was received in more than 30 days., Duplicate active orders, Reporting code is missing Edit Relink Change Bib Reference Close Cancel</p>
<p>6 Chadwyck Black Studies Center Newspapers Optional, Chadwyck</p> <p>Assigned to: - </p> <p>Type: Electronic Journal Package - Subscription (to be deprecated) Standard number: - Order/Line: PO-12013 / POL-19509 Total price: 100.00 USD Funds: Accounting and Finance E-resources (100.0%) (2014) Vendor/Account: Gale / Gale - Alma University 0-011-1 Vendor reference ID: - Expected activation: 06/18/2013 License status: - Activation status: Not Activated E-Resource Renewal date: 06/01/2014 Sent Date: 06/18/2013 Reporting code is missing Edit Start a trial Request Evaluation Close Cancel</p>
<p>7 Chadwyck PAO Collection 0, Chadwyck</p> <p>Assigned to: - </p> <p>Type: Electronic Journal Package - Subscription (to be deprecated) Standard number: - Order/Line: PO-1203 / POL-2304 Total price: 200.00 USD Funds: Anthropology Monographs (100.0%) (2014) Vendor/Account: National Booksellers / General Account 0-135-1 Vendor reference ID: - Expected activation: 12/22/2011 License status: - Activation status: Not Activated E-Resource Renewal date: 12/31/2013 Sent Date: 12/22/2011 Reporting code is missing Edit Start a trial Request Evaluation Close Cancel</p>

- B.1.4.9. How the system supports the creation of brief bibliographic records for ordering purposes. Conversely, demonstrate how the system supports non-purchased materials, such as gifts that require a bibliographic record but do not necessarily have an order or invoice record.

Ex Libris: Alma's streamlined acquisition processes allow for ordering new materials for which bibliographic data does not already exist; there is no dependency on having complete bibliographic record information to initiate an acquisition process. The library staff member simply enters brief bibliographic information into a template and generates a purchase order line based on the brief record.



For brief records, the library determines which fields are mandatory before the record can be saved. The bib record can be completed at a later stage, once the item has arrived or at any point in the process when more complete metadata becomes available.

Alma allows staff to create acquisition records for non-purchased materials, such as gifts and depository materials, without requiring that the items follow the traditional workflow of order, receipt, invoice, payment. If an acquisition process is not necessary for non-purchased materials, Alma also allows the operator to bypass the acquisition workflow entirely and simply create descriptive and inventory records that are necessary to properly manage the resource.

B.1.4.10. The fund structure for acquisition payments and the invoice creation and payment workflow. Demonstrate the system's ability to provide the following functions related to funds and payment history:

- Suppress and archive unused fund codes;

Ex Libris: Alma lets you define reporting codes that can be used for analyzing acquisitions in subsequent reporting. For example, if you have a reporting code for postage, you can then create a report that lists all PO lines that have the postage reporting code. Reporting codes can be enabled or disabled.

- Keyboard shortcuts within funds;

Ex Libris: There are no keyboard shortcuts within funds in Alma.

- Export all fund displays and reports to CSV or Excel;

Ex Libris: You can create reports according to fund type in Alma Analytics and export the results in CSV or Excel format (as well as other formats). To create a report displaying funds of just one type, filter the Fund Type column according to Ledger, Allocated fund, or Summary fund. To create a report showing all of the fund types, add a column that displays any unique identifier of the fund, such as Fund Ledger Code.

- Assign multiple funds to a single order;

Ex Libris: Yes, a purchase can be split between funds either by percentage or by a specific monetary amount. Effectively, the split can be almost limitless. Below is an example of a line item that is split among four funds. However, as percentages can be assigned at the decimal level, this one expenditure could have been taken from hundreds of separate funds.

Funding				
Fund	<input type="text"/>	Percent	<input type="text" value="0.0"/>	Amount <input type="text" value="0.00 USD"/> Add Fund
#	Fund Name	Percent	Amount	
1	Biological Engineering Monographs(45,000.00 USD)	25.5%	<input type="text" value="255.00"/>	USD Delete
2	Chemistry Monographs(15,000.00 USD)	28.67%	<input type="text" value="286.70"/>	USD Delete
3	Biomedical Sciences Monographs(1,900.00 USD)	29.22%	<input type="text" value="292.20"/>	USD Delete
4	Chemical Engineering Monographs(35,000.00 USD)	16.61%	<input type="text" value="166.10"/>	USD Delete
Total	-	100.0%		1,000.00 USD

[Redistribute Lines](#)

- Assign dollar amounts, not just percentages, on multi-fund orders;

Ex Libris: Yes, please see the screenshot directly above.

- Customize, archive, and retrieve fund activity history for a minimum of 3-5 years;

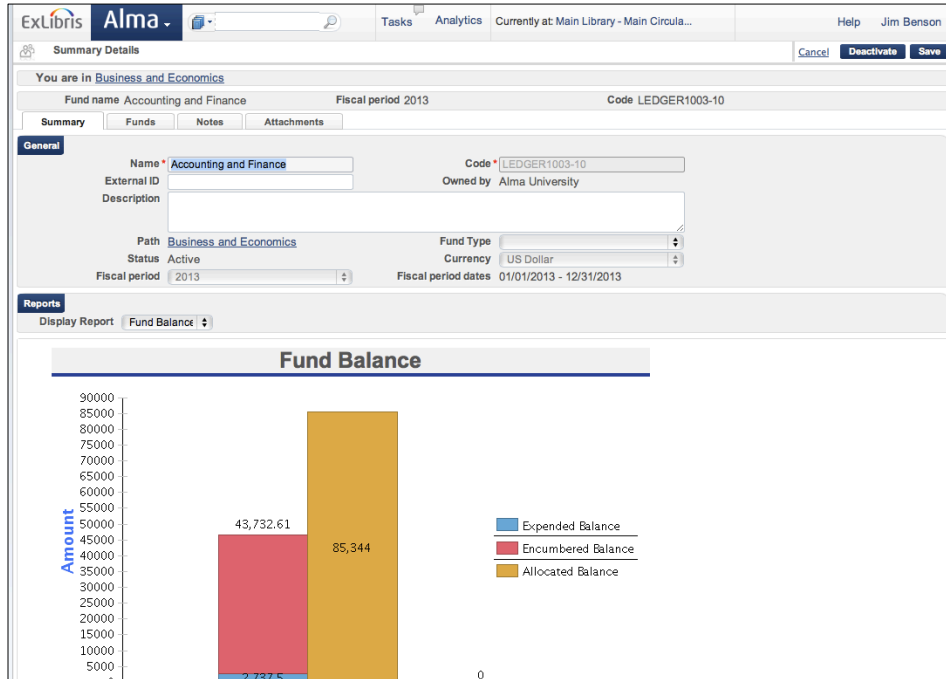
Ex Libris: Yes, fund activity information is retained in Alma indefinitely.

- Display all orders and invoices associated with a fund code for a user specified period of time;

Ex Libris: The system shows the allocations, the encumbrances (pending, actual and total), the expenditures (pending, actual, and total) and the available balance for each fund. This information is updated and displayed in real-time within Alma. Links to related records (PO lines and Invoice lines) are listed in the summary tab of each fund. Via analytics, it is possible to create reports regarding purchase orders/invoices associated with a specific fund for a specified period of time.

- Encumber, disencumber, adjust, and expend funds; including the ability to close out a partial purchase order;

Ex Libris: Alma supports real-time fund balances, including a graphical display of the fund balance showing encumbrances and expenditures:



Additionally, each fund displays a history of transactions (including positive and negative transactions) and the balance in the fund at the point of each transaction. The following screen capture shows transaction details of a fund:

Time	Type	Reference	Related record	Amount	Cash Balance	Available balance	Reporting code	Notes
05/26/2011 02:06:54 PM EDT	Encumbrance	-	POL-82	25.00 USD	8,920.00 USD	6,994.00 USD	-	View
05/26/2011 02:06:54 PM EDT	Disencumbrance	-	POL-82	15.51 USD	8,920.00 USD	7,019.00 USD	-	View
05/26/2011 02:06:13 PM EDT	Encumbrance	-	POL-82	15.51 USD	8,920.00 USD	7,003.49 USD	-	View
05/26/2011 02:06:13 PM EDT	Disencumbrance	-	POL-82	31.01 USD	8,920.00 USD	7,019.00 USD	-	View
05/26/2011 02:05:12 PM EDT	Encumbrance	-	POL-82	31.01 USD	8,920.00 USD	6,987.99 USD	-	View
05/26/2011 02:05:12 PM EDT	Disencumbrance	-	POL-82	31.01 USD	8,920.00 USD	7,019.00 USD	-	View
04/28/2011 11:03:49 AM EDT	Encumbrance	-	POL-103	200.00 USD	8,920.00 USD	6,987.99 USD	-	View
04/28/2011 04:16:46 AM EDT	Encumbrance	-	POL-102	73.10 USD	8,920.00 USD	7,187.99 USD	-	View
04/28/2011 04:15:03 AM EDT	Encumbrance	-	POL-82	31.01 USD	8,920.00 USD	7,261.09 USD	-	View
04/28/2011 04:15:02 AM EDT	Disencumbrance	-	POL-82	31.01 USD	8,920.00 USD	7,292.10 USD	-	View

Alma supports closing PO lines not fully received.

- Sort and display funds in multiple ways;

Ex Libris: Alma supports a 3-level model of funds. At the top level is the ledger, followed by summary funds, and finally allocated funds. The summary funds support the need to group funds by whatever criteria the library needs to report on. Additionally, each transaction against a fund may be associated with a reporting code that allows libraries to report expenditures in a highly granular and flexible way. Rules may be associated with each level of the fund tree that will establish when the system will warn or block transactions—e.g., whether over-expenditures are allowed or the grace period for encumbrances before a fiscal period close—and these rules may be inherited or overridden by funds lower in the tree.

1	Name: Accounting and Finance Code: LEDGER1003-10 Type: Summary fund Status: Active Fiscal Period: 2011-2012 Path: Business and Economics Available Balance: 60,858.18 USD Cash Balance: 69,363.18 USD Encumbered Balance: 8,505.00 USD Edit Duplicate Deactivate Move Fund
2	Name: Accounting and Finance E-resources Code: LEDGER1003-10-10 Type: Allocated fund Status: Active Fiscal Period: 2011-2012 Path: Business and Economics>Accounting and Finance Available Balance: 5,803.18 USD Cash Balance: 14,798.18 USD Encumbered Balance: 8,995.00 USD Edit Duplicate Deactivate Move Fund
3	Name: Accounting and Finance Monographs Code: LEDGER1003-10-20 Type: Allocated fund Status: Active Fiscal Period: 2011-2012 Path: Business and Economics>Accounting and Finance Available Balance: 55,055.00 USD Cash Balance: 54,615.00 USD Encumbered Balance: -440.00 USD Edit Duplicate Deactivate Move Fund
4	Name: Business Law and Taxation Code: LEDGER1003-30 Type: Summary fund Status: Active Fiscal Period: 2011-2012 Path: Business and Economics Available Balance: 36,279.86 USD Cash Balance: 37,350.00 USD Encumbered Balance: 1,070.14 USD Edit Duplicate Deactivate Move Fund
5	Name: Business Law and Taxation E-resources Code: LEDGER1003-30-10 Type: Allocated fund Status: Active Fiscal Period: 2011-2012 Path: Business and Economics>Business Law and Taxation Available Balance: 11,350.00 USD Cash Balance: 12,350.00 USD Encumbered Balance: 1,000.00 USD Edit Duplicate Deactivate Move Fund

- Any limits to the system regarding number of funds, invoice payment lines, number of electronic invoices or limits to fund codes in terms of length and character type;

Ex Libris: There is no limit to the number of funds which can be created. A PO line may be associated with many invoice lines, but an invoice line may not be associated with more than one PO line.

There is no limitation to the number of invoice lines, funds and electronic invoices. Most codes in the system are limited to ten characters, while the descriptions of the codes are practically not limited. Regarding the fund code, there is a 255 character limitation.

- The system's ability to handle multiple currencies and perform accurate, automatic balances adjustments in your home currency according to global exchange rate updates.

Ex Libris: Alma supports the ability to handle currencies and perform accurate, automatic balances adjustments using a universal currency repository (based on ISO currency codes), which includes current and historical rates.

- B.1.4.11. The system's support for storing and sharing vendor data for both physical items and electronic resources and how it is retrievable, customizable, and used in different functional areas.

Ex Libris: Vendor data is used in almost every acquisitions-related workflow within the system. The vendor record in Alma is made up of segments that include a summary, contact

information (addresses, phone number, web addresses), contact people, EDI information, invoices attachments, communications, and notes. A vendor record must exist for orders, claims, invoices, payments, and EDI transactions, among others. Vendor records are created for materials suppliers, subscription agents, access providers of electronic resources, and licensors.

Initially, the library's vendor file will be loaded into Alma during migration. Ongoing updates to the vendor file can be done by staff users once the system is in use.

Vendor records generally exist at the institution level, but can also be restricted for use at individual libraries within the institution. Each vendor will have one or more vendor accounts, which exist to describe the terms under which materials are purchased from the vendor. For example, the vendor account may specify discounts, payment methods, claim and delivery information, or even identify unique contact information or people.

B.1.4.12. Does the system allow for multiple entries in various fields?

Ex Libris: There are certain fields for which multiple entries are supported and some in which multiple entries are not supported. This depends upon the business aspect of the field.

B.1.4.13. The system's ability to integrate with campus/state financial systems (PeopleSoft/CMS), including, but not limited to, the export and import of financial transactions such as payment of invoices by various methods, in multiple standard formats.

Ex Libris: Alma features bi-directional integration with the campus financial system used by the institution. This integration can be used to export payment information, as well as import payment confirmation for specific invoices and fund allocation information. The receipt of payment notification from the campus financial system or ERP, where supported by the system, can be automated by loading payment information on a scheduled basis, or using Alma web services called by the campus financial system.

B.1.4.14. How the system will handle taxes for material purchasing. Will the system be capable of paying taxes at different tax rates based on where the item is received/housed/paid? Will the system be able to track tax-exempt status?

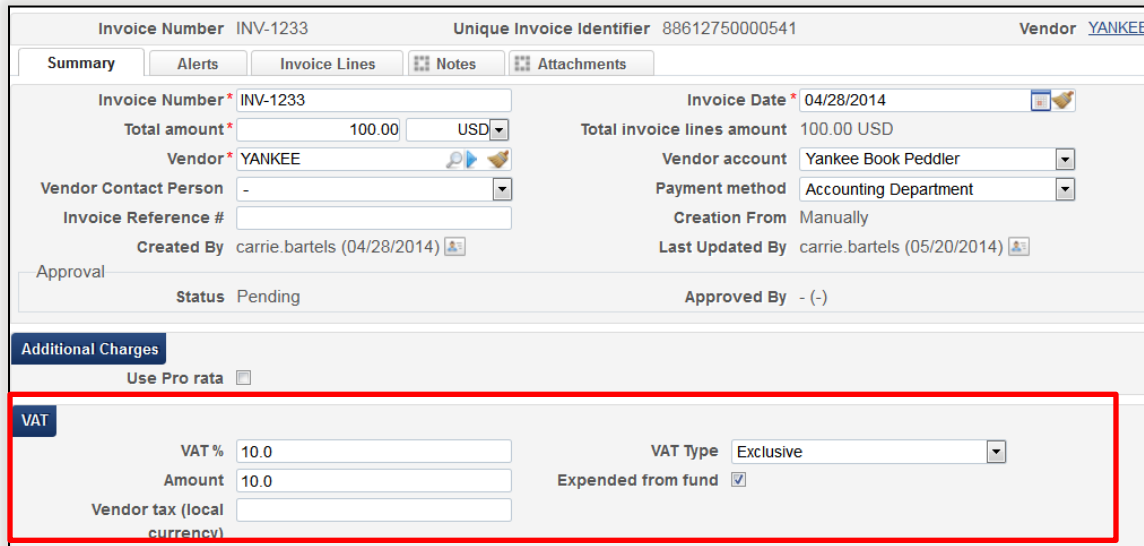
Ex Libris: Alma treats various taxes as an additional charge on the invoice. Taxes can be distributed between one or more line items on an invoice, or lumped together as a single charge in the "header" of an invoice. Libraries have an option of pro-rating taxes as part of the invoice line items and charging them to various funds, or to charge the taxes to a special "tax" fund if necessary. Alma will allow the library to pay taxes at different tax rates based on where an invoice for an item is paid.

Currently, management of a library's tax-exempt status is not part of our plans. However, as tax is not mandatory on an invoice, it can be considered as tax-exempt.

B.1.4.15. The system's ability to provide the following functions related to tax and use tax:

- Calculate and set different use tax percentages;

Ex Libris: Yes. Either the percentage or amount of tax can be added manually, or you can configure a VAT (tax) codes to establish percentages that can be assigned to an invoice or invoice line. Please note that the VAT section of the invoice can be used for any type of tax in Alma.



Invoice Number INV-1233 Unique Invoice Identifier 88612750000541 Vendor YANKEE

Summary Alerts Invoice Lines Notes Attachments

Invoice Number * INV-1233 Invoice Date * 04/28/2014

Total amount * 100.00 USD Total invoice lines amount 100.00 USD

Vendor * YANKEE Vendor account Yankee Book Peddler

Vendor Contact Person - Payment method Accounting Department

Invoice Reference # Creation From Manually

Created By carrie.bartels (04/28/2014) Last Updated By carrie.bartels (05/20/2014)

Approval Status Pending Approved By - (-)

Additional Charges Use Pro rata

VAT

VAT % 10.0 VAT Type Exclusive

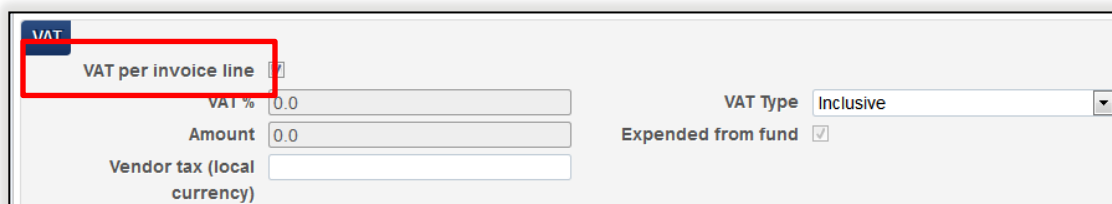
Amount 10.0 Expended from fund

Vendor tax (local currency)

- Accrue sales tax by line item when invoice is input;

Ex Libris: Alma offers several options under VAT Type. Inclusive means that taxes are already included in the invoice total. Exclusive means that taxes are not included and must be added on. Line Exclusive is similar to Inclusive, in that the Invoice total amount includes tax, but the tax amount is calculated outside of the invoice lines' total value and is not factored into the individual invoice lines.

Using the Expended from fund check box, the tax amount is expended from each invoice line's fund (the tax will be prorated and applied to each invoice line). If the Expended from fund box is unchecked, the tax amount will be expended from a separate fund as a separate invoice line and will show up as an Adjustment invoice line in the Invoice Lines tab. If there is a case where one invoice line has VAT added, but another invoice line in the same invoice does not, there is a setting that can be configured where you can add the VAT/tax per each invoice line:



VAT

VAT per invoice line

VAT % 0.0 VAT Type Inclusive

Amount 0.0 Expended from fund

Vendor tax (local currency)

- Change percentage on use tax and ability to apply use tax to "none", "some", or "all" items on an invoice (paper or electronic);

Ex Libris: Yes. Please see the response above.

- Differentiate different types of tax;

Ex Libris: Yes, although it is labeled as “VAT” in Alma, it can be used for various types of tax.

- Remove VAT functionality;

Ex Libris: Yes, as an invoice may often contain a mixture of items – some for which VAT must be registered, and some for which there is no VAT charge, it is possible to register VAT on the PO Line level. The institution can also indicate at the vendor level whether or not VAT applies.

- Adjust tax percentages as local taxes fluctuate, without vendor intervention.

Ex Libris: Yes, various VAT (tax) codes and percentages can be configured by the institution.

B.1.4.16. The system’s financial reporting functionality, including, but not limited to, granularity of data retrieval and level of local and consortial customization, without need for vendor or local customization.

Ex Libris: Acquisition data in Alma Analytics covers data from vendors, transactions, funds, purchase types, bibliographic data and more. Alma’s reporting function, Analytics, provides actionable information regarding usage information, budget usage trends and up-to-date expenses overviews. This complements our planned suite of collection development utilities to support selection and evaluation.

The utilities will include overlap analysis and usage statistics and cost/usage analysis data which will be presented to relevant staff during the evaluation process based on information provided by the vendors.

The system also shows the allocations, the encumbrances (pending, actual and total), the expenditures (pending, actual and total) and the available balance for each fund. This information is updated and displayed in real-time within Alma, and available for use in analytical reports.

Alma Analytics allows for reports generated by the solution to be embedded as widgets in the Alma Dashboard or in relevant sections of the system. The solution also comes with an intuitive user interface enabling staff users to create and run customized reports.

Please see more details about Alma Analytics in our response to section B.2. Consortial reports are on the Alma roadmap for the 2015/2016 timeframe.

B.1.4.17. The system’s support for fiscal-year closing functionality. Will the system be capable of closing by a variety of fiscal-year options? (For example, biennium versus calendar year, current year and previous year funds.) In what format and for how long can fiscal close records be retained?

Ex Libris: Alma’s fiscal period close operations provide a variety of options that allow each library to create a new financial structure and roll over current orders in accordance with the library’s financial and reporting requirements.

As part of the fiscal period close, the Purchasing/Ledger manager runs a system job that copies the ledger of the current fiscal period with all the summary details and allocated funds to the new fiscal period, if required. Changes to the ledger or allocations can be made during the process. If the next fiscal period does not exist, Alma creates a new one. Fiscal periods are defined by each institution; Alma can accommodate any yearly definition of a fiscal period. An institution may have one or multiple ledgers, depending on local financial requirements.

At the end of the current fiscal period, the Purchasing/Ledger Manager rolls over the current open orders to the new fiscal period, and can specify if the encumbrances should be increased or decreased automatically by a specified percentage. The new year's encumbrances can be based on the previous fiscal period's encumbrances, or optionally on the previous fiscal period's expenditures, which allows the library to base the encumbered amounts on the actual payments in the prior year. Once the orders have been rolled over to the new period, the previous fiscal year is closed and the new fiscal year becomes active.

Inactive ledgers and funds are retained in Alma indefinitely, enabling the library to use the data in previous fund structures for comparisons of purchasing patterns, order and payment history, and related analytics.

- B.1.4.18. What records or data are stored in the system from acquisition processes and for how long. Can local sites choose custom retention periods for specific kinds of data? What kind of audit trail is available? Are reports available in print and electronic formats for storage? For how long are reports available?

Ex Libris: Alma has been designed to provide perpetual access to the information stored within the system. Acquisitions records are stored indefinitely, and are accessible for reporting and analytical use across subsequent fiscal periods. Moving forward, we plan to work with our customers in defining retention customization.

Transactions in Alma are auditable, as they are recorded with a date and operator stamp that indicates when they occurred and by which staff member. Using Alma Analytics, customizable audit reports can be generated, and can be output in various formats for immediate use, or for more permanent storage.

- B.1.4.19. How data can be extracted across record types, including, but not limited to, order, vendor, item, and bibliographic records. Describe data fields that are not available for export via CSV, Excel or PDF.

Ex Libris: Alma Analytics is used for the generation of a variety of reports, as well as for generating statistics from various library activities. Analytics connects to an optimized reporting view of the data stored in Alma's operational database. The data in the reporting views is updated on an ongoing basis. Acquisition data in Alma Analytics covers data from vendors, transactions, funds, purchase types, bibliographic data and much more. All reports can be exported in CSV, Excel or PDF.

- B.1.4.20. Describe the system's ability to provide automated activation of electronic resources (eBook, eJournal, databases, etc.) at the time of ordering.

Ex Libris: Alma allows you to create an import profile specifying where to retrieve the records, the frequency of the load, as well as to specify that e-book titles are activated automatically when purchased, eliminating the need for staff to load a spreadsheet into the link resolver and making e-book resources available to patrons more quickly. As part of EOD, the library can activate the resource without the need to manually deal with the resources. The library can also set a collection to be automatically activated when a new title is available via the collection.

B.1.5. SERIALS MANAGEMENT

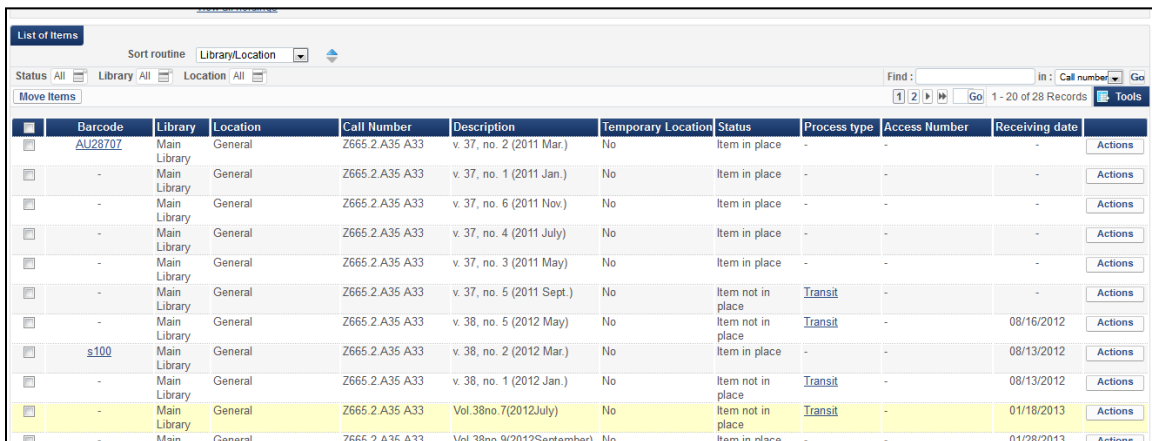
In general, describe the system’s support for material management at the issue level; including receiving, item generation, labeling, routing, claiming, and binding.

Ex Libris: Alma supports the management of resources at the issue level; this includes full enumeration/chronology and description, as described in the MARC standard. Routing, claiming, binding and label printing are also supported.

Support for prediction pattern functionality is included as part of the Alma roadmap. Full functionality is expected to be release by mid-2015.

Receiving - Alma supports the receiving of print serials. The receiving function displays information about the last received issue, and is thus used as a template for updating the details of the newly received issue. This approach not only ensures consistency in recording the data for new issues, but also may provide information about missing issues.

Item creation – The operator creates the item. At the moment, Alma does not create the item automatically; this will be possible when prediction pattern functionality is available in Alma. When viewing items, it is possible to filter the display by status, library and location.



Barcode	Library	Location	Call Number	Description	Temporary Location	Status	Process type	Access Number	Receiving date	Actions
AU28707	Main Library	General	Z665.2 A35 A33	v. 37, no. 2 (2011 Mar.)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2 A35 A33	v. 37, no. 1 (2011 Jan.)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2 A35 A33	v. 37, no. 6 (2011 Nov.)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2 A35 A33	v. 37, no. 4 (2011 July)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2 A35 A33	v. 37, no. 3 (2011 May)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2 A35 A33	v. 37, no. 5 (2011 Sept.)	No	Item not in place	Transit	-	-	Actions
-	Main Library	General	Z665.2 A35 A33	v. 38, no. 5 (2012 May)	No	Item not in place	Transit	-	08/16/2012	Actions
s100	Main Library	General	Z665.2 A35 A33	v. 38, no. 2 (2012 Mar.)	No	Item in place	-	-	08/13/2012	Actions
-	Main Library	General	Z665.2 A35 A33	v. 38, no. 1 (2012 Jan.)	No	Item not in place	Transit	-	08/13/2012	Actions
-	Main Library	General	Z665.2 A35 A33	Vol 38no.7(2012July)	No	Item not in place	Transit	-	01/18/2013	Actions
-	Main Library	General	Z665.2 A35 A33	Vol 38no.9(2012September)	No	Item in place	-	-	01/28/2013	Actions

Label Printing - Alma can integrate with locally-used label printing applications through downloading a local component that utilizes web services to communicate with Alma and the local label printer. You can choose to use the Alma provided Label Printer BIAF or your existing one.

Claiming - In Alma, by default, claims are configured to be processed automatically. They can, however, also be generated on-demand. Automatic claims are created for a Purchase Order (PO) line that has not been received within the expected number of days after placing the order (based on parameters defined in the vendor record) or by the expected receipt date.

Binding - Alma supports workflows related to binding. Staff can review a list of issues and create a bound volume. All of the item records for the issues incorporated in the bound volume will be marked as withdrawn, and will not display in the Discovery Tool.

Routing – As part of Acquisitions management, it is possible to define if a subscription should be routed as well as defining members of the routing list. This information will display as part of new issue creation.

B.1.5.1. CHECK-IN

Describe or Demonstrate:

- B.1.5.1.1. The system’s ability to manage current receipts of active subscriptions and standing orders. This includes the ability to embed hyperlinks to occasional digital content in print subscriptions, to store and retain internal or external notes, and to set alerts as needed.

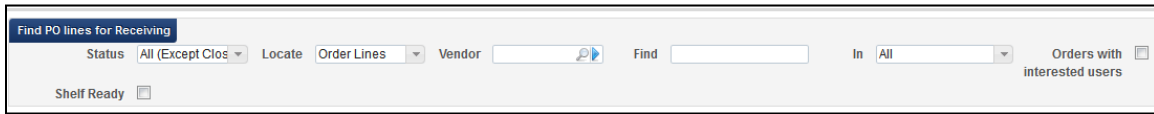
Ex Libris: Issues are received using the receive functionality in Alma, utilizing the concept of a ‘receiving department’. This also helps support the reflection of a typical separation of serial and monograph handling in the library. The department is tied to a specific location in the institution, thereby helping in routing of the physical item to its permanent location. In this way, the staff user will only see titles belonging to his/her associated department on the Receive Screen.

In addition, the Receiving Screen is divided into two tabs – one for monographs, and one for continuous. The default tab display is based on user preferences (i.e. the tab activated on the user’s last login).

One Time		Continuous				
Waiting for Receiving PO lines list						
#	#	Item description	Status	Locations	# Ordered	Date Sent
1	POL-43311	African journal of library, archives & information science, Archlib & Information Service, Vol. 1, no. 1 (Apr. 1991)-, AJLAAI, ISSN	In Review	Main Library - General (1)	1	05/21/2012
2	POL-3709	American journal of human biology : the official journal of the Human Biology Council, Alan R. Liss, Inc., Vol. 1, no. 1-, 1042-0533 1520-6300, ISSN	In Review	Main Library - General (1)	1	-
3	POL-14913	Archaeology, Archaeological Institute of America, Vol. 1, no. 1 (Mar. 1948)-, 0003-8113, ISSN	In Review	Main Library - General (1)	1	-
4	POL-14507	Atlanta review : AR, Atlanta Review, Vol. 1, issue no. 1 (July 1994)-, 1073-9696 1073-9696, ISSN	Waiting for Renewal	Main Library - General (1)	1	04/04/2013

There are options to filter the display of journal titles by a number of parameters such as by PO Line status, by vendor, or by Interested Users. Filtering by vendor is especially useful if a consignment of issues from a vendor is received and needs to be checked-in.

Alternately, the operator can key in the ISSN, title, or other unique identifier in the “Find” search box, in order to quickly locate a journal title.



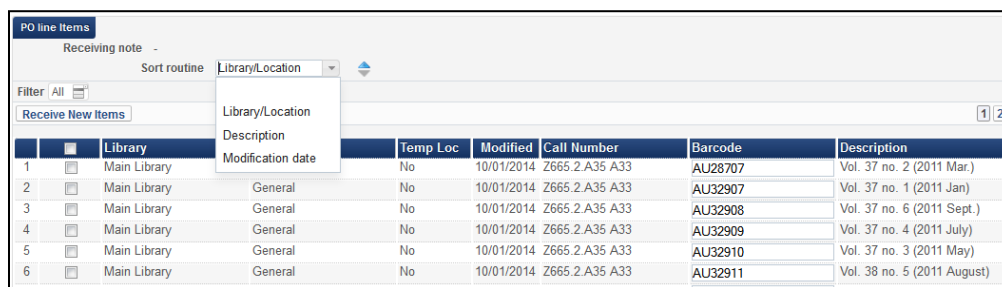
The staff user can navigate to the PO Line by clicking on the PO Line number, which will display bibliographic details with the option to edit the record.

Each title on the Receive screen will have an Actions button with the option to:

- Receive Items – ideal for staff members that need to simply check in new issues.
- Manage Items - shows the staff member lists of issues already received and can thus provide information about missing issues. From this option it is still possible to receive a new issue.
- If the issues need to be routed there is an additional option – to print the list of Interested Users:



Note that on the Managed Items screen it is possible to sort the list of issues by out of the box and/or library configurable sort routines, in ascending or descending order:



	Library	Description	Temp Loc	Modified	Call Number	Barcode	Description
1	Main Library		No	10/01/2014	Z665.2.A35 A33	AU28707	Vol. 37 no. 2 (2011 Mar.)
2	Main Library	General	No	10/01/2014	Z665.2.A35 A33	AU32907	Vol. 37 no. 1 (2011 Jan)
3	Main Library	General	No	10/01/2014	Z665.2.A35 A33	AU32908	Vol. 37 no. 6 (2011 Sept.)
4	Main Library	General	No	10/01/2014	Z665.2.A35 A33	AU32909	Vol. 37 no. 4 (2011 July)
5	Main Library	General	No	10/01/2014	Z665.2.A35 A33	AU32910	Vol. 37 no. 3 (2011 May)
6	Main Library	General	No	10/01/2014	Z665.2.A35 A33	AU32911	Vol. 38 no. 5 (2011 August)


Supplements, merged issues, indexes and so forth can be managed and will display on the List of Issues screen:

Barcode	Library	Location	Call Number	Description	Temporary Location	Status	Process type	
6502-130	Main Library	-	-	vol.2: no.3 & 4(2004: May-June)	No	Item in place	-	Action
6502-110	Main Library	-	-	vol.1:Index and Bibliog.	No	Item in place	-	Action
6502-1000	Main Library	-	-	(alphabetical index) vol.1	No	Item in place	-	Action
6502-900	Main Library	-	-	Supplement to v.1(2003)	No	Item in place	-	Action
6502-800	Main Library	-	-	vol.1: no.8(2003:Nov.)	No	Item in place	-	Action
6502-700	Main Library	-	-	vol.1: no.7(2003:Oct.)	No	Item in place	-	Action
6502-600	Main Library	-	-	vol.1: no.5 & 6(2003.)	No	Item in place	-	Action
6502-200	Main Library	-	-	vol.1: no.2(2003:Mar.)	No	Item in place	-	Action
6502-100	Main Library	-	-	vol.1: no.1(2003:Jan.)	No	Item in place	-	Action

Clicking on 'Receive Items' displays information about the last received issue. If the issue needs to be routed the following message will first display:

Confirmation Message

Confirmation Message

 This order is Marked for Routing - You may need to print the interested users before continuing to the next step.

Are you sure you want to perform this action?



[Cancel](#) [Confirm](#)

Description [African journal of library, archives & information science, Archlib & Information Service, Vol. 1, no. 1 \(Apr. 1991\)-AJLAAJ, ISSN](#) Vendor/Account [JSTOR/JSTOR](#) Order/Line -/ POL-43311

Status In Review (2014-04-10) Order line type Print Journal - Subscription PO Line Owner Main Library Sent Date -

Holding [Main Library: General, Z665.2 A35 A33](#) [View all holdings](#)

Receiving Settings

Received Date  

Keep in Department

Last received item Details

Enumeration A 40	Chronology I November
Enumeration B 6	Chronology J 2014
Enumeration C -	Chronology K -
Description Vol. 40 no. 6 (November 2014) Duplicate	

New Items details

Enumeration A <input type="text"/>	Chronology I <input type="text"/>
Enumeration B <input type="text"/>	Chronology J <input type="text"/>
Enumeration C <input type="text"/>	Chronology K <input type="text"/>
Description <input type="text"/> Generate Clear	

Items arrived

Receiving note -

The next section shows details of last item received. Clicking on 'Duplicate' creates a new issue based on the parameters of the displayed issue. This approach helps ensure consistency in recording the data for new issues. Changes can then be made relevant for the new issue.

The new item details section will either be populated by the duplicate option or can be filled in manually. The generate button will generate a description based on the input in the enumeration and chronology fields. Library defined description templates will populate the field with relevant description for volume, issue, etc.

New items details			
Enumeration A	40	Chronology I	10
Enumeration B	5	Chronology J	2014
Enumeration C		Chronology K	
Description	Vol. 40 no. 5 (10 2014)		<input type="button" value="Generate"/>

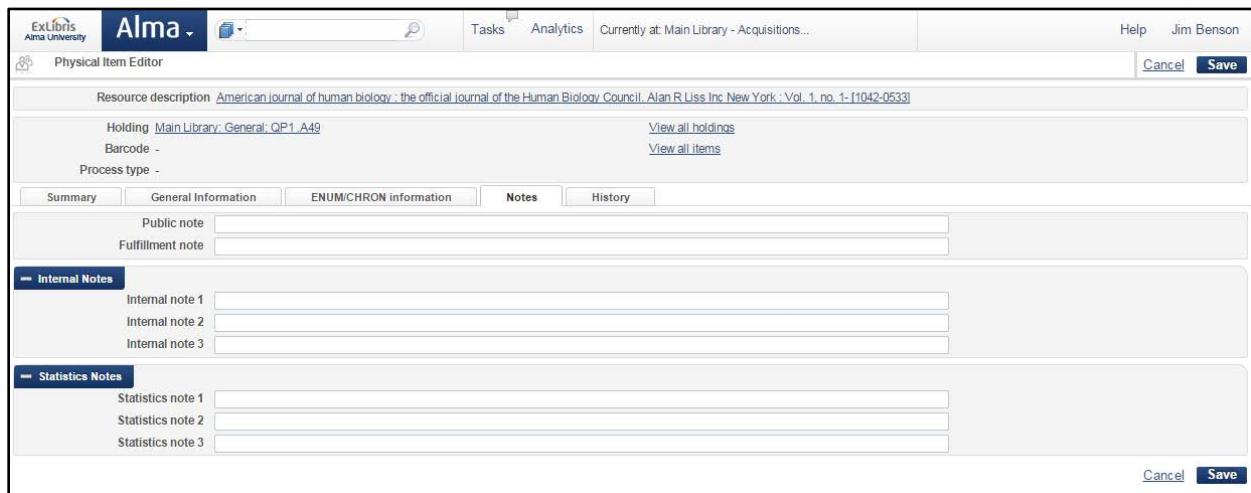
An example of a description template:

Name	Operator	Value
1 Library	=	Main Library
2 EnumA	Is Not Empty	-
3 EnumB	Is Not Empty	-
4 ChronI	Is Not Empty	-
5 ChronJ	Is Empty	-

Name	Operator	Possible Values >	Value
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Output Parameters					
Prefix1	Vol.	Field1	EnumA	Suffix1	<input type="text"/>
Prefix2	No.	Field2	EnumB	Suffix2	<input type="text"/>
Prefix3	(Field3	ChronI	Suffix3)

In Alma, the library can add notes to bibliographic records. The holdings display includes full summary holdings where this exists. The library can then decide which fields it wishes to harvest and display in Primo. The functionality of displaying physical item public notes in the Get It tab in Primo is also possible:



Physical Item Editor

Resource description: American journal of human biology : the official journal of the Human Biology Council. Alan R Liss Inc New York : Vol. 1, no. 1- (1042-0533)

Holding: Main Library: General: QP1 A49

Barcode: -

Process type: -

Summary | General Information | ENUM/CHRON information | **Notes** | History

Public note:

Fulfillment note:

Internal Notes

Internal note 1:

Internal note 2:

Internal note 3:

Statistics Notes

Statistics note 1:

Statistics note 2:

Statistics note 3:

Additionally, hyperlinks can be embedded as part of the Bibliographic record; there is no place for hyperlinks as part of items.

Workflows in Alma use library-defined rules to automate certain decisions or route records to tasks lists for staff mediation. In Acquisitions and Receiving, rules can determine under which conditions a purchase order line needs to be reviewed by staff. Conditions can take into account the vendor, the type of order and even specific alerts about an order.

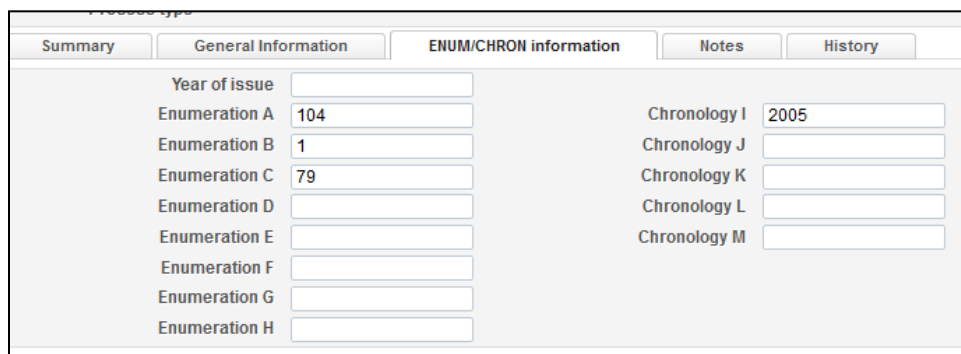
- B.1.5.1.2. The system's serials check-in software support for automatic issue prediction and the ability to turn the feature off on a case-by-case basis, if so desired.

Ex Libris: Serials prediction functionality in Alma is currently being developed, and we plan to have released the full suite of functionality by mid-2015. By the end of this year, we will have the ability to 'open' up issues based on a pattern, and will have optimized the receiving workbench to handle the existence of non-received issues.

The library can decide to use prediction pattern functionality by opening up issues based on a pattern, or continue to use the existing functionality as described above on a case by case basis.

- B.1.5.1.3. Describe the solution's support for the creation, storage, editing, and re-use of the full range of chronology and enumeration captions, and publications patterns as defined in the MARC 21 Format for Holdings Data (MFHD) for check-in purposes.

Ex Libris: The full enumeration display can be viewed in the ENUM/CHRON tab of the item record. As can be seen in the following screen capture, Alma supports all levels of enumeration and chronology as defined in MARC21.



Summary	General Information	ENUM/CHRON information	Notes	History
Year of issue		<input type="text"/>	Chronology I	<input type="text" value="2005"/>
Enumeration A		<input type="text" value="104"/>	Chronology J	<input type="text"/>
Enumeration B		<input type="text" value="1"/>	Chronology K	<input type="text"/>
Enumeration C		<input type="text" value="79"/>	Chronology L	<input type="text"/>
Enumeration D		<input type="text"/>	Chronology M	<input type="text"/>
Enumeration E		<input type="text"/>		
Enumeration F		<input type="text"/>		
Enumeration G		<input type="text"/>		
Enumeration H		<input type="text"/>		

Alma supports the management of holdings records stored in the MFHD (MARC Format for Holdings Data) standard. This allows any MARC field and subfield to be used in the holding records. As noted above, full prediction pattern functionality will be available by mid-2015.

- B.1.5.1.4. Demonstrate the solution's ability to set up prediction patterns for serials with irregular frequency using the full range of frequencies (MARC 85x \$w) and the regularity pattern (MFHD 85x \$y), or other methods.

Ex Libris: As part of Alma’s prediction pattern functionality, Alma will support all prediction patterns that are based on the MARC standard 853 field, including irregulars such as the above.

B.1.5.1.5. The system’s support for the check-in of multiple instances of a given title; for example, one subscription to a title might include individual issues, bound volumes, pocket parts, pamphlet supplements, special issues, legislative service, and possibly other parts, each received on a regular or irregular basis. Describe how each of these parts can be accommodated and distinguished, either within a single record or on separate records.

Ex Libris: Serial check-in is a manual process. An item record can be created for each physical item received. From the Staff search screen, staff can navigate to the list of items linked to a title:

1 [Journal of humanitarian studies.](#)
Journal
Availability: [Physical version](#) at **ULINC: N/A** from:1 2003 until:1 2003
[Edit](#) | [Order](#) | [Request](#) | [View holdings](#) | [View items](#) | [More info](#)

As can be seen in the following screen shots, summary information about each item, including supplements, merged issues, indexes, etc., displays.

Barcode	Library	Location	Call Number	Description	Temporary Location	Status	Process type	
6502-130	Main Library	-	-	vol.2: no.3 & 4(2004:May-June)	No	Item in place	-	Action
6502-110	Main Library	-	-	vol.1:Index and Bibliog.	No	Item in place	-	Action
6502-1000	Main Library	-	-	(alphabetical index) vol.1	No	Item in place	-	Action
6502-900	Main Library	-	-	Supplement to v.1(2003)	No	Item in place	-	Action
6502-800	Main Library	-	-	vol.1:no.8(2003:Nov.)	No	Item in place	-	Action
6502-700	Main Library	-	-	vol.1:no.7(2003:Oct.)	No	Item in place	-	Action
6502-600	Main Library	-	-	vol.1:no.5 & 6(2003.)	No	Item in place	-	Action
6502-200	Main Library	-	-	vol.1:no.2(2003:Mar.)	No	Item in place	-	Action
6502-100	Main Library	-	-	vol.1:no.1(2003:Jan.)	No	Item in place	-	Action

Barcode	Library	Location	Call Number	Description	Temporary Location	Status	Process type	
68338-290	Main Library	General	-	v.3:no.9(2009:Nov.)	No	Item in place	-	Action
68338-280	Main Library	General	-	v.3:no.8(2009:Oct.)	No	Item in place	-	Action
68338-270	Main Library	General	-	v.3:no.7(2009:Sep.)	No	Item in place	-	Action
68338-260	Main Library	General	-	v.3:no.6(2009:Aug.)	No	Item in place	-	Action
68338-250	Main Library	General	-	v.3:no.5(2009:Jun.)	No	Item in place	-	Action
68338-240	Main Library	General	-	v.3:no.4(2009:May)	No	Item in place	-	Action
68338-230	Main Library	General	-	v.3:no.3(2009:April)	No	Item in place	-	Action
68338-220	Main Library	General	-	v.3:no.2(2009:Mar.)	No	Item in place	-	Action
68338-210	Main Library	General	-	v.3:no.1(2009:Jan.)	No	Item in place	-	Action
68338-200	Main Library	General	-	Bound volume: v.1:nos.4-6(2007)	No	Item in place	-	Action
68338-190	Main Library	General	-	Bound volume - v.1:no.1 &3 (2007)	No	Item in place	-	Action

The Serial Subscription tab of the item record allows for defining the chronology and enumeration as well as a Description field – giving more detail about the physical item, thus enabling the user to distinguish between the different parts received for the title.

Resource description [Crustaceana Crustaceana \(Online\) Brill Academic Publishers Leiden : Vol. 1, no. 1 \(Jan. 1960\)- \[0011-216X\]](#)

Holding [Main Library: General: QL435.A1.C75](#) [View all holdings](#)

Barcode AU25403 [View all items](#)

Process type [Transit](#)

Summary	General Information	ENUM/CHRON information	Notes	History
Year of issue	<input type="text"/>			
Enumeration A	<input type="text" value="86"/>	Chronology I	<input type="text" value="2013"/>	
Enumeration B	<input type="text" value="5"/>	Chronology J	<input type="text" value="May"/>	
Enumeration C	<input type="text"/>	Chronology K	<input type="text"/>	
Enumeration D	<input type="text"/>	Chronology L	<input type="text"/>	
Enumeration E	<input type="text"/>	Chronology M	<input type="text"/>	
Enumeration F	<input type="text"/>			
Enumeration G	<input type="text"/>			
Enumeration H	<input type="text"/>			

Alma also supports the option of creating linking records (using the functionality of the MARC linking fields 76X-78X) for issues or supplements that might have a unique title. Users will be able to view the item information under the main serial record, but will be able to navigate to the linked titles from the More Info popup window in the Staff Search:

4 [Journal of banking & finance.](#)
Journal (North-Holland Pub. Co.). [Amsterdam, : v. 1- J
Relation: Precedes.
ISSN: 0378-4266
Subject: Banks and banking Periodicals. [LC] -- Financ
Availability: [Physical version](#) at **UPHY: REF** from:37 199
[Physical version](#) at **ULAW: N/A** from:43 200
[Physical version](#) at **UGDOC: N/A** from:40 200
[Edit](#) | [Order](#) | [Request](#) | [View holdings](#) | [View items](#) | [More info](#)

Title Journal of banking & finance.

Related [1](#)

Records

Orders [No Orders](#)

Requests [No Requests](#)

B.1.5.1.6. The system's support for recording and receipt of issues via SISAC and/or UPC codes.

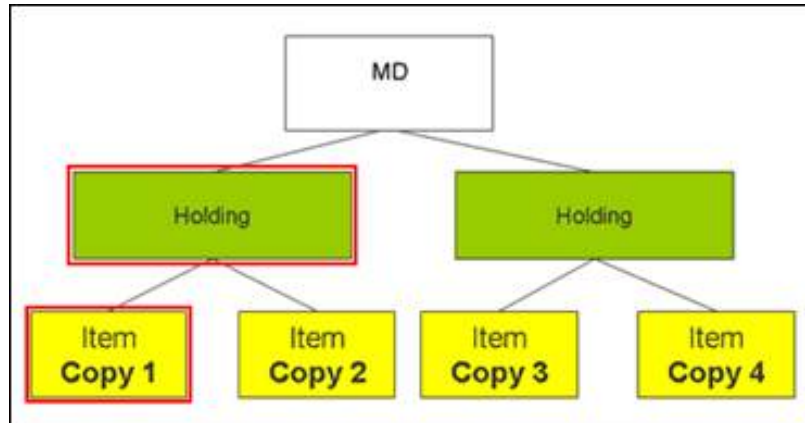
Ex Libris: Currently this is not part of Alma, nor is it on the roadmap.

B.1.5.1.7. The systems' support for complete automation of serials check-in electronically, without staff intervention, using EDI.

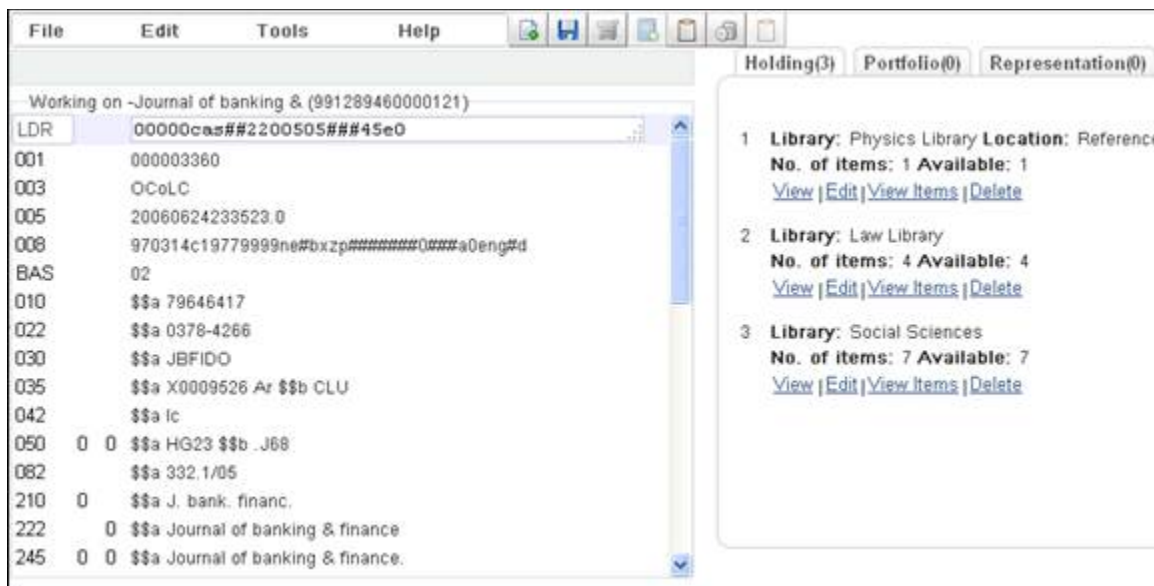
Ex Libris: Serial check in via EDI on the Alma roadmap.

B.1.5.1.8. How the system's serials check-in system can automatically update the MARC 21 holdings record, including all content related to the 85X/86X paired fields, either during receiving or as a separate function.

Ex Libris: Alma supports MARC21 holdings. The holding record provides the link between the bibliographic record and the physical inventory (items), as can be seen in the following diagram:



The Metadata (MD) Editor has been designed to facilitate streamlined cataloging of holdings metadata. Staff can edit a bib record in and view related holding and items information on the same screen:



In addition, when searching the Alma repository, staff (with the relevant roles and authorizations) will be able to view or edit holdings information on any of the search results.

At the moment, holdings (85X/86X fields) are not automatically updated during the receipt of print serials, but can be updated manually. Alma prediction pattern support road map plans includes the automatic updating of the holdings (85X/86X) upon receiving, based on the items received.

B.1.5.1.9. The ability to gather check-in records by MARC fields and subfields or use regular expression.

Ex Libris: Once prediction pattern functionality is in place, all items will be opened in advance. This will give the operator the ability to locate all issues that need to be received via the receiving workbench, and the operator will be able to receive multiple issues at once.

- B.1.5.1.10. The system's support for display of current receipt status from the check-in system (e.g., received, expected, claimed, missing, etc.) in the public interface.

Ex Libris: In Primo, Alma's end-user interface, availability elements (such as the call number, item status, location) are library-defined. The library may configure what process types will display. For example, the library might choose to show items that have the status of "In Acquisitions", "Missing", etc.

B.1.5.2. CLAIMING

Describe or Demonstrate:

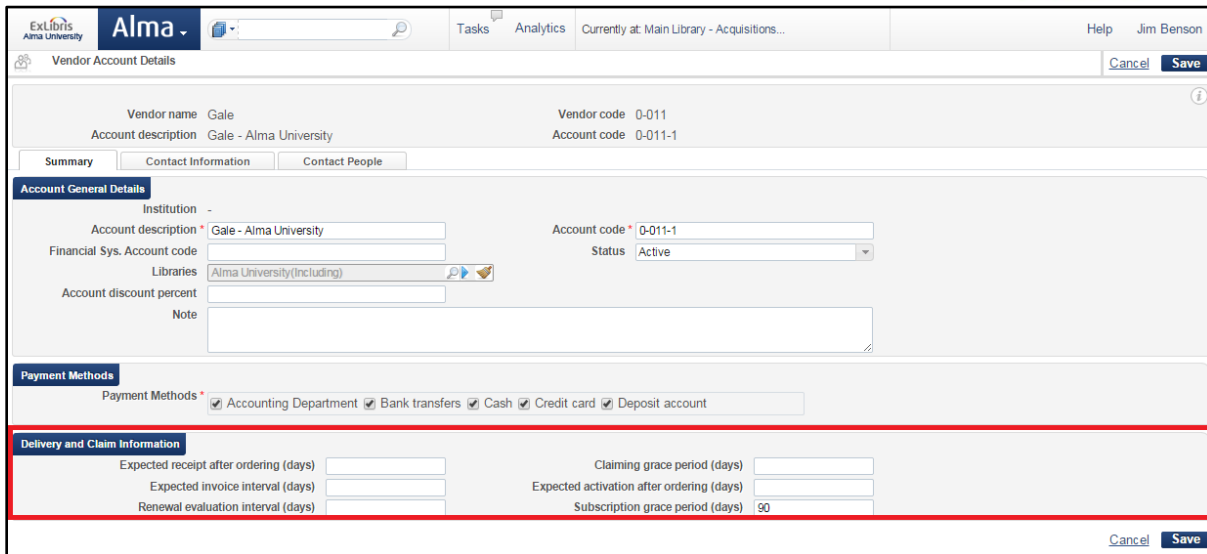
- B.1.5.3. The system's ability to identify claimable issues and to send claims individually or in a batch. How is staff informed that an issue is claimable?

Ex Libris: Claims arise when the expected receipt date (ERD) has passed and the purchase order line has not yet been received. The ERD is either a specific date or the number of days after placing the order that delivery is expected. When a purchase order line is overdue, an alert is generated. Once the claim alert has been created, Alma adds the item to an operator's task list for review.

An operator then reviews his or her task list to resolve the outstanding claims. Possible actions include updating the expected receipt date based on new information provided by the vendor or cancelling the purchase order line if necessary. Updating the item information resets the ERD "clock" and removes the item from the task list.

- B.1.5.4. How an expected issue becomes claimable. How does the system support manually escalating claims as needed or setting different time periods between subsequent claims without affecting the overall prediction patterns.

Ex Libris: In Alma, by default, claims are configured to be processed automatically. They can, however, also be generated on-demand. Automatic claims are created for a Purchase Order (PO) line that has not been received within the expected number of days after placing the order (based on parameters defined in the vendor) or by the expected receipt date.



An email is sent to the vendor (generated automatically or manually) inquiring about the late delivery of the order. Claims sent to a vendor are automatically registered in the Communications tab of the vendor record.

From the actions button on each Claim line, staff has the option of editing the claim, adding a response, or sending a reply to the vendor.

In addition, authorized staff can take advantage of the Task list in the Alma dashboard to see information about claims that have been sent to vendors:

Tasks	Analytics	User: Super User
Currently at: Institutional Acquisiti...		
Order lines assigned to you for review (5)		
Order lines without assignment for Review (2)		
Order lines ready for packaging (3)		
Orders awaiting Approval (1)		
You have order lines with claims (8)		
Digitization requests waiting for approval (6)		
Order Lines requested for evaluation (2)		
Order Lines before evaluation for edit (4)		

As part prediction pattern support, Alma will include the ability to escalate claims without affecting the overall prediction.

- B.1.5.5. The system's support for a direct interface with vendors' systems for serial ordering, renewals, binding, and claiming; especially, EDI invoicing and claiming.

Ex Libris: Alma has been designed to automate much of a library's workflows, freeing staff to

focus on the exceptions rather than mediating each transaction. Alma's built-in workflow engine allows the library to configure rules and policies that govern staff workflows within the system.

For workflows such as ordering and invoicing, Alma relies on standard protocols to facilitate interoperability with other systems – both internal to the library's environment and externally to vendors. Alma supports electronic data interchange (EDI) using the UN/EDIFACT standard for electronic communications of order and invoice information. Library staff configure EDI information as part of the vendor record.

This information includes vendor EDI attributes, S/FTP connection information, individual library EDI information, and EAN information per vendor account. These details allow for maximum flexibility when there are multiple libraries within an institution, or when a library has multiple accounts with a vendor (e.g. for multiple formats, material types, approval plans, etc.).

Storing the vendor EDI account information in Alma allows the process to be automated. As EDI orders are sent and EDI invoices are received, the EDI files are linked to the vendor's record and available from the attachments tab. EDI claiming is currently not included in Alma, and will be considered moving forward as part of the Alma roadmap.

Invoices that have been created from EDI files flow into the invoice workflows automatically, and integrate with the library's ERP system.

Alma also supports real time acquisition workflows, which enables real-time ordering from a vendor's selection platform. For example, Using YBP GOBI's selection platform, the library operator can select content to be purchased; the orders for the purchased content will be reflected in Alma in real time, initiating an acquisitions workflow –and thereby creating relevant purchase order line details as well as creating the relevant resources in the Alma repository.

Finally, there are roadmap plans for the end of 2015/beginning of 2016 to allow institutions to work with vendors using standard EDI protocol for claims, shelf ready workflows, and order cancellation.

- B.1.5.6. The system's support for integration of serials claiming across workflows and functions. Specifically describe the ability to view claim status from other records and to update check-ins and holdings, or to place a replacement order for a failed claim.

Ex Libris: Currently, claim information for serials is generated automatically in Alma on the level of the title. It is generated based on data in the vendor record (subscription grace period) and in the PO Line (subscription interval). Staff operators can see the claims of any order via the communication tab, and they can cancel an order and generate a new one with a different vendor if desired. Prediction patterns on the Alma Road Map will form part of serials management. This functionality will allow for the generation of claims on the level of an issue.

Order Lines with claims will display in the Alma Task List (based on the roles of the staff user).

Tasks
Electronic resources - activation - assigned to you (6)
Electronic resources - activation - unassigned (20)
Invoices - approval - without assignment (9)
Invoices - review - assigned to you (8)
Invoices - review - without assignment (11)
Items - in department (12)
Order Lines - review - assigned to you (7)
Order Lines - review - unassigned (11)
Order Lines in evaluation - analysis (9)
Order Lines with claims (117)
Orders - approval (5)

The Claim List can be filtered by a variety of facets – e.g. by Purchase Type. Hypertext links for each record allow for a number of options such as Editing the PO Line, Changing the Expected Date, etc.

4 [Journal of the Patent Office Society, Patent Office Society, Vol. 1, no. 1 \(Sept. 1918\)-v. 66, no. 12 \(Dec. 1984\), 0096-3577, ISSN](#)
Assigned to: -
Type: Physical - Subscription Standard number: 0096-3577 Order/Line: [PO-28112](#) / [POL-43109](#)
Copies: Main Library - General (1) Total price: 0.00 USD Funds: -
Vendor/Account: National Booksellers / General Account 0-135-1 Vendor reference ID: - Expected delivery: 05/02/2014
Renewal date: - Receiving note: -
No item was received in more than 30 days., Overdue PO line, Reporting code is missing
[Edit](#) | [Change Expected Date](#) | [Relink](#) | [Change Bib Reference](#) | [Close](#) | [Cancel](#)

The edit option will open the PO Line of the record. From there it is possible to navigate to the item (issue) records.

Ordering for	Location	Call Number	Copy ID	Summary	# of Items	Actions
Main Library	General	K13 .J55	1	Bound volumes	7	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

The staff user may then see the issues that should have arrived, and need to be claimed.

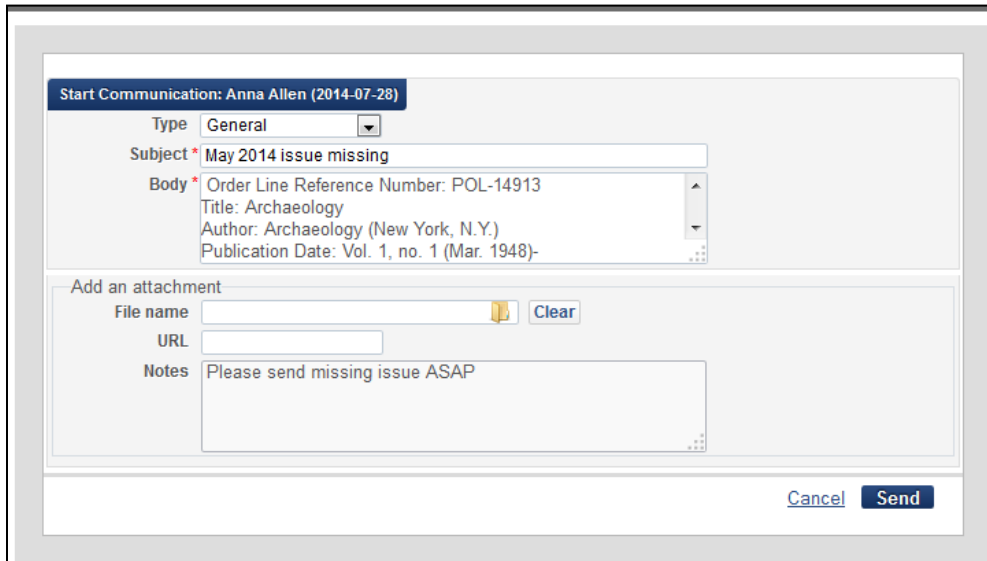
PO line Items
Receiving note -
Sort routine: Description

Filter: All

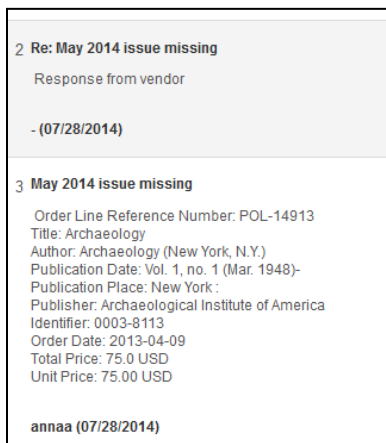
[Receive New Items](#)

	<input type="checkbox"/>	Library	Location	Temp Loc	Modified	Call Number	Barcode	Description
1	<input type="checkbox"/>	Main Library	General	No	07/28/2014	954925380003	AU35903	Vol. 1 no. 6 (Jun 2014)
2	<input type="checkbox"/>	Main Library	General	No	04/02/2014	954925380003	AU29009	Vol. 1 no. 4 (April 2014)
3	<input type="checkbox"/>	Main Library	General	No	04/02/2014	954925380003	AU29003	Vol. 1 no. 3 (March 2014)
4	<input type="checkbox"/>	Main Library	General	No	05/14/2014	954925380003	AU31407	Vol. 1 no. 2 (Feb 2014)
5	<input type="checkbox"/>	Main Library	General	No	05/14/2014	954925380003	AU31406	Vol. 1 no. 1 (Jan 2014)

From the PO Line, staff can initiate correspondence with the vendor from the Communications tab. The body of the email is automatically populated with bibliographic information.



When the vendor responds, the staff user saves the email message as an .msg file, and can then attach the email as a response to the correspondence.



B.1.5.7. BINDING

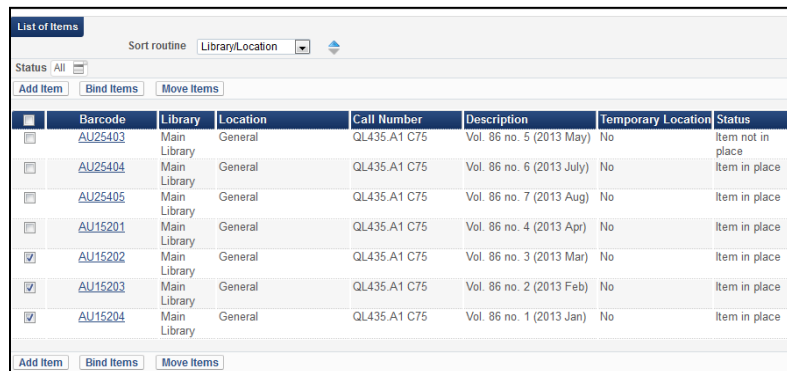
Describe or Demonstrate:

- B.1.5.7.1. The functionality of identifying and collapsing serial binding units. Does the system provide automated alerts for serial binding?

Ex Libris: In Alma, staff can review a list of issues and create a bound volume. All of the item records for the issues incorporated in the bound volume will be marked as withdrawn, and will not display in the discovery tool.

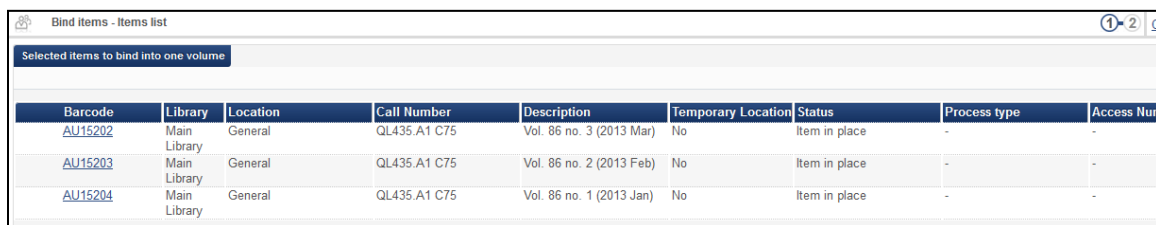
B.1.5.7.2. The system’s binding capabilities for serials and for monographs.

Ex Libris: Alma supports workflows related to binding. Staff can review a list of issues and create a bound volume. All of the item records for the issues incorporated in the bound volume will be marked as withdrawn, and will not display in the discovery tool. The first step in the binding process is to open the physical item editor for a journal and select to view items. From the Items screen (with pre-set Physical Item search limit), the staff user marks the items to be bound, and then clicks on the option “Bind Items”.



	Barcode	Library	Location	Call Number	Description	Temporary Location	Status
<input type="checkbox"/>	AU25403	Main Library	General	QL435.A1 C75	Vol. 86 no. 5 (2013 May)	No	Item not in place
<input type="checkbox"/>	AU25404	Main Library	General	QL435.A1 C75	Vol. 86 no. 6 (2013 July)	No	Item in place
<input type="checkbox"/>	AU25405	Main Library	General	QL435.A1 C75	Vol. 86 no. 7 (2013 Aug)	No	Item in place
<input type="checkbox"/>	AU15201	Main Library	General	QL435.A1 C75	Vol. 86 no. 4 (2013 Apr)	No	Item in place
<input checked="" type="checkbox"/>	AU15202	Main Library	General	QL435.A1 C75	Vol. 86 no. 3 (2013 Mar)	No	Item in place
<input checked="" type="checkbox"/>	AU15203	Main Library	General	QL435.A1 C75	Vol. 86 no. 2 (2013 Feb)	No	Item in place
<input checked="" type="checkbox"/>	AU15204	Main Library	General	QL435.A1 C75	Vol. 86 no. 1 (2013 Jan)	No	Item in place

The user is guided through a wizard in order to create the new bound volume:



Barcode	Library	Location	Call Number	Description	Temporary Location	Status	Process type	Access Num
AU15202	Main Library	General	QL435.A1 C75	Vol. 86 no. 3 (2013 Mar)	No	Item in place	-	-
AU15203	Main Library	General	QL435.A1 C75	Vol. 86 no. 2 (2013 Feb)	No	Item in place	-	-
AU15204	Main Library	General	QL435.A1 C75	Vol. 86 no. 1 (2013 Jan)	No	Item in place	-	-

B.1.5.7.3. The system’s ability to identify and alert which issues are ready to bind.

Ex Libris: This functionality is not available; binding in Alma is a manual process.

B.1.5.7.4. How the system’s binding support works with bindery vendors.

Ex Libris: The library can export item information to external vendors. The export of binding information is currently not part of the Alma roadmap.

B.1.5.8. ITEM RECORD

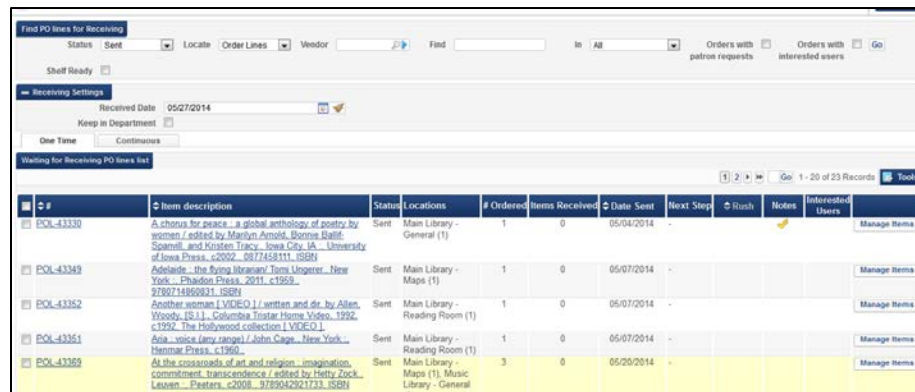
Describe or Demonstrate:

B.1.5.8.1. How the system supports the processing of physical materials, including support for spine label printing either through the system itself or via a third party. How are these processes scaled at both the consortial and local levels?

Ex Libris: Alma workflows enable the processing and routing of physical resources, including

the handling and return of damaged items. Item processing and receiving can be done singly or in bulk, and authorized staff have options at this point for creating an invoice, noting that further physical processing is needed, approving for routing, and more.

Staff can search for new physical material by matching the Purchase Order line with the material received. Staff can then indicate whether further work must be performed before the material is available to the library for which it was ordered.



#	Item description	Status	Locations	# Ordered	Items Received	Date Sent	Next Step	Trush	Notes	Interested Users	Manage Items
POL-43330	A chorus for peace - a global anthology of songs by women / edited by Marilyn Arnold, Bonnie Ballif Spaanfil, and Kristen Tracy. Iowa City, IA : University of Iowa Press, c2007. 387p. ISBN 9781481111889	Sent	Main Library - General (1)	1	0	05/04/2014	-				Manage Items
POL-43349	Adelaide - the flying librarian / Tom Ungerer. New York : Phaidon Press, 2011. c195p. 9780714866821. ISBN 9780714866821	Sent	Main Library - Maps (1)	1	0	05/07/2014	-				Manage Items
POL-43352	Another woman [VIDEO] / written and dir. by Allen Woody. [S.l.] : Columbia TriStar Home Video, 1992. c192. The Hollywood collection [VIDEO] 1	Sent	Main Library - Reading Room (1)	1	0	05/07/2014	-				Manage Items
POL-43351	Ask - rock 'n' roll / John Cage. New York : Harmon Press, c1960.	Sent	Main Library - Reading Room (1)	1	0	05/07/2014	-				Manage Items
POL-43353	At the crossroads of art and religion - imagination, commitment, transcendence / edited by Healy Zock, Kristen ... [S.l.] : Phaidon Press, c2008. 375p. ISBN 9781481111889	Sent	Main Library - Maps (1), Music Library - General	3	0	05/20/2014	-				Manage Items

As part of the receiving process, staff can choose from one of the following options:

Keep in Department – Indicates that further work is required before the material can be made available in a library (e.g. copy cataloging, further physical processing).

Send to Shelf – Indicates that the items received are shelf ready – with barcodes, spine labels, etc. No further work is required on the material and it can be sent to the library.

Alma has the ability to integrate with locally used label printing applications through downloading a local component that utilizes web service to communicate with Alma and the local label printer. You can choose to use the Alma provided Label Printer BIAF or your existing one.

In the context of consortia, the physical inventory is always managed in the Institution Zone, so there is no aspect of label printing at a consortial level.

B.1.6. ELECTRONIC RESOURCE MANAGEMENT (ERM)

A successful system will be able to support various electronic acquisitions and management models and provide tools for managing information associated with these purchases at local, supersets of local, and consortial levels. The system must support existing national and international standards for electronic resource management.

B.1.6.1. ELECTRONIC RESOURCE RECORD

Describe or Demonstrate:

- B.1.6.1.1. The type of record used to manage electronic resources. If the system utilizes a “resource record,” define what information will be captured in such records.

Ex Libris: Alma is a unified platform that handles resources of all types, regardless of format. This means that much of the functionality for e-resource management uses the same workflows as for physical resource management, allowing for consistent training, reporting, and a platform for workflow enhancements that applies to resources of any type.

Alma’s workflows support streamlining a variety of purchasing models for electronic journals and electronic books, including:

- Individual title subscriptions;
- Individual title purchases;
- Full package subscriptions; “Selective” (partial) package subscriptions; and
- Patron-driven acquisitions

For acquisition of electronic resources, the workflow is similar to print, but can apply to individual titles (journals or e-books), or to packages of vendor offerings.

Electronic resources of any type -- Database, Interface, Package, Titles -- can be locally created in the institution, or can link to a Central Knowledge Base electronic resource.

The Central Knowledge Base (CKB)--managed, maintained and updated by Ex Libris--tracks the most up-to-date vendor offerings in the shared data services environment. When acquiring a new package, libraries may search the CKB and, when they find the package they wish to acquire, initiate an acquisition workflow based on either the full package or a selective subset of titles they’ve licensed from the vendor. The workflow may begin with a trial, pass through purchasing, and ultimately end up in activating the resource for all users. These workflows can be applied at both the level of the individual institution and the broader consortium.

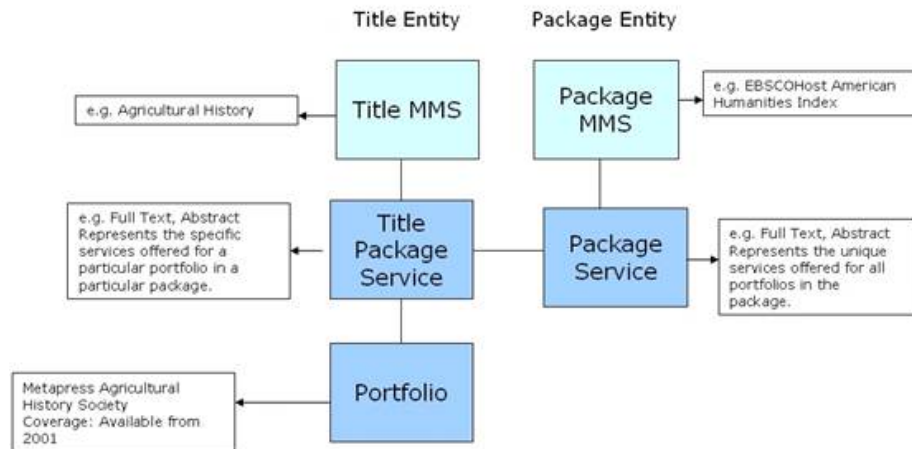
The CKB is maintained by Ex Libris but resources can be localized to reflect institution-specific information such as administrative/access information, coverage information for electronic journal titles, public notes etc. This Knowledge Base is part of the Community Zone and is shared by all members of the Alma community.

Since the CKB is maintained by Ex Libris, any CKB change related to the electronic resources used by the institution will be reflected in the institutional inventory, keeping the institution’s electronic resources up to date, and taking into account any localization of the electronic resource.

Once activated, descriptive metadata (bibliographic records) for the titles will automatically be added to the local catalog. Additionally, link resolution is built in; Alma will respond to any requests from discovery environments, with a menu with links to full text for all resources types: print, electronic and digital.

- B.1.6.1.2. The structure of records. Are there features or fields to describe the relationship between related electronic resource records, such as part of a package, or a merger of multiple packages? Is this a non-bibliographic “database or package level” record used to attach acquisition information and ERM data or is this also a bibliographic record with MARC fields? If bibliographic data is provided, are CONSER standards followed?

Ex Libris: For electronic resources, the data model looks like this:



For electronic resources, the holding-level record corresponds to the Package of aggregated electronic resources offered by the vendor, and it contains information about the available services (e.g., full text, selected full text, etc.). The item-level record corresponds to the Portfolio - the specific coverage, service(s), and links information relevant for a specific title in the Package.

Alma has an ongoing project of merging e-journal records from vendors with full bibliographic records from CONSER (Library of Congress Co-operative online serials). To date more than 100,000 records have been enriched in this manner. An example of such enrichment can be seen in the following screen capture:

035	__	ja	(CONSER) 2010236517
042	__	ja	pcc
050	_4	ja	HQ793 jb .A44
060	_4	ja	W1 jb AD37
082	04	ja	301.43/15/05
130	0_	ja	Adolescence (Online)
210	0_	ja	Adolescence
245	10	ja	Adolescence h [electronic resource].
260	__	ja	[Roslyn Heights, N.Y.] : b Libra Publishers
310	__	ja	Quarterly
362	1_	ja	Print began with v. 1, no. 1 (spring 1966); ceased with v. 44,
500	__	ja	"An international quarterly devoted to the physiological, psy
500	__	ja	Imprint varies: Roslyn Heights, NY: <spring 1966- >; San D
504	__	ja	Includes bibliographical references.
538	__	ja	Mode of access: World Wide Web.
555	__	ja	Vols. 1-9 (1966-74). 1 v.
588	__	ja	Description based on print version record.
588	__	ja	Latest issue consulted: Vol. 44, no. 176 (Winter 2009) (EBS
650	_0	ja	Youth v Periodicals.
650	_0	ja	Adolescence v Periodicals.
650	_0	ja	Adolescent psychology v Periodicals.
650	_2	ja	Adolescent v Periodicals.
650	_2	ja	Adolescent Psychology v Periodicals.

In addition, Alma has a similar type of project for enriching e-books with full bibliographic records from Ebrary:

020	__	le	9786613432544
020	__	le	1-74216-897-3
020	__	ja	0-7314-0733-4
035	__	ja	(CKB)2550000000063578
035	__	ja	(EBL)819489
035	__	ja	(OCoLC)773564778
040	__	ja	AU-PeEL b eng c AU-PeEL d AU-PeEL
050	_4	ja	BF637 .S8
082	00	ja	332.02401082
100	1_	ja	Edwards, Tracey.
245	10	ja	0 to Rich h [electronic resource] : b The Everyday Woman's Guide to Getting Wealthy
246	__	ja	\$0 to Rich
260	__	ja	Hoboken : b Wiley, c 2011.
300	__	ja	1 online resource (210 p.)
500	__	ja	Description based upon print version of record.
505	0_	ja	0 to Rich: The Everday Woman's Guide to Getting Wealthy; Contents; Introduction; About the author; Step 1: I wanna be 'RICH!'; Chapter 1: Defining 'rich';
505	8_	ja	Stop. Is this really what you want?Step 2: Creating a budget; Chapter 3: The starting line; Incoming money; Where's your X spot?; How to fast-track paying
505	8_	ja	Reading your statementSavings account; Interest; Chapter 6: Saving your first 1000; Case study-Natalie; Savings goal of 1000-Penny Saver; Chapter 7: Ter
505	8_	ja	Chapter 9: Getting ready to invest in sharesGetting ready to invest in shares; Chapter 10: Investing for the long term; Finding long-term winners; Dividends; C

CKB electronic resources can be localized to reflect institution-specific information such as administrative/access information, coverage information for electronic journal titles, public notes etc.

Electronic Service Editor

Electronic Collection name [Gale Biography In Context](#)
 Service Type Full Text [View all services](#)

Service Description Activation Information **Linking Information** Portfolios Notes Available For

Parser Gale::OpenURL Parser (override)

Parser parameters url= http://find.galegroup.com/openurl/openurl &loc_id=\$\$LOC_ID &dbase=BioRC &art=\$\$ART
 Parser parameters (override)

Service is free? Not Free

Crossref Supported No

Crossref Enabled No Yes INHERIT

Proxy enabled No Yes

Proxy selected Default (currently: PROXY)

Linking level Journal

Linking Parameters

Parameter	Value
LOC_ID	<input type="text"/>
ART	<input type="text"/>

Electronic Service Editor

Electronic Collection name [Gale Biography In Context](#)
 Service Type Full Text [View all services](#)

Service Description Activation Information **Linking Information** Portfolios Notes Available For

Parser Gale::OpenURL Parser (override)

Parser parameters url= http://find.galegroup.com/openurl/openurl &loc_id=\$\$LOC_ID &dbase=BioRC &art=\$\$ART
 Parser parameters (override)

Service is free? Not Free

Crossref Supported No

Crossref Enabled No Yes INHERIT

Proxy enabled No Yes

Proxy selected Default (currently: PROXY)

Linking level Journal

Linking Parameters

Parameter	Value
LOC_ID	<input type="text"/>
ART	<input type="text"/>

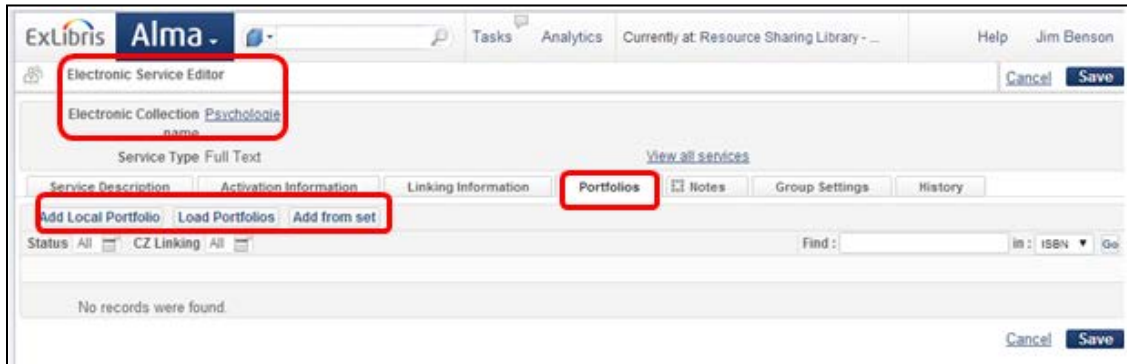
Note for instance, how the library can override parser information, define a proxy, etc.

Alma also supports the creation of a local collection of titles and their corresponding descriptive records.

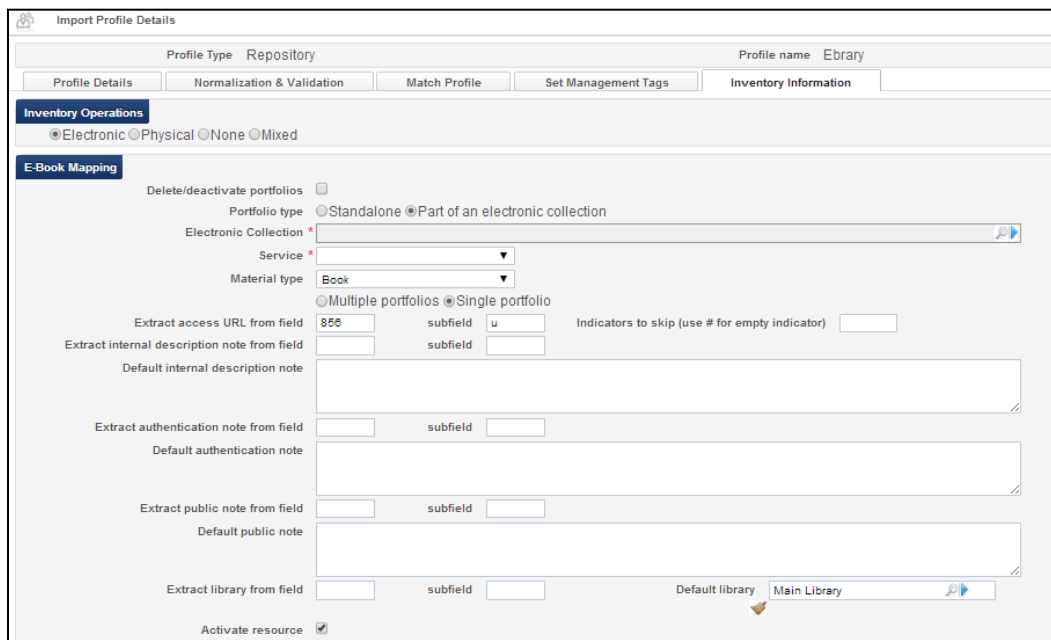
Collections and their corresponding titles can be loaded via a portfolio loader in excel format as illustrated below:

- Create Inventory**

 - Add Top Level Collection
 - Add Local Electronic Collection
 - Add Local Portfolio
 - Add Physical Item
 - Add Digital Representation



Alma supports enriching the title information with complete descriptive records using MARC based imports as illustrated below:



B.1.6.1.3. How electronic resource management records link to and interact with other resource records as well as license, order, and administrative/contact information.

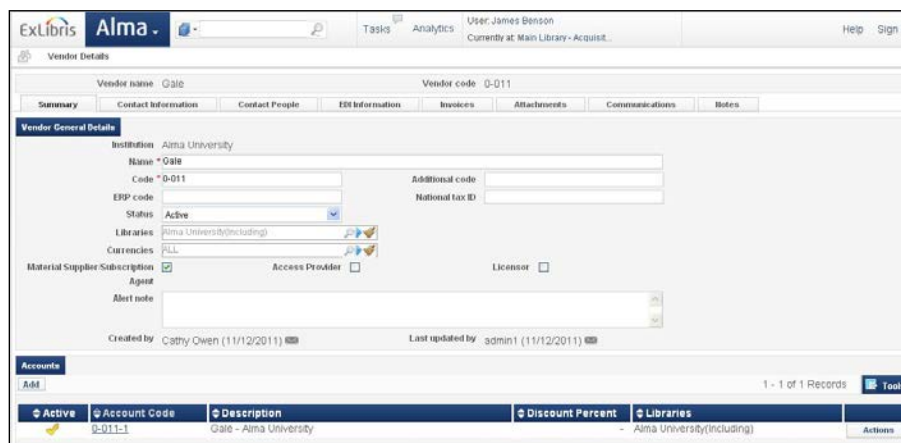
Ex Libris: The Central Knowledge Base (CKB) describes vendor offerings for electronic

resources; the CKB is maintained by Ex Libris. CKB electronic resources can be localized to reflect institution-specific information such as administrative/access information, coverage information for electronic journal titles, public notes etc. Alma supports the creation of local electronic resources of different types:

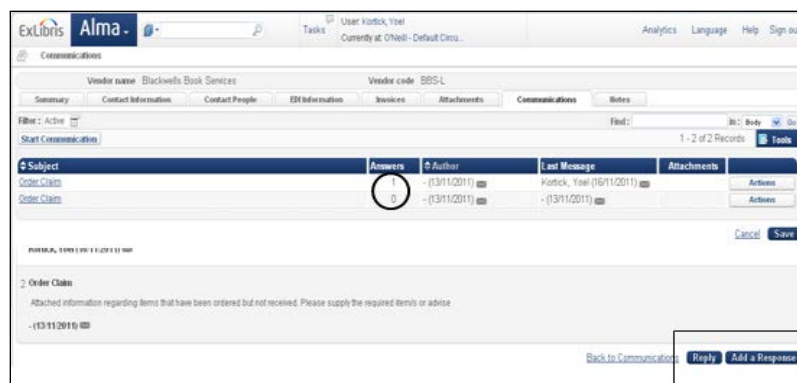
- Interface
- Database of different types: A&I, Full Text etc.
- Packages of different types: Selective, Aggregator
- Titles

Titles can be associated with packages; local titles can also be associated with CKB packages, providing full flexibility for reflecting the electronic resource purchase of the institution. Licenses and license amendments can be associated with databases, packages and titles, reflecting the license agreement of the electronic resources.

Alma provides comprehensive support for vendor information and communication. Vendor records include contact information, including email, to track and manage communication with the vendor, as can be seen in the screenshot below.



Alma vendor information



Vendors are associated with administrative information such as account details, access information, and statistical information. Electronic databases can also be associated with this administrative information.

All electronic resources are associated with access information which enables access to the

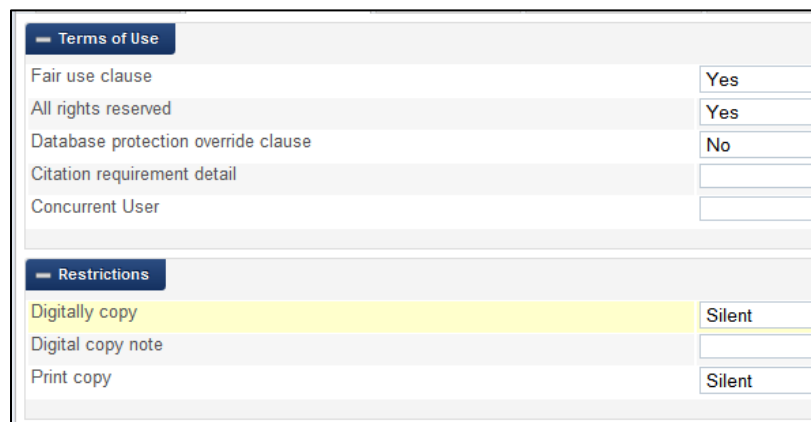
electronic resource via the embedded link resolver.

Alma enables the creation of a license record that captures detailed information about the terms of a license or contract. It also enables the creation of an addendum or amendment for a license which serves to identify additional titles covered by the existing license (such as when a library adds new titles and overall license terms do not change), or to modify the terms. Licenses can be associated with orders for electronic resources, thereby insuring they will be linked to the appropriate license terms when activated in the inventory.

B.1.6.1.4. How electronic resource records comply/do not comply with the Digital Library Federation Electronic Resource Management Initiative’s (DLF ERMI) data elements.

Ex Libris: Alma supports the Digital Library Federation (DLF) Electronic Resource Management Initiative (ERMI) standard – consisting of more than 70 license terms. License configuration in Alma allows for the non-display in the license record of unwanted fields.

An example of customized licensing elements can be seen below:



Terms of Use	
Fair use clause	Yes
All rights reserved	Yes
Database protection override clause	No
Citation requirement detail	
Concurrent User	
Restrictions	
Digitally copy	Silent
Digital copy note	
Print copy	Silent

The following license terms are available in Alma:

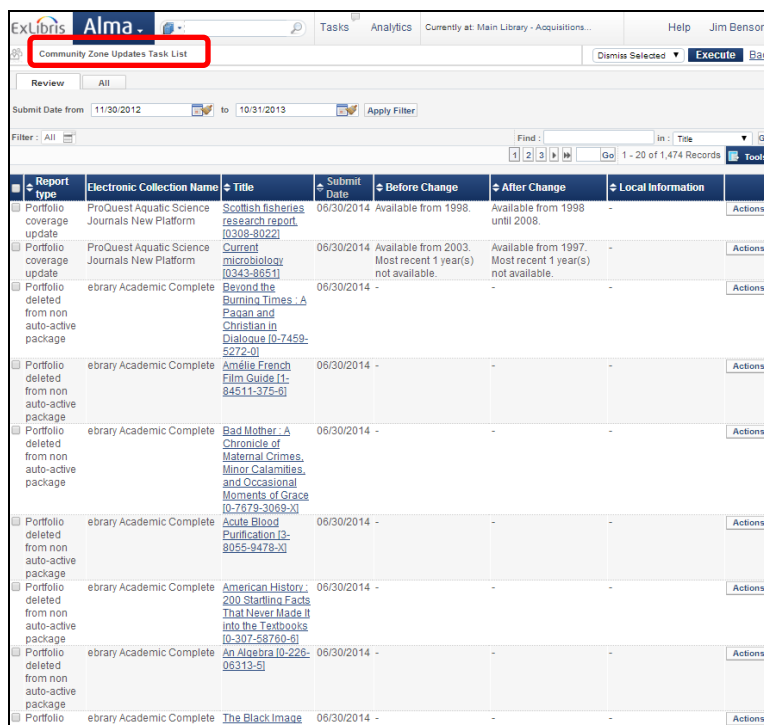
1. Accessibility Compliance Indicator
2. All Rights Reserved Indicator
3. Applicable Copyright Law
4. Archiving Format
5. Archiving Note
6. Archiving Right
7. Citation Requirement Detail
8. Clickwrap Modification Clause Indicator
9. Completeness of Content Clause Indicator
10. Concurrency with Print Version Clause Indicator
11. Concurrent User
12. Concurrent User Note
13. Confidentiality of Agreement
14. Confidentiality of Agreement Note
15. Confidentiality of User
16. Content Warranty
17. Course Pack Electronic

18. Course Pack Print
19. Course Pack Term Note
20. Course Reserve Electronic / Cached Copy
21. Course Reserve Print
22. Course Reserve Term Note
23. Cure Period for Breach
24. Cure Period for Breach Unit of Measure
25. Database Protection Override Clause Indicator
26. Digitally Copy
27. Digitally Copy Term Note
28. Distance Education
29. Distance Education Term Note
30. Electronic Link
31. Electronic Link Term Note
32. Fair Use Clause Indicator
33. Governing Jurisdiction
34. Governing Law
35. Indemnification by Licensee Clause Indicator
36. Indemnification Clause Note
37. Intellectual Property Warranty Indicator
38. Interlibrary Loan Electronic
39. Interlibrary Loan Print Or Fax
40. Interlibrary Loan Record Keeping Required Indicator
41. Interlibrary Loan Secure Electronic Transmission
42. Interlibrary Loan Term Note
43. Licensee Notice Period for Termination
44. Licensee Notice Period for Termination Unit of Measure
45. Licensee Termination Condition
46. Licensee Termination right Indicator
47. Licensor Notice Period for Termination
48. Licensor Notice Period for Termination Unit of Measure
49. Licensor Termination Condition
50. Licensor Termination Right Indicator
51. Local Authorized User Definition Indicator
52. Maintenance Window
53. Non-Renewal Notice Period
54. Non-Renewal Notice Period Unit of Measure
55. Other Use Restriction Note
56. Other User Restriction Note
57. Performance Warranty Indicator
58. Performance Warranty Uptime Guarantee
59. Perpetual Access Holdings
60. Perpetual Access Note
61. Perpetual Access Right
62. Pooled Concurrent Users
63. Print Copy
64. Print Copy Term Note
65. Remote Access
66. Renewal Type
67. Scholarly Sharing

- 68. Scholarly Sharing Term Note
- 69. Termination Requirement
- 70. Termination Requirements Note
- 71. Termination Right Note
- 72. UCITA Override Clause Indicator
- 73. Walk-In User Term Note

B.1.6.1.5. The system's process for updating records and performing coverage updates using external data. How are individual titles "matched" to incoming external data and identified for updating? How are multiple ISSNs/ no ISSNs and alternative titles handled?

Ex Libris: Since the CKB is maintained by Ex Libris, any CKB change related to the electronic resources used by the institution will be reflected in the institutional inventory, keeping the institution's electronic resources up to date, and taking into account any localization of the electronic resource. The Community Zone Updates Task List page in Alma displays these updates that were made to the Institutional Zone (IZ) during updates from the Community Zone (CZ). These changes are specific to the institution and may include modifications to bibliographic records as well as changes to holdings, availability, security requirements, and parser parameters.



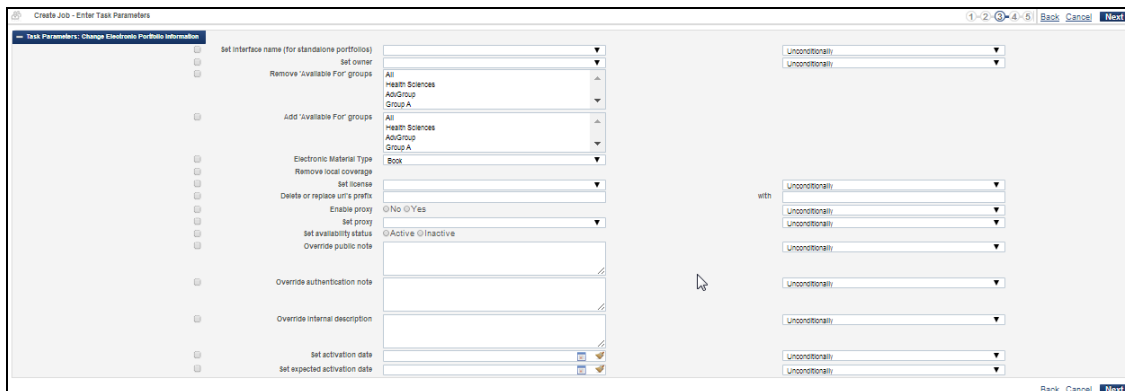
Report type	Electronic Collection Name	Title	Submit Date	Before Change	After Change	Local Information	Actions
Portfolio coverage update	ProQuest Aquatic Science Journals New Platform	Scottish fisheries research report, 0308-8022	06/30/2014	Available from 1998.	Available from 1998 until 2008.	-	Actions
Portfolio coverage update	ProQuest Aquatic Science Journals New Platform	Current microbiologist 0343-8551	06/30/2014	Available from 2003. Most recent 1 year(s) not available.	Available from 1997. Most recent 1 year(s) not available.	-	Actions
Portfolio deleted from non auto-active package	ebrary Academic Complete	Beyond the Burning Times, A Pagan and Christian in Dialogue 0-7459-5272-0	06/30/2014	-	-	-	Actions
Portfolio deleted from non auto-active package	ebrary Academic Complete	Amélie French Film Guide 11-84511-375-8	06/30/2014	-	-	-	Actions
Portfolio deleted from non auto-active package	ebrary Academic Complete	Bad Mother, A Chronicle of Maternal Crimes, Minor Calamities, and Occasional Moments of Grace 0-7679-3069-X	06/30/2014	-	-	-	Actions
Portfolio deleted from non auto-active package	ebrary Academic Complete	Acute Blood Purification 0-9055-9478-X	06/30/2014	-	-	-	Actions
Portfolio deleted from non auto-active package	ebrary Academic Complete	American History, 200 Starling Facts That Never Made It into the Textbooks 0-307-58760-6	06/30/2014	-	-	-	Actions
Portfolio deleted from non auto-active package	ebrary Academic Complete	An Algebra 0-226-06313-5	06/30/2014	-	-	-	Actions
Portfolio deleted from non auto-active package	ebrary Academic Complete	The Black Image	06/30/2014	-	-	-	Actions

Additionally, the library can create, update, and delete portfolios for an electronic collection in batch mode by uploading an Excel spreadsheet that contains a list of portfolios.

The file upload wizard allows the library to load either a complete set of portfolios or just the ones that have been updated since the last load.

Global corrections to e-resources can be done via the Portfolio update batch process, which

enables performing global changes on a defined set of records. The screen capture below is an illustration of the elements that can be changed:



The following loading policy types can be selected when adding, updating, or deleting a portfolio:

- **Complete** – Loads a complete set of portfolios, overwriting any existing portfolios. The following options are available when the Complete loading policy type is selected:
 - **Add local portfolios** – Selecting this option indicates that you want the system to process the portfolios (in the input Excel file) in the following manner:
 - If a match is found in the CZ for the portfolio, the portfolio is added and linked to the CZ.
 - If a match is not found in the CZ for the portfolio (based on the identifier), a match is attempted in the IZ and, if found, the portfolio is added as a local portfolio in the electronic collection. Otherwise, a new local portfolio record is created and added to the electronic collection.
 - **Update portfolios** – Alma updates existing local portfolios with the information listed in the Excel file for the matching portfolios when this option is selected. For portfolios linked to the CZ, only the override information in the portfolio is updated when this option is selected.
 - **Delete portfolios** – Select this option to indicate that:
 - If portfolios are in the CZ-linked electronic collection and not in the Excel file, they will be deleted
 - If portfolios are in the Excel file but not in the CZ-linked electronic collection, they will be activated from the CZ (if they exist in the CZ)

The **Delete portfolios** option provides the following additional options to enable you to specify how you want to handle bibliographic records when deleting portfolios results in bibliographic records without inventory:

- **Delete bibliographic record(s)**
- **Suppress bibliographic record(s)**
- **Do nothing**
 - **Incremental** – Loads a file that includes only the incremental changes to the portfolio list

of a specific electronic collection. With this option, you can load only the portfolios that have been updated since the last load.

When you choose Incremental, the page refreshes to display the following incremental options:

- **Add New** – This operation adds all portfolios that are listed (in the file provided) as new local portfolios to the electronic collection.
- **Update**– This operation updates the details of all electronic collection portfolios that are listed in the file.
- **Delete** – Select this option to indicate that:
 - If local portfolios are in the Excel file and in the electronic collection, they will be deleted
 - If portfolios are in the Excel file and not in the electronic collection, they will be activated from the CZ (if they exist in the CZ)

This differs from the **Delete portfolios** option under the **Complete** loading policy type (refer to the description above).

The **Delete** option provides the following additional options to enable you to specify how you want to handle bibliographic records when deleting portfolios results in bibliographic records without inventory:

- **Delete bibliographic record(s)**
- **Suppress bibliographic record(s)**
- **Do nothing**

B.1.6.1.6. The system's ability to support the creation, updating, storing, displaying, and reporting of internal and public notes for electronic resource management records.

Ex Libris: Alma allows public notes and authentication notes, as well as notes that are internal to staff. CKB electronic resources can be localized to reflect institution-specific information such as administrative/access information, coverage information for electronic journal titles, public notes, etc. The reporting of internal and public notes is available via Alma Analytics.

B.1.6.1.7. Describe if the system indexes electronic resource data separately from normal bibliographic data. How is the electronic resource data displayed to the public if desired?

Ex Libris: As stated above, Alma is a unified platform and handles resources of all types, regardless of format. This means that much of the functionality for e-resource management uses the same workflows as with physical resource management, allowing for consistent training, reporting, and a platform for workflow enhancements that applies to resources of any type.

Electronic resources are harvested and displayed in Primo just like any other resource type. Additionally, link resolution is built in; Alma will respond to any requests from discovery environments, with a menu with links to full text for all resources types: print, electronic, digital.

B.1.6.2. KNOWLEDGEBASE

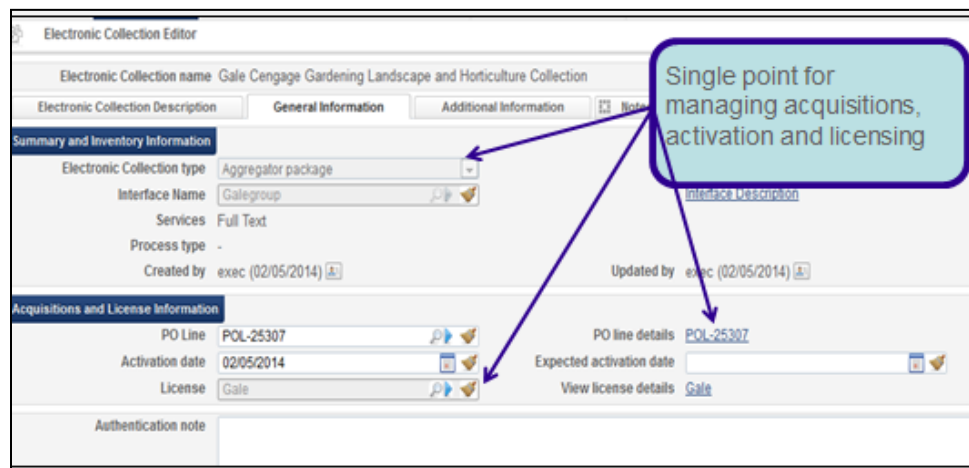
Describe or Demonstrate:

- B.1.6.2.1. If the system includes a knowledgebase and how the system uses this knowledgebase throughout the system. How does this knowledgebase support both local and consortial information?

Ex Libris: A Central Knowledge Base (CKB) managed, maintained and updated by Ex Libris, tracks the most up-to-date vendor offerings in the shared data services environment. When acquiring a new package, libraries may search the CKB and, when they find the package they wish to acquire, initiate an acquisition workflow based on either the full package or a selective subset of titles they've licensed from the vendor. The workflow may begin with a trial, pass through purchasing, and ultimately end up in activating the resource for all users. These workflows can be applied at both the level of the individual institution and the broader consortium.

Once activated, descriptive metadata (bibliographic records) for the titles will automatically be added to the local catalog. Additionally, link resolution is built in; Alma will respond to any requests from discovery environments, with a menu with links to full text for all resources types: print, electronic and digital.

When a subscription is nearing conclusion, Alma will prompt staff to initiate an evaluation process for the package. In the evaluation function, staff may view information about usage, cost, and how the package has changed, in order to decide whether to renew or cancel the subscription. Cancellation will automatically remove the descriptive records from the catalog.



As shown in the screenshot above, Alma provides a single interface to manage E-resources for Acquisitions, Activation, licensing and more.

Orders can originate in a number of ways:

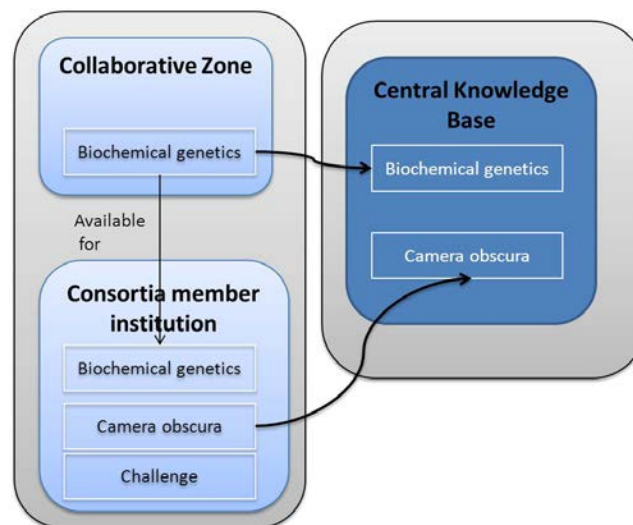
- automatically from the Alma selection module;
- outside of Alma, e.g., in a vendor's system; or
- via patron-initiated purchase requests. For vendor orders, Alma supports "embedded order data" (EOD) records, in which the vendor supplies the order via data embedded in a MARC record. This includes support of vendor approval programs such as e-books.

Purchasing of electronic resources is based on a workflow engine which automates the process that traditionally required manual intervention. The workflows include automatic processing of purchase orders as well as staff mediation for approval and exceptions, per the library's rules. The concept is based on rules-based decisions such as staff assignment, automatic approval and sending to the vendor, and automatic aggregation of purchase order lines into one purchase order.

Alma workflows also support automatic and manual renewals/cancellations including sending renewal notifications to the vendor.

Consortial information is managed in the Network Zone; a consortial collection can be created and managed in the Network Zone in a central manner. The central office, which manages the Network Zone, can indicate to which members of the consortia the collections are available for, and this collection can either be activated from the CKB or created locally in the Network Zone by the central office. Consortium members can benefit from electronic resources managed in the shared institution but also retain independence by purchasing and managing electronic resources that are not negotiated by the consortium.

The diagram below illustrates the relationships among consortium members in relation to electronic resource management:



Electronic resources of any type -- Database, Interface, Package, Titles -- can be locally created in the institution (the Network Zone or a Member Zone), or can link to a Central Knowledge Base electronic resource.

The Central Knowledge Base (CKB) describes vendor offerings for electronic resources and is maintained by Ex Libris. In the example above, the consortium negotiated a purchase of the electronic journal title 'Biochemical genetics' for a member institution and the electronic journal title is available via the CKB.

In addition, a consortium member independently purchased an electronic journal title, 'Camera Obscura', which is available via the CKB, and electronic journal, 'Challenge', which is not part of

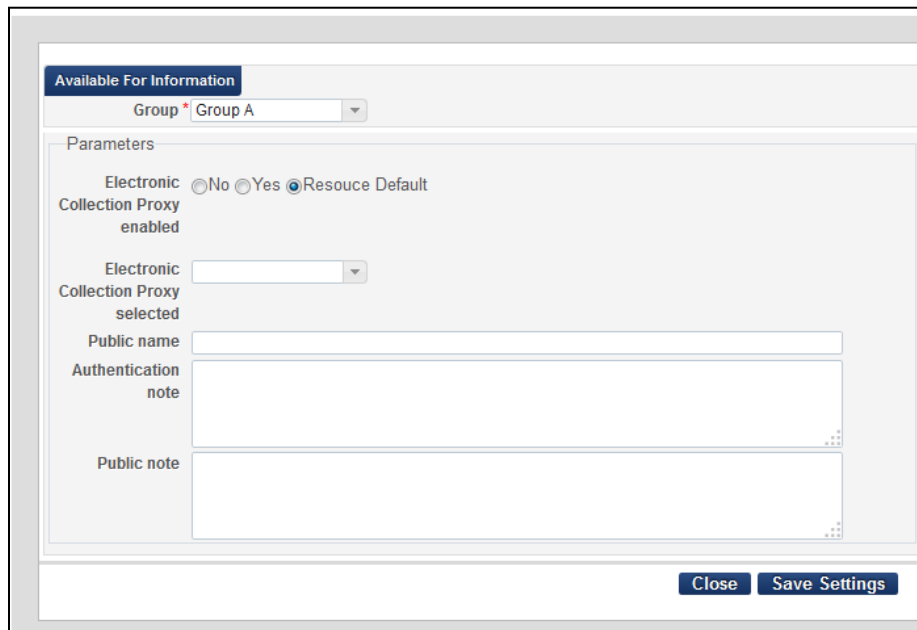
the CKB.

- B.1.6.2.2. How the knowledgebase can be managed centrally for shared resources on behalf of local sites, yet allow local sites to override or opt-out of inherited data from the central knowledgebase.

Ex Libris: Designed to support consortia, Alma supports consortial purchasing and management of electronic resources. Electronic resource purchasing, negotiated by the consortium, will be managed in the Network Zone, and electronic resources can be owned by all consortium members, a group of members, or an individual member.

Consortium members can benefit from electronic resources managed in the shared institution but also retain independence by purchasing and managing electronic resources that are not negotiated by the consortium.

In Alma’s Network Zone, electronic resources may be assigned an “Available For” definition, which defines the institutions that can get access to the resource. Managing the Electronic Resource in one place (the Network Zone) but making it available for many institutions in the consortium greatly reduces the amount of management needed to make these resources available for end user.



Electronic Collection name Gale Student Resources in Context	
Electronic Collection Description	
General Information	Additional Information
Notes	Group Settings
History	
Add Settings For Group	
Group Name	Group Members
1 The Engineering Library Group	Engineering Library
2 Main-Education	Education Library ; Main Library

A group represents a set of one or more institutions for which you want to manage electronic

resources in a like way. Group setting characteristics or considerations include the following:

- One or more institutions may be defined in a single group
- One institution can be a part of multiple groups

The electronic resources that are managed in the NZ are made available via the link resolver and Primo to the relevant group of institutions. See also our response to B.1.6.2.1 above on how the knowledgebase supports both consortial and local management of electronic resources.

- B.1.6.2.3. If the system interoperates with external agencies or software (e.g. LOCKSS).

Ex Libris: In addition to services found in a library's own collection (such as full text, requests, and so forth), Alma allows the library to define general HTTP services (such as searches in ProQuest dissertations and Amazon, Ask a Librarian, and so forth) that may be presented to patrons in the Primo View It and Get It tabs:



In order to create a general electronic service, a library simply must be familiar with the syntax of the service's URL, which includes any parameters that are needed to query or access specific information from the service. The service's URL along with OpenURL context object attributes returned from Alma's link resolver are used to define the URL template, which Alma uses to create the service link that displays in the View It and/or Get It tabs.

Access to LOCKSS can be achieved using the general electronic services functionality in Alma.

- B.1.6.2.4. The system's ability to reduce duplication of work by providing a single knowledgebase for all aspects of electronic collections including the ERM system, link resolver, and discovery system.

Ex Libris: Once activated from the Central Knowledge Base, descriptive metadata (bibliographic records) for the titles will automatically be available in the local catalog. Additionally, link resolution is built in; Alma will respond to any requests from discovery environments, with a menu with links to full text for all resources types: print, electronic and digital. Alma supports a publishing profile to Primo Central. If this profile is activated, then Primo Central will have a full text indication for the articles of the journal that that was activated in Alma.

Publishing Profile Details	
Profile name *	Publish electronic records to Primo Central
Profile description	Publish electronic records to Primo Central
Status	<input checked="" type="radio"/> Active <input type="radio"/> Inactive
Scheduling	Every Wednesday at 04:00 <input type="button" value="v"/>

- B.1.6.2.5. The source and process of obtaining metadata for electronic resource records in the knowledgebase, including titles, databases, and coverage information. How is the knowledgebase updated? How frequently? Do the system's software and staff, without a local site's intervention, perform the updates?

Ex Libris: The Alma CKB describes collections of electronic resources offered by a wide variety of vendors, including the titles that are part of that package and linking information for individual titles and articles in those packages. The sources of the metadata come from the vendors providing the electronic resources. Ex Libris continually works to improve and add content to the Knowledge Base. Customers may request that resources be added to the Knowledge Base, and we endeavor to add them as quickly as possible. As of October 2014, the Alma CKB includes the following resources:

- 1,573,995 eJournal portfolios
- 7,332,520 full text object portfolios
- 5,758,525 eBooks portfolios:
- 3,366,540 bib-records (objects)
- 30,859 peer reviewed journals
- 3,772 collections
- 3,109 selective collections
- 663 aggregator collections

Alma's Central Knowledge Base is maintained by Ex Libris, so any knowledge base change related to electronic resources used by the institution will be reflected in the institutional inventory, keeping the institution's electronic resources up to date, and taking into account any localization of the electronic resource. The Knowledge Base is updated on a weekly basis, and an email is sent out to all Alma customers notifying them of this update. The updates are also available to view in the Community Zone update task list in Alma:

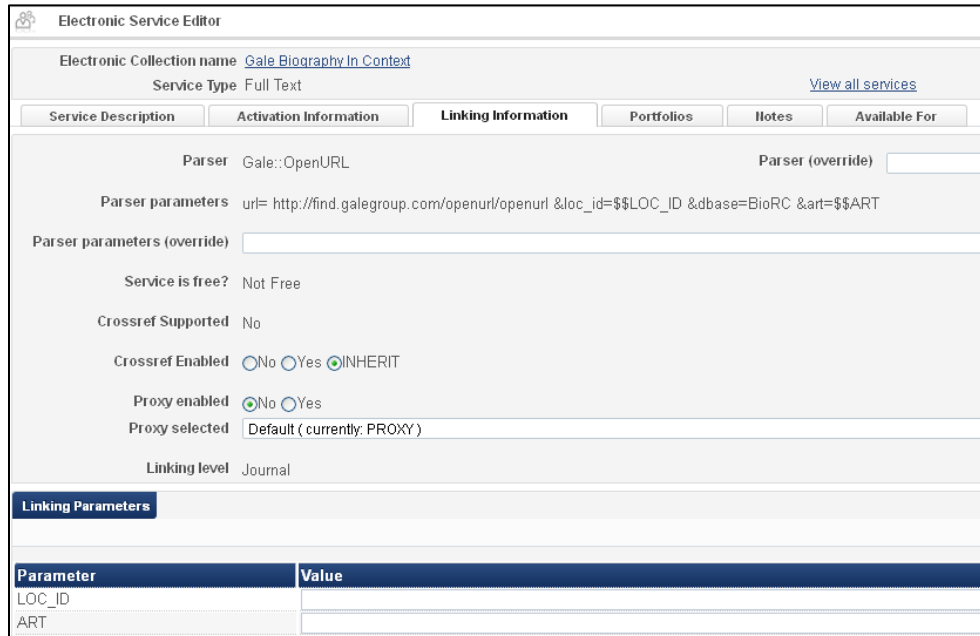
Report type	Electronic Collection Name	Title	Identifier	Submit Date	Before Change	After Change
1 Electronic collection linking parameters update	EBSCOhost Social Sciences Full Text	-	-	05/12/2013	Linking params: \$\$\$SHIBBOLETH Parse param: db_host=ssf&ebscohosturl = http://search.ebscohost.com & linkurl=http://openurl.ebscohost.com/linksvc/linking.aspx & shib=\$\$SHIBBOLETH	Linking params: \$\$\$SHIBBOLETH \$\$CUSTOMER_ID Parse param: db_host=ssf&ebscohosturl = http://search.ebscohost.com & linkurl=http://openurl.ebscohost.com/linksvc/linking.aspx & shib=\$\$SHIBBOLETH & customer_id=\$\$CUSTOMER_ID
2 Electronic collection linking parameters update	EBSCOhost Business Source Corporate Plus	-	-	05/12/2013	Linking params: \$\$\$SHIBBOLETH Parse param: db_host=plh& ebscohosturl = http://search.ebscohost.com & linkurl=http://openurl.ebscohost.com/linksvc/linking.aspx & shib=\$\$SHIBBOLETH	Linking params: \$\$\$SHIBBOLETH \$\$CUSTOMER_ID Parse param: db_host=plh& ebscohosturl = http://search.ebscohost.com & linkurl=http://openurl.ebscohost.com/linksvc/linking.aspx & shib=\$\$SHIBBOLETH & customer_id=\$\$CUSTOMER_ID
3 Electronic collection linking parameters update	EBSCOhost Regional Business News	-	-	05/12/2013	Linking params: \$\$EH_USER_ID \$\$\$SHIBBOLETH Parse param: db_host=bwh&ebscohosturl = http://search.ebscohost.com & linkurl=http://openurl.ebscohost.com/linksvc/linking.aspx & shib=\$\$SHIBBOLETH	Linking params: \$\$EH_USER_ID \$\$\$SHIBBOLETH \$\$CUSTOMER_ID Parse param: db_host=bwh&ebscohosturl = http://search.ebscohost.com & linkurl=http://openurl.ebscohost.com/linksvc/linking.aspx & shib=\$\$SHIBBOLETH & customer_id=\$\$CUSTOMER_ID

B.1.6.2.6. The process by which the system is able to link to full text content and upload title lists from a third party source (e.g. publisher/aggregator).

Ex Libris: Alma will link to full text content where the content provider makes full-text available. Alma's built in link resolver will respond to any requests from discovery environments, with a menu with links to full text for all resources types: print, electronic and digital.

The Alma link resolver offers these services via a menu that can be customized by the institution, defining the labels of the services and the order in which they appear. In addition, the institution can define display logic rules among services based on local preferences; for example, if an electronic journal is available from more than one provider, the institution can boost one provider over the other. The institution also can define logic rules among different service types, such as not offering a document delivery service if a full text service exists for the electronic resource. The institution can also configure the link resolver to link directly to the electronic resource, bypassing the electronic service page.

The linking parameters will be predefined, for instance, for individual journal packages and other electronic material from the CKB, but the information can be edited:

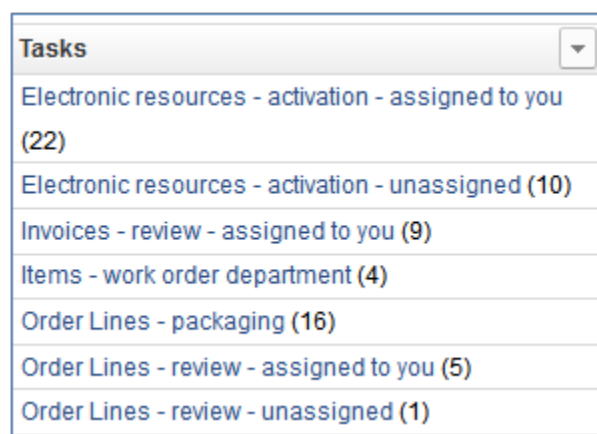


Parameter	Value
LOC_ID	
ART	

The system can upload title lists from a third party source using the portfolio loader in Alma, described in detail above.

- B.1.6.2.7. The process by which resource activation takes place in the knowledgebase and when and how the resource is made available in the discovery layer.

Ex Libris: Once the order has been sent to the vendor, and is ready for activation, it will appear in the task list under the hypertext link **Electronic resources – activation – unassigned** (related to a user's roles). This is a good example of Alma's efficient workflow options. The staff user can immediately see in the Alma task list the items that need to be taken care of.



Task	Count
Electronic resources - activation - assigned to you	22
Electronic resources - activation - unassigned	10
Invoices - review - assigned to you	9
Items - work order department	4
Order Lines - packaging	16
Order Lines - review - assigned to you	5
Order Lines - review - unassigned	1

The e-resource activation wizard is where the staff user enters information such as access rights, the option to automatically activate new portfolios, and also the activation date. Once the user completes the steps in the activation wizard, an activation process is run. This process can be monitored by the staff user in Alma, and a notification will be sent once the activation

process is complete.

Electronic Resource Activation Task List											
Assigned to Me			Unassigned			Assigned to Others					
Status:	Opened Tasks	PO Line Owner:	All	Expected Activation Date:	All	Find:	in:	All	Go	1 - 4 of 4 Records Tools	
ID	Title	Type	Status	Status Date	Modified By	Identifier	Expected Activation Date	PO Line Owner	Order Line	Notes	Actions
1	<input type="checkbox"/> An introduction to atmospheric gravity waves	Portfolio	Check Access	09/05/2014	System	0123852234 (electronic bk.)	-	Main Library	POI-43472		Actions
2	<input type="checkbox"/> Gale Cengage Information Science & Technology Collection	Aggregator package	Check Access	06/05/2014	System	-	-	Main Library	POI-43387		Actions
3	<input type="checkbox"/> Highpoints of the United States a guide to the fifty state summits /	Portfolio	Check Access	05/01/2014	System	9780585251899 (electronic bk.)	-	Main Library	POI-43326		Actions
4	<input type="checkbox"/> Ingenta Connect Irish Journal of French Studies	Selective package	Check Access	06/11/2014	System	-	-	Main Library	POI-43397		Actions

Once a resource has been activated, it will be added to and indexed in the institution's repository; it will also be published to the Discovery solution. Electronic resources can be viewed online from the Discovery System, using the "View It" tab. The "View It" tab in Primo is discussed in further detail in Section C of this response.

B.1.6.2.8. How the knowledgebase identifies and deals with journal title and coverage data changes.

Ex Libris: As stated above, Alma's Central Knowledge Base is maintained by Ex Libris, so any knowledge base change related to electronic resources used by the institution will be reflected in the institutional inventory, keeping the institution's electronic resources up to date, and taking into account any localization of the electronic resource. Also shown above is the Community Zone update task list, which shows the changes of coverage information from one update to another.

B.1.6.2.9. The system's ability to alert local sites of knowledgebase changes. How does the system support and respond to customer requests for metadata corrections or the addition of new resources?

Ex Libris: Content is continually added to the Knowledge Base. Customers may request that resources be added to the Knowledge Base, and we endeavor to add them as quickly as possible. Additionally, the institution can create a local electronic resource in Alma. The Community Zone update tasklist reflect site-specific changes to the Knowledge Base.

B.1.6.2.10. The system's ability to support data migrated from another knowledgebase. What are the required match-points (e.g. ISSN, OCLC or other number) for a successful migration? Can the system export both local electronic resource holdings and consortial holdings?

Ex Libris: In cases where ERM system data (dependent on the scope of work with Ex Libris) is Included in the data migration, it needs to be added/overlaid such that the appropriate resources are identified (based on an identifier – OrderId, SFXid or other link resolver system ID, and/or ILSBibId – that can link to the relevant resource and update it with the ERM-stored electronic resource-specific information). Alma migration tools are based on standard metadata formats when they exist, such as MARC for bibliographic data, and DLF ERM for license data. The Alma implementation includes migration tools for Ex Libris source systems. To migrate a non-Ex Libris ERM, the customer will need to provide the data in the format required by Ex Libris. Ex Libris has extensive experience migrating institutions using Serials Solutions 360Resource

Manager to Alma. The system can export both local electronic resource holdings and consortial holdings.

- B.1.6.2.11. The types/formats of electronic resources the system can or cannot manage and provide content access to. Examples include e-journals, e-books, reference databases, image archives, online encyclopedias, videos, sound recordings, streaming videos, etc.

Ex Libris: Alma can manage all types and formats of electronic resources, including the examples listed above.

- B.1.6.2.12. How Patron Driven Acquisition (PDA) eBook vendors will work with the system to automatically update holdings and how the process can be automated through the life-cycle of the material.

Ex Libris: Alma streamlines the process for patron-driven acquisition (PDA), including e-books, by loading potential candidates to discovery, managing automatic approval plans, managing billing from the vendors and automatically adding purchased books to the institution's catalogue and inventory. The PDA workflow can be described as follows:

- A PDA profile is created:



Name *	Alexander Street Press	Code *	ASP
Status *	Active	Vendor *	Alexander Street Press
Start Date *	04/09/2013	End Date	07/02/2013
Access Threshold	5	Money Threshold	50.00 USD
License	Alexander Street Press	Contact	

- Vendor candidate e-records (with URLs) are loaded into the Alma repository
- Alma publishes the records to the discovery tool (Primo)
- Users discover and use the e-resources, triggering purchases (loans and over a particular threshold, complete purchases)
- The vendor sends PO Lines via EOD and invoices via EDI
- After a defined period, the candidate e-resources that were not used (or usage did not exceed the defined threshold) are removed from the Alma repository and from the discovery tool.

As briefly described above, based on the library's approval profile, the vendor will provide bibliographic records which Alma will automatically load into the library's local Library Zone catalogue and make available through Primo for discovery. As patrons select the resources via Primo, the Primo-Alma interoperability will ensure that the management processing for ordering and invoicing is automated based on the library's business rules. In most cases, this can be a completely automated and unmediated process, requiring only that the library set up access for receipt of the vendor records [typically done via standard FTP today] and rules internal to Alma for ordering, fund management, and payment. Alma is flexible to any new product information a vendor can offer and deliver via FTP.

PDA can be managed either in the Institution Zone or in the Network Zone on behalf of the members. Alma also has the capability to alert staff if there is no more budget left for the program as well as the ability to pause the PDA program until further funds are added at which

time the PDA program can be resumed.

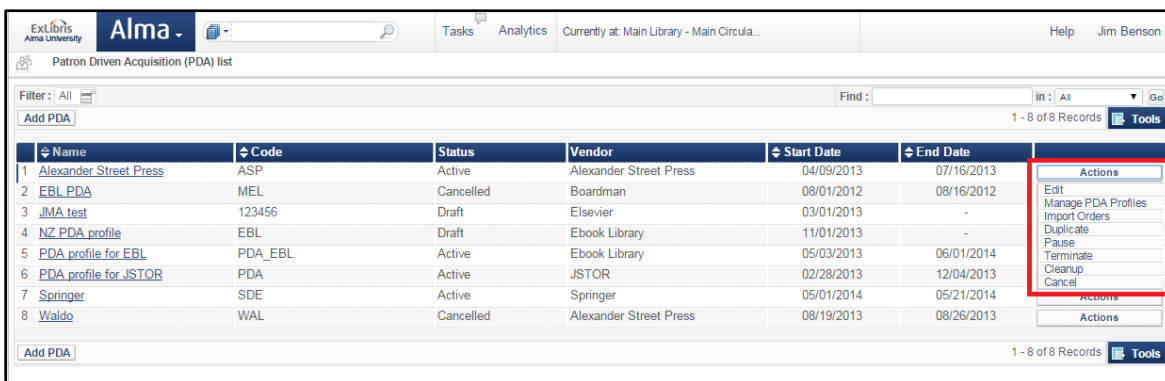
- B.1.6.2.13. The system's specific ability to update titles in PDA eBook packages. For example, if PDA packages are enabled at either the local level or consortial level, how will the system automatically make content for that package available to end-users? As end-users select titles and those become a permanent part of a collection, how does the system automatically update holdings either locally or consortially?

Ex Libris: If the PDA is managed in the network zone, the candidate titles are made available to all consortia member's patrons (or to a group of institutions) via the discovery system. Once a record is accessed by any patron in the consortia, it triggers a purchase (depending on the consortia's agreement with the vendor). The vendor then delivers an EOD to the central office, which then loads it, thereby triggering centrally managed acquisition orders. Titles that have orders associated with them are considered to be part of the permanent collection. Alma also supports functions to remove titles that are part of the PDA but did not become part of the permanent collections.

If the PDA is managed locally, the candidate titles are made available only to patrons of the institution via the discovery system. Once accessed by any patron of the institution, it triggers a purchase (again, depending on the agreement with the vendor). The vendor then delivers an EOD to the *institution* only, which loads it, thereby triggering acquisition orders for the institution.

- B.1.6.2.14. How these records for each site will support eBooks and eBook chapter linking. How will records be updated: edits, deletions, duplication of titles, and duplication of titles among different package providers.

Ex Libris: Patron Driven Acquisitions in Alma can be for eBooks or chapters. The load is done via the PDA import profiles, which supports both the initial PDA load and updates to the content of the PDA project such as deletions, additions, and changes. PDA titles can be loaded to a collection for ease of management.



Name	Code	Status	Vendor	Start Date	End Date	Actions
Alexander Street Press	ASP	Active	Alexander Street Press	04/09/2013	07/16/2013	Actions
EBL_PDA	MEL	Cancelled	Boardman	08/01/2012	08/16/2012	Actions
JMA_test	123456	Draft	Elsevier	03/01/2013	-	Actions
NZ_PDA_profile	EBL	Draft	Ebook Library	11/01/2013	-	Actions
PDA_profile_for_EBL	PDA_EBL	Active	Ebook Library	05/03/2013	06/01/2014	Actions
PDA_profile_for_JSTOR	PDA	Active	JSTOR	02/28/2013	12/04/2013	Actions
Springer	SDE	Active	Springer	05/01/2014	05/21/2014	Actions
Waldo	WAL	Cancelled	Alexander Street Press	08/19/2013	08/26/2013	Actions

As shown in the screenshot above, the library can perform the following actions on the PDA, as needed:

- Edit
- Duplicate
- Pause

- Terminate
- Cancel

B.1.6.2.15. Ability to provide seamless access to both local and consortial collections to users, including, but not limited to, its unique digital resources.

Ex Libris: Alma unifies the management of print, electronic and digital resources, supporting automatic, exception-based workflows for the complete lifecycle management of all of the resources managed in the library. Rather than integrating a range of existing, disparate services, Alma was designed to break down the traditional silos among formats and functions to create efficiencies that reduce the library's cost of ownership and free library staff to perform the important activities that solidify the library's role in the larger institution.

Primo delivers optimum interoperability with Alma, and it also is designed to provide the "union catalog" desired to view the holdings of all CSU libraries. Primo can provide a consortium-wide view, and each CSU institution can not only each have its own Primo user interface ("view") with institutional branding, but also specify other site-specific parameters such as field order, labels, facet locations and much more. This structure enables Primo to present de-duplicated holdings and collections from Alma and also ranked holdings in the results by owning location (per view) and availability.

As a unified solution, Alma is designed to manage, in addition to electronic and print resources, a broad range of digital collections. Digital content managed in Alma utilizes the same unified workflows as other resource types, also leveraging the same consistent user interface while providing extended functionality to accommodate the special needs of digital collections.

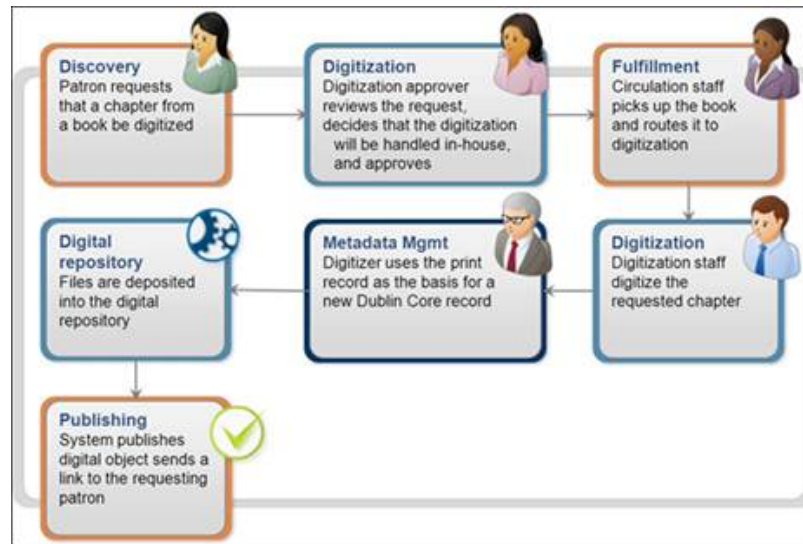
For example, Alma supports the ability to define workflows for various deposit processes (theses submissions, the submission of faculty papers, research data, etc.). The deposit workflow process ("Material Flow") is based upon rules and can accommodate different scenarios based upon material type, producer and other factors. Authorized staff can view deposited materials that are waiting to be approved and processed and can move them to the next step in the workflow, assign them to another user, reject or revalidate them.

The submission process can also include the following elements:

- Generation of thumbnails
- Generation of technical metadata
- Virus checking

Libraries can take advantage of Alma's cloud storage for digital collections and also leverage the ability to have restricted collections reside in on-premise storage systems. For digital collections stored on-premise, Alma can manage descriptive metadata, location-agnostic URI's and workflow integration.

Alma also supports digitization on demand workflows, coordinating the activities of staff across library organization units. A patron-initiated digitization request triggers an alert and a pick slip at a specific digitization location. A staff member can report a copyright clearance status. The full process is shown in the image below:



All digital content is assigned access rights that can range from full public access to restricted search and delivery. Actual access rights for digital content can be maintained separately from discovery publishing solutions. Alma's flexible access right controls can be defined for each item, and according to the user's rights.

Another important feature of Alma that is already supported is the ability to integrate with digital repositories such as: Fedora, DSpace, Rosetta, Digitool and CONTENTdm using standard OAI-PMH functionality.

B.1.6.3. LICENSE RECORD

Describe or Demonstrate:

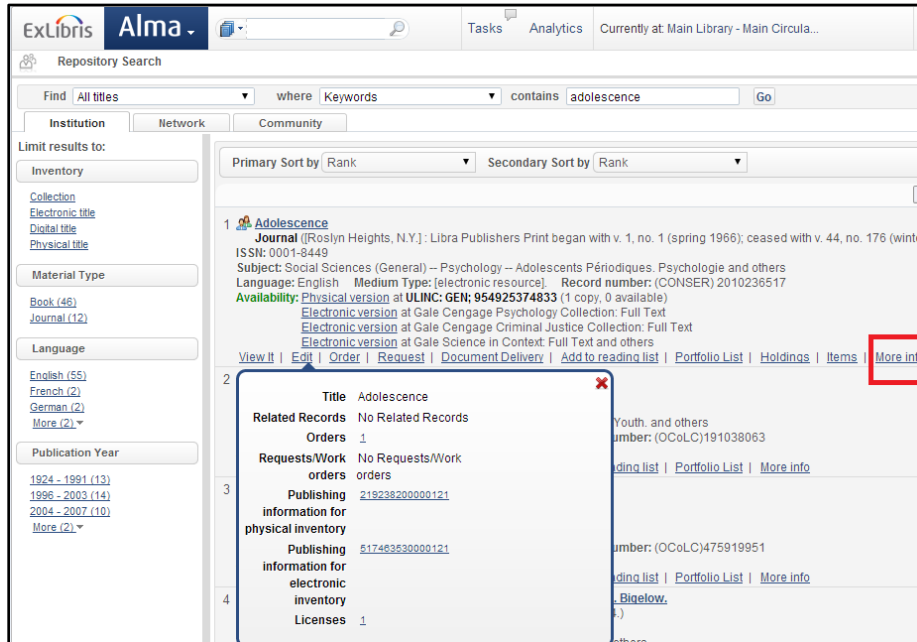
- B.1.6.3.1. The structure and functions of the license record, and how they comply with DLF ERMI standards.

Ex Libris: Alma features a dedicated license management module which conforms to the DLF-ERMI standard. Libraries can customize the staff-facing user interface forms so that only relevant license terms display to staff.

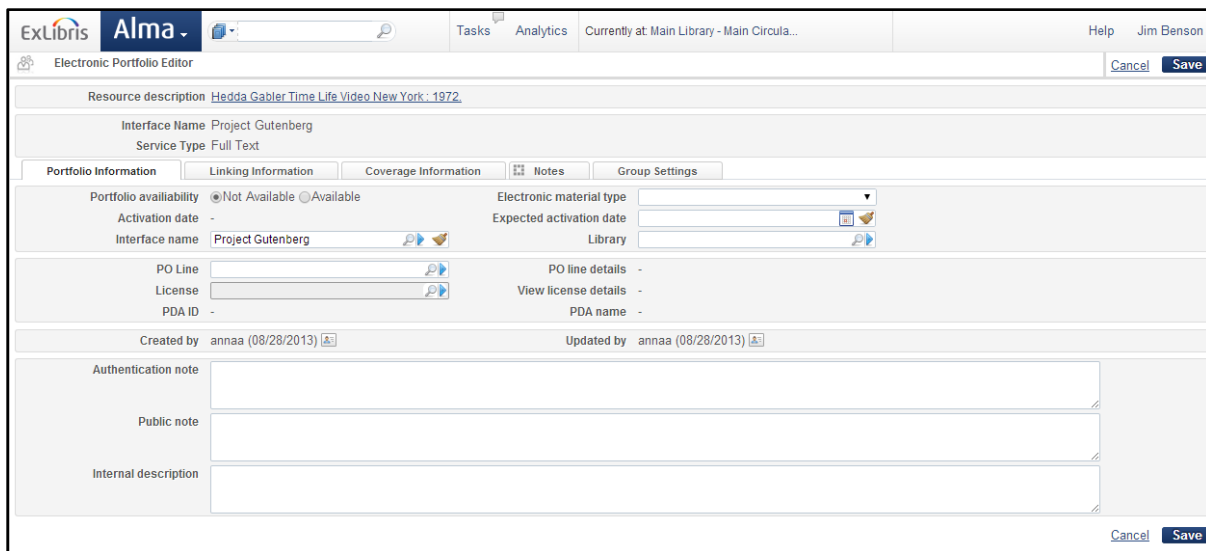
Alma enables staff to quickly and easily create a license record that captures detailed information about the terms of a license or contract. It also enables the creation of an addendum or amendment for a license which serves to identify additional titles covered by the existing license (e.g., when a library adds new titles and overall license terms do not change), or to modify the terms associated with a particular resource or group of resources.

The License Details in Alma is comprised of several tabs: A summary tab, which gives information such as the name, status, and start and end dates of the license; a License Terms tab, which gives information regarding the Terms of Use, Restrictions, Perpetual Rights, Obligations, and Termination Obligations of a license; an Inventory tab, which lists the active and historical packages associated with the license; an Amendments tab, a Notes tab, and an Attachments tab.

In the repository search, a staff operator can easily navigate to the license details of a particular electronic resource by clicking on the “More Info” hyperlink in the record.




The license management functionality is seamlessly integrated into the acquisitions process, making it simple for library staff to conduct trials, place orders, activate, evaluate, and renew electronic resources in an ongoing cycle.



Name	License code	License type	Licensor Code	Status	Start date	End date	Signed on
<input type="radio"/> AIP	AIP	License	-	Active	02/25/2013	-	02/25/2013
<input type="radio"/> Alexander Street Press	ASP	License	-	Active	02/26/2013	-	02/26/2013
<input type="radio"/> Chadwyck	CHADWYCK	License	-	Active	02/27/2013	-	-
<input type="radio"/> CSA	CSA	License	A D & L	Active	05/02/2011	04/30/2013	04/29/2011
<input type="radio"/> Demo	Demo	License	-	Draft	05/29/2013	-	-
<input type="radio"/> Ebrary	EBR	License	-	Active	12/31/2012	-	-
<input type="radio"/> Ebsco	EBSCO	License	0-123	Active	08/01/2011	07/31/2013	07/29/2011
<input type="radio"/> Elsevier	ELS	License	0-012	Draft	12/14/2011	-	12/01/2011
<input type="radio"/> Gale	GALE	License	0-011	Active	12/11/2011	-	11/01/2011
<input type="radio"/> Gale	GALE1	Amendment	0-011	Active	12/11/2011	-	11/01/2011
<input type="radio"/> Highwire	HIGHWIRE	License	-	Active	02/27/2013	-	-
<input type="radio"/> Ingenta	INGENTA	License	-	Active	02/27/2013	-	-
<input type="radio"/> JSTOR	JSTOR	License	0-013	Active	12/22/2011	-	-
<input type="radio"/> Proquest	PRO-567	License	A0902	Draft	08/01/2011	-	-
<input type="radio"/> Springer	SPRINGER	License	0-011	Active	12/11/2011	-	11/01/2011
<input type="radio"/> Wiley	W-1234	License	0415-WYLIE	Active	07/29/2011	-	-

It is also possible for the library to configure and display license terms to end users in the Primo discovery interface. It is the library that determines which information is displayed and how:

 **Adolescence.**
1966

● **Online access. The library also has physical copies.**

Journal

[View It](#) [Get It](#) [Locations](#) [Details](#) [Reviews & Tags](#) [Virtual Browse](#)

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Full text available at: [Gale Cengage Psychology Collection](#) [Hide license](#)
Available from 1993 until 2009.

License Terms
Digitally copy: Not Applicable
Print copy: Permitted
Interlibrary loan electronic: Permitted
Interlibrary loan secure electronic transmission: Permitted
Scholarly sharing: Uninterpreted
Interlibrary loan record keeping required indicator: Yes
Interlibrary loan print or fax: Not Applicable
Concurrent User: 4

Full text available at: [Gale Science in Context](#) [Show license](#)

Please see our response to B.1.6.1.4 above for more detail on DLF-ERMI compliance.

B.1.6.3.2. The system's support for the management of license agreements at a local and consortial level. How are consortium and local licenses (and related documents) stored and displayed in the system?

Ex Libris: An important aspect of consortial purchasing and management of electronic resources is license management. The Alma NZ supports the option of a consortial negotiation license record. The consortial negotiation license record differs from a standard license in that it includes negotiation details (price, start and end of license, etc.) for each member subscribing to the collection. Once an institution orders centrally negotiated e-resources, the order details are inherited from the negotiation license for that institution.



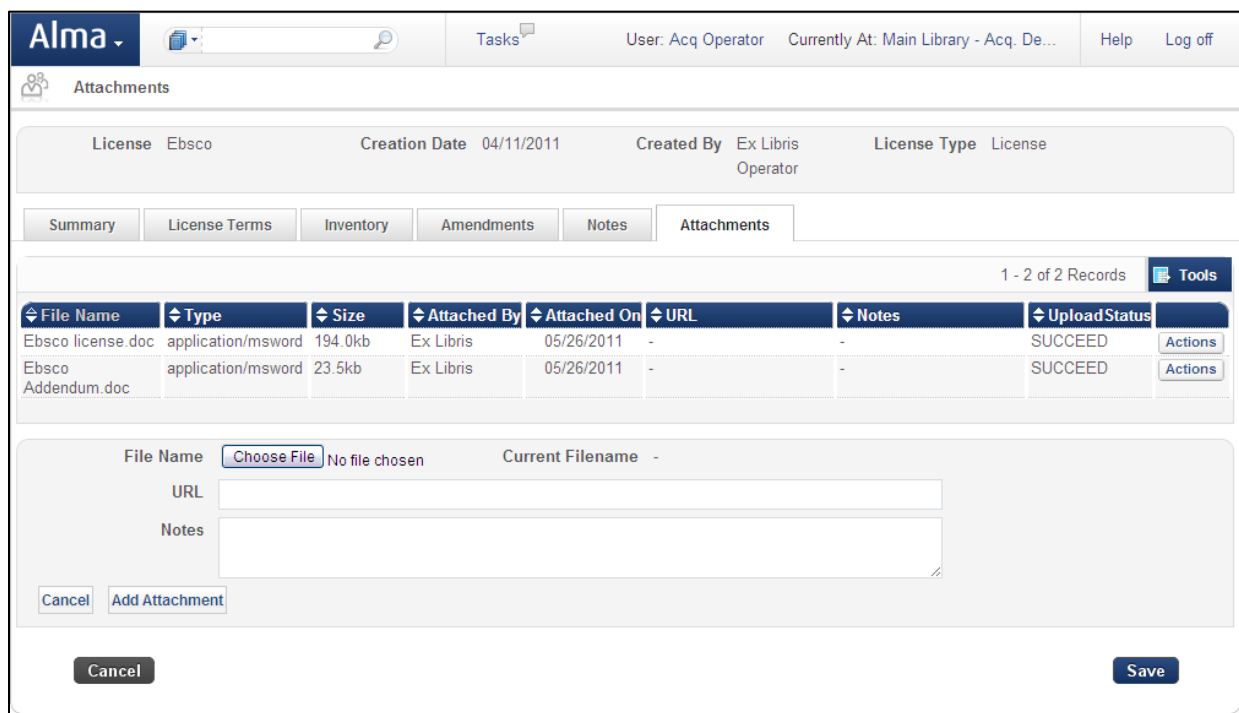
Member Name	Member's Contact Email	Price	Currency	Start date	End date	Order Status
1 Open University	bna.miller@open.ac	1900	USD	07/01/2013	07/31/2018	-
2 Alma University	barbara.radel@exlibrisgroup.com	500	USD	07/01/2013	07/31/2014	-

NZ Managed negotiation license record

Licenses can be managed at the level of the member institution for electronic resources that were purchased individually. License and license amendments can be associated with databases, packages and titles, reflecting the license agreement of the electronic resources.

- B.1.6.3.3. Fields available for license terms and how these can be integrated into other areas of the system. What is the system's support regarding license term mapping?

Ex Libris: License terms can be recorded in the License Terms Details record, available via the License Terms tab. Fields and terminology accord to the Digital Library Federation (DLF) Electronic Resource Management Initiative (ERMI) standard. Digital versions of both licenses and amendments can be attached, as can be seen in the following screen capture:



The screenshot shows the 'Attachments' section of the Alma interface. At the top, it displays 'License Ebsco', 'Creation Date 04/11/2011', 'Created By Ex Libris Operator', and 'License Type License'. Below this are tabs for 'Summary', 'License Terms', 'Inventory', 'Amendments', 'Notes', and 'Attachments'. A table shows two attachments:

File Name	Type	Size	Attached By	Attached On	URL	Notes	Upload Status	Actions
Ebsco license.doc	application/msword	194.0kb	Ex Libris	05/26/2011	-	-	SUCCEED	Actions
Ebsco Addendum.doc	application/msword	23.5kb	Ex Libris	05/26/2011	-	-	SUCCEED	Actions

Below the table is a form for adding a new attachment with fields for 'File Name' (with a 'Choose File' button), 'URL', and 'Notes'. At the bottom of the form are 'Cancel' and 'Add Attachment' buttons. A larger 'Cancel' button is at the bottom left, and a 'Save' button is at the bottom right.

The fields available for license terms are listed earlier in this response.

Term types are the types of license terms predefined by Alma, and libraries can define the license term types that they want to appear in the different sections of the License Terms tab on the License Term Details page. The library can also define the order in which the term types are displayed in their respective sections of the page. Term types may be either enabled

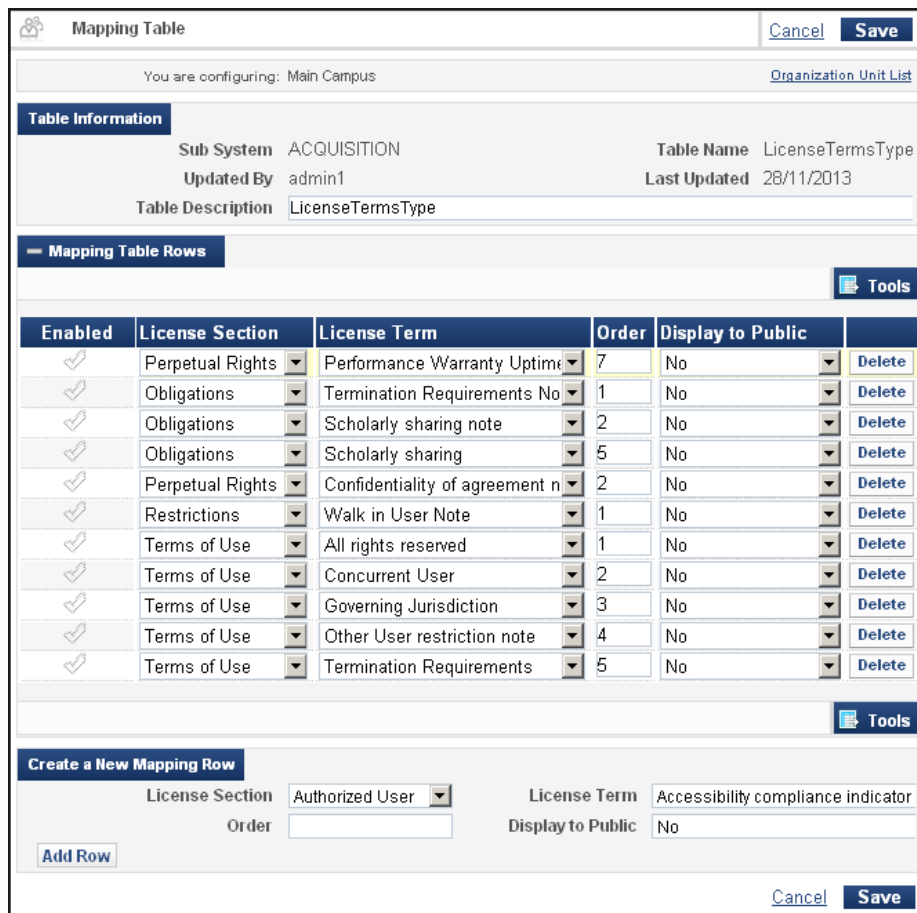
or disabled. Term types are configured on the License Terms Type Mapping Table page.

The License Terms Type Mapping Table page displays:

- Details about the table that contains the term types for the institution/library. Most of the details are system-generated and cannot be edited.
- A list of the term types that are defined for the institution/library
- A group of input fields that enable you to define and create a new set of term types

The following actions can be performed on this page:

- Adding a term type definition
- Editing terms type definitions
- Deleting a terms type definition
- Disabling a terms type definition



Mapping Table Cancel Save

You are configuring: Main Campus [Organization Unit List](#)

Table Information

Sub System: ACQUISITION Table Name: LicenseTermsType
 Updated By: admin1 Last Updated: 28/11/2013
 Table Description: LicenseTermsType

Mapping Table Rows [Tools](#)

Enabled	License Section	License Term	Order	Display to Public	
<input checked="" type="checkbox"/>	Perpetual Rights	Performance Warranty Uptime	7	No	Delete
<input checked="" type="checkbox"/>	Obligations	Termination Requirements No	1	No	Delete
<input checked="" type="checkbox"/>	Obligations	Scholarly sharing note	2	No	Delete
<input checked="" type="checkbox"/>	Obligations	Scholarly sharing	5	No	Delete
<input checked="" type="checkbox"/>	Perpetual Rights	Confidentiality of agreement n	2	No	Delete
<input checked="" type="checkbox"/>	Restrictions	Walk in User Note	1	No	Delete
<input checked="" type="checkbox"/>	Terms of Use	All rights reserved	1	No	Delete
<input checked="" type="checkbox"/>	Terms of Use	Concurrent User	2	No	Delete
<input checked="" type="checkbox"/>	Terms of Use	Governing Jurisdiction	3	No	Delete
<input checked="" type="checkbox"/>	Terms of Use	Other User restriction note	4	No	Delete
<input checked="" type="checkbox"/>	Terms of Use	Termination Requirements	5	No	Delete

[Tools](#)

Create a New Mapping Row

License Section: Authorized User License Term: Accessibility compliance indicator
 Order: Display to Public: No

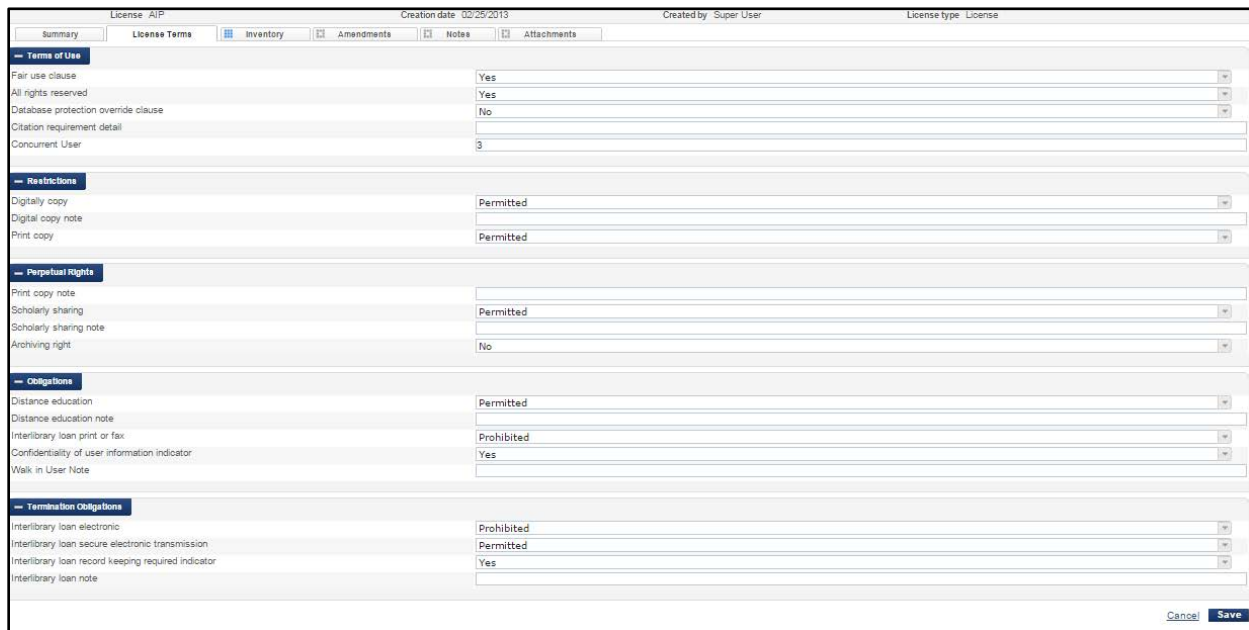
Add Row [Cancel](#) Save

License management functionality is seamlessly integrated into the acquisitions process, making it simple for library staff to conduct trials, place orders, activate, evaluate, and renew electronic resources in an ongoing cycle. Additionally, license information of electronic portfolios can be displayed to library patrons from Primo. The information displayed, and how it is displayed, is configurable:



B.1.6.3.4. The system's ability to display the terms of use and restrictions, both as a public notice, and, for staff, at the database/package level and at individual title level.

Ex Libris: On the staff side, the license terms tab in a license record gives information regarding the Terms of Use, Restrictions, Perpetual Rights, Obligations, and Termination Obligations of a license:



Staff can link directly to this detailed license information directly from the repository search, and can view licenses either at the database/package level and/or at the individual title level. Below is an example of Publisher's Weekly, associated with three different electronic collections and therefore three different licenses. The license information is hyperlinked; if the staff user clicks on the number, they are taken to the three different licenses:

1 **Publishers weekly PW.**
Journal (New York, NY : Reed Business Information Print began with vol. 3, no. 1 (Jan. 2, 1873).)
 ISSN: 0000-0019
 Subject: Electronic journals. -- Publishers and publishing Periodicals. -- Book industries and trade Periodicals. United States and others
 Language: English Medium Type: [electronic resource] Record number: (CONSER) 2009200293
 Availability: Electronic version at ProQuest Library Science New Platform: Full Text
 Electronic version at EBSCOhost Academic Search Complete: Full Text
 Electronic version at Gale Cengage General Business File ASAP: Full Text and others
[View It](#) | [Edit](#) | [Order](#) | [Request](#) | [Document Delivery](#) | [Add to reading list](#) | [Portfolio List](#) | [More info](#)

2 **Title** Publishers weekly PW. ✖

3 **Related Records** No Related Records [list](#) | [Portfolio List](#) | [More info](#)

Orders No Orders

4 **Requests/Work orders** No Requests/Work orders

Publishing information for electronic inventory

Licenses 3 [list](#) | [Portfolio List](#) | [More info](#)

Courses No Courses

ExLibris Alma University **Alma** Tasks Analytics Currently at: Main Library - Acquisitions... Help Jim Benson

Licenses and Amendments [Back](#)

Filter: All Find: In: Name [Go Advanced Search](#)

1 - 3 of 3 Records [Tools](#)

Name	License code	License type	Licenser Code	Status	Start date	End date	Signed on	
1 EbSCO	EBSCO	License	0-123	Active	08/01/2011	07/31/2013	07/29/2011	View
2 Gale	GALE	License	0-011	Active	12/11/2011	-	11/01/2011	View
3 AIP	AIP	License	-	Active	02/25/2013	-	02/25/2013	View

As stated and demonstrated above, it is also possible for the library to configure and display license terms to end users in the Primo discovery interface.

B.1.6.4. SYSTEM ADMINISTRATIVE/CONTACT INFORMATION:

Describe or Demonstrate:

B.1.6.4.1. The system's ability to manage a variety of administrative information for electronic resources on both a local and consortial level.

Ex Libris: Alma provides comprehensive support for vendor information and communication. Vendor records include contact information, including email, to track and manage communication with the vendor, as can be seen in the screenshot below.

Vendor Details

Vendor name: Gale Vendor code: 0-011

Summary | Contact Information | Contact People | EDI Information | Invoices | PO Lines | Communications | Attachments | Notes

Vendor General Details

Institution: Alma University

Name: * Gale

Code: * 0-011 Additional code:

Financial Sys. code: National tax ID:

Status: Active

Liabel for VAT:

Libraries: Alma University(including) [+](#) [-](#)

Currencies: ALL [+](#) [-](#)

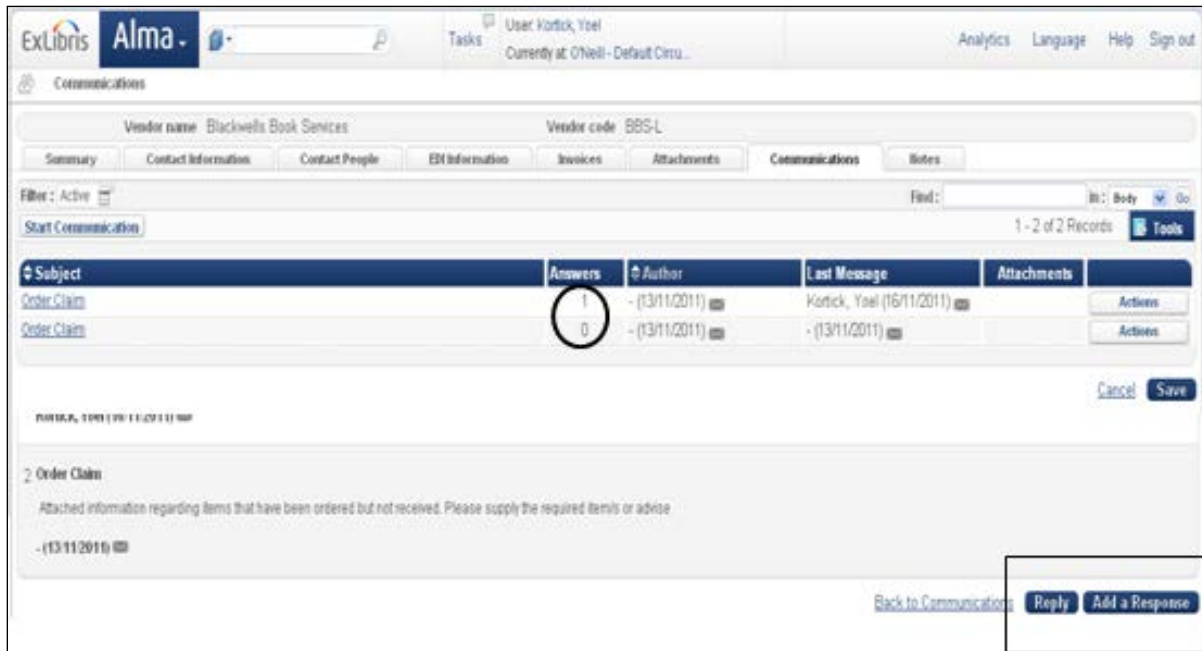
Language: English

Material Supplier/Subscription Agent: Access Provider: Licensor:

Created by: Cathy Owen (12/11/2011) Last updated by: Yoel Kortick (Chief Librarian and Senior Library Director) (01/29/2014)

[Accounts](#)

Alma Vendor Information



Alma vendor communication management

Vendors are associated with administrative information such as account details, access information, and statistics information. Electronic databases can also be associated with this administrative information.

All electronic resources are associated with access information which enables access to the electronic resource via the embedded link resolver.

Management of vendors at the consortium level is part of the Alma roadmap.

- B.1.6.4.2. The system's ability to manage contact information for vendors and publishers on a local and consortial level and whether the system allows for multiple entries in various fields.

Ex Libris: Vendor records are one of the building blocks of Alma's acquisitions functionality, and are used in almost every acquisitions-related workflow within the system. The vendor record in Alma is made up of various segments, including a summary, contact information (addresses, phone numbers, web addresses), contact people, EDI information, invoices, attachments, communications, and notes.

Each vendor record has one or more vendor accounts, which exist to describe the terms under which materials are purchased from the vendor. For example, the vendor account may specify discounts, payment methods, claim and delivery information, or even identify unique contact information or people.

Alma allows for multiple entries in many of the fields in a vendor record, including mailing addresses, e-mail addresses, phone numbers, contact people, etc. As noted above, vendors on the consortial level are part of the Alma roadmap.

B.1.6.5. WORKFLOW MANAGEMENT

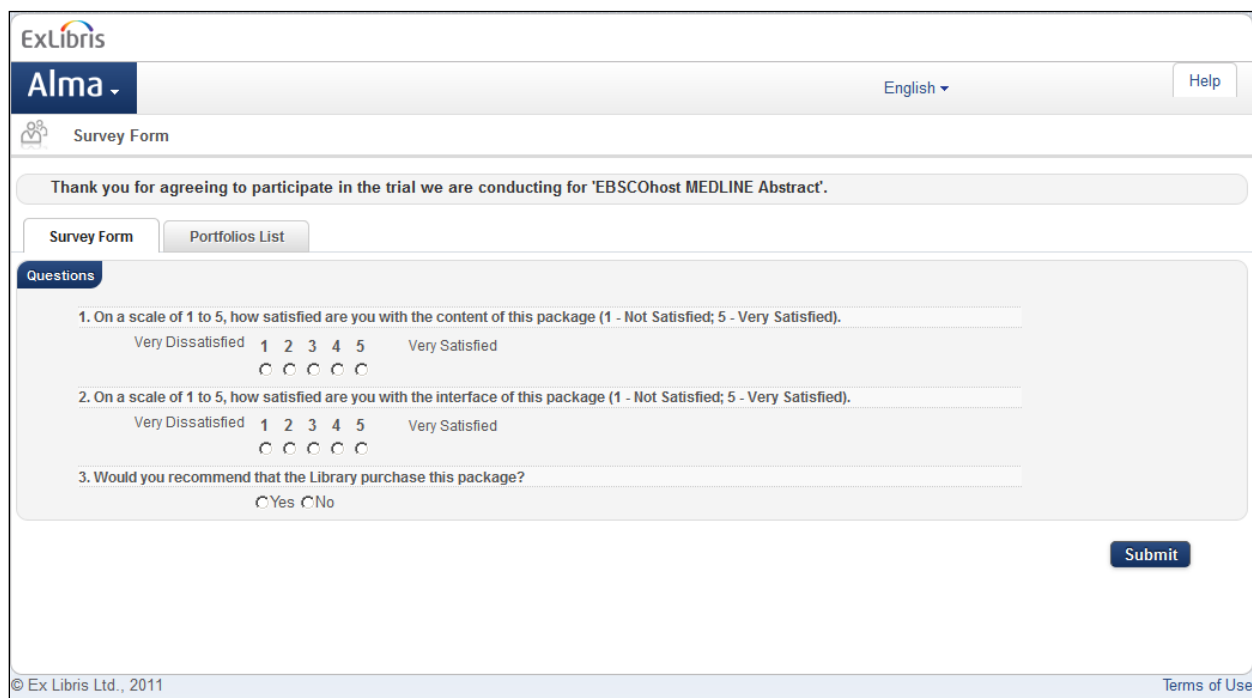
Describe or Demonstrate:

- B.1.6.5.1. How the system supports a workflow management process for electronic resources: this may include reminders for renewal, the ability to track new resources from trials to setup, “handoff” capabilities between staff during processes, and alerts for delayed setup and access.

Ex Libris: Electronic resource purchase and management workflows begin with locating the required resource in the knowledgebase, or by creating a local electronic resource. Once the appropriate resource is identified, the operator can initiate an acquisition workflow. The workflow may begin with a trial, pass through purchasing, and ultimately end up in activating the resource.

Trials

Trials in Alma allow the trial manager the option to create a trial that is either internal or open to the public. The trial manager can create a survey form, receive feedback, and analyze the responses. Below is a screenshot that displays an example of a survey form:



ExLibris
Alma - English ▾ Help

Survey Form

Thank you for agreeing to participate in the trial we are conducting for 'EBSCOhost MEDLINE Abstract'.

Survey Form Portfolios List

Questions

1. On a scale of 1 to 5, how satisfied are you with the content of this package (1 - Not Satisfied; 5 - Very Satisfied).
Very Dissatisfied 1 2 3 4 5 Very Satisfied
○ ○ ○ ○ ○

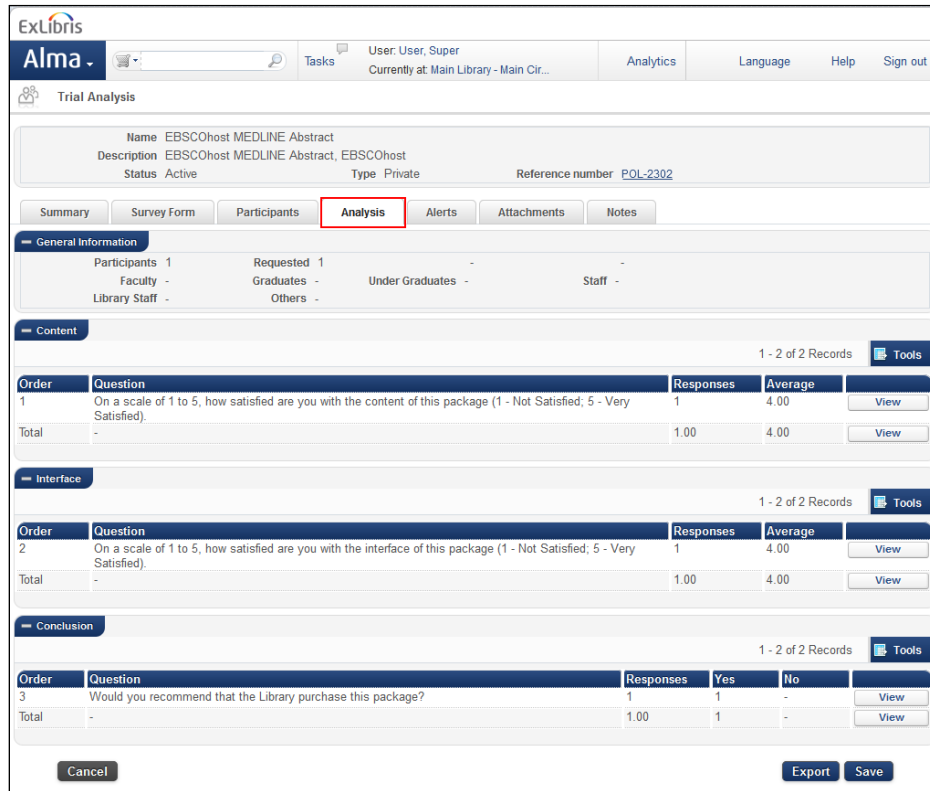
2. On a scale of 1 to 5, how satisfied are you with the interface of this package (1 - Not Satisfied; 5 - Very Satisfied).
Very Dissatisfied 1 2 3 4 5 Very Satisfied
○ ○ ○ ○ ○

3. Would you recommend that the Library purchase this package?
 Yes No

Submit

© Ex Libris Ltd., 2011 Terms of Use

Once survey results are submitted to Alma, the trial manager can analyze the responses as shown in the screen shot below:



General Information

Participants	1	Requested	1		
Faculty	-	Graduates	-	Under Graduates	-
Library Staff	-	Others	-	Staff	-

Content

Order	Question	Responses	Average
1	On a scale of 1 to 5, how satisfied are you with the content of this package (1 - Not Satisfied; 5 - Very Satisfied).	1	4.00
Total	-	1.00	4.00

Interface

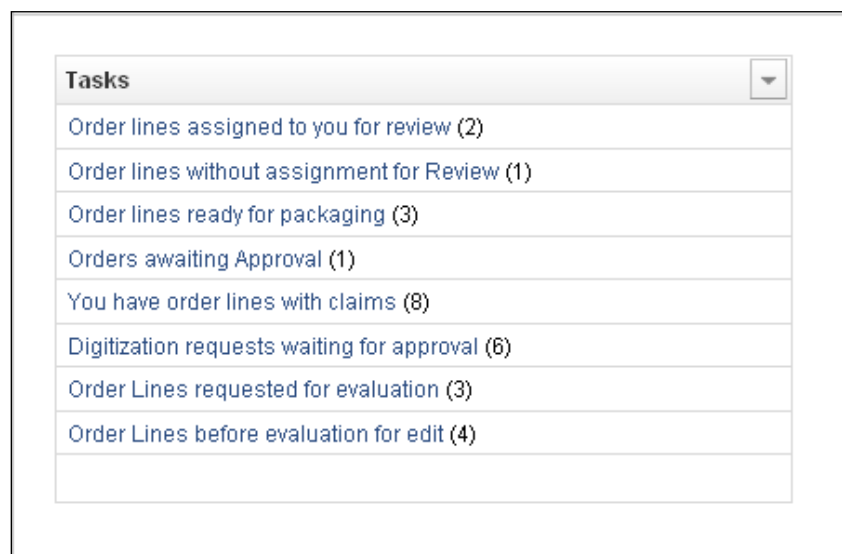
Order	Question	Responses	Average
2	On a scale of 1 to 5, how satisfied are you with the interface of this package (1 - Not Satisfied; 5 - Very Satisfied).	1	4.00
Total	-	1.00	4.00

Conclusion

Order	Question	Responses	Yes	No
3	Would you recommend that the Library purchase this package?	1	1	-
Total	-	1.00	1	-

Purchase

The purchase of electronic resources is based on a workflow engine which automates the process. The workflows provide automatic processing of purchase orders as well as staff mediation for approval and exceptions per the library's rules. The concept is based on rules-based decisions such as staff assignment, automatic approval sending to the vendor, and automatic aggregation of purchase order lines into one purchase order. The example below shows the tasks assigned to an operator, and the task list for reviewing order lines:

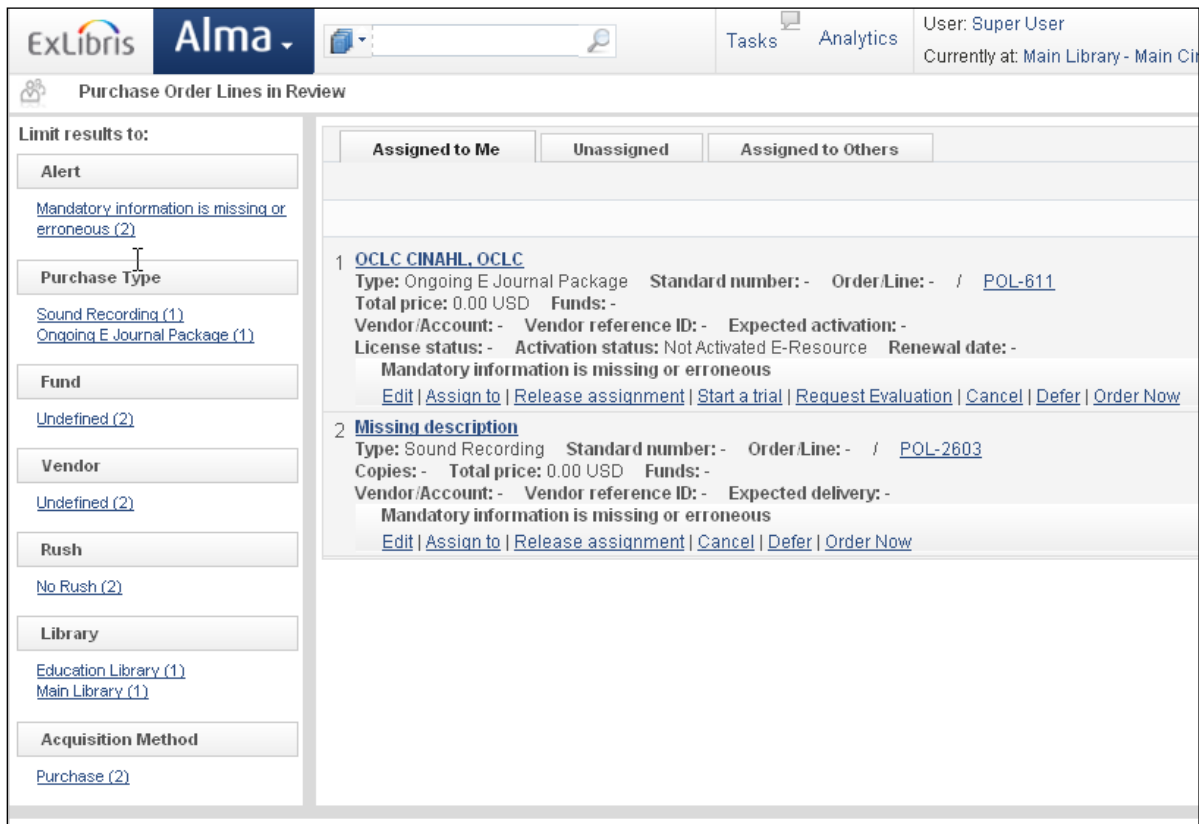


Tasks

- Order lines assigned to you for review (2)
- Order lines without assignment for Review (1)
- Order lines ready for packaging (3)
- Orders awaiting Approval (1)
- You have order lines with claims (8)
- Digitization requests waiting for approval (6)
- Order Lines requested for evaluation (3)
- Order Lines before evaluation for edit (4)

Task Driven Workflows - My Tasks

From the Tasks, the staff member is linked directly to the outstanding order to be reviewed. Tasks on the task list can be assigned to specific staff users, and staff users with the appropriate role can hand off tasks to others. The operator can resume the acquisition process once the exception is handled.



Activation

Alma activation workflows for electronic resources include the ability to integrate institution-specific workflows for managing and tracking the resource’s activation. For example, the operator can verify that the resource is available (using the Alma embedded link resolver functionality), complete proxy setup, and activate the electronic resource to make it available to patrons via the discovery system.

In addition, Alma workflows support automatic and manual renewals and cancellations of electronic orders, including sending renewal notifications to the vendor.

B.1.6.5.2. Workflow procedures system for patron-driven eBook management.

Ex Libris: Please see our descriptions of Patron-Driven Acquisitions in the responses to B.1.3.4 and B.1.6.2.12.

B.1.6.6. LINK RESOLVER

Describe or Demonstrate:

- B.1.6.6.1. How the system's link resolver manages electronic journals that do not have ISSN. Describe how the system handles journals that have multiple ISSNs.

Ex Libris: If the OpenURL does not contain an ISSN, it will attempt to match by title. If there are multiple ISSNs that result in the matching of multiple resources, it will present services for all resources.

- B.1.6.6.2. How the link resolver handles 10-digit and 13-digit ISBNs.

Ex Libris: The Alma link resolver will convert an incoming ISBN to both ISBN-10 and ISBN-13 in order to match the resource, no matter how it is cataloged (ISBN -10 or ISBN-13).

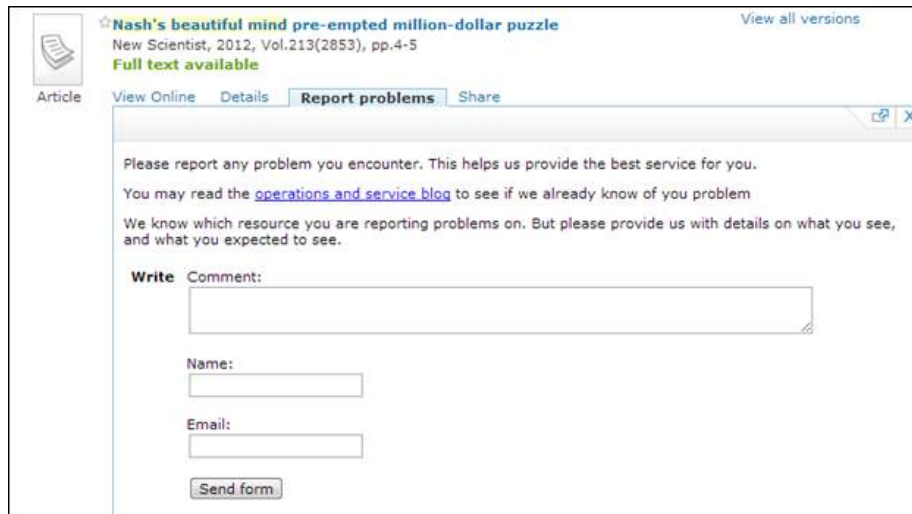
- B.1.6.6.3. How the link resolver provides for customization in the display of options in the link resolver menu: e.g., prioritizing the order of databases or excluding a database from the menu even if there is full text available from that database.

Ex Libris: The Alma link resolver offers context-sensitive services via a menu that can be customized by the institution, defining the labels of the services and the order in which they appear.

In addition, the institution can define display logic rules among services based on local preferences; for example, if an electronic journal is available from more than one provider, the institution can boost one provider over the other. The institution also can define logic rules among different service types, such as not offering a document delivery service if a full text service exists for the electronic resource. The institution can also configure the link resolver to link directly to the electronic resource, bypassing the electronic service page.

- B.1.6.6.4. What mechanism the system employs for users to submit feedback if a link is not working.

Ex Libris: Any error reporting or support for resolving issues related to OpenURL linking is part of Ex Libris' standard support services. Additionally, patron feedback/support requests can be integrated directly into the Primo interface:



It is also possible to report an issue related to packages and portfolios to Ex Libris directly from the Alma interface. This is achieved by clicking a “Send to Ex Libris” link from within the record itself.

It is also possible to create a proprietary service for retrieving feedback information using the general electronic service functionality in Alma.

- B.1.6.6.5. Any services provided by the link resolver other than full text linking and interlibrary loan.

Ex Libris: Alma’s embedded OpenURL link resolver provides patrons with context-sensitive electronic, digital and print services. This includes full text, selected full text, digitization requests, resource sharing requests, and the general electronic service, which gives the library the flexibility to create any type of service.

- B.1.6.6.6. How the knowledgebase works with the link resolver and how it integrates with the electronic resources functionality of the system.

Ex Libris: Alma includes an embedded Link Resolver which provides patrons with context-sensitive electronic, digital and print services. The embedded link resolver is a standard functionality in Alma (no additional subscription fee is required) and is based on the Ex Libris’ experience delivering the SFX link resolver to over 2500 institutions worldwide. Electronic resources linked to the CKB electronic resources can be resolved just as any other electronic resource, using the embedded OpenURL link resolver.

The Alma link resolver offers services via a menu that can be customized by the institution, defining the labels of the services and the order which they appear.

In addition, the institution can define display logic rules among services based on local preferences; for example, if an electronic journal is available from more than one provider, the institution can boost one provider over the other. The institution also can define logic rules among different service types, such as not offering a document delivery service if a full text service exists for the electronic resource. An example of these library-configurable rules can be seen in the following screen shot:

Discovery Interface Display Logic				
Add Rule				
	Active	Move Up	Move Down	Rule Description
1	<input checked="" type="checkbox"/>			Hide service Resource Sharing Request if exists service General Hold Request
2	<input checked="" type="checkbox"/>	▲	▼	Hide service Full Text with Interface = ProQuest New Platform if exists service Full Text with Interface = Galegroup
3	<input checked="" type="checkbox"/>	▲	▼	For user groups Undergraduate Student: Hide service General Electronic Service with Service = Amazon if exists service Full Text
4	<input checked="" type="checkbox"/>	▲	▼	For user groups Distance Learners: Hide service Digitization if exists service Hold Request
5	<input checked="" type="checkbox"/>	▲	▼	For user groups Distance Learners: Hide service Digitization if exists service Booking Request
6	<input checked="" type="checkbox"/>	▲	▼	Hide service Digitization
7	<input checked="" type="checkbox"/>	▲	▼	Hide service Resource Sharing Request with Ownership by the institution = true
8	<input checked="" type="checkbox"/>	▲	▼	Hide service Full Text with Interface = EBSCOhost if exists service Full Text with Interface = Galegroup
9	<input checked="" type="checkbox"/>	▲	▼	Hide service General Electronic Service with Service = Amazon if exists service Full Text
10	<input checked="" type="checkbox"/>	▲	▼	Hide service Booking Request if exists service Hold Request
11	<input checked="" type="checkbox"/>	▲	▼	Hide service Booking Request if exists service General Hold Request
12	<input checked="" type="checkbox"/>	▲	▼	Hide service General Hold Request if exists service General Hold Request
13	<input checked="" type="checkbox"/>	▲	▼	For user groups Administrative Staff,Alumni,Distance Learners,Faculty,Graduate Student,Guest,High School Students,Undergraduate Student,Walk In Loans - Network Members: Hide service General Hold Request if exists service General Hold Request
14	<input checked="" type="checkbox"/>	▲	▼	For user groups Administrative Staff,Alumni,Distance Learners,Faculty,Graduate Student,Guest,High School Students,Undergraduate

When the OpenURL resolves to multiple records Alma will attempt to merge equivalent records into one unified list of services. When the records are deemed non-equivalent the user will be presented with a list of records based on the institution's defined display logic rules among services.

If only one resource is found the library can configure the link resolver to link directly to the electronic resource, bypassing the electronic service page:

Direct Linking Configuration

Enable direct linking No Yes

Enable direct linking when multiple services are available

Disable direct link when additional information is available:

Authentication note

Public Note

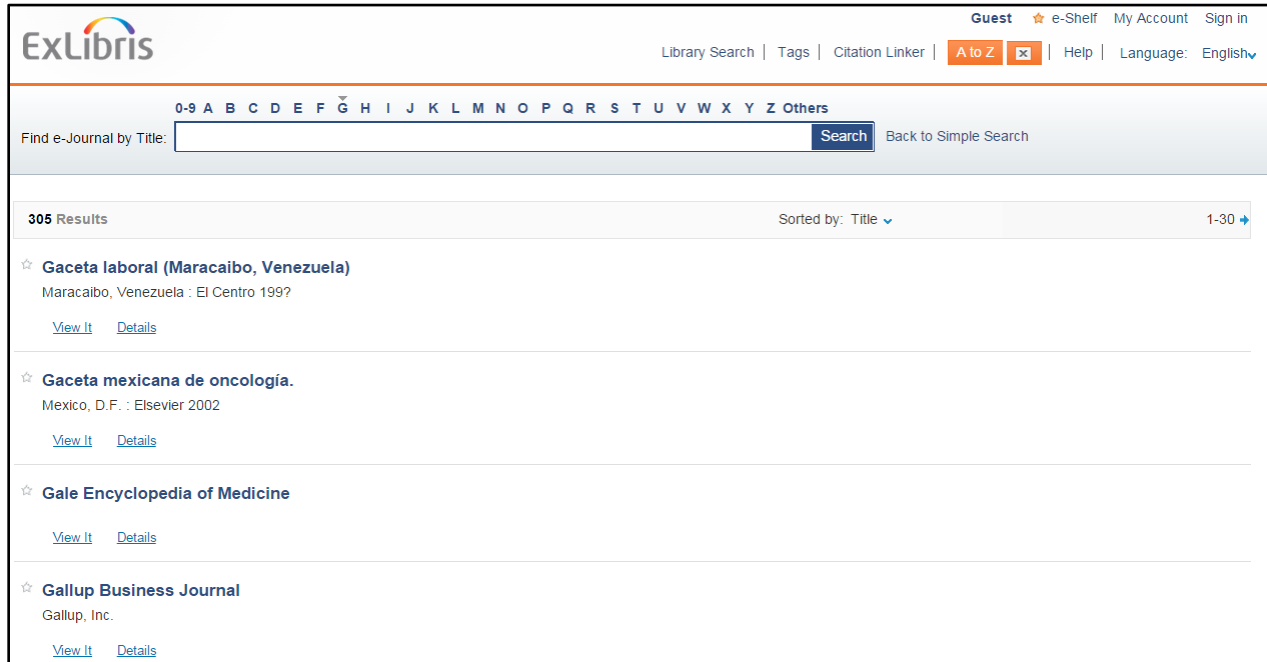
Disable direct linking for electronic collections

Disable direct linking for digital resources

Alma augments the OpenURL in various ways (e.g., DOI) , and from various sources such as Crossref, Pubmed and more in order to enrich the context object and provide enhanced link resolving.

- B.1.6.6.7. The system's ability to generate an A-to-Z title list with subject browsing functionality.

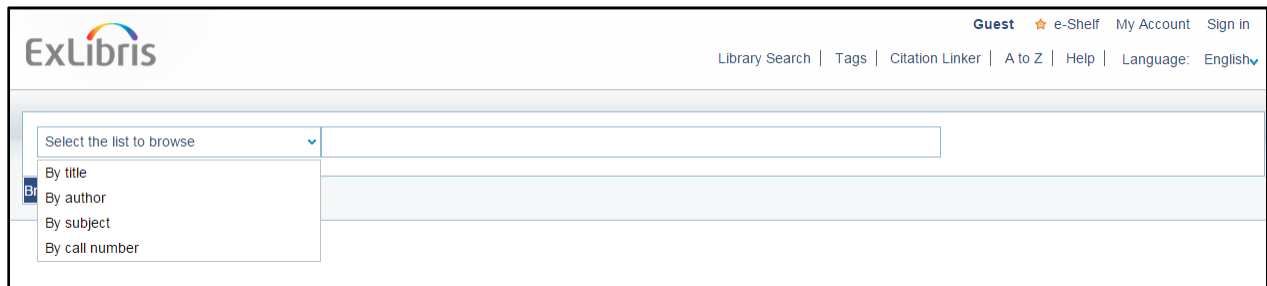
Ex Libris: Alma's electronic journals are published and loaded to Primo, and the A-Z list of Alma resources is created in Primo for easy title searching:



The screenshot shows the ExLibris search interface. At the top, there is a navigation bar with the ExLibris logo, user options (Guest, e-Shelf, My Account, Sign in), and search tools (Library Search, Tags, Citation Linker, A to Z, Help, Language: English). Below this is a search bar with a dropdown menu for letters (0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Others) and a 'Search' button. The results section shows '305 Results' sorted by 'Title'. The first four results are:

- ☆ **Gaceta laboral (Maracaibo, Venezuela)**
Maracaibo, Venezuela : El Centro 199?
[View It](#) [Details](#)
- ☆ **Gaceta mexicana de oncología.**
Mexico, D.F. : Elsevier 2002
[View It](#) [Details](#)
- ☆ **Gale Encyclopedia of Medicine**
[View It](#) [Details](#)
- ☆ **Gallup Business Journal**
Gallup, Inc.
[View It](#) [Details](#)

Primo also allows users to browse by subject, title, author and call number:



The screenshot shows the ExLibris browse menu. At the top, there is a navigation bar with the ExLibris logo, user options (Guest, e-Shelf, My Account, Sign in), and search tools (Library Search, Tags, Citation Linker, A to Z, Help, Language: English). Below this is a dropdown menu labeled 'Select the list to browse' with a list of options:

- By title
- By author
- By subject
- By call number

B.1.7. DESCRIPTION AND METADATA

B.1.7.1. CATALOGING

Describe or Demonstrate:

- B.1.7.1.1. How the system is capable of importing and exporting bibliographic, holding, and authority records in MARC 21 Format and future frameworks from various external sources (e.g., OCLC Connexion, MARCIVE, publishers, etc.).

Ex Libris: As part of Ex Libris' open approach to system functionality and data, Alma is built to interoperate with multiple and disparate sources of data. This includes not just the ability to load records from a variety of sources in multiple formats, but also automated interaction with external cataloging tools, including OCLC Connexion.

Alma supports the ability to import and export bibliographic, inventory, and authority records in their native formats, including MARC 21 XML or binary, and Dublin Core XML. Integration with the OCLC Connexion client is supported via the Connexion Export function, which allows staff to work entirely within the Connexion client and synchronize the edited record with Alma.

Alma supports the ability to import records one-by-one or in bulk, in all supported formats. This import can also be scheduled to run automatically, so regular loads of vendor records can be ingested into Alma with no staff intervention. Imports according to each profile may be launched manually or scheduled to reoccur at a regular basis with no intervention (e.g., to automatically download records from a vendor each week). Any exceptions encountered during the import process will be logged to a task list for operator review.

Alma supports record export via its “publishing” framework, which allows libraries to export records in the format they’re stored (e.g. MARC, DC), as well as enhance these records at the point of export. Like importing, publishing can be scheduled to occur at regular intervals in order to automate the process of synchronizing the local collection with a discovery interface or resource sharing system.

Alma’s publication framework allows the system to export records automatically to one or more target sources. With this approach to exporting, external systems (such as discovery interfaces or resource sharing systems) can be kept up to date with records from the catalog. The publishing framework allows libraries to define exports for individual, groups of records, or records changed since the last export. This includes the ability to export the entire catalog with no additional fee. Example of publishing (export profiles) can be seen in the following screen capture:

Name	Description
Publish bibliographic records to OCLC	-
Publish bibliographic records to Primo	Setup the parameters for publishing bibliographic records to Primo
Publish electronic records to Google Scholar	Publish electronic records to Google Scholar
Publish electronic records to Primo Central	Publish electronic records to Primo Central
Publish holdings to Library of Australia	Upload Holdings to Library Australia
Publish holdings to OCLC	Synchronize local holdings with OCLC
Test JMA	-

- B.1.7.1.2. How the system supports cataloging tasks, including, but not limited to, editing, importing, deleting, suppressing, transferring, overlaying, and linking records. Describe how the system performs duplicate record detection.

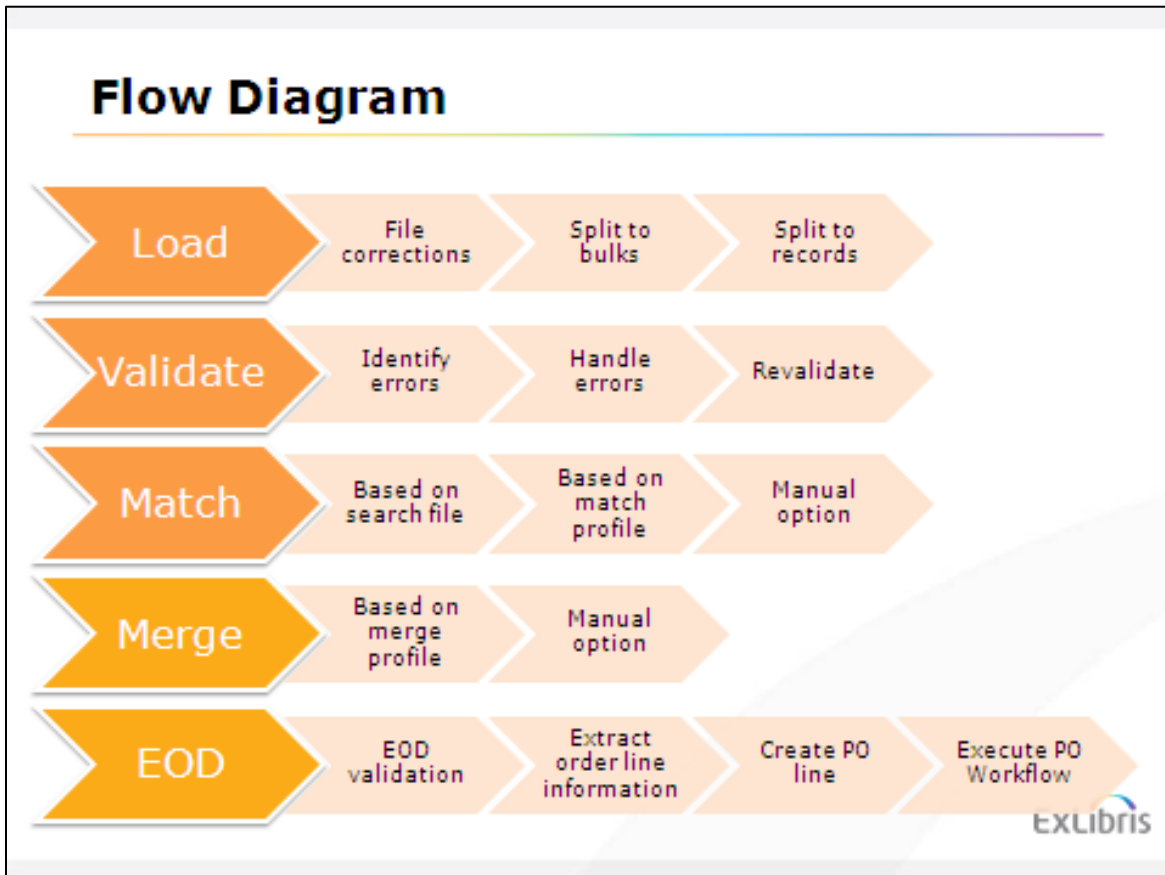
Ex Libris: All batch-loading of metadata records in Alma is managed using “Import Profiles”. Import profiles define all aspects of the loading process.

This process is split into a sequence of steps:

- Loading the file
- Normalizing and validating the records in the file

- Finding an existing match in the catalog
- Merging into the existing record (when relevant)
- EOD (Embedded Order Data) files – creation of order line records (when relevant)

This can be summarized as follows:



The import process supports automation as much as possible. For example, the import can be defined to automatically merge an imported record into the catalog in cases where the system found a single match.

If at any stage during the import process, either because of errors, or because the import profile definition requires mediated intervention, the staff user will be able to review issues using a dedicated task list. This task list will provide the staff user with information on what the issue is as well as the relevant actions the user can perform.

A staff user can view the import's records for specific validation errors. He/she then can choose to not import the records, to go ahead with the import, or to stop the import of the entire file.

Import Issues – Validation:

ExLibris Alma | Tasks | Analytics | User: User, Super | Currently at: Main Library - Main Cir... | Language | Help | Sign out

Resolve Import Validation Errors

Import Validation Errors File List

Filter: All | Find: | in: File name | 1 - 9 of 9 Records | Tools

Job ID	File Name	Profile Name	Profile Description	Profile Type	Submitted On	# Records	# Failed Records	Assigned To	Actions
17626890000121	PPOL_NoFund_NoPO.xml	Acq_Automation	-	New Order	2011-10-02 04:59:30	1	1	Super User	Actions
17626550000121	PPOL_NoFund_PO.xml	Acq_Automation	-	New Order	2011-10-02 04:56:20	1	1	-	Actions
17626160000121	PPOL_Fund_NoPO.xml	Acq_Automation	-	New Order	2011-10-02 04:52:06	1	1	-	Actions
17624600000121	PPOL_Fund_PO.xml	Acq_Automation	-	New Order	2011-10-02 04:39:47	1	1	-	Actions
17573040000121	OTB.xml	Acq_Automation	-	New Order	2011-09-26 08:09:49	1	1	-	Actions
17560050000121	PPOL_NoFund_NoPO.xml	Acq_Automation	-	New Order	2011-09-26 02:16:25	1	1	-	Actions
17559710000121	PPOL_NoFund_PO.xml	Acq_Automation	-	New Order	2011-09-26 02:14:37	1	1	-	Actions
17559320000121	PPOL_Fund_NoPO.xml	Acq_Automation	-	New Order	2011-09-26 02:09:27	1	1	-	Actions
17556010000121	PPOL_Fund_PO.xml	Acq_Automation	-	New Order	2011-09-26 01:57:34	1	1	-	Actions

1 - 9 of 9 Records | Tools | Back

Import Issues – Specific Import:

ExLibris Alma | Tasks | Analytics | User: User, Super | Currently at: Main Library - Main Cir... | Language | Help | Sign out

Handle Import Validation Errors

Job Details

Job ID: 17626890000121 | File Name: PPOL_NoFund_NoPO.xml
 Profile Name: Acq_Automation | Profile Description: -
 Profile Type: NEW_ORDER | Number of Records: 1
 Number of Failed Records: 1

Error List

1 - 1 of 1 Records | Tools

Error Message	Number of Records
PO Line 'POLINE_9' is not valid since organization unit is empty.	1

Records List

1 - 1 of 1 Records | Tools

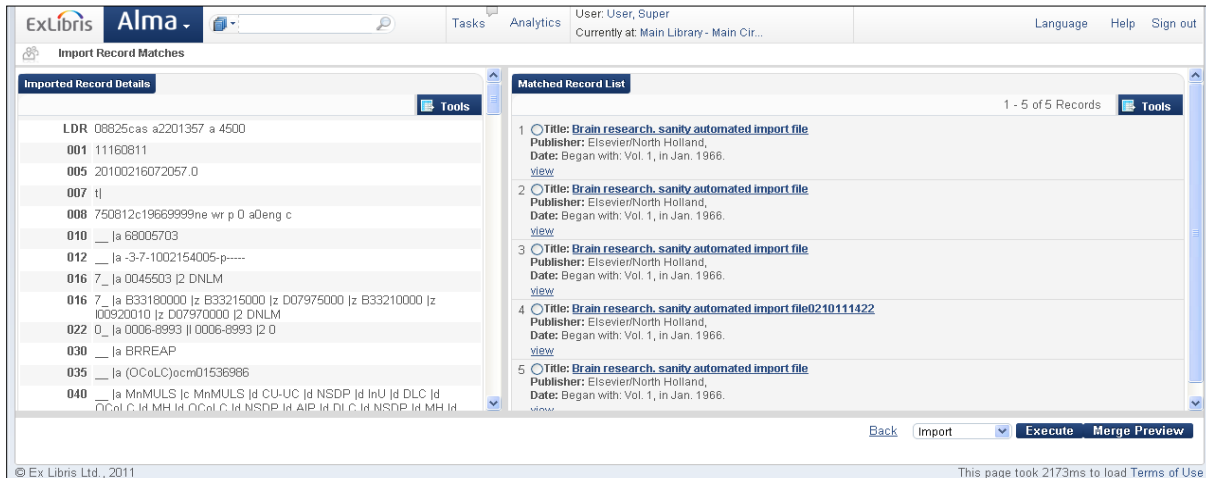
Record ID	Author	Short Title	Publisher	Date	Number Of Errors	View Errors
991177060000121	Baggins, Wallis E. A.	02102011_135834	Barnes & Noble,	2005	1	View Errors

Back | Do Not Import | Force Import | Reject File | Create File

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The staff user also can view the import file's records for specific matching issues. They can then view the matches found for a specific record, decide which one is the actual match, and merge the imported record into it.

View matches of an imported record:

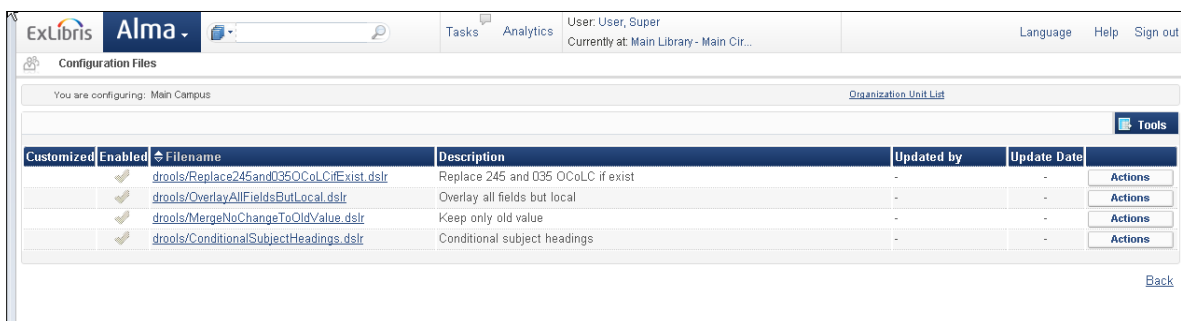


As part of the matching during the import process, the imported record is evaluated and compared to the institution’s catalog. Matches can be done using specific match “profiles” which define how a match is evaluated. There are two types of matches: ID-based “fuzzy” matches, and weighted matches based on unique identifiers and fields.

The “fuzzy” match method attempts to evaluate a record based on various non-unique identifiers and fields to determine if the imported record and the catalog record are in fact duplicates.

Alma also will use institution-defined merge profiles to calculate the new record content. These profiles determine which fields are preserved in the existing catalog record, and which fields will be imported from the import record. The profile uses a configurable business rule to make these determinations.

Merge Profile List:



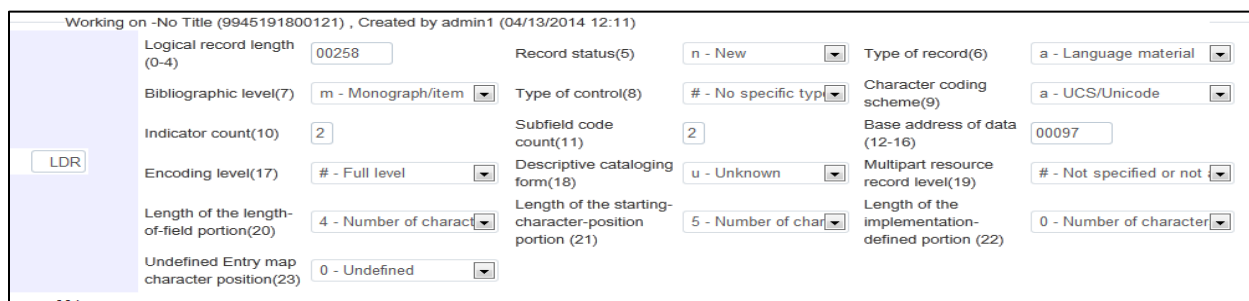
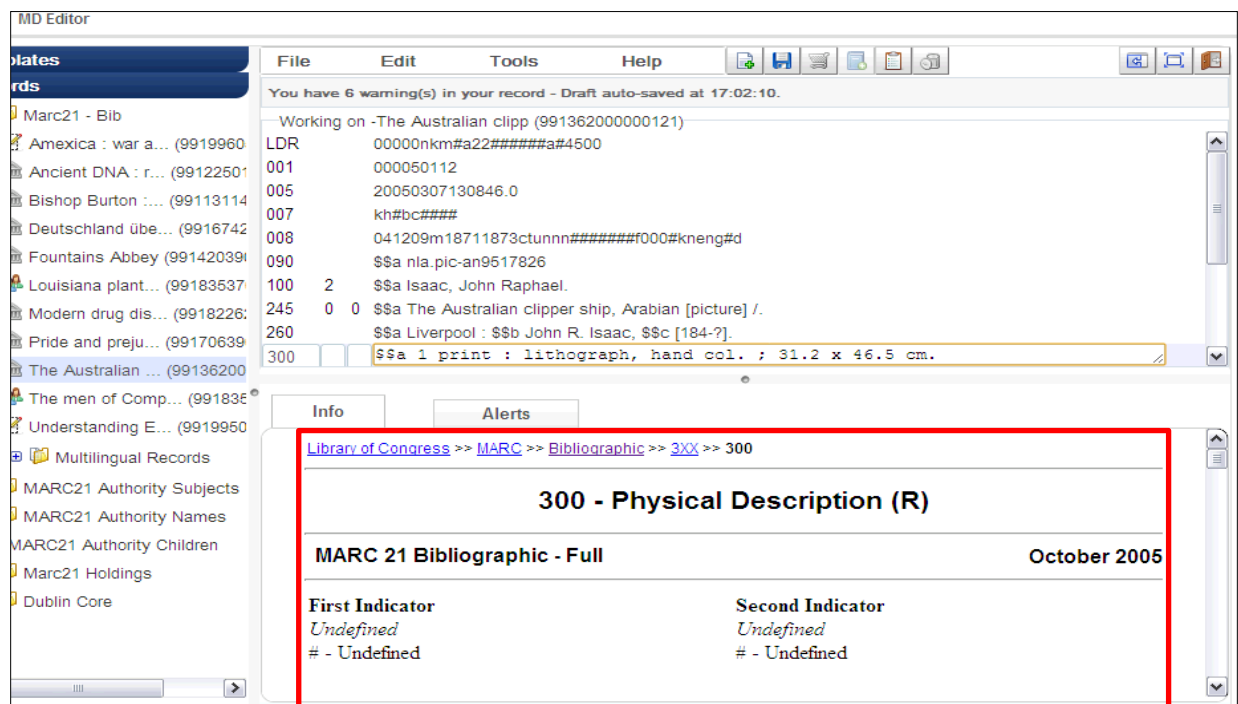
Alma allows staff to bind validation and normalization routines to import profiles. Libraries can then maintain a consistent catalog and be warned when invalid records are being imported.

- B.1.7.1.3. How the system provides tools in support of cataloging tasks (e.g., ability to create templates, macros, use a MARC editing tool to edit or batch process records).

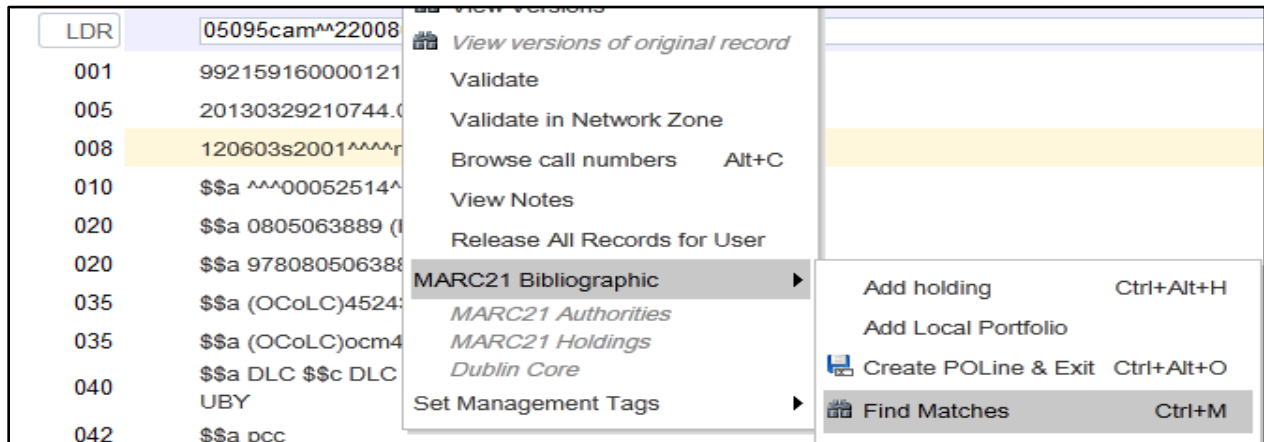
Ex Libris: Alma supports MARC21 bibliographic, holdings and authority records out-of-the box.

For MARC21 records, Alma supports the ability to store and display all tags, subfields, and indicators. All staff may view records in a read-only mode, and staff with rights to edit metadata records may do so through the metadata editor. The metadata editor supports editing any MARC tag, subfield, and indicator. It also provides customizable automatic validation routines that will provide warnings and errors when a record contains invalid data.

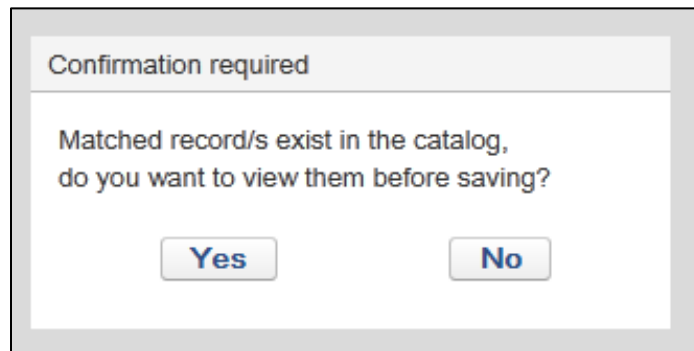
While viewing a record in the metadata editor, staff can view help information inline. This displays contextually on a per-field basis, depending on the field being edited. The following shows a reference to the MARC21 bibliographic standard; comparable help can be set up for other schemas (including linking out to content resources such as the RDA toolkit on a contextual, per-field basis), as seen in the screenshot below.



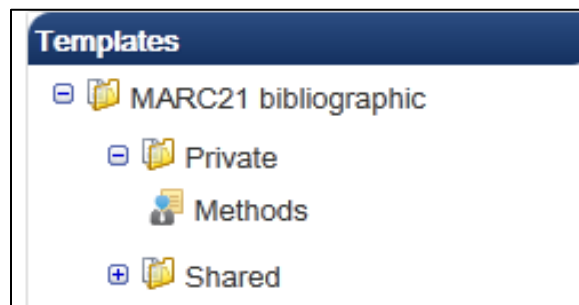
Alma allows operators to check for matching records from within the metadata editor for the record being worked on. This includes the ability to check for existing records in the local catalog, and to search external sources for matching records. In addition to discouraging unintentional duplicate records, this allows staff to easily find more complete versions of brief records they are viewing.






If the cataloger does not call up this option, Alma will still warn if there is a duplicate record in the database when the record is saved:



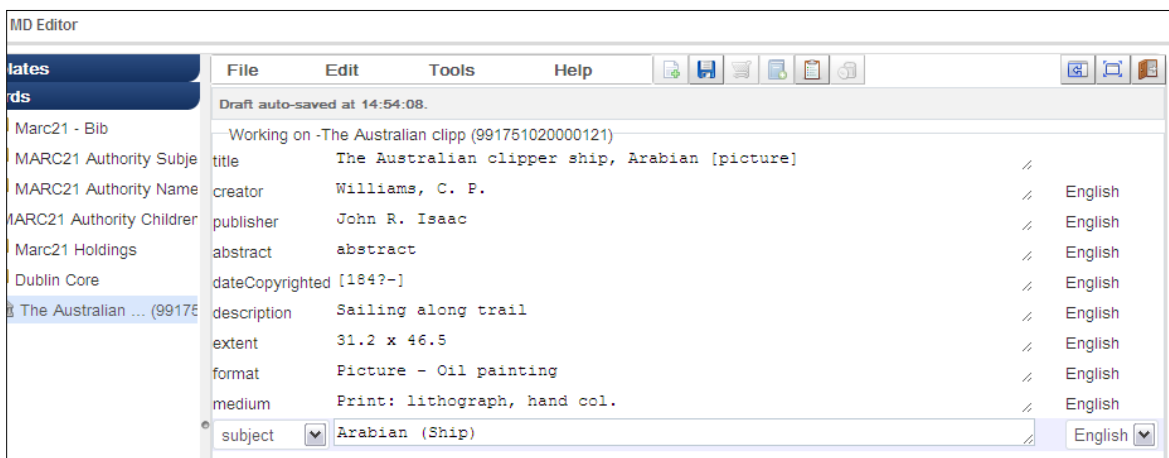
Alma supports the ability for any authorized operator to create, edit, and use templates. These templates may either be marked as private or shared. If they are private, only that staff member will be able to view or use them. If they are shared, all staff will have access to them. Record templates may be used to create new records or enhance existing ones.



Alma supports the ability to perform all navigation and editing functions within the metadata editor using hotkeys, to speed data entry for staff. Some examples can be seen in the following screen shot:

 Add Field	F8
 Remove Field	Ctrl+F6
Add Sub Field	F9
 Add Local Field	Ctrl+L
Add Alternate Graphic Representation	
Add Rule	
Enhance the Record	Ctrl+Alt+E
Expand from Template	Ctrl+E
<hr/>	
Split Editor	F6
Full Screen	F7
<hr/>	
Open Form Editor	Ctrl+F
Close Form Editor	Esc
<hr/>	
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V

Alma additionally supports the ability to edit Dublin Core records, including all properties in the “dcterms” namespace. In the image below, a Dublin Core record is displayed in the metadata editor with many of the same tools as the MARC 21 editor (with some variations based on the needs of the format).



Additional services may be attached to specific import profiles. Because of the flexibility of the services framework, individual institutions have a great deal of control for cleaning up or manipulating data on import. This includes the ability to contextually add fields, subfields, or indicators; delete fields, subfields, or indicators; and add specific text or values within specified subfields or indicators. Once the task is created and associated with an import profile, it will automatically be run every time that profile is run.

B.1.7.1.4. How the system performs batch import, export, and processing of records.

Ex Libris: Alma supports the ability to import records in bulk on demand or according to a schedule. It preserves unique fields and lowered encoding levels, though each condition may

be logged when the incoming records are validated. The rules by which it imports records are set up in “import profiles.” Each site may set up many import profiles—for records from different sources, containing different data types, etc.

When importing any record, Alma goes through specific steps according to the rule of the appropriate import profile. It validates each record for encoding and content. It checks for matching records that already exist in the catalog, then can be set up to either merge, overlay, ignore (importing anyway), or flag matched records for review. Finally, it runs additional services. For example, an additional service might be to extract inventory information and create holdings and item records.

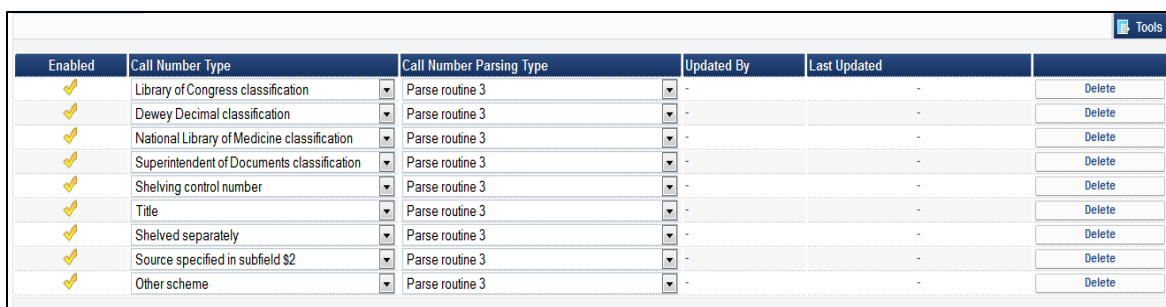
Another service is flagging brief records. These are identified by checking for the presence of a combination of fields, including call number, title, publication statement, subject, etc. If the default rules do not suit a site’s needs, libraries may design additional validations and services and bind them to import profiles.

The approach to exporting records works quite similarly. Publication profiles are defined that determine which records to export, on what schedule to export them, and additional services to run at export (which may include enhancing or cleaning up the outgoing records). This publication approach is the same infrastructure used for synchronizing holdings with WorldCat.

Finally, Alma supports the ability to perform ad-hoc exports on demand. This can be used for external record processing, updating for a shared repository, loading into an institutional data warehouse, or any other purpose.

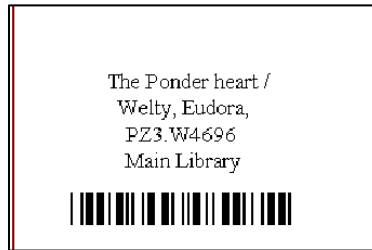
- B.1.7.1.5. How the system manages multiple classification schema and subject vocabularies, including, but not limited to, Library of Congress Classification and Subject Headings, Dewey Decimal Classification, SuDoc classification numbers, local classification schema, National Library of Medicine Subject Headings, etc.

Ex Libris: Alma supports multiple classification schemes as well as supporting the option to define multiple parsing schemes for all aspects of the label as can be seen in the following screen shot.



Enabled	Call Number Type	Call Number Parsing Type	Updated By	Last Updated	
✔	Library of Congress classification	Parse routine 3	-	-	Delete
✔	Dewey Decimal classification	Parse routine 3	-	-	Delete
✔	National Library of Medicine classification	Parse routine 3	-	-	Delete
✔	Superintendent of Documents classification	Parse routine 3	-	-	Delete
✔	Shelving control number	Parse routine 3	-	-	Delete
✔	Title	Parse routine 3	-	-	Delete
✔	Shelved separately	Parse routine 3	-	-	Delete
✔	Source specified in subfield \$2	Parse routine 3	-	-	Delete
✔	Other scheme	Parse routine 3	-	-	Delete

An example of a label:



Alma’s Community Zone includes global authority files that are maintained by Ex Libris and kept up to date with data from the authorizing agencies for each authority file. These files can be used for validating headings in bibliographic records in Library Zone and Community Zone catalogs. These central validation functions are available to all Alma institutions. Authority files in the Community Zone include Library of Congress Subject Headings, Library of Congress Names, and Medical Subject Headings (MeSH) from the U.S. National Library of Medicine. Additional authority files are being investigated for inclusion into the Community Zone.

- B.1.7.1.6. How the system handles input of characters in non-roman scripts (e.g., Chinese, Japanese, Korean, Cyrillic). Describe how diacritics are stored, displayed and input. Include any specific requirements for peripheral hardware or software to ensure this support.

Ex Libris: All data in Alma is stored in a Unicode character set—specifically UTF-8. This includes both application data (e.g., internal database fields, labels, etc.) and data in records (e.g., MARC bibliographic or authority data). Record data is stored internally in XML format, which mandates Unicode. As such, Unicode is the approach to all character storage and display, rather than the ALA diacritics approach. The full UTF-8 character set is supported.

The following image shows a record with Japanese script displaying in the metadata editor, with draft records with additional languages showing to the left.

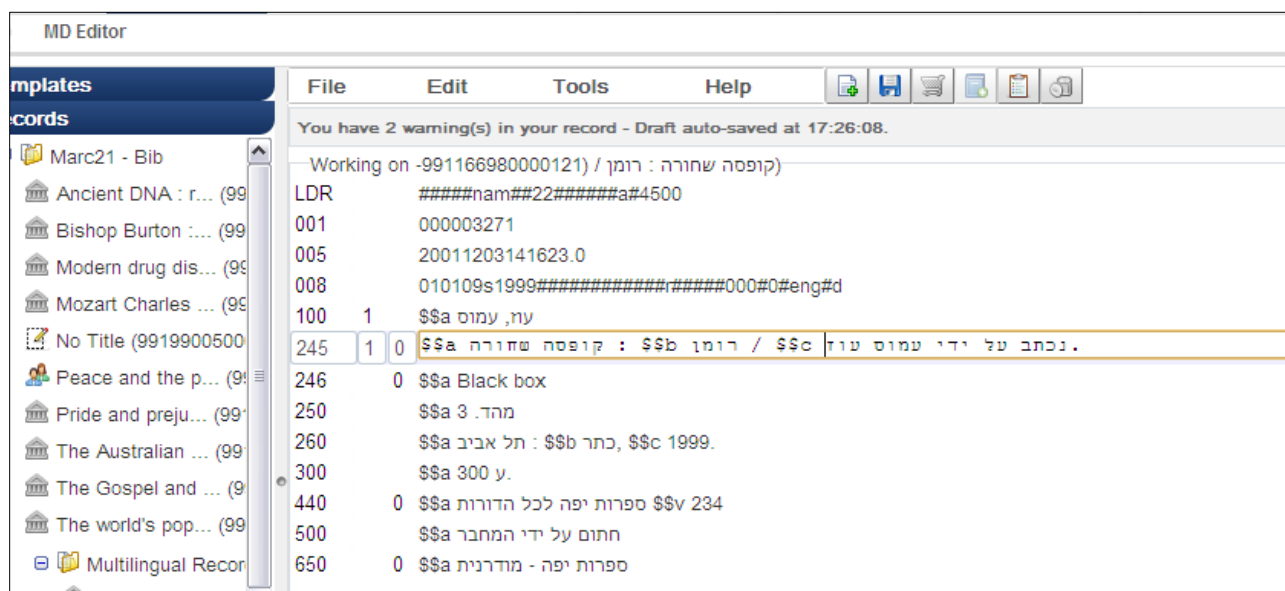


B.1.7.1.7. How the system supports display of Unicode characters in all aspects of the system.

Ex Libris: Alma fully supports Unicode for all of the functions listed.

B.1.7.1.8. The system's support for bidirectional cataloging and support for bidirectional script display (e.g., Arabic, Hebrew).

Ex Libris: UTF-8 Unicode allows Alma to support multiple languages and scripts, including scripts that display right-to-left. Alma supports the entry of right-to-left scripts with compatible data entry software. The illustration below shows the standard alignment with Hebrew characters being entered from the left.



B.1.7.1.9. All metadata schemas that are supported and how they are implemented. Describe any crosswalk tools or utilities that will convert from one metadata schema to another.

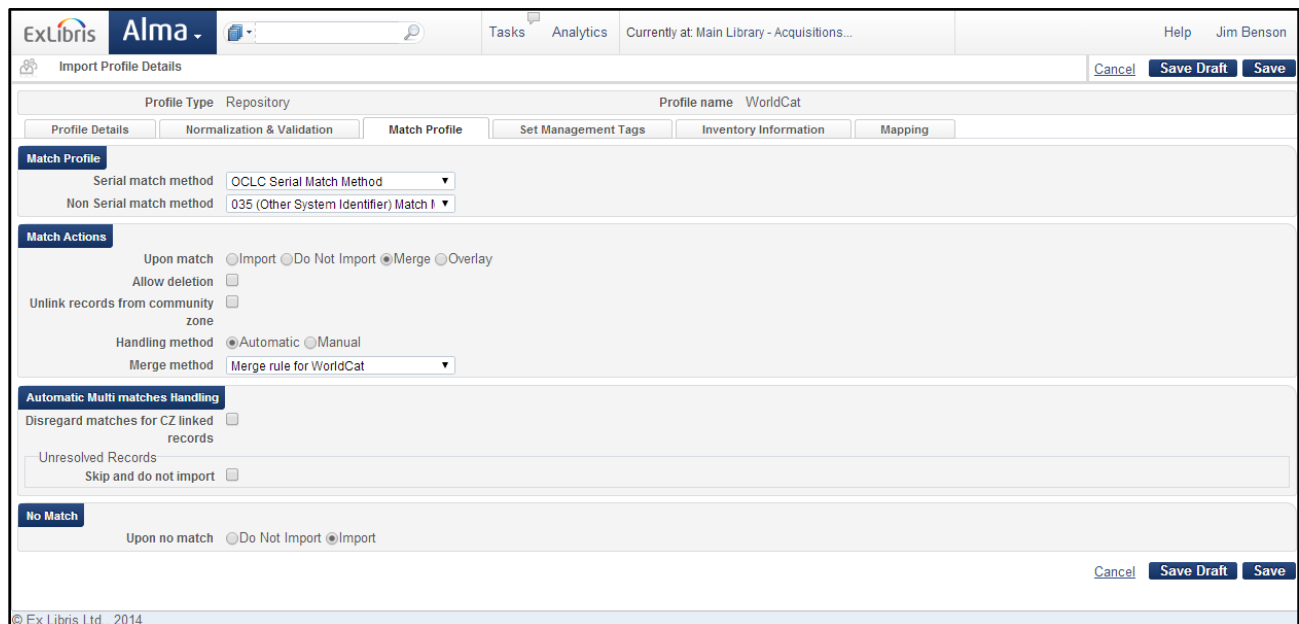
Ex Libris: Alma supports MARC21 and Dublin Core (simple and qualified.) The infrastructure for the MMS is designed to manage each of these formats natively and to expand to additional formats in future releases. In this way the Alma MMS allows libraries to manage the array of resources (print, digital, and electronic) according to their local needs with no loss of data when saving, since the formats are stored internally in the supported schema.

Alma supports the ability to load records in one of the supported metadata schemas (presently MARC 21 for bibliographic, holdings, and authority records, as well as Dublin Core). Data that does not align with a supported schema must be mapped into a valid form before being imported. Crosswalks are planned as part of the Alma roadmap.

B.1.7.1.10. How the system allows staff to load records from multiple sources using any metadata scheme (standard and non-standard).

Ex Libris: When importing any record, Alma goes through specific steps according to the rule of the appropriate import profile. It validates each record for encoding and content. It checks for matching records that already exist in the catalog, then can be set up to either merge, overlay, ignore (importing anyway), or flag matched records for review.

Finally, it runs additional services. The additional services work according to the rule framework. For example, an additional service might be to extract inventory information and create holdings and item records.



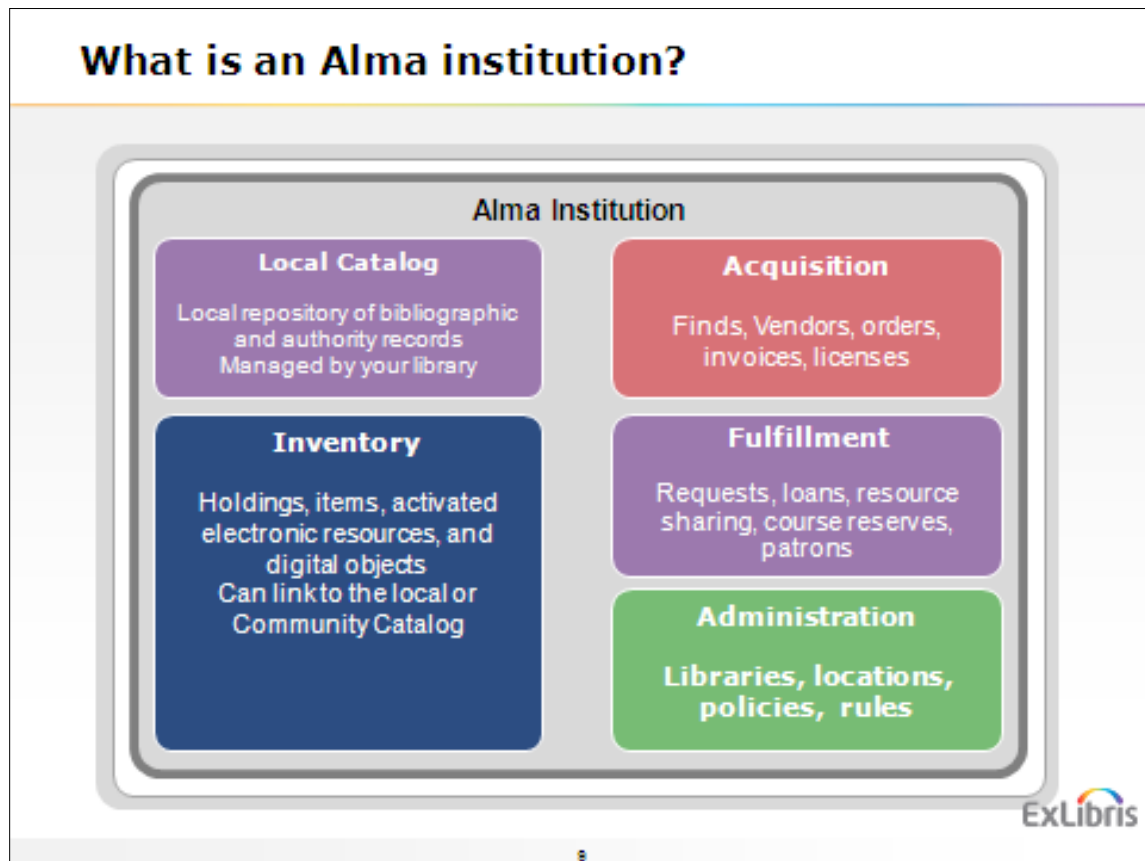
The screenshot displays the 'Import Profile Details' page in the ExLibris Alma system. The profile name is 'WorldCat'. The 'Match Profile' section includes 'Serial match method' set to 'OCLC Serial Match Method' and 'Non Serial match method' set to '035 (Other System Identifier) Match I'. Under 'Match Actions', 'Upon match' options include 'Merge' (selected), 'Overlay', 'Do Not Import', and 'Import'. 'Allow deletion' and 'Unlink records from community zone' are unchecked. 'Handling method' is set to 'Automatic' and 'Merge method' is 'Merge rule for WorldCat'. The 'Automatic Multi matches Handling' section has 'Disregard matches for CZ linked records' and 'Skip and do not import' unchecked. The 'No Match' section has 'Upon no match' set to 'Import'.

Another service is to flag brief records. These are identified by checking for the presence of a combination of fields, including call number, title, publication statement, subject, etc. If the default rules do not suit a site's needs, libraries may design additional validations and services and bind them to import profiles.

- B.1.7.1.11. How the system supports unique local data needs within a consortial environment of shared records. Demonstrate how the system will support and protect local notes, access points, classification schemes, and other unique metadata while synthesizing it into a consortial database.

Ex Libris: The Alma architecture allows for data sharing and process sharing across institutions in a streamlined manner as described in this response, and as reflected in Alma's further consortial plans.

Alma manages many aspects of an institution's records and processes, including the core catalog and inventory data, as well as financial and acquisitions-related data. In addition, the system manages fulfillment records such as user accounts, loans and requests. This is summarized in the diagram below.



Catalog and Inventory

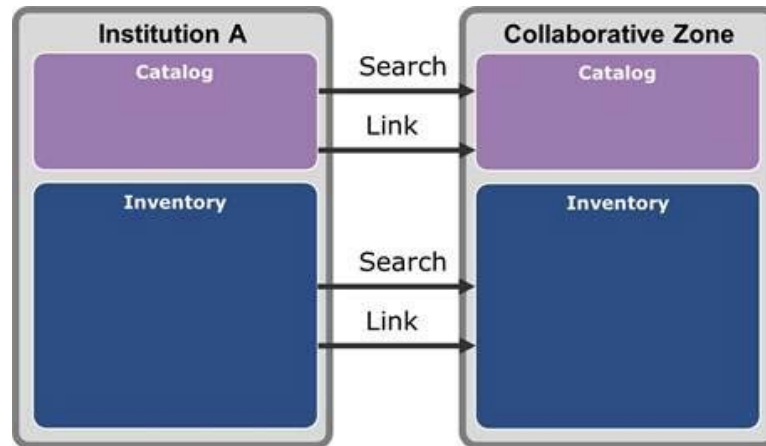
To reiterate the discussion in the Collaboration section of this response, Alma is designed to allow single-site institutions and consortia to manage their catalog(s) and inventory, by providing the ability to manage local holdings and collections as well as shared resources (e.g., resources from the consortia). Resources managed within an institution can be described using either the local catalog's records as is done in today's systems, or an institution can link its inventory records to the metadata records in the Network Zone (this term is defined below), which eliminates the need to download these records to the local catalog.

Alma models the consortium as a group of individual institutions with a dedicated Network Zone, managing shared data and process aspects of the consortium. This model streamlines the workflows since all of the members are using the same interface, processes and functionalities, creating a unified working environment.

The consortium zone is referred to as the Alma Network Zone, while members of the consortium are referred to as Consortium Member. Please note that Ex Libris' plan would be for the CSU libraries to implement the cataloging Network Zone following Go Live by all libraries.

The ability to search and use (i.e., link to) another catalog within a consortium is supported in Alma by what we call institutional relationships. Two or more institutions can work together by exposing and/or sharing their data and providing services for this data:

- Exposing data – allow another institution to just search and view the data in the Catalog and Inventory
- Sharing data – allow another institution to link to the same record (“use it”) in the Catalog and Inventory



This is a more inventory-centric model, where the actual location of a bibliographic record is less important than in traditional ILS's. The benefit of this hybrid model is the ability to combine local data with shared descriptive information.

Because Alma is not limited by the need to manage all descriptive records in the local catalog, sites have flexibility in sharing records, depending on how useful the record may be to the broader community. For shared records, libraries can attach local fields that are indexed and searchable, and may be published to discovery for end users.

To go into a bit more detail, an institution can have a shared record in the Network Zone, and then add local standard MARC fields, which will then be available only for the use of that institution. This means that even while the institution sees a reduction in workflows through having a shared record, they will still be able to maintain their autonomy and local practices.

From a staff user perspective, searching in the catalog and inventory is integrated and seamless. When searching for a record in Alma, staff users may search in their local institution as well as in the consortium; this allows them to view other institutions' resources as well as the Network Zone catalog.

Electronic Resource Management

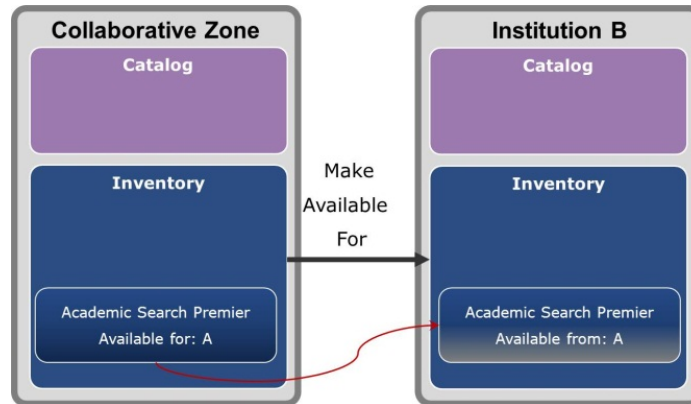
Electronic Resource Management in Alma is handled differently than physical resource management in the sense that the resource itself can be managed in one place (i.e., institution) but can be easily “delivered” to users in multiple institutions.

In Alma, this is done by assigning to the Electronic Resource an “Available For” definition, which defines the institutions that can get access to the resource. Specific resources can have different “Available For” settings. Electronic Resources that are made available for an institution will be:

- Searchable within the institution

- Non-Editable/Read Only
- Published to the Discovery System

As with the searching and linking functionality described above, this too is defined by creating an institutional relationship definition of the type, “Make Available For”.



Managing the Electronic Resource in one place (i.e., the Collaborative Zone) but making it available for many institutions in the consortium will greatly reduce the amount of management needed to make these resources available for end user.

- B.1.7.1.12. Plans for implementing RDA, including adjustments to the MARC format, and how the system will incorporate those changes to enhance the user experience, including the clustering of records based on the Functional Requirements for Bibliographic Records (FRBR).

Ex Libris: Alma supports the MARC21 standard including the RDA fields. This can be seen in the following screen capture showing how Alma interprets the type of record – based either on standard MARC21 or RDA fields.

2	<p>Police / Jo Nesbø ; translated by Don Bartlett. Book By Nesbø, Jo, (Toronto : Random House Canada 2013.) ISBN: 0345813200 and others Subject: Hole, Harry (Fictitious character) Fiction. Language: English Record number: (OCoLC)ocn833553273 Edit Order Request Document Delivery Add to reading list More info</p>
3	<p>Police / Jo Nesbø; translated from the Norwegian by Don Bartlett. Book text; unmediated; volume By Nesbø, Jo, (New York : Alfred A. Knopf, 2013) Edition: First United States ISBN: 0307960498 and others Subject: Mystery fiction. -- Oslo (Norway) Fiction. -- Murder Fiction. Investigation and others Language: English Record number: (OCoLC)ocn859343785 Locked By: lwelling View Order Request Document Delivery Add to reading list Release Assignm</p>
4	<p>The Bat / Jo Nesbø : translated from the Norwegian by Don Bartlett. Book text; unmediated; volume By Nesbø, Jo, (New York : Vintage Books, 2013) Edition: First Vintage Crime/Black Lizard Edition. ISBN: 9780345807090 (trade pbk.) Subject: Mystery fiction. -- Murder Fiction. Investigation -- Hole, Harry (Fictitious character) Fiction. Language: English</p>

Alma supports MARC21 (with RDA extensions) and Dublin Core. We are evaluating the best approach to handling collection-level description of EAD files. As with all schema support, records in any supported schema may be managed together—searched, used to describe

resources of any format, etc. They may also be imported and exported in bulk. For each schema, custom vocabularies and authorities may be mapped to any field to suit local needs. Ex Libris is closely following emerging standards such as Library of Congress' BIBFRAME initiative.

Alma has been designed as an open and flexible architecture to support open metadata format architecture, with the ability to add new formats utilizing a flexible linking structure.

Ex Libris sees the potential of linked data to make libraries a vivid part of the web information infrastructure as a whole, making the libraries' contributions more visible and attractive to end users; we are therefore following the linked data initiatives with very high interest. Increasing numbers of our customers are reporting their interest in LD technology, especially in enriching the discovery experience. This is done in many ways, increasingly using URIs. We also are aware that publishing library data in linked data structures is also an important topic for big metadata providers.

Ex Libris is currently involved in several Linked Data projects, including Europeana, the European Digital Library project. Our experience has shown that:

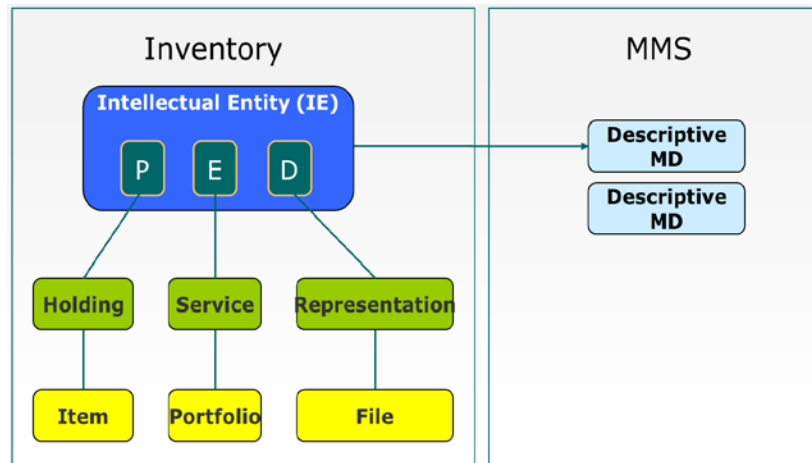
- On-the-fly linking of triples in distributed data stores is rather slow and does not allow sophisticated discovery. Search engine technology harvesting the metadata is necessary;
- Most of the current metadata sources do not provide RDF triple. A conversion of metadata is needed; and
- New problems arise as to how to keep RDF triples up-to-date in the index. This is a matter of scale.

While Alma's continued development will be informed by our experiences with these projects, we can say that:

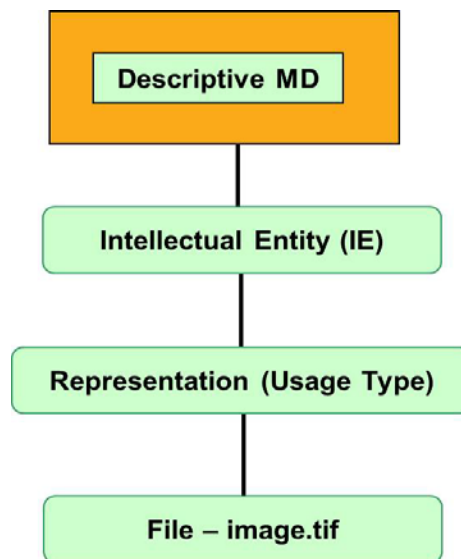
- The Alma Community Catalog will work with library data using an open license; and
- Alma's metadata management is designed with FRBR in mind.

B.1.7.1.13. How the system establishes and maintains a permanent association between digital objects and associated metadata.

Ex Libris: Alma can manage Physical, Electronic and Digital resources (P,E and D). A physical book, a digital copy of it and an electronic version of that book can be linked to the same bibliographic record which is managed in Alma's main metadata catalog (MMS). The highest level of any entity managed by Alma is called the 'Intellectual Entity'. This entity can have three types of child: Physical (Holding), Electronic (Service) and Digital (Representation). The following diagram illustrates Alma's object's data model:



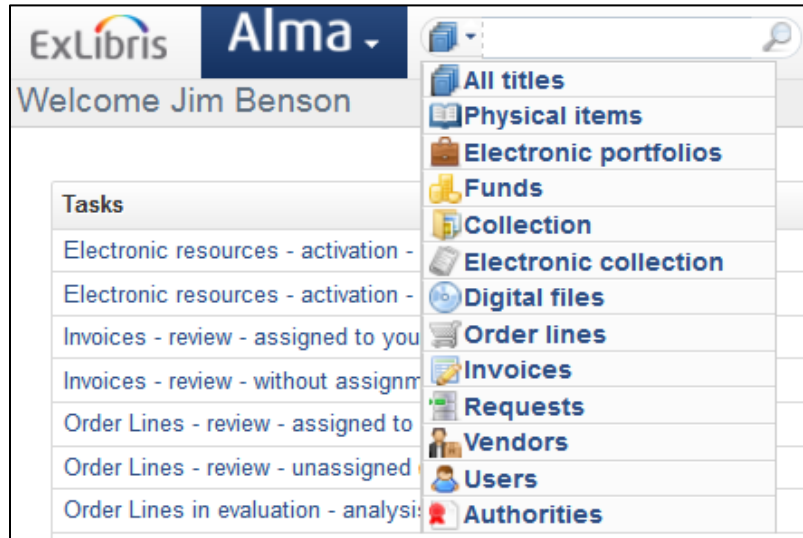
All three types of material are managed in the same repository. The Digital resource is based on the same principle and the data model looks as follows:



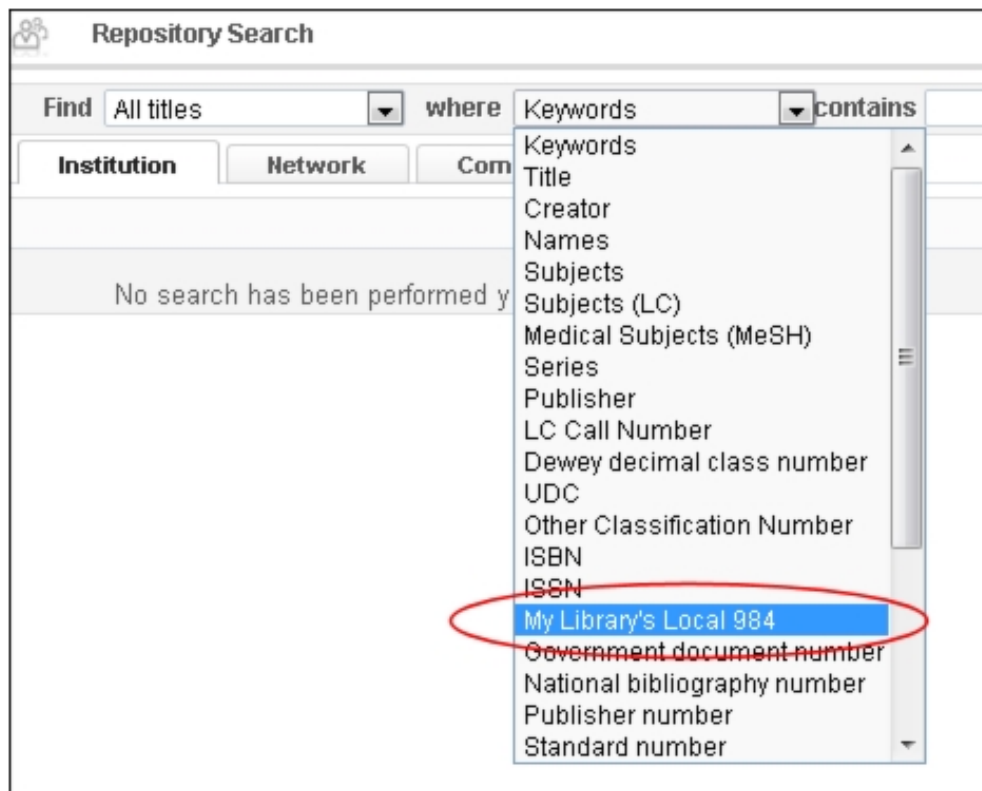
The metadata description will link to an Intellectual Entity (IE), which represents a coherent set of content. Representations are sets of files grouped in an IE by a common usage (e.g. archival tiffs versus derivative copy jpg) and the file can be any supported digital object such as JPG/MP3/PDF, etc.

B.1.7.1.14. How records are indexed within the system. Describe any fields or record types that are not indexed. Are there any limitations that affect indexed data or the indexing of data contained within the system?

Ex Libris: Alma provides extensive search capabilities. This includes basic search across all resources types, invoices, PO Lines, packages and more from one single persistent search bar as can be seen from screenshot below:



Alma lets the staff operator with the appropriate role configure which indexes are searched when conducting Simple and Advanced searches. They can configure the order that the indexes are searched and whether an index should be included in simple searches, advanced searches, or both. The indexes are available to be selected when a user is performing a search. For example, locally configured indexes for the Simple search display in the drop-down list:



Administrators configure search indexes from the Mapping Table page, which displays:

- Details about the table containing the search indexes

- A list of the search indexes that are defined for each type of search
- A group of input fields that enable you to modify the search index

The mapping table below is just a snapshot of the many searchable indexes in Alma:

Mapping Table Rows										
Enabled	Index Code	Object Type	Simple Search?	Adv. Search?	Index Order	Index Label Table	Updated By	Last Updated		
1	✓	accessionNumber	HOLDING	true	true	77	UILABELS	-	-	Customize
2	✓	acquisition_note	HOLDING	true	true	85	UILABELS	-	-	Customize
3	✓	action_note	HOLDING	false	true	83	UILABELS	-	-	Customize
4	✓	activateFrom	TPS	false	true	16	UILABELS	-	-	Customize
5	✓	activateTo	TPS	false	true	17	UILABELS	-	-	Customize
6	✓	additional_physical_form	BIB_MMS	false	true	1000	UILABELS	-	-	Customize
7	✓	aggregator	TPS	false	true	31	UILABELS	-	-	Customize
8	✓	all_for_ui	BIB_MMS	false	true	1	UILABELS	-	-	Customize
9	✓	alterCallNumber	ITEM	false	true	1000	UILABELS	-	-	Customize
10	✓	alternate_complete_editio	BIB_MMS	true	true	112	UILABELS	-	-	Customize
11	✓	alternativeCallNumberType	ITEM	false	true	1000	UILABELS	-	-	Customize
12	✓	ar_description	IED	true	true	1000	UILABELS	-	-	Customize
13	✓	ar_policy_id	IED	false	true	1000	UILABELS	-	-	Customize
14	✓	arrivalDate	ITEM	false	true	1000	UILABELS	-	-	Customize
15	✓	auth_corporate_name	AUTHORITY_MMS	true	true	12	UILABELS	-	-	Customize
16	✓	auth_meeting_name	AUTHORITY_MMS	true	true	13	UILABELS	-	-	Customize
17	✓	auth_mms_id	AUTHORITY_MMS	true	true	142	UILABELS	-	-	Customize
18	✓	auth_mms_originatingSys	AUTHORITY_MMS	true	true	154	UILABELS	-	-	Customize
19	✓	auth_mms_sip_id	AUTHORITY_MMS	true	true	144	UILABELS	-	-	Customize
20	✓	auth_name_title	AUTHORITY_MMS	true	true	30	UILABELS	-	-	Customize
21	✓	auth_names	AUTHORITY_MMS	true	true	10	UILABELS	-	-	Customize
22	✓	auth_personal_name	AUTHORITY_MMS	true	true	11	UILABELS	-	-	Customize

For example, if the accession number is enabled in the mapping table, it is displayed as an option when performing an advanced search:

Advanced Search - Add Conditions

All titles	Holding
<input type="checkbox"/> Title	<input type="checkbox"/> Permanent call number
<input type="checkbox"/> Uniform title	<input type="checkbox"/> Permanent call number type
<input type="checkbox"/> Serial Title	<input type="checkbox"/> Permanent physical location
<input type="checkbox"/> Creator	<input type="checkbox"/> Library
<input type="checkbox"/> Names	<input checked="" type="checkbox"/> Accession Number
<input type="checkbox"/> Subjects	<input type="checkbox"/> Call number suffix
<input type="checkbox"/> Subjects (LC)	<input type="checkbox"/> Has items
<input type="checkbox"/> Medical Subjects (MeSH)	<input type="checkbox"/> Summary holding
<input type="checkbox"/> Series	<input type="checkbox"/> Holding note
<input type="checkbox"/> Publisher	<input type="checkbox"/> Holding PID
<input type="checkbox"/> LC Call Number	
<input type="checkbox"/> Dewey decimal class number	
<input type="checkbox"/> UDC	

[Cancel](#) **Add Conditions**

B.1.7.2. HOLDINGS MANAGEMENT

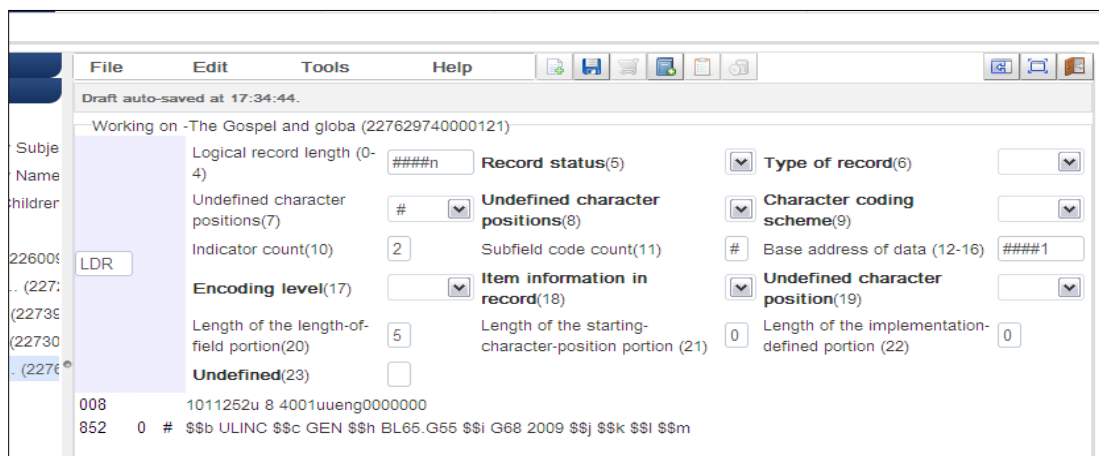
Demonstrate or Describe:

- B.1.7.2.1. The system's support for holdings records which are fully compatible with current MFHD standards, including the export and import of holdings records coded in MARC 85x/86x paired field and/or in 866 free texted field. This includes the migration of legacy holdings data for both serials and monographs.

Ex Libris: Alma supports MARC21 and Dublin Core (simple and qualified.) The infrastructure for the MMS is designed to manage each of these formats natively and to expand to additional formats in future releases. In this way the Alma MMS allows libraries to manage the array of resources (print, digital, and electronic) according to their local needs with no loss of data when saving, since the formats are stored internally in the supported schema.

- B.1.7.2.2. The system's support for the MARC fixed fields (LDR, 007, 008) and their functions in the holdings records. Describe the system's support for holdings at all levels of specificity (details) and data in the full range of subfields in MARC 85x and 86x, specifically describe how the system supports the coding and public display of alternative numbering scheme and data in MARC 85x \$g-h /863 \$g-h.

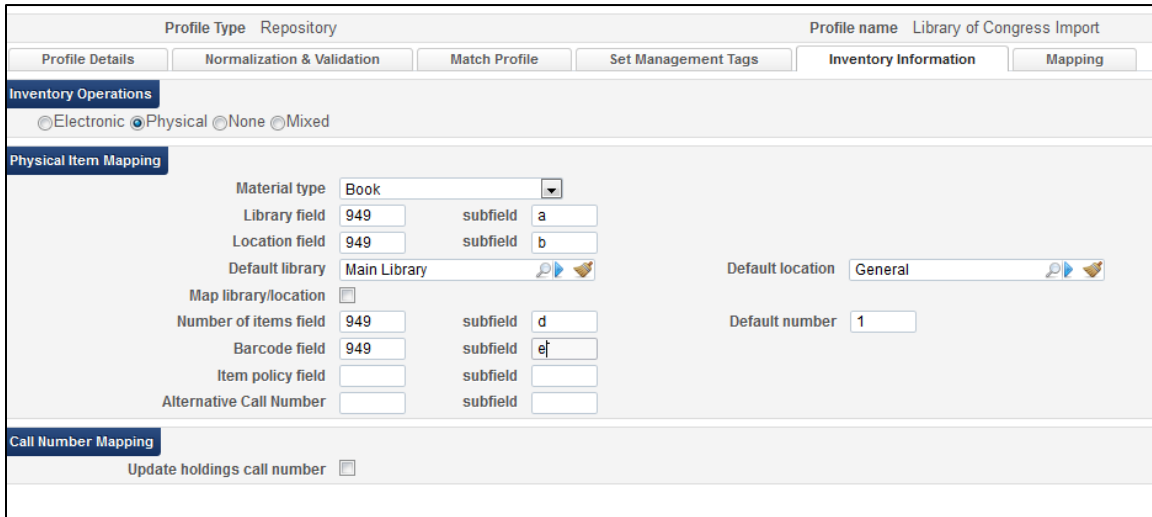
Ex Libris: Alma supports the management of holdings records stored in the MFHD (MARC Format for Holdings Data) standard. This allows any MARC field and subfield to be used in the holding records. Below, a holdings record being edited in the metadata editor:



In the above image, the LDR field is being edited using the (optional) form input method, which allows for a labeled input. Alternately, the MARC tags may be edited directly, as shown for the 008 and 852 fields.

For initial data loads, the inventory will be migrated by Ex Libris to create the appropriate holdings and item records in Alma. For ongoing updates to the inventory, holdings information may be embedded into MARC bibliographic records in locally defined fields. (e.g., a vendor may send shelf-ready resources along with bibliographic records containing the barcode and spine

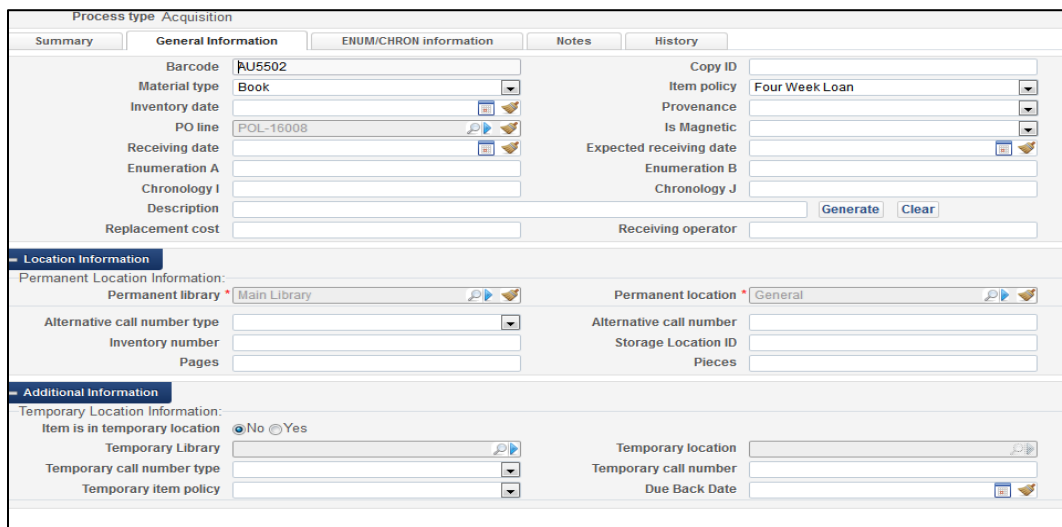
label information.) The following image shows the setup for defining what data to expect in which fields for shelf-ready records. Incoming loads will then automatically create inventory based on the data in the bibliographic records.



Alma automatically creates the 866/867/868 ‘Textual Holdings’ fields from the 853/854/855 and 863/864/865 linked fields. These fields are published to the discovery system, and therefore the library has control on how (and if) they are displayed to the user.

B.1.7.2.3. The system’s support for the creation, storing, and updating of holdings data that are based on MARC coded enumeration and chronology patterns.

Ex Libris: The Alma item record consists of a great number of fields including item barcode, temporary and permanent locations, material type, fulfillment (circulation) policy, enumeration and chronology fields for serials, and numerous fields for registering note information – e.g., internal note in circulation. In addition, staff will always have an indication of the item’s availability. Some of this detailed information can be seen in the following screen shot:

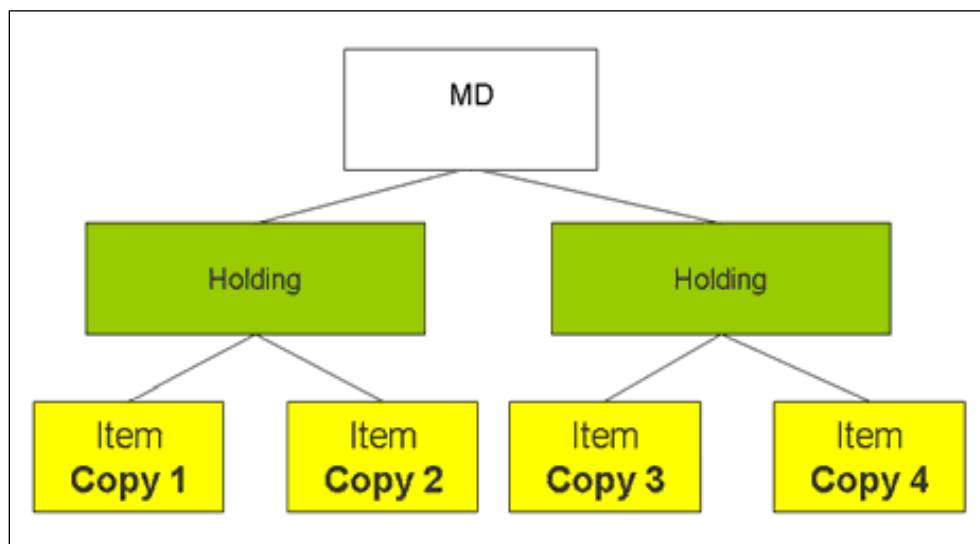


B.1.7.2.4. The system's ability to automatically generate a summary holdings statement for public display based on MARC coded 85x/86x fields in real time. Describe if the display format is in compliance with the ANZI/NISO Z39.71-2006 Holdings Statements for Bibliographic Items standard.

Ex Libris: Alma automatically creates the 866/867/868 'Textual Holdings' fields from the 853/854/855 and 863/864/865 linked fields. Currently, the 863/864/865 is manually created, but Alma roadmap plans include the automatic creation of 863/864/865 based on real items.

B.1.7.2.5. The system's support for the ability to define multiple holdings locations and sub-locations, both consortially and locally.

Ex Libris: For physical resources, the data model looks like this:

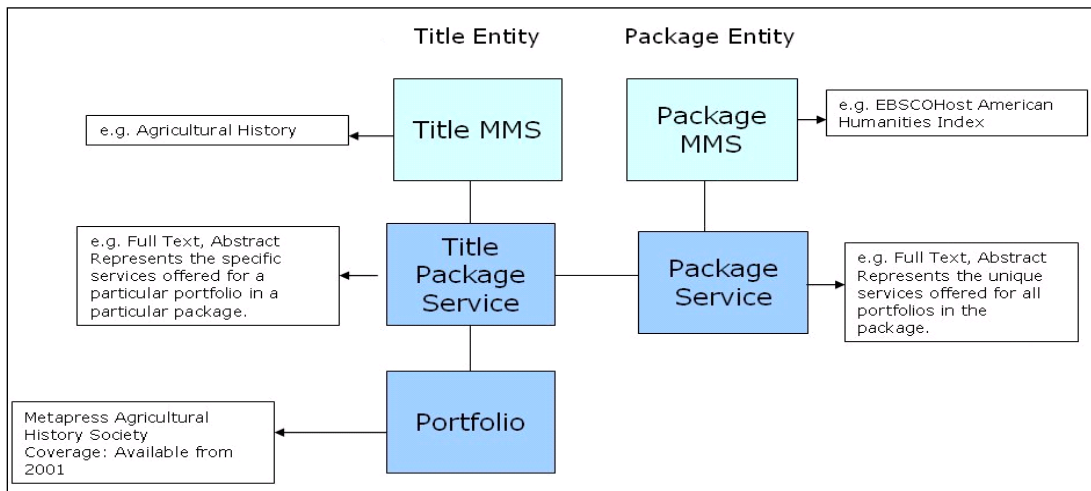


This record structure allows Alma to manage each level of the hierarchy, while maintaining linkages among the other level(s). From the staff user's perspective, this means that a search of the repository may be conducted on any level, and each level may be edited independently. The physical resource relationships comprise:

- A bibliographic metadata record (MD) is independent of any holdings or items and may exist in the system without such.
- Holdings records must be linked to a bibliographic record (MMS id), however, they do not require any item records.
- Item records must be attached to holdings records.
- A single MD record may have multiple holdings records linked to it.
- A single holdings record may have multiple item records attached to it.

For physical resources, the holdings record contains information about the library, location, holdings type (e.g., single-part, multi-part, serial, etc.) and call number (e.g., LC classification) of the item. The item record contains information about the barcode, material type, fulfillment policy, etc. of the physical item.

For electronic resources, the data model looks like this (repeating here a diagram shown in our response to B.1.6.1.2) :

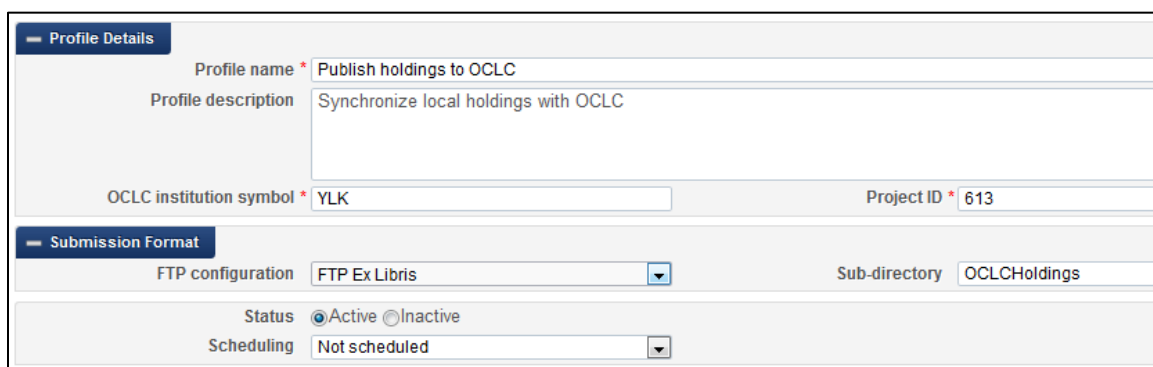


For electronic resources, the holding-level record corresponds to the Package of aggregated electronic resources offered by the vendor, and it contains information about the available services (e.g., full text, abstract, etc.). The item-level record corresponds to the Portfolio - the specific coverage, service(s), and links information relevant for a specific title in the Package.

B.1.7.2.6. The system's support for viewing consortial holdings or local serial holdings and for posting holdings to OCLC WorldCat and other external systems.

Ex Libris: Through the Network Zone, the operator is able to view the holdings of each institution using the 'Held By' indication, and is also able to navigate to and see the details of the resources held by the institution. The ability to export an institution's holdings to any external system is supported using Alma's publishing platform.

For WorldCat specifically, individual libraries will define in Alma a holdings synchronization service that will run automatically. The service will identify every record that is new, altered, or deleted since the last WorldCat synchronization. Any given resource can be suppressed if the library does not wish to share it; in this case it will not be exported for synchronization or holdings update. All affected records will be exported from Alma with updated information (or a holdings delete notification, as appropriate). Additionally, specifically for OCLC, Alma can export the actual holding record.



- B.1.7.2.7. The system's support for linked records. For example, items bound together with separate bibliographic records but shared holdings records.

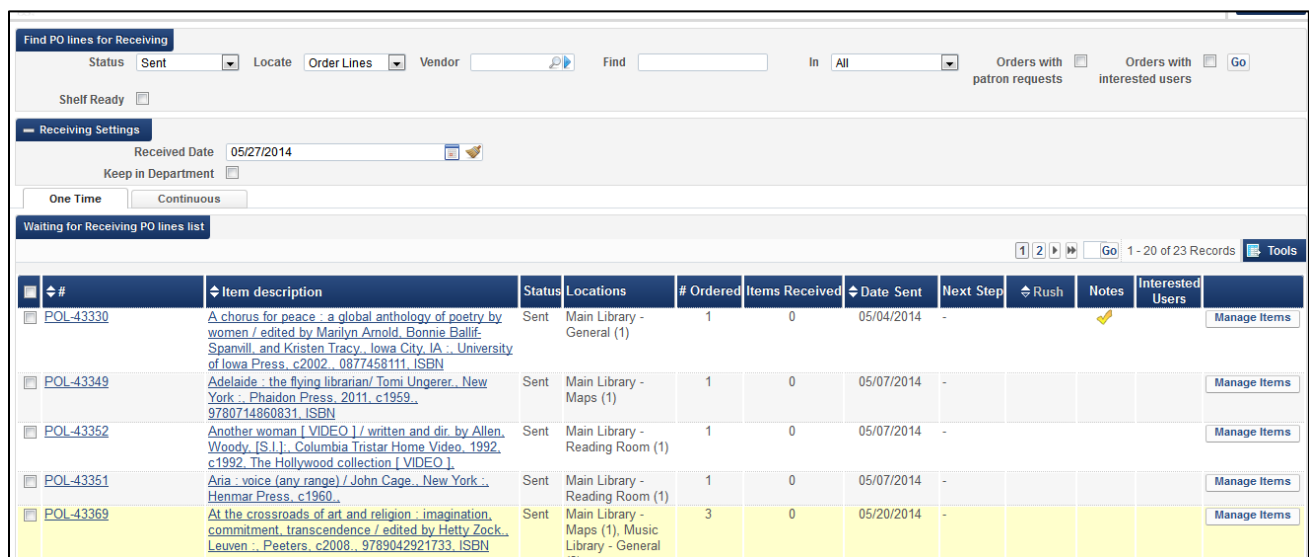
Ex Libris: Alma's approach to bound-with records is to support linking entry relationships between records. One host record will bind together two or more records describing independent intellectual entities. Holdings are then attached to the host record, allowing for unified management of the single item that binds resources. When viewing any of the records (host or related records), Alma will display an option to jump to a list of related records.

[Kingsfield and Kennedy: Reappraising the Male Models of Law School Teaching](#)
Book (Digital Commons @ Boston College Law School 1988-01-01)
 Subject: text – Women – Legal Education and others
 Language: English Medium Type: [electronic resource]. Record number: (OCoLC)839789425
Availability of related records: [Physical version at ULINC: GEN; KF272 .L428 1993](#) (1 copy, 1 available)
[Edit](#) | [Request](#) | [Document Delivery](#) | [More info](#)

- B.1.7.2.8. The system's support for workflow integration among check-in, binding, and holdings management; for instance, the ability to automatically update holdings at the point of checking in new receipts or volumes from the bindery, or claiming.

Ex Libris: Alma workflows enable the processing and routing of physical resources, including the handling and return of damaged items. Item processing and receiving can be done singly or in bulk, and authorized staff have options at this point for creating an invoice, noting that further physical processing is needed, approving for routing, and more.

Staff can search for new physical material by matching the Purchase Order line with the material received. Staff can then indicate whether further work must be performed before the material is available to the library for which it was ordered.



#	Item description	Status	Locations	# Ordered	Items Received	Date Sent	Next Step	Rush	Notes	Interested Users
POL-43330	A chorus for peace : a global anthology of poetry by women / edited by Marilyn Arnold, Bonnie Ballif Spanvill, and Kristen Tracy. Iowa City, IA : University of Iowa Press, c2002. 0877458111. ISBN	Sent	Main Library - General (1)	1	0	05/04/2014	-		✓	
POL-43349	Adelaide - the flying librarian / Tomi Ungerer. New York : Phaidon Press, 2011. c1959. 9780714860831. ISBN	Sent	Main Library - Maps (1)	1	0	05/07/2014	-			
POL-43352	Another woman [VIDEO] / written and dir. by Allen Woody. [S.l.] : Columbia Tristar Home Video, 1992. c1992. The Hollywood collection [VIDEO].	Sent	Main Library - Reading Room (1)	1	0	05/07/2014	-			
POL-43351	Aria : voice (any range) / John Cage. New York : Henmar Press, c1960.	Sent	Main Library - Reading Room (1)	1	0	05/07/2014	-			
POL-43369	At the crossroads of art and religion : imagination, commitment, transcendence / edited by Hettty Zock. Leuven : Peeters, c2008. 9789042921733. ISBN	Sent	Main Library - Maps (1), Music Library - General	3	0	05/20/2014	-			

As part of the receiving process, staff can choose from one of the following options:

Keep in Department – Indicates that further work is required before the material can be made available in a library (e.g. copy cataloging, further physical processing).

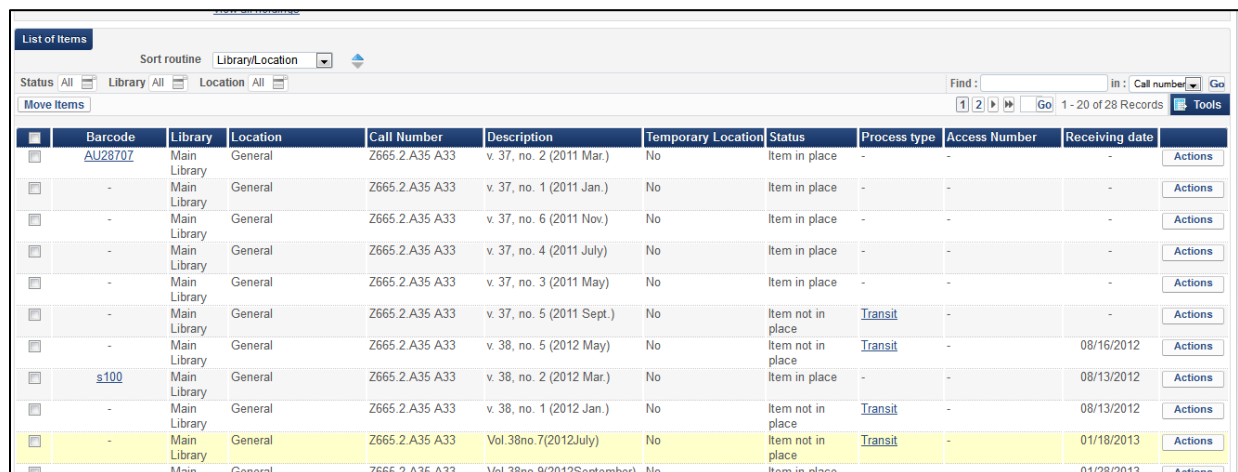
Send to Shelf – Indicates that the items received are shelf ready – with barcodes, spine labels, etc. No further work is required on the material and it can be sent to the library.

Alma has the ability to integrate with locally used label printing applications through downloading a local component that utilizes web service to communicate with Alma and the local label printer. You can choose to use the Alma provided Label Printer BIAF or your existing one.

Alma supports the management of resources at the issue level; this includes full enumeration/chronology and description, as described in the MARC standard.

Receiving - Alma supports the receiving of print serials. The receiving function displays information about the last received issue, and is thus used as a template for updating the details of the newly received issue. This approach not only ensures consistency in recording the data for new issues, but also may provide information about missing issues.

Item creation - The receipt process automatically creates an item. When viewing items it is possible to filter the display by status, library and location.



Barcode	Library	Location	Call Number	Description	Temporary Location	Status	Process type	Access Number	Receiving date	Actions
AU2870Z	Main Library	General	Z665.2.A35 A33	v. 37, no. 2 (2011 Mar.)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2.A35 A33	v. 37, no. 1 (2011 Jan.)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2.A35 A33	v. 37, no. 6 (2011 Nov.)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2.A35 A33	v. 37, no. 4 (2011 July)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2.A35 A33	v. 37, no. 3 (2011 May)	No	Item in place	-	-	-	Actions
-	Main Library	General	Z665.2.A35 A33	v. 37, no. 5 (2011 Sept.)	No	Item not in place	Transit	-	-	Actions
-	Main Library	General	Z665.2.A35 A33	v. 38, no. 5 (2012 May)	No	Item not in place	Transit	-	08/16/2012	Actions
s100	Main Library	General	Z665.2.A35 A33	v. 38, no. 2 (2012 Mar.)	No	Item in place	-	-	08/13/2012	Actions
-	Main Library	General	Z665.2.A35 A33	v. 38, no. 1 (2012 Jan.)	No	Item not in place	Transit	-	08/13/2012	Actions
-	Main Library	General	Z665.2.A35 A33	Vol.38no.7(2012July)	No	Item not in place	Transit	-	01/18/2013	Actions
-	Main Library	General	Z665.2.A35 A33	Vol.38no.9(2012September)	No	Item in place	-	-	01/28/2013	Actions

Label Printing - Alma can integrate with locally-used label printing applications through downloading a local component that utilizes web service to communicate with Alma and the local label printer. You can choose to use the Alma provided Label Printer BIAF or your existing one.

B.1.7.3. AUTHORITY CONTROL

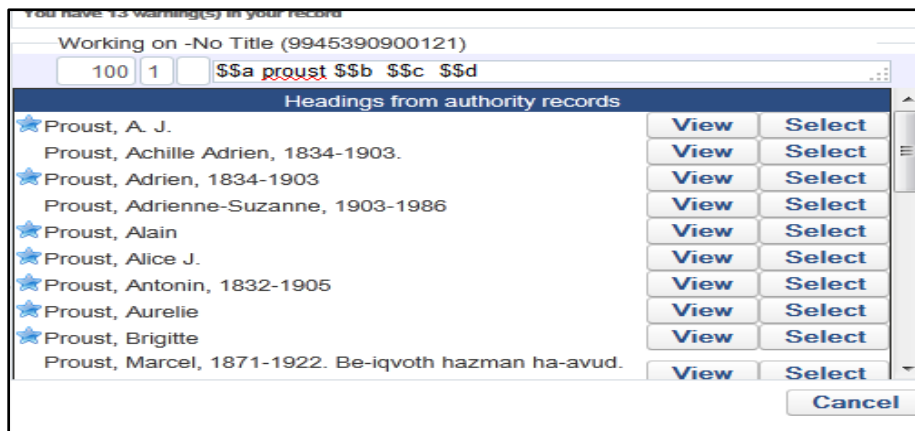
Describe or Demonstrate:

- B.1.7.3.1. How the system supports current standards such as LC Approved Lists and RDA changes for authority data, and allows all relevant bibliographic fields

to be authority controlled. Describe how the system identifies which fields can be controlled.








Ex Libris: Alma supports the ability to automatically control access points on predefined fields. This is composed of three stages: entry, validation (identifying headings to control), and update. For entering valid headings, Alma supports assisted text entry on controlled headings fields, as shown below.

From the MD Editor, a cataloger can type in the beginning text of a name or subject heading. Pressing the F3 function key will display a list of headings that match the input. The cataloger has the option to view and/or select the heading:



Selecting an authorized heading will automatically link the field to that authority heading. This supports the ability to quickly perform authority control for sophisticated vocabularies that are represented in MARC authority records and whose headings may span multiple MARC subfields.

All fields that are linked to authority heading will have a magnifying glass icon display adjacent to the field (in the MD Editor) as can be seen in the following screen shot:

	100	1	\$\$a Ehrenreich, Barbara.
	245	1 0	\$\$a Bright-sided : \$\$b how the relentless pr
	260		\$\$a New York : \$\$b Metropolitan Books, \$\$
	300		\$\$a 235 p. ; \$\$c 22 cm.
	504		\$\$a Includes bibliographical references (p.
	566		\$\$a This is a test note
	505	0	\$\$a Smile or die : the bright side of cancer - motivation -- God wants you to be rich -- Th
	520		\$\$a A sharp-witted knockdown of America's
	650	0	\$\$a Optimism \$\$z United States.
	650	0	\$\$a Happiness \$\$z United States.
	650	0	\$\$a Self-confidence.
	650	0	\$\$a Success in business \$\$z United States
	650	4	\$\$a Self-confidence \$\$z United States.
	650	4	\$\$a Happiness \$\$z United States.
	650	4	\$\$a Optimism \$\$z United States.

Clicking on the icon will display the relevant authority record at the side of the bibliographic record:

You have 14 warning(s) in your record

Working on -Bright-sided : how t (991918100000121) , Created by annaa (03/18/2013 11:04)

LDR	03202cam^^2200577^a^4500
001	991918100000121
005	20140327134600.0
008	130318m2012^^^^nyudmh^^bb^^^^001^0^spa^^
010	\$\$a ^^2009023588
020	\$\$a 9780805087499
020	\$\$a 0805087494
020	\$\$a 9781616644833 (pbk.)
020	\$\$a 1616644834 (pbk.)
022	\$\$a 08f9df80dsfd0f
035	\$\$a (OCOLC)317928923 \$\$z (OCOLC)731401652
035	\$\$a (OCOLC)ocn317928923
	\$\$a DLC \$\$b eng \$\$c DLC \$\$d BTCTA \$\$d UPZ \$\$d GK8 \$\$d C#P
040	\$\$d MOF \$\$d VP@ \$\$d CDX \$\$d YHM \$\$d LMR \$\$d PZI \$\$d SGB

Authority(98155938070000041) | Bibliographic Records(7)

Ehrenreich, Barbara (98155938070000041)

LDR	02547cz a2200265n 4500
005	20130502073741.0
008	800613n azannaabn b aaa
001	98155938070000041
010	\$\$a n 50030509
035	\$\$a (OCOLC)oca00065877
040	\$\$a DLC \$\$b eng \$\$e rda \$\$c DLC \$\$d DLC \$\$d OCOLC \$\$d DGW-L
046	\$\$f 19410826
053	0 \$\$a PS3556.H65
100	1 \$\$a Ehrenreich, Barbara
370	\$\$a Butte, Mont. \$\$c U.S.
374	\$\$a Feminists \$\$a Political activists \$\$a Journalists \$\$a Authors
	\$\$2 lcsb
375	\$\$a female
377	\$\$a eng

For simpler controlled vocabularies (e.g. for fields such as the 310, or 041), Alma supports a lightweight mechanism for defining a non-hierarchical local vocabulary. Out of the box vocabularies exist for standard fields; libraries may define their own vocabularies for local fields.

00500001	035	# #	\$\$a (OCLC) 000069843
p... (991E	040		\$\$a OCLCQ \$\$b eng \$\$e rda \$\$c QBX \$\$d OCLCQ
... (99170	245	0 0	\$\$a Modern drug discovery : \$\$b chemical and biological perspectives / \$\$c editor, Tom Hollon.
... (9913E	260		\$\$a Washington, DC : \$\$b American Chemical Society, \$\$c [1998?]-.
d ... (991E	300		\$\$b illustrations ; \$\$c 28 cm.
b... (9911E	310		\$\$a Bi
Records	336		Annual
urity Subje	337		Annual (irregular)
urity Name	338		Biannual (once every year)
y Childrer	588		Bimonthly (once every two months)
s	700	1	Bimonthly and suppl.
	710	2	Daily
	985		\$\$a commonsetK \$\$b IOrQBI
	994		\$\$a C0 \$\$b DLC

Headings may also be validated on headings not entered manually—this occurs on an ongoing basis and when new records are loaded. When a match is found, the authorized form of the heading will be used (replacing unauthorized forms, such as SEE references). In all cases, individual headings may validate against authority records managed locally or centrally (and kept up to date by Ex Libris), depending on the preferences of the institution.

Headings updates happen whenever new authorities are loaded. When using central authority control, this happens when Ex Libris updates the central authority file (e.g., the LCSH or LCNAF files). Updates will then be distributed to all bibliographic headings linked to the updated records automatically, and for the most part, headings will swap automatically. The system identifies what fields are subject to authority control using the metadata registry. In certain cases (such as a single headings splitting into two, or name becoming newly qualified), a staff member will need to review and approve the change.

Best practice in Alma is to use Community Zone authorities as much as possible. By doing so, libraries will remove the need to load or manage local authorities. For Community Zone authorities, Ex Libris will keep the authority file up to date with the most recent changes from the authorizing agency. When Ex Libris loads a file of authority records, the system will analyze for changes to individual headings. When it identifies changed headings, it will automatically make those changes to the bibliographic headings that are linked to those authorities. Staff may view a report of records affected by these headings change processes.

In certain predefined cases, the system will identify headings that require further analysis. For example, when a heading splits into two or more headings, the affected bibliographic headings will appear on a task list. Staff may then decide which of the new headings apply to each resource. In this way, most of the process is automated, with only a small set of exceptions requiring staff intervention.

B.1.7.3.2. How the system will allow the management and maintenance of a shared authority file, with control clearances both at the consortial and local levels.

Ex Libris: Alma’s Community Zone includes global authority files that are maintained by Ex Libris and kept up to date with data from the authorizing agencies for each authority file. These files can be used for validating headings in bibliographic records in Library Zone and Community Zone catalogs. These central validation functions are available to all Alma

institutions. Authority files in the Community Zone include Library of Congress Subject Headings, Library of Congress Names, and Medical Subject Headings (MeSH) from the U.S. National Library of Medicine. Additional authority files are being investigated for inclusion into the Community Zone.

Authority files can be loaded to the Network Zone using standard import capabilities. Once in the NZ, they are made available to the network's members. An operator in the Institution Zone working on a NZ bibliographic record can associate it to the authority record managed in the NZ. Any preferred term correction that occurs in the NZ will automatically be reflected in the institution.

- B.1.7.3.3. How the system updates the authority data automatically and how frequently in a shared environment. Is the service similar to that provided by authorities processing vendors?

Ex Libris: For manual editing, Alma supports assisted text entry that ensures that what's filled in will match an existing heading. Heading authorizations and updates works based on system jobs.

- An authorization job searches for authorized headings and SEE references that match the bib headings. For valid headings, it authorizes the bib heading with no other change.
- For SEE references, a job updates the bibliographic heading to match the authorized heading.
- When authority records are updated, a job flips from the old form of the heading to the new form. Certain exceptions will require manual review (such as a single heading switching to two), but this is otherwise automated.

All of the above system jobs run automatically. Manual intervention is only required when an error is encountered. A report of the job actions is available after it runs. Additionally, the system will make a record set of "bib headings with multiple matches" so that these records can be reviewed to determine which of the new headings applies.

- B.1.7.3.4. How the system manages the import and export of authority data with one or multiple authority vendors. Can the system export the data in Excel and CSV formats?

Ex Libris: Alma supports the ability to import and export bibliographic, inventory, and authority records in their native formats, including MARC 21 XML or binary and Dublin Core XML. For more information about the import and export processes, please see Section B.1.7.1.4.

- B.1.7.3.5. The default and all other automated authority control practices and the ability to customize these practices.

Ex Libris: Alma supports the ability to automatically control access points on predefined fields. This is composed of three stages: entry, validation (identifying headings to control), and update. For entering valid headings, Alma supports assisted text entry on controlled headings fields, as shown below. Alma supports the ability to define the sequence in which it will check for authorized headings during headings validation processes—first local, then global or first global,

then local. This allows libraries to benefit from shared authority data without sacrificing the need to maintain local headings, e.g., for local name authority files.

From the MD Editor, a cataloger can type in the beginning text of a name or subject heading. Pressing the F3 function key will display a list of headings that match the input. The cataloger has the option to view and/or select the heading:



Selecting an authorized heading will automatically link the field to that authority heading. This supports the ability to quickly perform authority control for sophisticated vocabularies that are represented in MARC authority records and whose headings may span multiple MARC subfields.

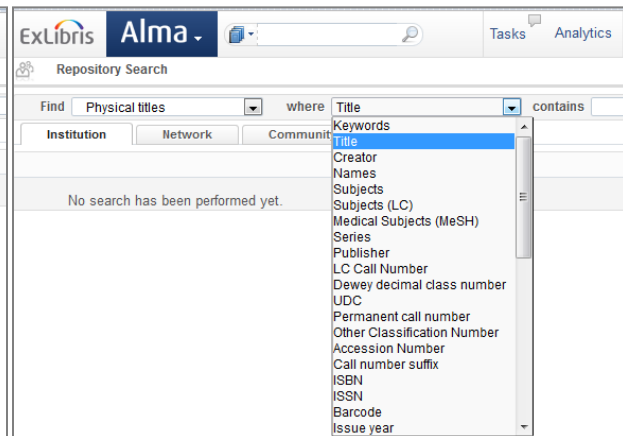
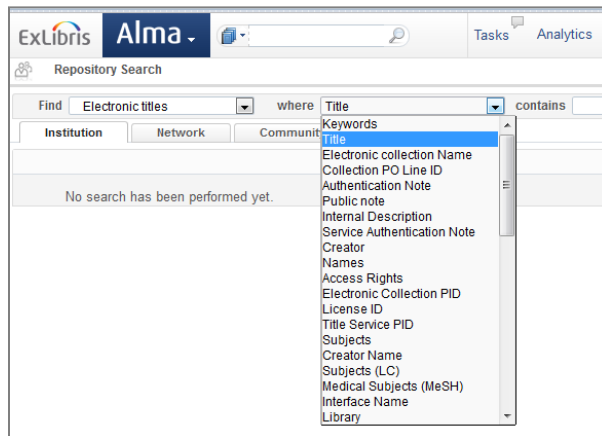
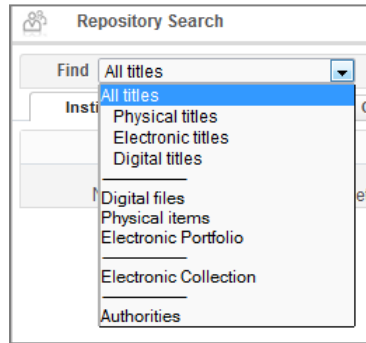
For simpler controlled vocabularies (e.g. for fields such as the 310 or 041), Alma supports a lightweight mechanism for defining a non-hierarchical local vocabulary. Out of the box vocabularies exist for standard fields; libraries may define their own vocabularies for local fields.

B.1.7.3.6. How the system manages and displays cross-references. Describe how locally created cross-references will be preserved, identified and displayed.

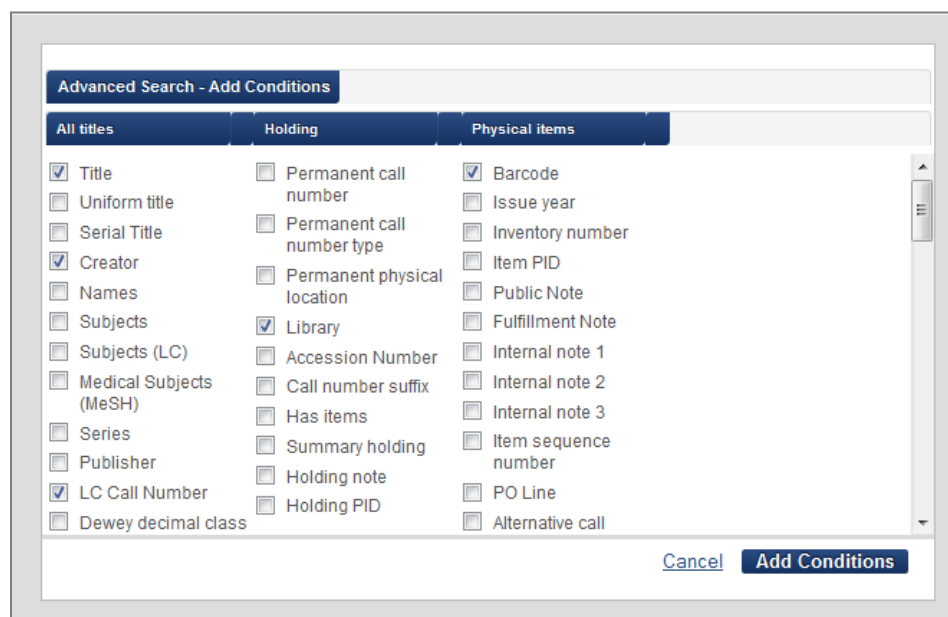
Ex Libris: Alma manages SEE and SEE ALSO references through the appropriate fields in authority records. When authorizing a bibliographic heading, SEE headings will automatically be replaced by the authorized form of the heading. When publishing records to the discovery interface, Alma will automatically enhance them with SEE references so that the discovery interface can index the non-preferred term and retrieve records displaying the preferred term.

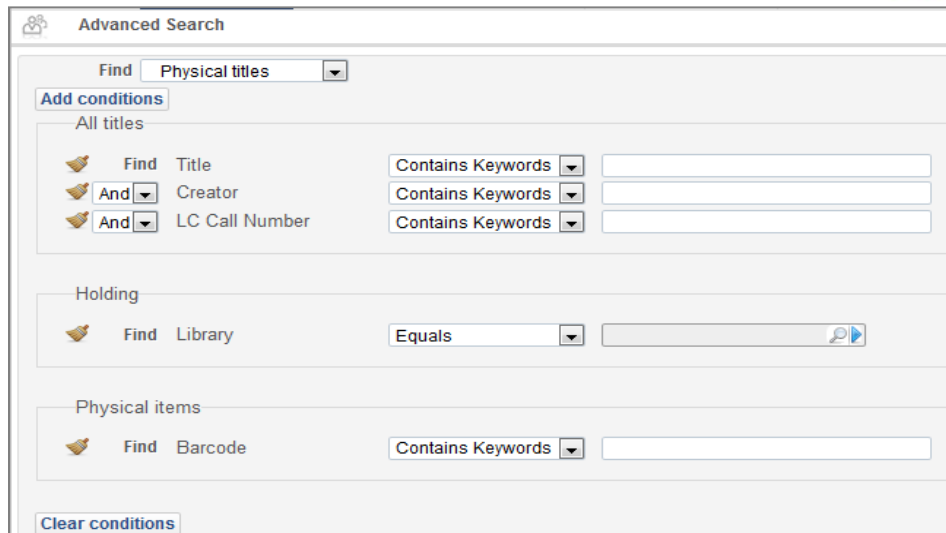
B.1.7.3.7. The granulate level of search and editing capability of a given heading in the system, i.e. subfield level.

Ex Libris: Staff users of Alma can search across all print, electronic, and digital materials from the Repository Search in Alma. Depending on whether the staff user searches across all titles, physical titles, electronic collections, authorities, or any of the other options in the screenshot below, staff will see different indexed fields in which they can search (see example below).

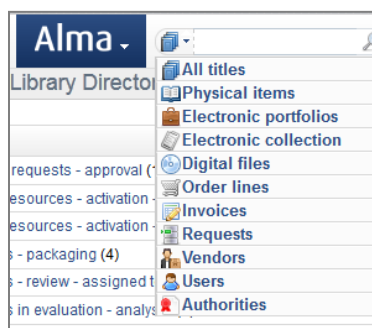


Staff users can also perform an advanced search, which provides very rich indexing of the database, allowing staff to search within a wide variety of fields. Staff may add a variety of conditions to their search, and can string together multiple fields to arrive at a specific set of records. The indexed options change depending on the type of material a user is searching for (print titles, electronic collections, digital items, etc.). Additionally, the library can indicate if they want specific local fields to be indexed for search.





Furthermore, all staff may use the the Quick Search to search across respository items, as well as other data found in Alma (as seen below).



After a search is performed, a list of results display with brief metadata as well as item information, and/or e-resource and digital information where relevant, for each record. Below is a screenshot of a metadata record with both physical, electronic and digital items attached to it:



Note that from the brief record, staff users with the appropriate roles can perform acquisitions, cataloging, or fulfillment operations, directly from the search results. The options to Edit, Order, Request, etc. are given only to those with the appropriate roles. In other words, if a fulfillment operator is logged in who has not been given cataloging capabilities, the option to edit the record would not appear in the results.

B.1.7.3.8. The features and flexibilities when working with batch updating authority records.

Ex Libris: Alma supports streamlined processes for authority control, such that changed headings in local or global authority files will be automatically processed against bibliographic records. When a heading changes in an authority record, that change will automatically be reflected in bibliographic records that authorize against that heading. Additionally, Alma will flag certain changes as requiring staff attention. These changes include single headings splitting into two or more headings, date ranges on headings being added, one-time conferences moving to repeating conferences, and unqualified names being qualified by either date or additional names. This allows the system to automatically manage the integrity of access points in the catalog when possible, while directing staff to the decisions that require human attention.

B.1.7.3.9. How the system allows local sites to create local authority records, such as special collection materials and university department names.

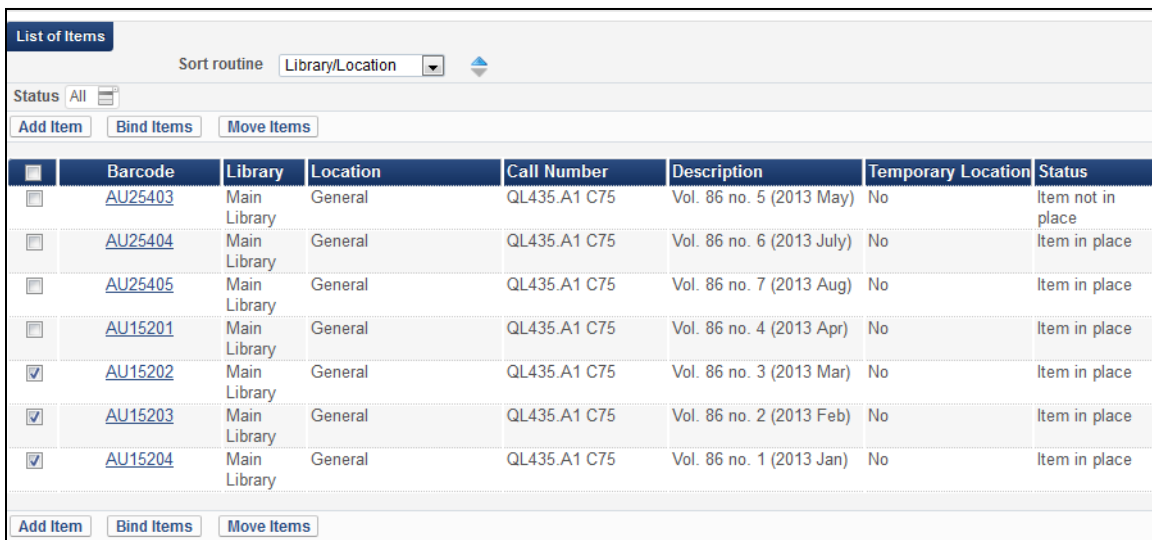
Ex Libris: In addition to the global authority files described above, Alma allows libraries to create and load local authorities. This includes authority records for subject headings and names. These local authorities can be used as overrides for authorization against the global authority file—when validating, Alma will check first for local authorized headings before checking for global headings.

B.1.7.4. PHYSICAL COLLECTION MAINTENANCE

Describe or Demonstrate:

B.1.7.4.1. The functionality for monograph binding operations. Does the system require a check-in record provided for each monograph binding set?

Ex Libris: The first step in the binding process is to open the physical item editor for a journal and select to view items. From the Items screen (with pre-set Physical Item search limit), the staff user marks the items to be bound, and then clicks on the option “Bind Items”.



	Barcode	Library	Location	Call Number	Description	Temporary Location	Status
<input type="checkbox"/>	AU25403	Main Library	General	QL435.A1 C75	Vol. 86 no. 5 (2013 May)	No	Item not in place
<input type="checkbox"/>	AU25404	Main Library	General	QL435.A1 C75	Vol. 86 no. 6 (2013 July)	No	Item in place
<input type="checkbox"/>	AU25405	Main Library	General	QL435.A1 C75	Vol. 86 no. 7 (2013 Aug)	No	Item in place
<input type="checkbox"/>	AU15201	Main Library	General	QL435.A1 C75	Vol. 86 no. 4 (2013 Apr)	No	Item in place
<input checked="" type="checkbox"/>	AU15202	Main Library	General	QL435.A1 C75	Vol. 86 no. 3 (2013 Mar)	No	Item in place
<input checked="" type="checkbox"/>	AU15203	Main Library	General	QL435.A1 C75	Vol. 86 no. 2 (2013 Feb)	No	Item in place
<input checked="" type="checkbox"/>	AU15204	Main Library	General	QL435.A1 C75	Vol. 86 no. 1 (2013 Jan)	No	Item in place

The user is guided through a wizard in order to create the new bound volume:

Bind Items - Items list								
Selected items to bind into one volume								
Barcode	Library	Location	Call Number	Description	Temporary Location	Status	Process type	Access Num
AU15202	Main Library	General	QL435.A1 C75	Vol. 86 no. 3 (2013 Mar)	No	Item in place	-	-
AU15203	Main Library	General	QL435.A1 C75	Vol. 86 no. 2 (2013 Feb)	No	Item in place	-	-
AU15204	Main Library	General	QL435.A1 C75	Vol. 86 no. 1 (2013 Jan)	No	Item in place	-	-

B.1.7.4.2. The methods and formats for exporting binding information to a file and the methods for generating binding information from the system to send electronically to a vendor. Will the system interact with external bindery software? Describe which bindery communication protocols are supported.

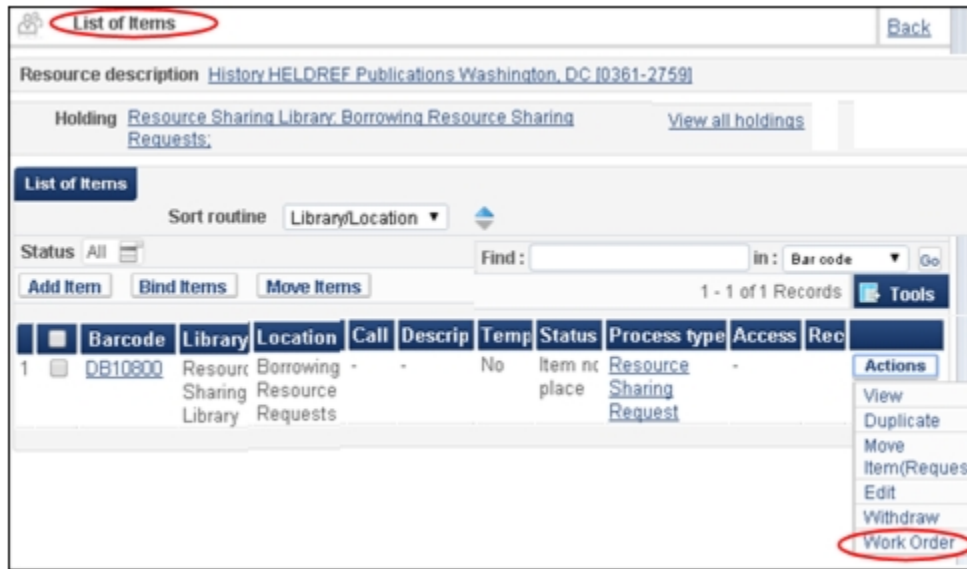
Ex Libris: The functionality described may be possible via APIs. The export of binding information is currently not part of the Alma roadmap.

B.1.7.4.3. How the system generates binding preparation reports or reports which facilitate preservation assessment.

Ex Libris: Alma supports workflows related to binding. Staff can review a list of issues and create a bound volume. All of the item records for the issues incorporated in the bound volume will be marked as withdrawn, and will not display in the discovery tool.

B.1.7.4.4. How the system will allow staff to track and generate reports on their institution's collections for in-house repairs. Can the report be easily converted into different formats, i.e., Excel, Word, etc.?

Ex Libris: In-house repairs are managed in Alma through the use of work orders. A work order type indicates the type of library process to be carried out on a resource, such as binding or cataloging. Work order types can be configured from the Work Order Types page. Work orders are specifically for processing physical items and can be initiated from the List of Items page:



Work orders are available for reporting via Alma analytics, and these reports can be exported in multiple formats, including PDF, Excel, PowerPoint, CSV, tab-delimited, and XML formats.

B.1.7.4.5. How the system will allow flexibility of editing and displaying label layouts or multiple label layouts, and printer selections.

Ex Libris: Alma has the ability to integrate with locally used label printing applications through downloading a local component that utilizes web service to communicate with Alma and the local label printer. You can choose to use the Alma provided Label Printer BIAF or your existing one.

Alma supports multiple classification schemes as well as supporting the option to define multiple parsing schemes for all aspects of the label as can be seen in the following screen capture.

Enabled	Call Number Type	Call Number Parsing Type	Updated By	Last Updated	
✓	Library of Congress classification	Parse routine 3	-	-	Delete
✓	Dewey Decimal classification	Parse routine 3	-	-	Delete
✓	National Library of Medicine classification	Parse routine 3	-	-	Delete
✓	Superintendent of Documents classification	Parse routine 3	-	-	Delete
✓	Shelving control number	Parse routine 3	-	-	Delete
✓	Title	Parse routine 3	-	-	Delete
✓	Shelved separately	Parse routine 3	-	-	Delete
✓	Source specified in subfield \$2	Parse routine 3	-	-	Delete
✓	Other scheme	Parse routine 3	-	-	Delete

B.1.7.4.6. If the system allows the creation of digital bookplates.

Ex Libris: The best way to manage bookplates is through the use of Alma Collection Management. If there is a collection of items contributed by an individual, these items can all be grouped into a collection. A bibliographic record is created describing the collection, including details of the contributor and a URL to the digital bookplate, which will then be exposed via the discovery system.

- B.1.7.4.7. If the system allows staff to enter URLs in bibliographic records to link to the digital bookplates.

Ex Libris: In general, any URL can be stored in a bibliographic record in Alma. Please see the answer above for our recommendation on how to manage digital bookplates.

- B.1.7.4.8. If the system allows tracking of withdrawals, transfers or alerts when certain items should be removed.

Ex Libris: An institution can mark items to be deleted via a work order (described above). An institution can create a work order of type "Item to be Deleted", which will have an expiry date. Once the work order is created, the operator can assign the order to any item they recognize should be deleted. Items will appear in the "Manage In Process Items" task list, from which they can be managed. The list of items in the task list can be exported and input as a batch process to withdraw items.

B.1.7.5. QUALITY CONTROL

Describe or Demonstrate:

- B.1.7.5.1. How the system supports global changes both at the consortial and local level to entire fields and subfields, and specific strings within fields and subfields in all record types. Include a description of the listing or reporting functionality, ability to search across record types, and output methods.

Ex Libris: Batch update actions may be performed using Alma's Process Automation tools. These tools enable:

- Defining a set of records to work on. These records may be of various types:
 - Title records
 - Physical title records
 - Electronic title records
 - Physical item records
 - Digital file metadata records
- Defining a chain of defined tasks to be run on the set. These chains include:
 - Normalization of the set's records
 - Global change of record information

Staff users can utilize the rich search functions within Alma, described above, to create sets for batch change.

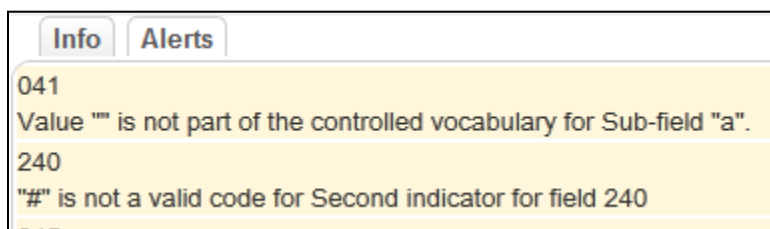
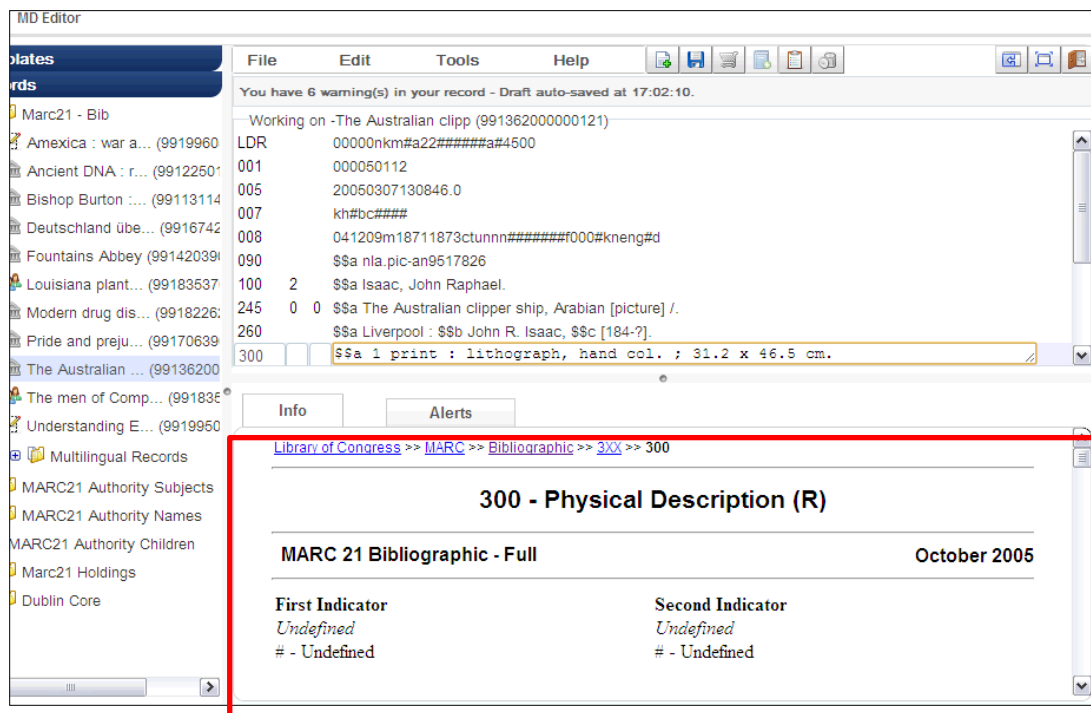
An operator who logs in to the Network Zone can perform global changes. Every change that occurs on the level of Network Zone will update any relevant institutions within the Network.

- B.1.7.5.2. The system's validation routines for all record schemas and record types (order, bibliographic, etc.)

Ex Libris: For MARC21 records, Alma supports the ability to store and display all tags, subfields, and indicators. All staff may view records in a read-only mode, and staff that have the right to edit metadata records may do so through the metadata editor. The metadata editor

supports editing any MARC tag, subfield, and indicator. It also provides customizable automatic validation routines that will provide warnings and errors when a record contains invalid data.

While viewing a record in the metadata editor, staff can view help information inline. This displays contextually on a per-field basis, depending on what field is being edited. The following shows a reference to the MARC21 bibliographic standard; comparable help can be set up for other schemas (including linking out to content resources such as the RDA toolkit on a contextual, per-field basis), as seen in the screenshot below.



Alma additionally supports the ability to edit Dublin Core records, including all properties in the “dcterms” namespace. In the image below, a Dublin Core record is displayed in the metadata editor with many of the same tools as the MARC 21 editor (with some variations based on the needs of the format).

B.1.7.5.3. The system’s standard database maintenance reports, including, but not limited to, headings, data duplication, etc.

Ex Libris: A report of the job actions is available after it runs. Additionally, the system will make a record set of “bib headings with multiple matches” so that these records can be reviewed to determine which of the new headings applies.

Name	Job Category	Creator	Submit Date	Start Date	End Date	Status	Failed Records	Actions
Authorities - Preferred Term Correction	Repository	System	05/07/2014 03:00	05/07/2014 03:00	05/07/2014 03:01	Completed Successfully		Actions
Authorities - Link BIB Headings	Repository	System	05/07/2014 01:00	05/07/2014 01:00	05/07/2014 01:00	Completed Successfully		Actions

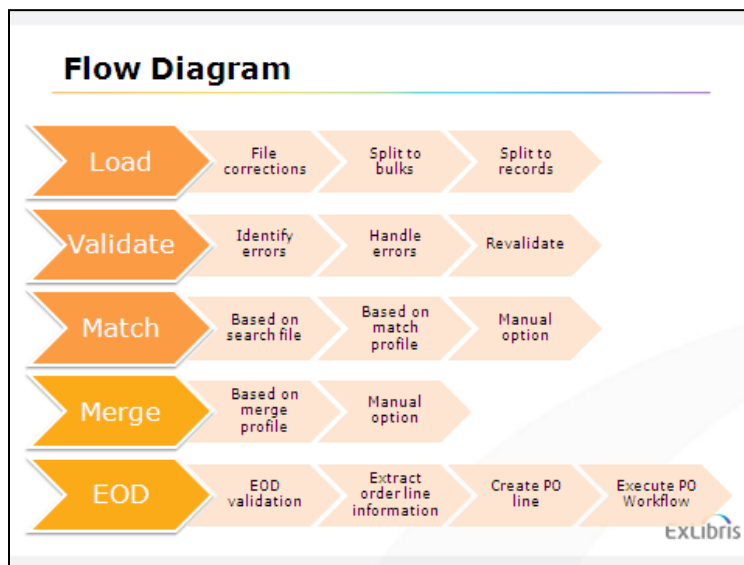
B.1.7.5.4. Export and import procedures, including how the system manages the import and export of different encoding levels and unique fields, overlay alert capabilities, the ability to manipulate data during record loads (for e.g. adding or deleting fields).

Ex Libris: All batch-loading of metadata records in Alma is managed using “Import Profiles”. Import profiles define all aspects of the loading process.

This process is split into a sequence of steps:

- Loading the file
- Normalizing and Validating the records in the file
- Finding an existing match in the catalog
- Merging into the existing record (when relevant)
- EOD (Embedded Order Data) files – creation of order line records (when relevant)

This can be summarized as follows:

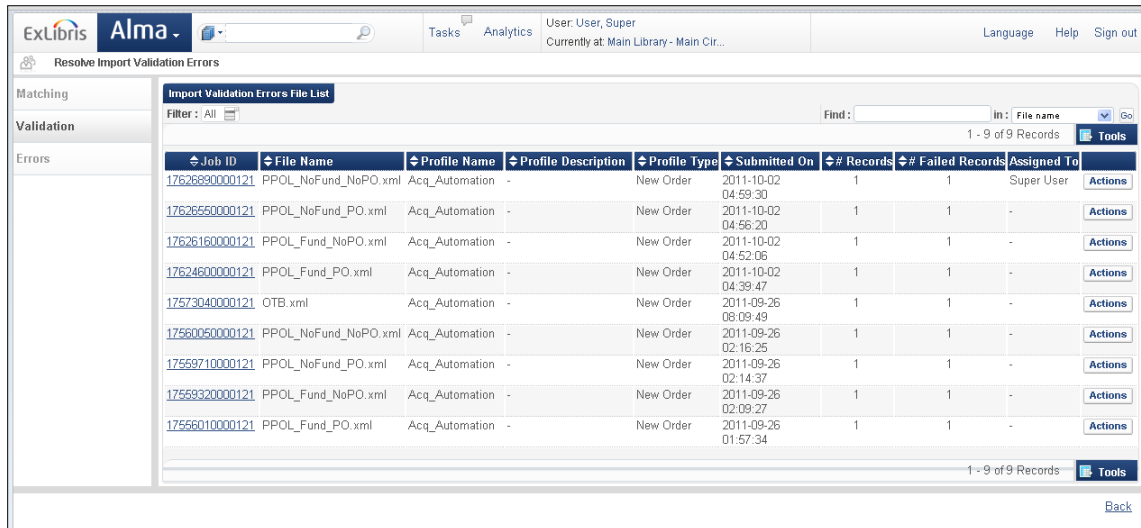


The import process supports automation as much as possible. For example, the import can be defined to automatically merge an imported record into the catalog in cases where the system found a single match.

If, at any stage during the import process, either because of errors, or because the import profile definition requires mediated intervention, the staff user will be able to review issues using a dedicated task list. This task list will provide the staff user with information on what the issue is as well as the relevant actions the user can perform.

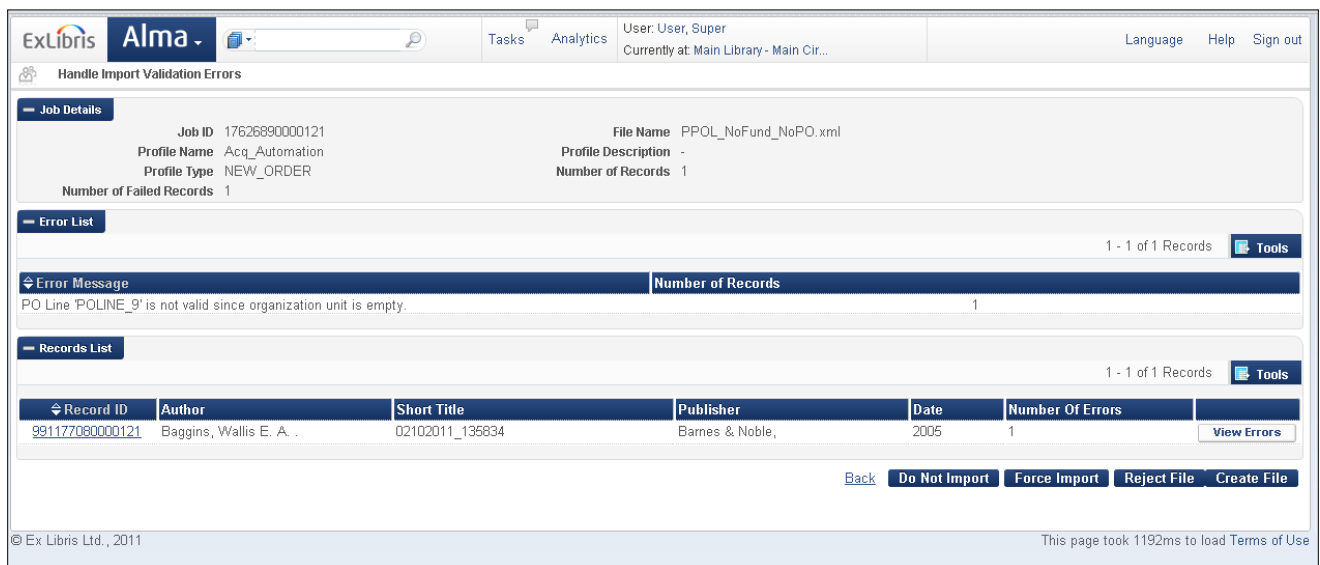
A staff user can view the import's records for specific validation errors. He/she then can choose to not import the records, to go ahead with the import, or to stop the import of the entire file.

Import Issues – Validation:



Job ID	File Name	Profile Name	Profile Description	Profile Type	Submitted On	# Records	# Failed Records	Assigned To	Actions
17626890000121	PPOL_NoFund_NoPO.xml	Acq_Automation	-	New Order	2011-10-02 04:59:30	1	1	Super User	Actions
17626550000121	PPOL_NoFund_PO.xml	Acq_Automation	-	New Order	2011-10-02 04:56:20	1	1	-	Actions
17626160000121	PPOL_Fund_NoPO.xml	Acq_Automation	-	New Order	2011-10-02 04:52:06	1	1	-	Actions
17624600000121	PPOL_Fund_PO.xml	Acq_Automation	-	New Order	2011-10-02 04:39:47	1	1	-	Actions
17573040000121	OTB.xml	Acq_Automation	-	New Order	2011-09-26 08:09:49	1	1	-	Actions
17560050000121	PPOL_NoFund_NoPO.xml	Acq_Automation	-	New Order	2011-09-26 02:16:25	1	1	-	Actions
17559710000121	PPOL_NoFund_PO.xml	Acq_Automation	-	New Order	2011-09-26 02:14:37	1	1	-	Actions
17559320000121	PPOL_Fund_NoPO.xml	Acq_Automation	-	New Order	2011-09-26 02:09:27	1	1	-	Actions
17556010000121	PPOL_Fund_PO.xml	Acq_Automation	-	New Order	2011-09-26 01:57:34	1	1	-	Actions

Import Issues – Specific Import:



Job Details

Job ID: 17626890000121 | File Name: PPOL_NoFund_NoPO.xml
 Profile Name: Acq_Automation | Profile Description: -
 Profile Type: NEW_ORDER | Number of Records: 1
 Number of Failed Records: 1

Error List (1 - 1 of 1 Records)

Error Message	Number of Records
PO Line 'POLINE_9' is not valid since organization unit is empty.	1

Records List (1 - 1 of 1 Records)

Record ID	Author	Short Title	Publisher	Date	Number Of Errors	View Errors
991177080000121	Baggins, Wallis E. A. .	02102011_135834	Barnes & Noble,	2005	1	View Errors

Back Do Not Import Force Import Reject File Create File

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The staff user also can view the import's records for specific matching issues. He/she then can view the matches found for a specific record, decide which specific one is the actual match, and merge the imported record into it.

View matches of an imported record:

As part of the matching during the import process, the imported record is evaluated and compared to the institution’s catalog. Matches can be done using specific match “profiles” which define how a match is evaluated. There are two types of matches: ID-based “fuzzy” matches, and weighted matches based on unique identifiers and fields.

The “fuzzy” match method attempts to evaluate a record based on various non-unique identifiers and fields to determine if the imported record and the catalog record are in fact duplicates.

Alma also will use institution-defined merge profiles to calculate the new record content. These profiles determine which fields are preserved in the existing catalog record, and which fields will be imported from the import record. The profile uses a configurable business rule to make these determinations.

Merge Profile List:

Customized	Enabled	Filename	Description	Updated by	Update Date	Actions
	✓	droids/Replace245and035OCoLCIfExist.dslr	Replace 245 and 035 OCoLC if exist	-	-	Actions
	✓	droids/OverlayAllFieldsButLocal.dslr	Overlay all fields but local	-	-	Actions
	✓	droids/MergeNoChangeToOldValue.dslr	Keep only old value	-	-	Actions
	✓	droids/ConditionalSubjectHeadings.dslr	Conditional subject headings	-	-	Actions

Alma allows staff to bind validation and normalization routines to be bound to import profiles. Libraries can then maintain a consistent catalog and be warned when invalid records are being imported.

- B.1.7.5.5. The system's options for creating custom record templates, macros, shortcut keys, and drop-down menus at the local and consortium levels.

Ex Libris: Alma supports the creation of cataloging templates, but does not support the creation of macros or institution-defined shortcuts.

- B.1.7.5.6. The system's ability to run scheduled jobs for routine tasks.

Ex Libris: Alma supports the ability to perform batch changes against bibliographic and inventory records. The approach to doing so is flexible and extensible. Staff with rights to perform global changes will first identify the action to perform and then identify the set of records to change (either manually or as a result of a search). These actions may also be bound to an import profile, to automatically run for every record imported by that profile. This allows staff to identify common problem records and perform automatic clean-up of those records.

- B.1.7.5.7. The system's ability to archive and retrieve groups of records.

Ex Libris: Alma supports the option for creating two types of sets - Logical and Itemized. A logical set is created by saving the results of a search query. An itemized set allows the staff user to add individual records resulting from one or many search queries to a set of records. Logical sets are dynamic – the results may change as records are added to the database that match the search query. Itemized sets are static – the contents of the set will only change if the staff user adds or deletes records to the set.

- B.1.7.5.8. The system's ability to perform speedy batch processing of many records.

Ex Libris: Alma supports a number of collection management processes that can be run on sets of items or bibliographic records. Examples are:

- Global changing of item information;
- Batch movement of items from one location to another; and
- Exporting and importing item information.

Choosing one of these processes initiates a wizard that guides the staff user through the steps needed.

- B.1.7.5.9. How the system provides the option of export and import of all types of records for manipulation by third-party applications without intervention by system vendor with full preservation of all content designators.

Ex Libris: Alma supports the ability to import records in bulk on demand or according to a schedule. It will preserve unique fields and lowered encoding levels, though each condition may be logged when the incoming records are validated. The rules by which it imports records are set up in "import profiles." Each site may set up many import profiles—for records from different sources, containing different data types, etc.

When importing any record, Alma goes through specific steps according to the rule of the appropriate import profile. It validates each record for encoding and content. It checks for matching records that already exist in the catalog, then can be set up to either merge, overlay, ignore (importing anyway), or flag matched records for review. Finally, it runs additional

services. For example, an additional service might be to extract inventory information and create holdings and item records.

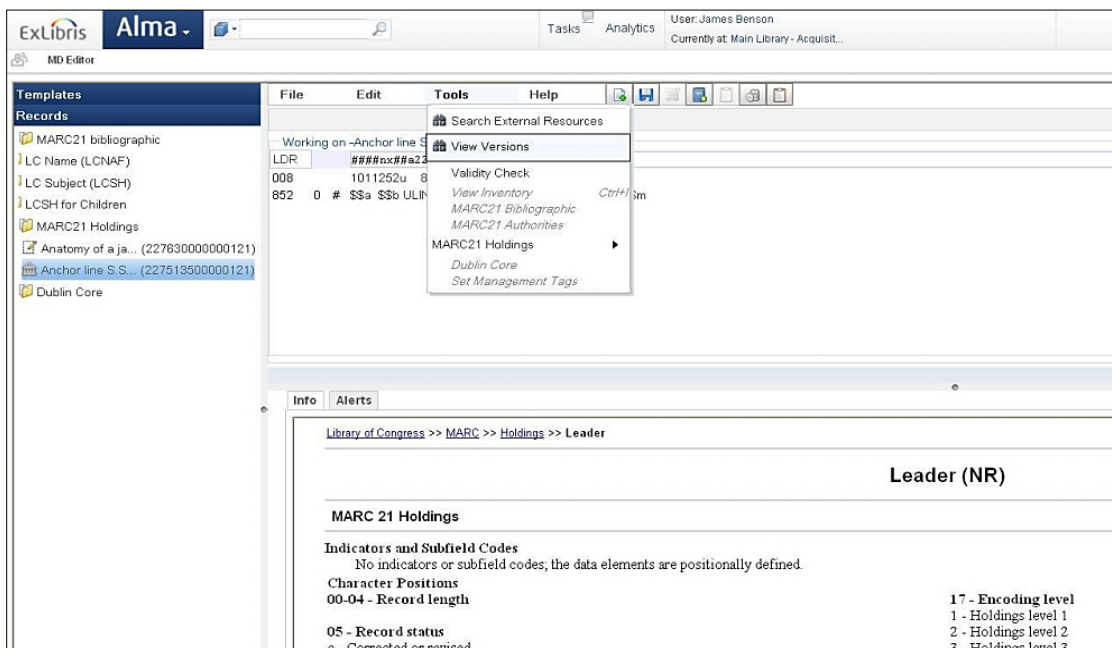
Another service is to flag brief records. These are identified by checking for the presence of a combination of fields, including call number, title, publication statement, subject, etc. If the default rules do not suit a site's needs, libraries may design additional validations and services and bind them to import profiles.

The approach to exporting records works quite similarly. Publication profiles are defined that determine which records to export, on what schedule to export them, and additional services to run at export (which may include enhancing or cleaning up the outgoing records). This publication approach is the same infrastructure used for synchronizing holdings with WorldCat.

Finally, Alma supports the ability to perform ad-hoc exports on demand. This can be used for external record processing, updating for a shared repository, loading into an institutional data warehouse, or any other purpose.

B.1.7.5.10. How the system provides for permissions levels, and tracking of and accountability for, staff editing of all records within the shared environment.

Ex Libris: Alma provides audit trail capabilities by logging events for the various entities. For metadata records, the system keeps a full version history of the commits made, and it is possible to restore a metadata record from one of the history commits made. As shown in the screenshot below, from the Alma Metadata editor, it is possible to view all of the record's revisions.



Below, the Alma Metadata Editor – showing where the cataloger can view record revisions:

As can be seen in the screen shot above, on the right side are listed the recent revisions of the record, and the user can view the revision and restore to a desired revision.

Whenever a record is saved (including after editing), Alma will archive the previous version of the record. Staff may view a history of versions of a record, compare them to the current version, and roll back to a previous version. This allows staff and administrators security in knowing that any inadvertent changes to the catalog (either to individual records or groups of records) can be safely rolled back to the previous version. The following image shows a lookup of previous versions of a record in the editor.

B.1.7.5.11. If the system supports a spell check function.

Ex Libris: With Alma existing completely in the cloud and accessed through web browsers, typing will be checked by your browser's spellcheck function. Words not recognized by your

browser's dictionary will display a red underline, prompting the staff member to check for correct spelling.

B.2.1. ANALYTICS

Any successful library services platform must enable libraries to make informed, data-driven decisions. Analytics capability must also illustrate promise for future enhanced data collection and functionality, such as correlating student usage data with student GPA, comparing resource usage across formats, identifying the usage of library resources via links in LMS systems, and more.

B.2.2. REQUIREMENTS

Current capabilities must include generation of visually engaging and informative reports, the easy import and export of data at no additional cost, and integration and confidentiality with external systems such as PeopleSoft, and automation for reporting and analysis.

Ex Libris: Complies. Analytics is built into Alma throughout the system and is very flexible. Alma comes with a wide range of preconfigured reports and dashboards, all of which are customizable. In addition, designated staff may create reports of interest to other roles within the library and provide dashboards for staff, enabling them to access the defined reports. Alma communicates with external systems such as PeopleSoft, Banner, and more, allowing staff to run reports on up to date data across the institution.

Alma's Analytics function provides a Business Intelligence solution centrally installed on Alma servers in the cloud. The solution serves all Alma customers, but the data of each institution is separated from other institutions, based on the Alma SaaS model. Alma Analytics is designed to work over the Web and in the cloud so libraries can run out-of-the-box reports as well as create and run ad-hoc reports without the need for third-party reporting tools.

Alma Analytics provides a full suite of capabilities for creating and exposing reports, and presenting dashboards of summary data. Using this tool:

- From screens within Alma;
- From dashboards specifically tailored to a particular staff role;
- As widgets that are accessible from lobby areas within Alma; and
- As pushed reports, sent to the interested staff as emails.

B.2.3. FUNCTIONALITY

Reporting and analysis capabilities in this section are outlined as: operational, analytical, and assessment. We define each as:

- Operational – Documents and evaluates current activities and workflows in all functional areas;

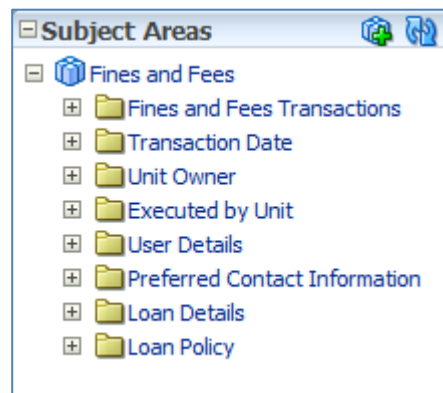
- Analytical - Provides for decision-making regarding collections or services;
- Assessment - Demonstrates impact of a collection or service to student and faculty success.

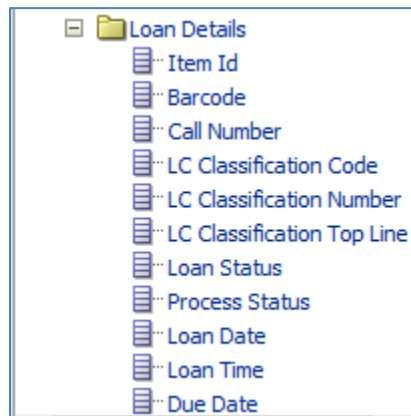
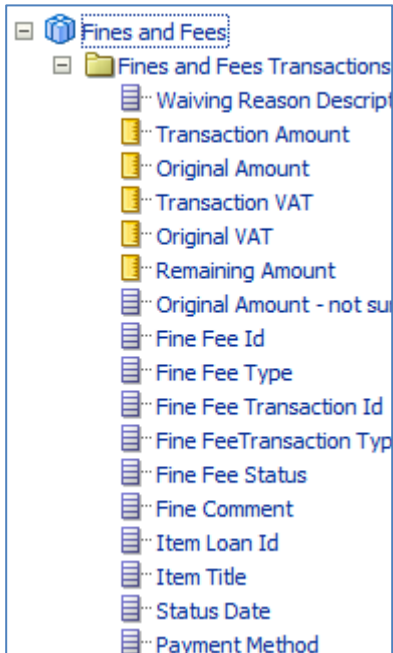
In addition to the functionality listed below, address the expertise needed by library staff or any functions that require intervention by a database administrator or Systems/IT personnel.

Describe or Demonstrate:

- B.2.3.1. Available data elements for analytical and operational reports, including pre-selected and ad hoc choices. Explain any limitations in availability or in the combination of data elements from different record types.

Ex Libris: Complies. Alma contains numerous operational, analytical, and assessment data points to enable staff to create traditional and advanced library reports. The data points are organized into Subject Areas within Analytics so users can easily drag and drop elements to build reports. The relevant data points necessary to create reports across Subject Areas are shared within folders. For example: User Details in Fines and Fees. An example of the detailed reporting options can be seen in the following screen captures from the fines and fees subject area:

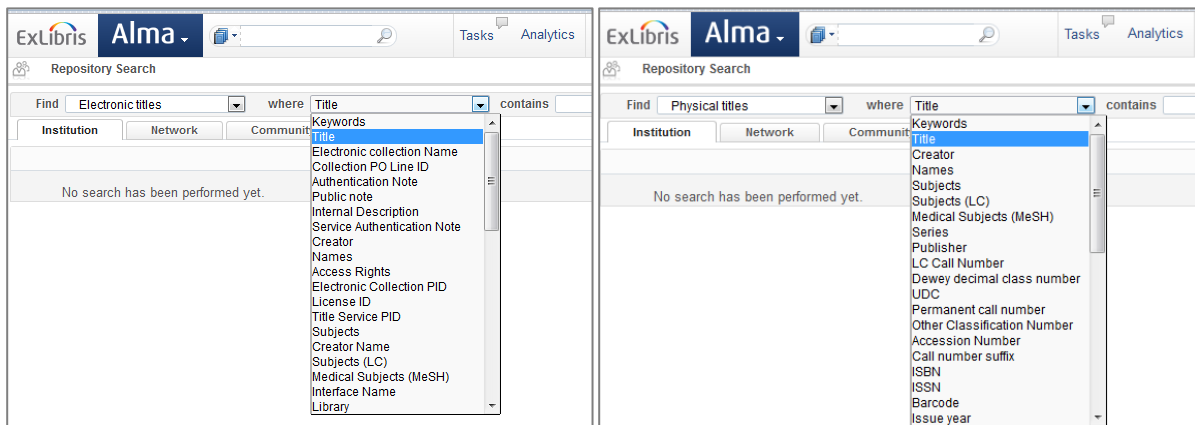
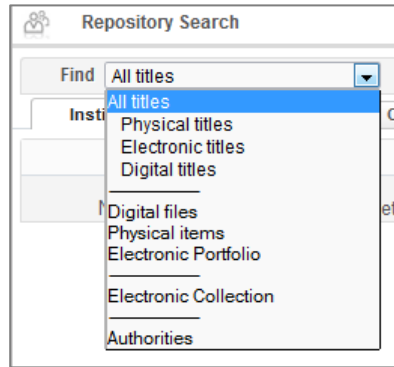




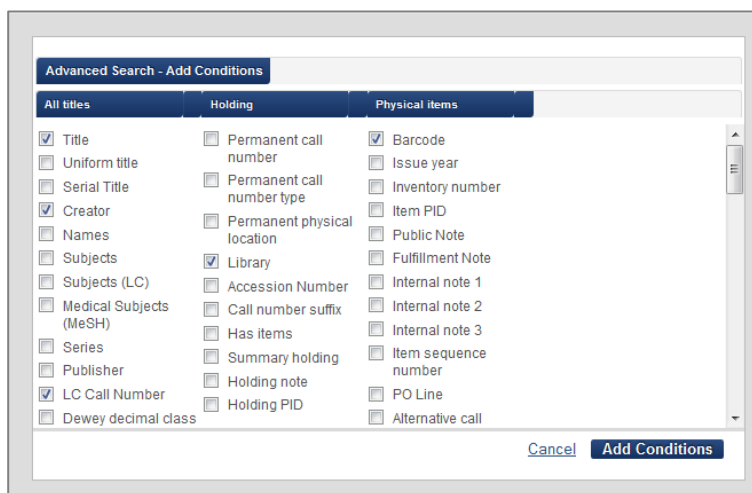
Alma Analytics uses a drag and drop query method to build powerful reports; it is easy to learn and fully documented in Alma’s Help Documentation. For all of the reports contained within this section, all that is required to build the report is the application of the Design Analytics role to the library user account.

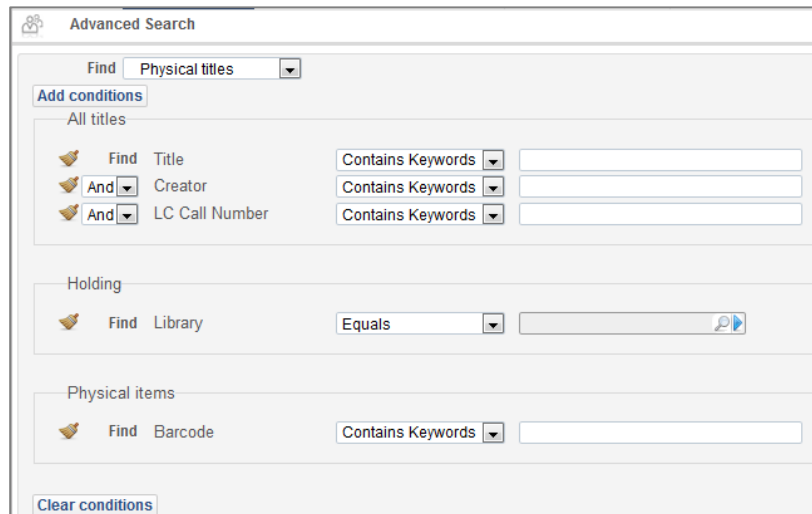
- B.2.3.2. Operational (i.e. non-public-facing) search functions for creating actionable sets of records, including, but not limited to, Boolean expressions, Regular Expressions, CONTAINS/HAS, wildcards, and fuzzy search capabilities.

Ex Libris: Complies. Staff users of Alma can search across all print, electronic, and digital materials from the Repository Search in Alma. Depending on whether the staff user searches across all titles, physical titles, electronic collections, authorities, or any of the other options in the screenshot below, staff will see different indexed fields in which they can search (see example below).

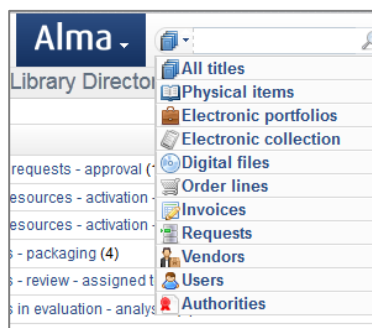


Staff users can also perform an advanced search, which provides very rich indexing of the database, allowing staff to search within a wide variety of fields. Staff may add a variety of conditions to their search, and can string together multiple fields to arrive at a specific set of records. The indexed options change depending on the type of material a user is searching for (print titles, electronic collections, digital items, etc.). Additionally, the library can indicate if they want specific local fields to be indexed for search.





Furthermore, all staff may use the the Quick Search to search across repository items, as well as other data found in Alma (as seen below).



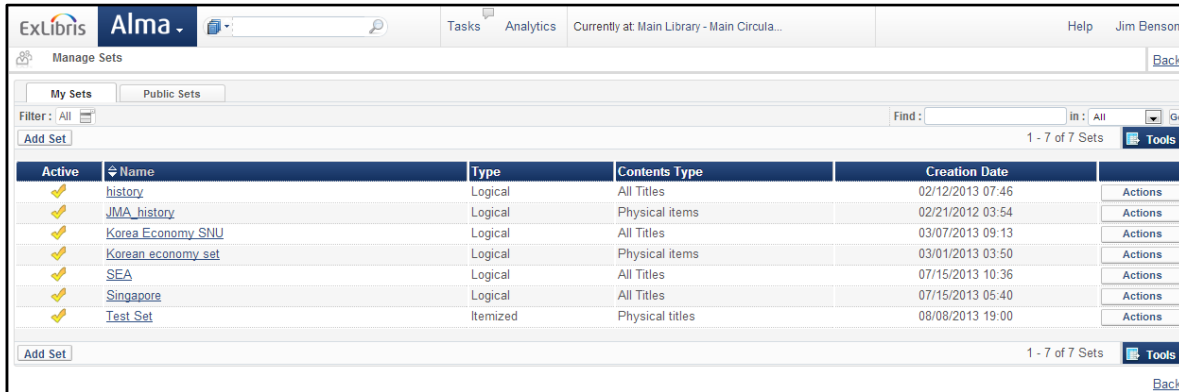
After a search is performed, a list of results display with brief metadata as well as item information, and/or e-resource and digital information where relevant, for each record. Below is a screenshot of a metadata record with both physical, electronic and digital items attached to it:

2 [Pride and prejudice ; / edited by Norma Lovesett.](#)
Book By Austen, Jane (New York : Random House 1999.)
 ISBN: 0140430636
 Subject: England So -- England, Eastern -- England Social conditions Fiction. 18th century and others
 Language: English Record number: --71031227-llr952
Availability: [Physical version](#) at **ULINC: GEN; PZ3.D55 B164** (1 copy, 1 available)
[Physical version](#) at **UMUSI: GEN; PZ3.D55 B164** (3 copies, 0 available)
[Digital version](#) of type PRESERVATION_MASTER (1 file/s)
[Electronic version](#) at Project Gutenberg: Full Text
 Locked By: Unassigned
[View It](#) | [Edit](#) | [Order](#) | [Request](#) | [Document Delivery](#) | [Portfolio List](#) | [Holdings](#) | [Items](#) | [View It](#) | [View digital resource](#) | [Edit digital resource](#) | [Export](#) | [More info](#)

Alma enables management of sets, which are predefined criteria for search operations. Once a set is defined, the user is able to run it from the search tool as a saved query.

There are two types of sets:

- Logical—a saved search query as described above
- Itemized—the staff user can choose items in any search query to be saved in a set



Active	Name	Type	Contents Type	Creation Date	Actions
✓	history	Logical	All Titles	02/12/2013 07:46	Actions
✓	JMA_history	Logical	Physical items	02/21/2012 03:54	Actions
✓	Korea Economy SNU	Logical	All Titles	03/07/2013 09:13	Actions
✓	Korean economy set	Logical	Physical items	03/01/2013 03:50	Actions
✓	SEA	Logical	All Titles	07/15/2013 10:36	Actions
✓	Singapore	Logical	All Titles	07/15/2013 05:40	Actions
✓	Test Set	Itemized	Physical titles	08/08/2013 19:00	Actions

B.2.3.3. Standard operational and analytical reports provided by the system. Address any limitations that are imposed (e.g. number of records). Examples of these reports include, but are not limited to:

- Age, size and location of collection, filtered by format and subject and including item and title counts;

Ex Libris: Complies. Alma Analytics contains an extensive index of data elements from all areas of the library operation, including the age, size, and location of items, including the ability to add date elements and subject elements and usage information such as item and title counts. All reports in Analytics are customizable to enable staff to add, remove, filter, and rearrange fields to meet library requirements.

Material Type	Location Name	Title	Item Count	Subjects	Item Creation Date	Time Loaned
iPad	General	Apple iPad2 with wif-fi 16 Gb	2		11/12/2012	2
Video cassette	Ballet Music Collection	Shalom of Safed	1	Portraits Israel.; Safed; Shalom, of Safed, 1887-1980	9/15/2011	0
	General	"New Year's Concert [1990]"; Suppé, Strauss family.	1	Orchestral music.	9/15/2011	0
		1 be-April	2	Videotapes.; Feature films Israel.	9/15/2011	0
		1400, pilgrims all Chaucer /	1	Christian pilgrims and pilgrimages History. England; Chaucer, Geoffrey, d. 1400 Criticism and interpretation.	9/15/2011	0
		613 Torah Avenue songs for Chumash B'reishis : the animated video /	1	Jews Music. United States; Children's songs, Jewish.; Songs, Hebrew United States.	9/15/2011	0
		A	1	Animated films.; Experimental films.	9/15/2011	0
		A Charlie Brown Christmas	1	Videotapes.; Short films United States.; Comedy films United States.; Children's films United States.; Animated films United States.; Christmas films United States.	9/15/2011	0
		A Love in Germany	1	Videotapes.; Feature films Germany..	9/15/2011	0
		A New era in atherosclerosis management	3	Atherosclerosis videocassettes. therapy; Atherosclerosis videocassettes. etiology	9/15/2011	0
		A Q cheng chuan The true story of Ah Q.	1	Videotapes.; Feature films.	9/15/2011	0
		A briyele der mamen A letter to mother.	3	Videotapes.	9/15/2011	0
		A concert of hazzanut	1	Synagogue music Israel.; Cantors (Judaism)	9/15/2011	0
		A conversation with A. J. Heschel	1	Heschel, Abraham Joshua, 1907-1972.	9/15/2011	0

- Acquisitions and usage of items by item type, date, cost, order, fund, location, vendor, selector, format, and bibliographic record, including data across record types, and whether an item is actively available or has been withdrawn;

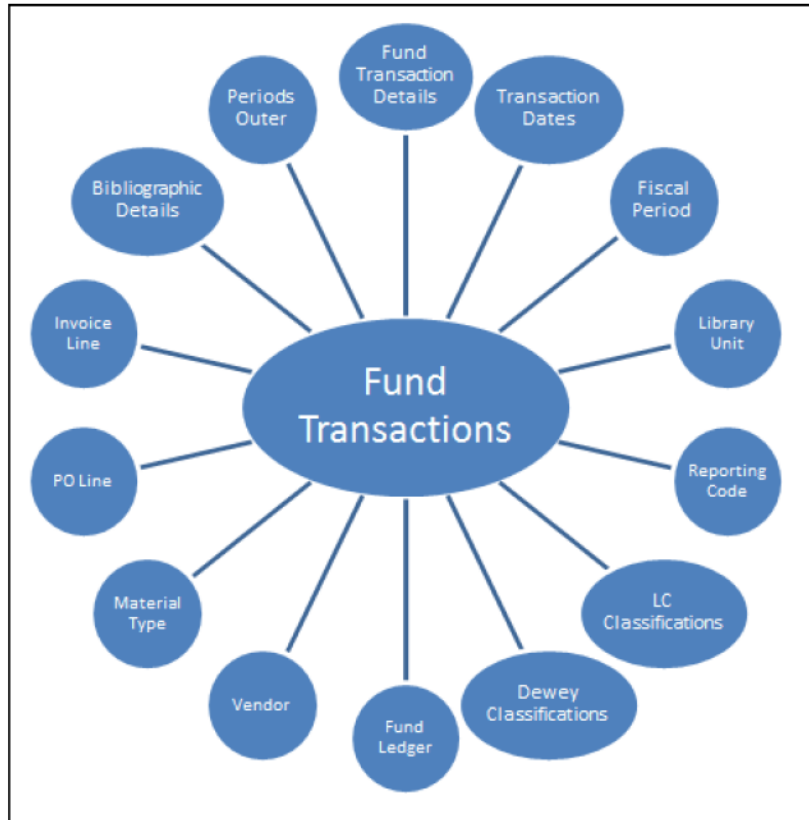
Ex Libris: Complies. Alma Analytics includes data elements from acquisitions which can be combined together into one report, or customized to the needs of the library. Here is an example of one report including many of these elements:

Order Line Type	Vendor Name	Title	Time Loaned	Net Price	Location Name	Classification Code	PO Number	Receiving Date	Creation Date
Physical - One Time	Gale	American Law Yearbook - 2012	4	250	General	Unknown	PO-33715		10/29/2014
		Balancing Your Life Executive Lessons for Work, Family and Self	4	20	General	Unknown	PO-10211	5/2/2013 5:25:02 AM	5/2/2013
		Business in the cloud : what every business needs to know about cloud computing	16	25	General	Unknown	PO-10214	5/2/2013 8:26:09 AM	5/2/2013
	International Library Resources Ltd. Material Supplier	The guide to Israel /	1	10	Maps	DS	PO-28917	5/14/2014 3:27:18 AM	5/4/2014
	National Booksellers	The railway man /	4	40	General	Unknown	PO-24612	1/20/2014 1:45:02 AM	1/20/2014
		The signal and the noise : why so many predictions--fail but some don't /	4	13	General	CB	PO-33212	9/30/2014 3:54:40 PM	9/10/2014
Physical - Subscription	National Booksellers	Minnesota law review.	4	0	General	K	PO-7410	3/15/2013 7:07:53 AM	3/15/2013
Print Book - One Time	Assoc. Françaises	Children, rights, and the law /	4	50	General	K	PO-4806	12/3/2012 8:42:44 AM	12/3/2012
	Blackwells	Who moved my cheese? : an a-mazing way to deal with change in your work and in your life /	4	66	General	BF	PO-8306	1/19/2014 8:29:32 AM	3/13/2013
	National Booksellers	Applying nursing process : the foundation for clinical reasoning /	8	5	General	RT	PO-11611	6/3/2013 7:26:53 PM	6/3/2013
		Blue blood	4	50	General	Unknown	PO-21511	11/13/2013 3:33:59 PM	11/13/2013
		Chemistry /	4	50	General	QD	PO-21212	11/12/2013 12:40:21 PM	11/12/2013
		Florence Nightingale : and a new age of nursing /	4	5	General	Unknown	PO-11812	6/9/2013 8:10:46 PM	6/9/2013

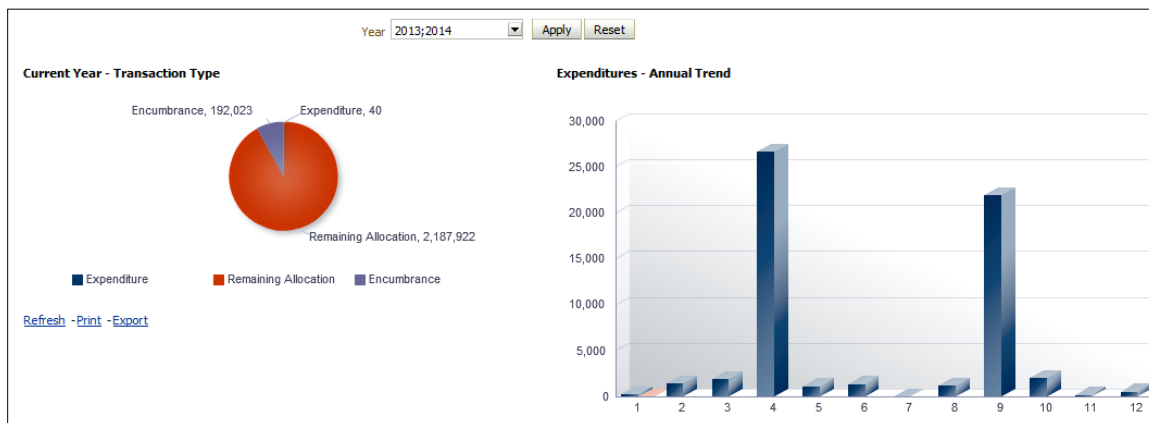
- Accounting reports of invoices, encumbrances, fund activity, register postings, payments, and processing status, including by time period, vendor, amount, quantities, totals and errors. Describe how the system assigns costs for packages. Describe export options when multiple payments are attached to an order, as in standing orders. Describe historical reporting, including budget and spend data. Reports must meet requirements for campus financial audits (5 year retention of records);

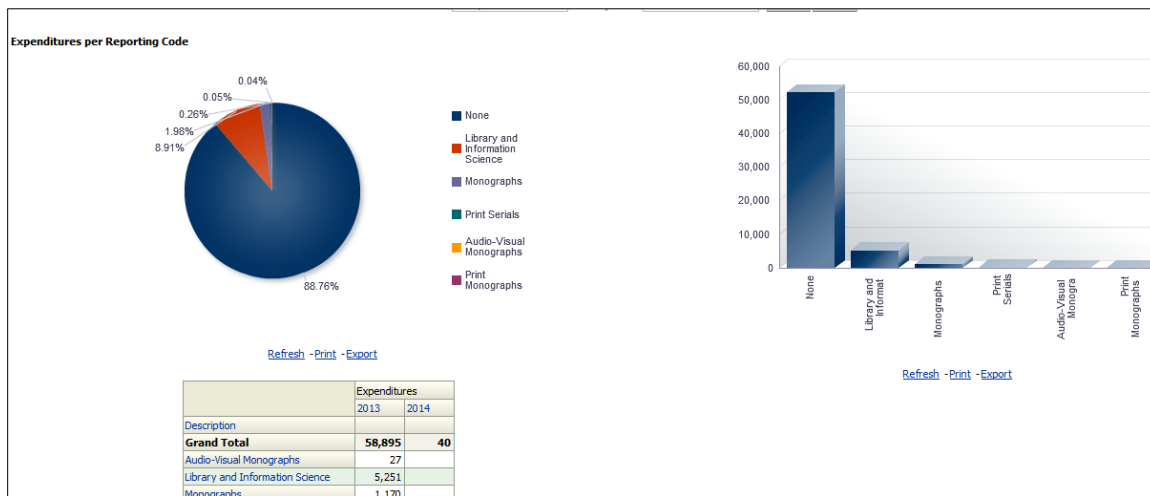
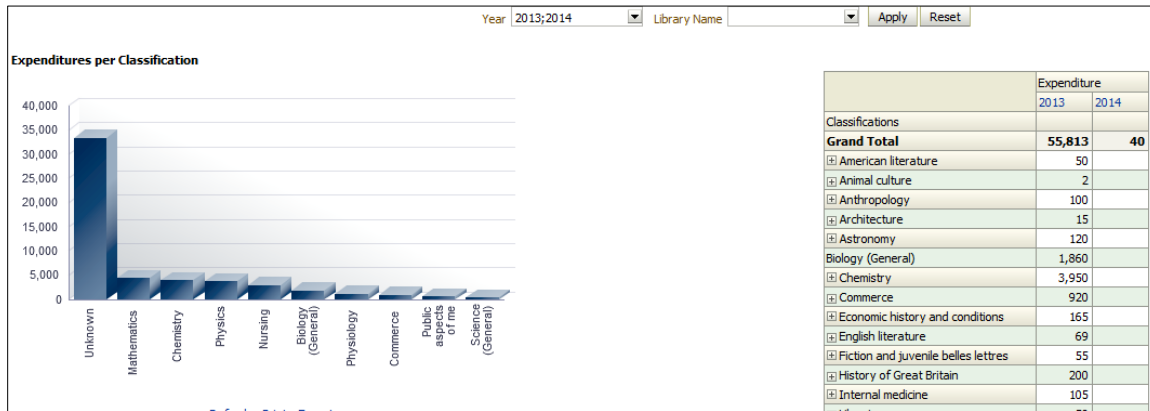
Ex Libris: Complies. Alma Analytics includes a rich Fund Expenditure reporting subject area. This subject area includes details on fund expenditures, purchase orders, invoices and vendor details, allowing libraries to generate the needed reports for the ongoing operations and analysis.

Below are the various dimensions of this subject area:



Alma Analytics includes a predefined set of expenditure reports, which includes views of allocation and usage of funds. The acquisitions related information is retained and not purged and can be analysed and compared for any number of previous financial fiscal periods/years. When applicable, these reports can be split to the relevant granular level. Some examples can be seen following:





Costs for packages depend primarily on how the institution subscribes to content. It is possible to subscribe, as needed, either on the package level or to subscribe to individual titles that may be part of a package. The costs assigned to these subscriptions are based on the actual invoiced amount and the invoice subscription period.

- Vendor performance reports by quantities, amounts, totals, errors and delivery time;

Ex Libris: Complies. Alma supports all of these data elements. Please see below an example of a report containing most of these elements:

Vendor performance by quantity, amount, and delivery						
Vendor Name	Barcode	Days to arrive	Quantity for Pricing	List Price	Net Price	Claiming Date
A D & L Vendors	AU9801	230	1	15	15	7/17/2013 3:00:00 AM
	AU9802	0	1	12	12	7/17/2013 3:00:00 AM
AIP - The American Institute of Physics	AU12501	192	1	10	10	8/24/2013 3:00:00 AM
Assoc. Françaises	AU24603	0	1	50	50	
Blackwells	000237799800000121	662	1	100	100	
	000237799860000121	662	2	20	40	
	1111	847	1	30	30	9/25/2011 8:00:00 AM
	AU24608	662	2	20	40	
	AU24613	610	1	50	50	11/16/2011 7:00:00 AM
Boardman	Alma-1	506	1	50	50	9/19/2011 2:31:10 AM
	AS-888	850	2	50	100	
	AS-897	850	2	50	100	
	AU10301	211	1	25	25	8/11/2013 3:00:00 AM
	AU24612	664	1	50	50	9/16/2011 8:00:00 AM
Chadwyck	dd222	245	1	50	50	
	AU12001	194	1	10	10	8/22/2013 3:00:00 AM
	AU27003	-59	1	10	10	3/19/2014 2:00:00 AM
Ebook Library	AU29903	0	1	110	110	4/18/2014 3:00:00 AM
	AU6801	288	1	100	100	5/20/2013 3:00:00 AM
Ebook Library	AU6802	288	1	100	100	5/20/2013 3:00:00 AM
	AU34108	212	1	15	15	8/2/2014 12:00:00 AM

- Cataloging/Metadata reports, including custom reports and actionable sets of records based on individual fields, as well as routine activities such as URL errors. Describe headings reporting, including first time, invalid, duplicate, blind references, updated, near matches, non-unique 4xx and cross-thesaurus matches. Describe both search and export options at the level of MARC 21 fields and subfields, including leader and control fields. Describe administrative reports such as records added/withdrawn/deleted by year and by individual staff. Describe ad-hoc report generation capabilities such as cross-tab reports;

Ex Libris: Complies. Alma indexes metadata fields and allows custom searching to generate actionable sets of records. These records can be associated with jobs to make bulk changes to print, electronic, and digital resources, as well as invoices, po lines, user information, and more. Standard reports such as headings reporting, first time, invalid, duplicate, blind reference, updated, near matches, non-unique 4xx and cross-thesaurus matches are supported and enhanced in Alma. For example,

Alma is delivered with the configurable ARL report “records added/withdrawn” so this information is collected automatically by the system all year long. This report can be configured to collect additional information from other relevant data elements, as well, including adding a field to see which staff member added or withdrew the item. The Unified Resource Management architecture enables Alma Analytics to add data elements from across the system for advanced reporting.

Items Added to Inventory			Items Withdrawn		
A breakdown of items added by material type and library			A breakdown of items withdrawn by item status		
Time run: 11/6/2014 3:23:23 PM			Time run: 11/6/2014 3:23:23 PM		
Library Name	Material Type	Number of Items	Status	Process Type	Num of Items
Total Added Items		96,985	Item in place	None	243
Art Library	Book	199	Item not in place	Acquisition	303
	Issue	220		Hold Shelf	6
Education Library	Book	1,787		In Process	2
	Issue	254		Missing	3
	Mixed material	16		None	1
	Music Score	79		Resource Sharing Request	87
Law Library	Book	44		Transit	10
	Issue	68			
Main Library	Book	37,548			
	Bound Issue	38			
	DVD	8			
	Issue	39,044			
	Map	22			
	Mixed material	2,520			
	Music Score	11,742			
	Room	8			
	Technical Drawing	65			
	Video cassette	775			
Main Reading Room	Book	18			
	Issue	6			
Medical Library	Book	1,662			
	Issue	166			
	Mixed material	10			
	Music Score	82			
			Total Items Withdrawn		655

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- Circulation statistics reports that are retained indefinitely, that can be run with a variety of time periods that include Checkout, Renewal, Check-in, Number of Holds placed and filled, limited by where the transaction took place, what hour, and be able to be broken down by all fields in the patron and item record. Describe the ability to report local paging requests by patron type, item location and item type separate from filled hold statistics. Describe fine collection reports;

Ex Libris: Complies. Alma Analytics retains its statistical data indefinitely from the moment of go-live and the reports generated from this data are retained as long as they are not deleted by library staff. Alma supports all of the requested data elements which can be combined to create advanced reports.

Alma is able to group users into statistical categories in order to collect information about types of users and how these groups behave in the library environment. The statistical category data element can be applied to reports collecting the number of loans, pages, uses, patron activity, and more over a user defined set of time. Here is an example of such a report:

Statistical Category 1	Year	Month Key	Library Name	
Biology,Chemistry	2014	5	Main Library	1
Biology,History,Linguistics	2014	6	Main Library	4
	2014	7	Main Library	1
	2014	9	Main Library	1
	2014	10	Main Library	2
Chemistry	2014	3	Main Library	1
Chemistry,History	2013	10	Medical Library	1
	2013	11	Main Library	2
Computer Science	2013	8	Main Library	1
	2013	10	Main Library	3
	2013	12	Main Library	11
	2013	12	Science Library	1
	2014	1	Main Library	1
	2014	4	Main Library	1
	2014	6	Main Library	2
	2014	7	Main Library	1
Computer Science,Philosophy	2014	10	Main Library	4
	2012	12	Main Library	1
	2013	1	Main Library	3
	2013	8	Main Library	5
	2013	9	Main Library	1

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- Collection development reports for # of items added, orders received and paid, total spend, average spend per title, cost per use, bibs cataloged, percentage of collection circulated annually;

Ex Libris: Complies. Alma Analytics collects all of these data elements to create custom reports necessary for end of year reporting. Alma keeps this data indefinitely so the reports are always up to date, and can also be used to compare the spend and cost of previous years to the current year. Here is an example of a report detailing cost per use of electronic and print items.

Cost Per Use - Print Items				Cost Per Use - E-Resources			
Title	Price	# Loans	Price per Loan	Title	Cost	Usage	Cost per Use
Gerontological nursing /	5.00	72	0.07	Acta mathematica Hungarica	157	1	156.64000
The Ultimate Harry Potter and Philosophy	5.50	60	0.09	Advertising age	37	1,140	0.03214
Literature and bibliometrics /	23.00	50	0.46	Chicago tribune	217	515	0.42066
Peterson's nursing programs 2012.	5.00	36	0.14	Crain's New York business.	12	2,110	0.00553
Mexico's revolutionary avant-gardes : from Estridentismo to 130-301 /	5.00	32	0.16	Differential equations	36	3,000	0.01194
Nursing: the career of a lifetime	300.00	24	12.50	Genetica	297	965	0.30740
Medical-surgical nursing : an integrated approach /	5.00	20	0.25	Harvard business review.	233	2,869	0.08132
Business in the cloud : what every business needs to know about cloud computing	6.98	16	0.44	International journal of nursing studies	123	1,525	0.08033
Founding brothers : the revolutionary generation /	5.75	16	0.36	Journal of comparative physiology.	127	3,000	0.04221
Laboratory and diagnostic tests with nursing implications /	5.00	16	0.31	Journal of the American Chemical Society	210	3,070	0.06840
	2.14	13	0.16	Plasma physics reports.	48	1,700	0.02794

- Resource sharing reports within the CSU that include metrics such as fill rate, turnaround times, time in different statuses, libraries lent/borrowed from, highly requested items, fines reporting, etc.;

Ex Libris: Complies. Alma Analytics includes both lending and borrowing requests reporting subject area. These subject area includes details on the lending and borrowing requests, allowing libraries to generate the needed reports for the ongoing operations and analysis.

Using the Borrowing Requests area, it is possible to create reports and dashboards for the Borrowing Requests area and is able to answer the following types of business questions:

- _ Which partners were requested
- _ Request counts
- _ Which type of users issue the requests
- _ Time statistics between request and arrival
- _ How many requests were rejected
- _ How many requests were completed

Using the Lending Requests area, it is possible to create reports and dashboards for the lending requests area and is able to answer the following types of business questions:

- _ Which partners where requested?
- _ Lending Request counts
- _ Which type of users issue the requests
- _ Time statistics between request and sent

- Serials reports including number of active subscriptions, number of pieces received, internal use count, bound volumes count and filtered by fund code and subject area.

Ex Libris: Complies. Alma Analytics includes all of these data elements for constructing reports. Analytics is built in a way that enables dynamic filtering so any of the fields can be used to rank the results in a specific order. Here is an example of such a report:

Order Line Type	Title	Permanent Call Number	ISSN	Time Loaned	Last Loan Date	Publisher	Vendor Name	Subjects
Physical - Subscription	Journal of the Patent Office Society	Unknown	0096-3577	0		Patent Office Society	National Booksellers	Ressource Internet (Descripteur de forme); Périodique électronique (Descripteur de forme); États-Unis.; Droit.; Brevet d'invention.; Octroirecht.; Patent laws and legislation Periodicals. United States; Patents Societies, etc.; United States. Patent O
	Minnesota law review.	K13 .I55	0026-5335; 0026-5535	0		Law School University of Minnesota	National Booksellers	Law Minnesota.; Law Periodicals Minnesota.
				4	3/15/2013 4:49:44 PM	Law School University of Minnesota	National Booksellers	Law Minnesota.; Law Periodicals Minnesota.
	Pacific ecologist.	Unknown	1175-6543	0		Pacific Institute of Resource Management	Gale	Pacific Area Periodicals.; Conservation of natural resources Periodicals.
	Travel Agent International	Unknown		0		Gale Group - Responsive Database Services Inc (Beachwood)	Gale	

B.2.3.4. Usage reports for all types of physical and electronic resources. How will each help us compare resource usage across different formats, including usage of a singular title from a specific package? Address the following:

- Collection usage reports by subject area, publication date, LC range, patron type, fund code or other criteria; can the system provide usage reports on recently ordered materials based on order date;

Ex Libris: Complies. Alma Analytics includes a Fulfillment reporting subject area. This subject area includes details on print loans, allowing libraries to generate the needed reports for the ongoing operations and analysis.

Using the Fulfillment subject area, it is possible to create reports and dashboards for the Item Loan area. The following are examples of business questions that may be answered via the Fulfillment subject area:

- _ How many items were loaned, returned, or lost per library?
- _ How many items were loaned between specific loan dates?
- _ How many items were loaned from a particular circulation desk?
- _ What is the due-date policy of the loaned items?
- _ How many items were loaned per classification?

Below are some examples of reports that can be created using this subject area:



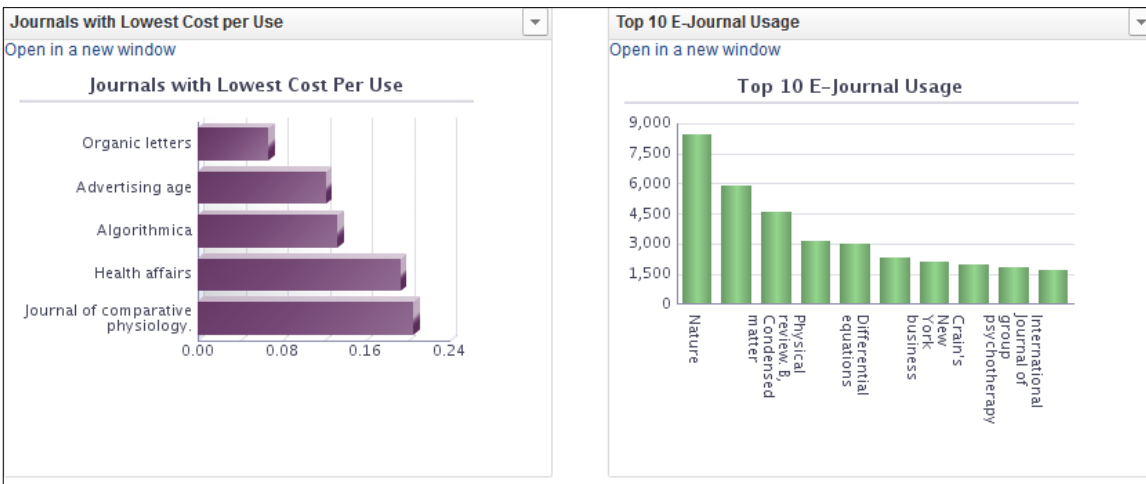
LC Classification - first Level [Select Value] [Apply] [Reset]

Loans - Items ratio per Classification

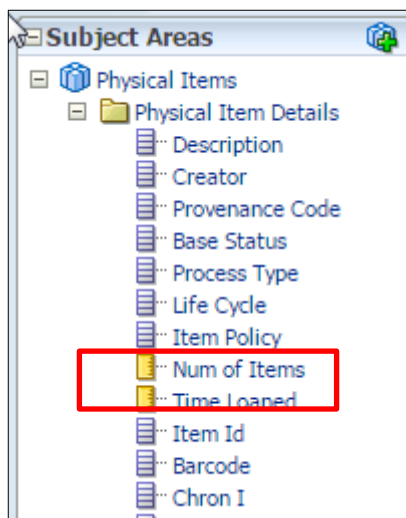
Group1	Loans	Num of Items	Loans/Items
	3		
Academies and learned societies	2		
Agriculture (General)	1		
America	3		
American literature	65		
Animal culture	1		
Anthropology	1		
Astronomy	1		
Atlases	2		
Book industries and trade	2		
Chemistry	1		
Christian Denominations	22		
Christianity	1		
Decorative arts	4		
Dictionaries and other general reference works	3		
Doctrinal Theology	1		
Economic history and conditions	7		
Economic theory, Demography	6		
Electrical engineering, Electronics, Nuclear engineering	2		
English literature	133		
Fiction and juvenile belles lettres	37		
Finance	58		
Geography (General)	33		
History (General)	16		
History of Asia	8		
History of Civilization	10		
History of Great Britain	15		
History of Italy	2		
History of Northern Europe, Scandinavia	1		

In addition to the above subject area, Alma Analytics includes statistics-related electronic resource usage.

Alma facilitates the collection and reporting of usage statistics information supplied by vendors (content providers) in COUNTER format. Alma Analytics provides usage statistics reporting capabilities that enable the creation of reports such as usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, etc.



In addition to the above dedicated areas for reporting and analyzing patron usage of the collections, the inventory reporting subject areas also include fulfillment related data.



- How your circulation reports incorporate flexible date ranges, call number ranges, patron type, material type, title, internal use, material location (e.g. robotic storage, reserves) or combinations of these criteria. Describe how your system treats reserve item usage;

Ex Libris: Complies. Alma Analytics collects all of these data elements. Alma is always collecting data on its data elements so entering in custom dates and date ranges is absolutely supported. Alma can identify items that belong to unique locations within robotic storage so using the location data element for these items does not differ much from the standard location based report—simply querying a location via a data element will yield the items within that location. The same principle can be applied to course reserves. As Alma has course reserve support built in, items will either have course reserves as the permanent or temporary location in the record. Usage information is a separate data element stored on the item record, so when generating a report in Analytics simply query the location element and item usage elements to see how often item(s) circulate from course reserves.

- In addition to what's provided in standard journal JR* COUNTER reports, how do your reports distinguish between titles that are part of a package and those on the same platform that are purchased separately, e.g. Elsevier titles not included in the Chancellor's Office negotiated ScienceDirect package? How does your system report data for titles available from more than one source? How does your system report on pay per view options;

Ex Libris: It is usually not possible to identify specific usage for a specific purchase/subscription from the same vendor platform unless the vendor can separate these out into two distinct feeds.

- In addition to the standard ebook BR* COUNTER reports, how do your reports distinguish between titles that are part of a package and those that are purchased separately;

Ex Libris: As part of Alma's roadmap, the support for BR reports will be developed.

- Streaming audio and video data (in addition to the standard MR* COUNTER reports). Reports that distinguish between packaged titles versus individually purchased titles;

Ex Libris: This is not currently available.

- Demand-driven acquisition usage statistics for ebooks, media and other formats, including reports on titles triggered or not triggered by subject, LC call numbers, date of publication, etc.;

Ex Libris: Alma streamlines the process for patron-driven acquisition, including e-books, by loading potential candidates to discovery, managing automatic approval plans, managing billing from the vendors and automatically adding purchased books to the institution's catalogue and inventory.

As for any other types of resource managed in Alma, usage for PDA/DDA is also tracked, and can be reported on using Alma Analytics, specifically the Usage and Link Resolver reporting subject areas.

- Statistics on usage by various access/licensing models for materials in all formats;

Ex Libris: Alma Analytics provides reporting subject area for the various inventory types (print and electronic) as well as usage and request date for these different formats. In combination, it is possible to generate statistics on usage by various access/licensing models.

- Data or information on licensing restrictions for ILL;

Ex Libris: Alma features a dedicated license management module which conforms to the DLF-ERMI standard. Libraries can customize the staff-facing user interface forms so that only relevant license terms display to staff, and it is also possible for the library to configure and display license terms to end users in the Primo discovery interface. License details are also available in Alma Analytics as part of the electronic inventory reporting subject area as described in other sections.

- Usage statistics from non-COUNTER compliant vendors both manually and using automated reports. Does the system allow reports using usage from both COUNTER and non-COUNTER sources;

Ex Libris: Alma currently only supports the COUNTER format.

- Usage data of open-access articles and free resources, including materials in digital repositories and external library systems;

Ex Libris: Alma supports the COUNTER DB1 report, hence if these vendors/providers can generate this data, it can be loaded (directly or via the SUSHI protocol) and made available as part of Alma Analytics.

- Usage data of materials in automated storage and retrieval systems (ASRS), including items picked by title, discipline/subject area, material type and item-status changes. Is communication and interaction between the software/databases run by the ASRS and the library services platform made in real-time?

Ex Libris: Alma supports integration with different types of ASRS (HK Dematic, GFA, others). These integrations allow for seamless operations where by the movement of resources between the library locations and the automated storage and related request processes all happen with no need to perform duplicate activities (i.e., scan-in of an item). As such, item usage is tracked like any other part of the inventory, with the full set of fulfillment and request reporting subject areas available to support detailed analysis.

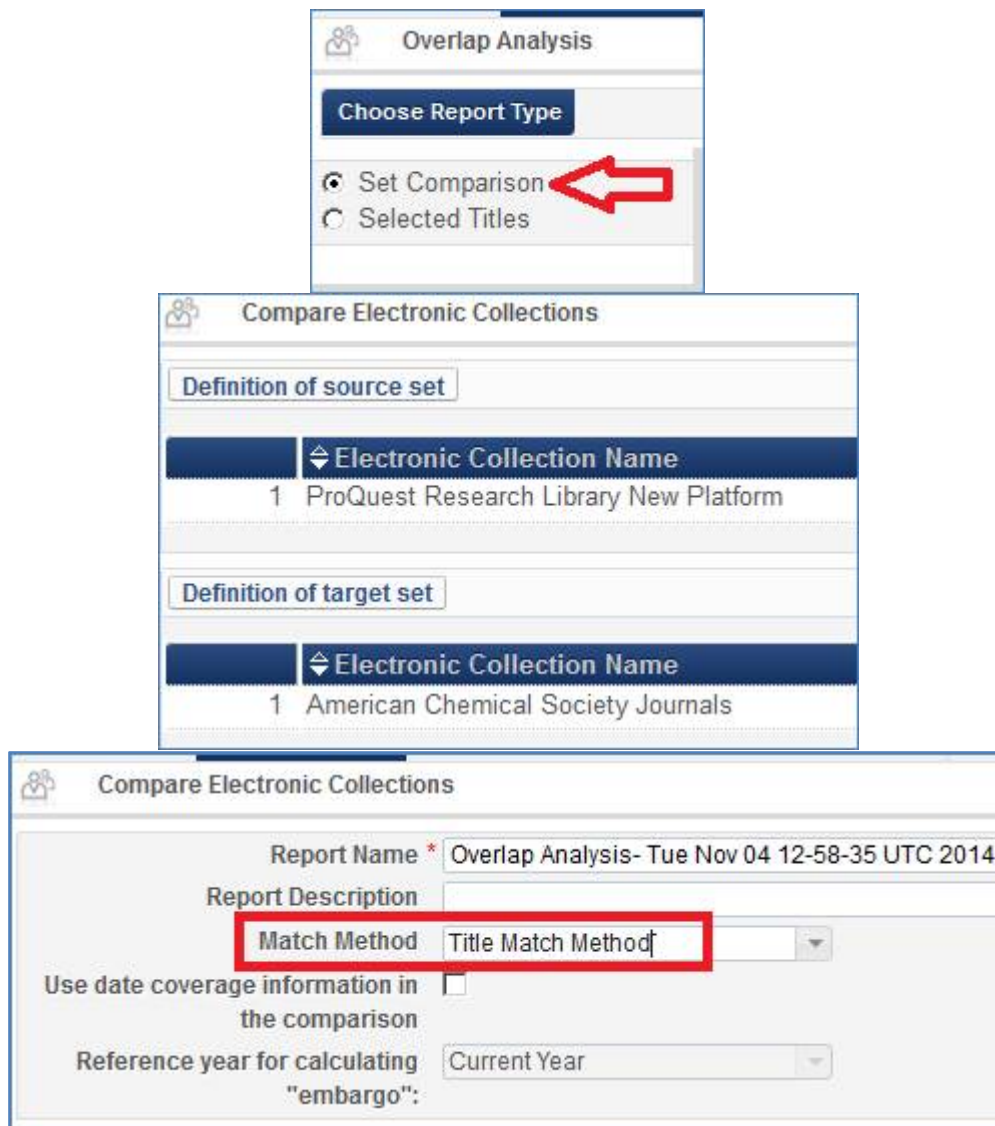
Alma is a cloud system which communicates over secured HTTPS protocol. The Dematic ARS will receive messages over TCP, and exchange in a non-secured manner within the local network. Please see more about the system's integration with Dematic in our response to A.5.3.

B.2.3.5. Overlap analysis for:

- Serials between packages and individual holdings in any format;
- Monographs between packages, DDA records and individual holdings in any format;
- Media between packages, DDA records and individual holdings in any format;

- Various materials against 3rd party data sets such as Resources for College Libraries, WorldCat, other library collections, etc.

Ex Libris: Complies. Alma includes overlap analysis tools for all of the scenarios listed above. To accomplish this, Alma identifies record sets of any resource type (serials, packages, media, monographs, DDA records, etc) and compares these sets based on the match method determined by the library. See the screenshots below detailing the steps to compare an overlap analysis for two e-resource collections.



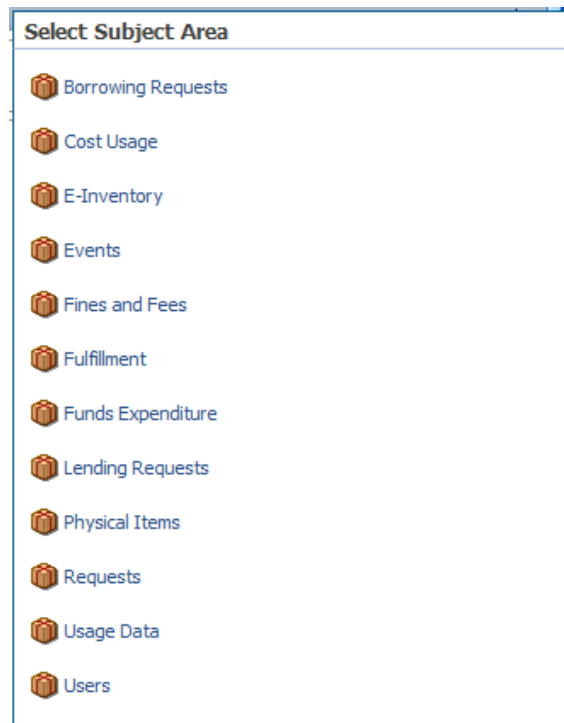
B.2.3.6. How your system manages reserves, including statistics for items that may alternate between circulating and reserve items and pull lists of reserves.

Ex Libris: Complies. Alma's course reserve functionality is fully integrated into the product and uses the same user and bibliographic databases as the rest of the system. See our section on Fulfillment for more information on Course Reserves in Alma. Today, course reserves can be treated as an item location in Alma, either permanent or temporary, and can be searched by

filtering to these locations. In December 2014, Alma will include advanced Course Reserves analytic data elements unique to the needs of course reserves, and will expand the current method of treating course reserve items as items within a location.

B.2.3.7. Statistical analysis capabilities and what types of reports can be generated based on specific data elements in records.

Ex Libris: Alma supports a rich set of subject areas. The full list of subject areas within Alma Analytics cover the entire suite of library tasks, including Acquisitions, Cataloging, Fines and Fees, and many more. Below is a screenshot of the subject areas available today in Alma:



Each subject area contains data elements organized within analytic folders. For example, two subject folders which are especially applicable for Fulfillment or circulation and usage reporting are:

- Physical Loans – This subject area holds information about all current and historical loans including dimensions such as:
 - Loan’s policy, loan and return date, loan and return circulation desk etc.
 - Item’s library, location, bibliographic information, classification etc.
 - Patron’s type, group etc.

This subject area can easily provide multi-year trend reports on circulation activities per location, classification, and user types.

- Electronic Usage – This subject area is based on vendor-provided COUNTER statistics which can be uploaded automatically via SUSHI or manually. The subject area holds information about monthly usage (downloads, turn away etc.) of each

electronic title. This subject area can easily provide multi-year usage trend reports per title, publisher and platform.

B.2.3.8. Automated collection analysis and statistics to aid decision-making.

Ex Libris: Complies. Alma Analytics includes both collection analysis tools and statistics in everyday reporting and decision-making. Alma Analytics includes an inventory reporting subject areas (for Print as well as Electronic). These subject areas include details on print items and electronic portfolios, allowing libraries to generate the needed reports for the ongoing operations and analysis.

The Electronic inventory subject areas includes many different dimensions related to the portfolio, as is shown in the diagram below:



The print inventory subject area also includes an extensive set of dimensions allowing the creation of reports and dashboards and is able to answer the following types of business questions:

- How many physical Items exists per Library/Location
- List of all the titles based on their process type
- Number of Physical Items per material type
- How many times each item was loaned
- What is the last date that the item was loaned

In addition, you can schedule Alma reports and dashboards to be run at specific set times, such as daily or weekly, and subscribe to them so that they are sent to your email address. Below is the configuration screen for the various reports and dashboards accessible via Alma, including those that are distributed on a scheduled basis.

Cataloger Activity	Cataloger Activity	-	Widget
Cataloger Activity	Cataloger Activity	Monthly	Scheduled Report
Circulation Statistics	Circulation Statistics	Weekly	Scheduled Report
Circulation Statistics	Circulation Statistics	-	Widget
Count of Items Loaned by Patron Group	Count of Items Loaned by Patron Group	Weekly	Scheduled Report
Count of Items Loaned by Patron Group	Count of Items Loaned by Patron Group	-	Widget
Dépenses par classification	Dépenses par classification	-	Widget
E-Resource Usage	Reports of E-Resource Usage	Monthly	Scheduled Dashboard
E-Resource Usage	Reports of E-Resource Usage	-	Dashboard
Expenditure by Classification	Breakdown of expenditure by LC Classification	-	Widget
Expenditure by Classification - Scheduled	Breakdown of expenditure by LC Classification	Monthly	Scheduled Report
Fines and Fees by Library	Fines and Fees by Library	-	Widget
Fulfillment Dashboard	Fulfillment Dashboard	-	Dashboard
Fulfillment Dashboard - Scheduled	Fulfillment Dashboard	Weekly	Scheduled Dashboard

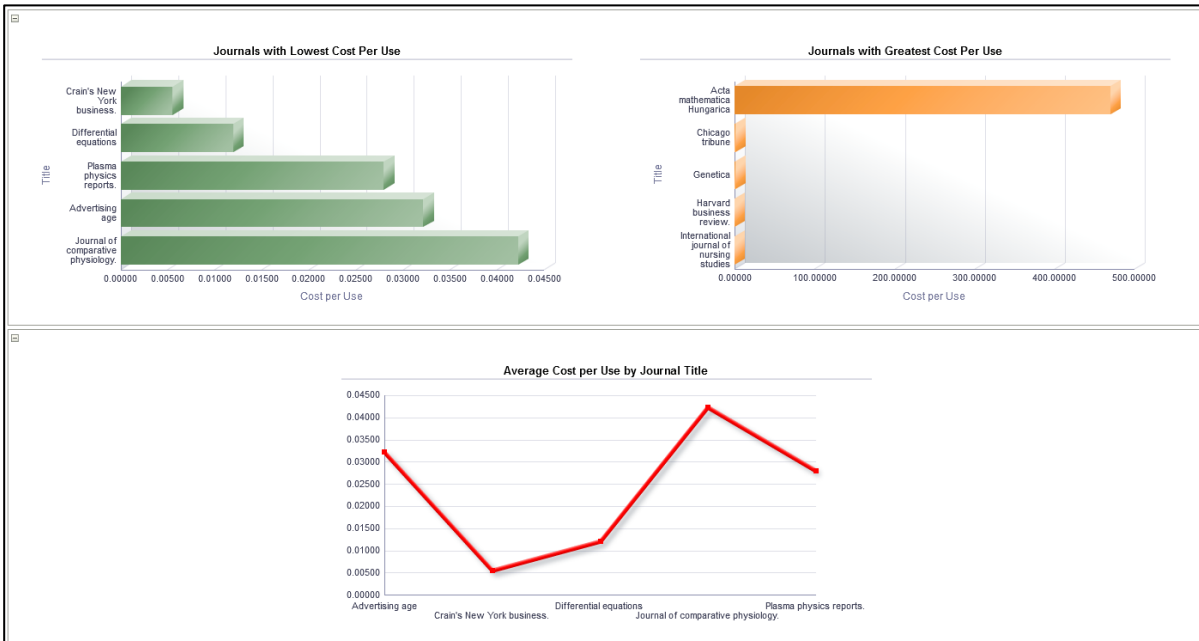
B.2.3.9. Inventory reporting for physical items, including status and location errors.

Ex Libris: Complies. Alma Analytics includes data elements for inventory reports on physical items including status and location fields.

Material Type	Library Name	Location Name	Base Status	Process Type	Title	Item Count
Art Original	Main Library	General	Item in place	None	Anchor line S.S. City of Rome, 8415 tons [picture].	1
			Item not in place	In Process	The Australian clipper ship, Arabian [picture] /.	1
		Serials	Item in place	None	A dynamic mass balance model for phosphorus fluxes and concentrations in coastal areas.	1
Book	Art Library	Ballet Music Collection	Item in place	None	Godfrey of Boulogne, or, The recoverie of Ierusalem /	1
		General	Item in place	None	A midsummer night's dream /	2
			A monetary history of the United States, 1867-1960	1		
			Candia	1		
			Commonwealth management of the Great Barrier Reef : Great Barrier Reef Marine Park Authority : audit report no. 33 /	1		
			Commonwealth management of the Great Barrier Reef follow-up audit : Great Barrier Reef Marine Park Authority : audit report no. 8, 2003-2004 /	1		
			Correcting taxes for inflation /	1		
			Does foreign direct investment promote development? /	2		
			Domestic savings in the Pacific Region : trends and prospects /	7		
			Federal credit agencies : a series of research studies prepared for the Commission on Money and Credit.	1		
			Foreign exchange reserves, exchange rate regimes, and monetary policy : issues in Asia /	1		
Government response to the report of the Senate Select Committee on the Socio-Economic Consequences of the National Competition Policy : riding the waves of change.	1					

B.2.3.10. Cost per use statistics for all types of resources, including accounting for full text retrieval and searches, individual and package subscription costs, individual and package purchase costs and platform or annual access fees. How does your system distribute package costs across resources within the package?

Ex Libris: Complies. Alma includes cost per use data elements and reports out of the box. These reports present cost and usage information at the package, portfolio, and subscription level, as well as relevant vendor and access data. For e-resource collections, Alma will divide the collection cost equally among all of the included titles. Below is an example of the E-Resource Usage dashboard in Alma detailing out of the box reports for Journals with the Lowest Cost per Use, Journals with Greatest Cost per Use, and Average Cost per Use by Journal Title.



B.2.3.11. Discovery layer and/or public interface capabilities, such as number of searches, search terms, resource types, time of day, and patron type. (If your system does not include a discovery layer, describe how your system will provide statistics that do not overlap with statistics generated by the client's discovery layer, COUNTER, or other standard reports.)

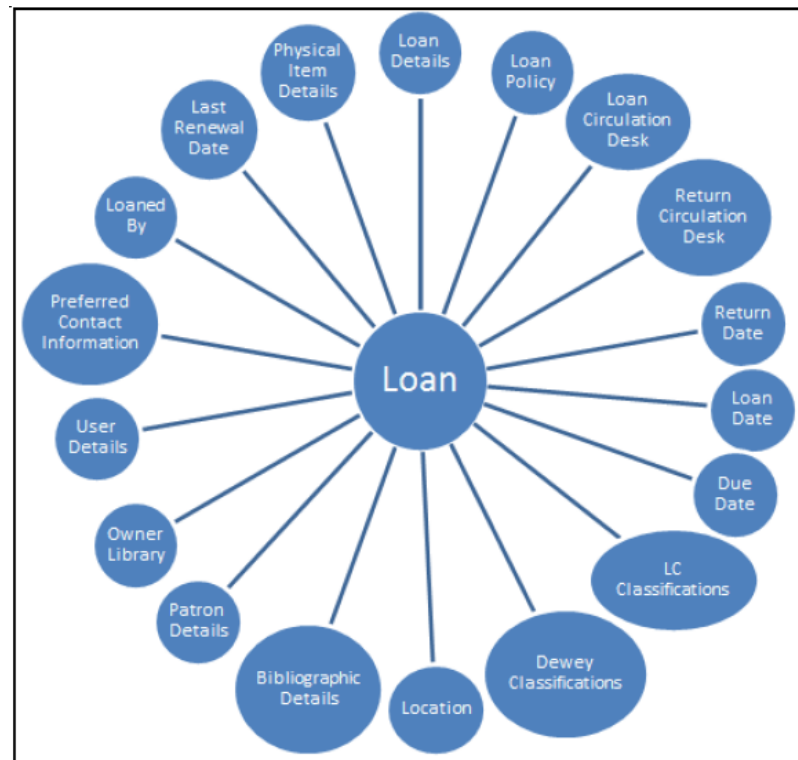
Ex Libris: Primo is Ex Libris' end-user interface to Alma. Primo is a unified solution for the discovery and delivery of the full spectrum of library materials—print, electronic, and digital—regardless of format and location. Primo supports the ability to harvest resources from Alma as well as a diverse range of library-selected data sources including digital repositories such as ContentDM and DSpace as well as LibGuides and more.

Primo provides statistical reports on searches performed in the system, such as the total number of searches performed on a particular day, the total number of results returned for those searches, and the average time it took for the system to return those results. Other statistics include top searches based on processing time (displays the search string, number of searches, average number of results, and average response time), searches with no results, which displays similar data, hour search statistics and search string statistics (which displays the number of occurrences for a given search term).

B.2.3.12. If the system provides a link resolver, how does its usage/analytics allow a library to follow the user's navigation/decisions from discovery layer to full-text, including, but not limited to, requests and click-throughs by unique user, patron type, date, source and source type, and object type? Does the system provide reporting on most popular resources, requests for journals that do not provide full-text, un-accessed resources filtered by vendor and user IP address?

Ex Libris: Alma provides an extensive set of subject areas related to fulfillment and link resolver usage. Today Alma Analytics has reporting subject areas for loans (active and historical) which includes many different dimensions such as the patron details, inventory and

bibliographic details as well as circulation operational details (e.g., the circulation desk from which the loan originated). This can be seen in the following diagram:



In addition, Alma Analytics provides a reporting subject area for patron and library submitted requests. Using the Requests subject area, it is possible to create reports and dashboards that help to answer the following types of business questions:

- How many items were requested per patron type?
- How many items were requested per material type?
- What is the fill rate for requests per material\patron type?
- How long does it take from the time that the request is placed until it is fulfilled?
- Which titles have the highest demand? (based on open requests)

The reporting subject area related to Alma’s link resolver usage is currently being developed and will be able to help answer the following types of business questions:

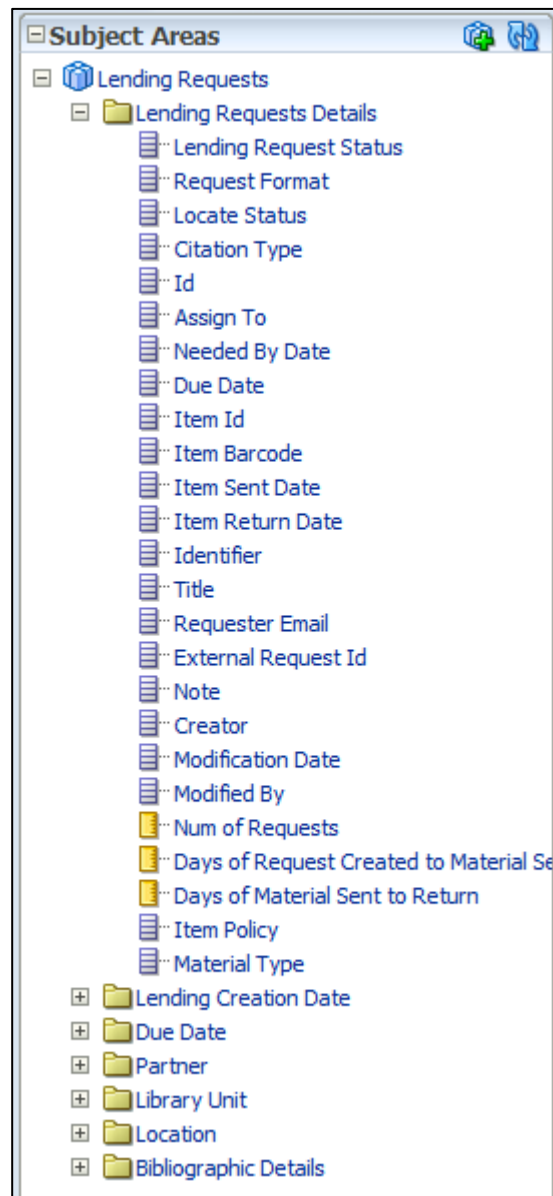
1. Number of requests and clickthroughs per day
2. Number of requests and clickthroughs per source
3. Number of clickthroughs per genre
4. Most popular journals selected by source
5. Number of requests that resulted in no full-text services, selected by source
6. Number of requests which resulted without services
7. Titles requested but have no full-text

Please also see our response to B.2.2.11 above, on Primo’s statistical reports.

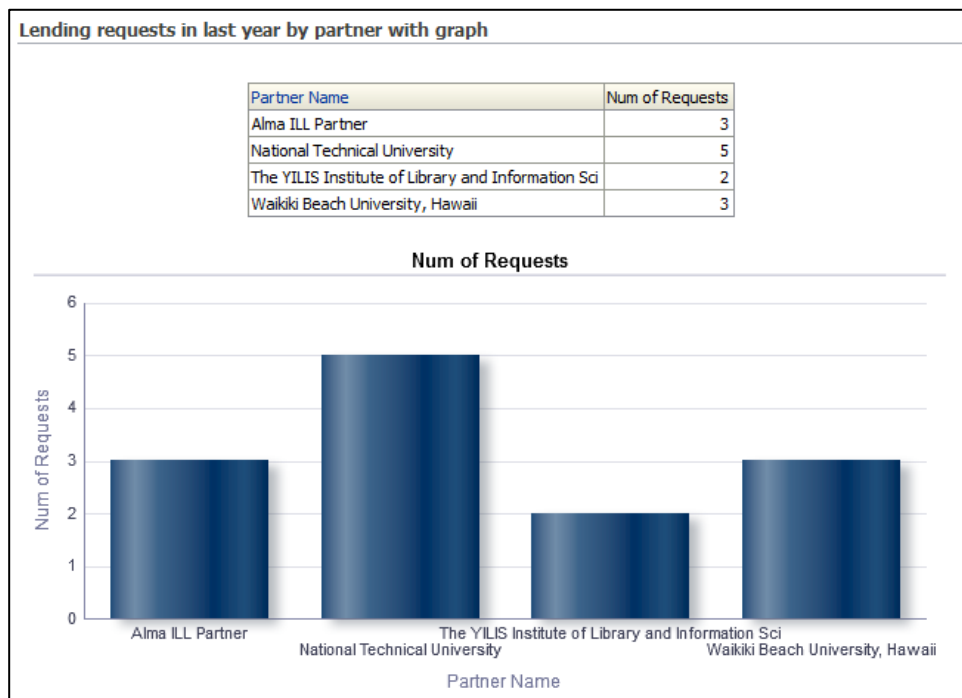
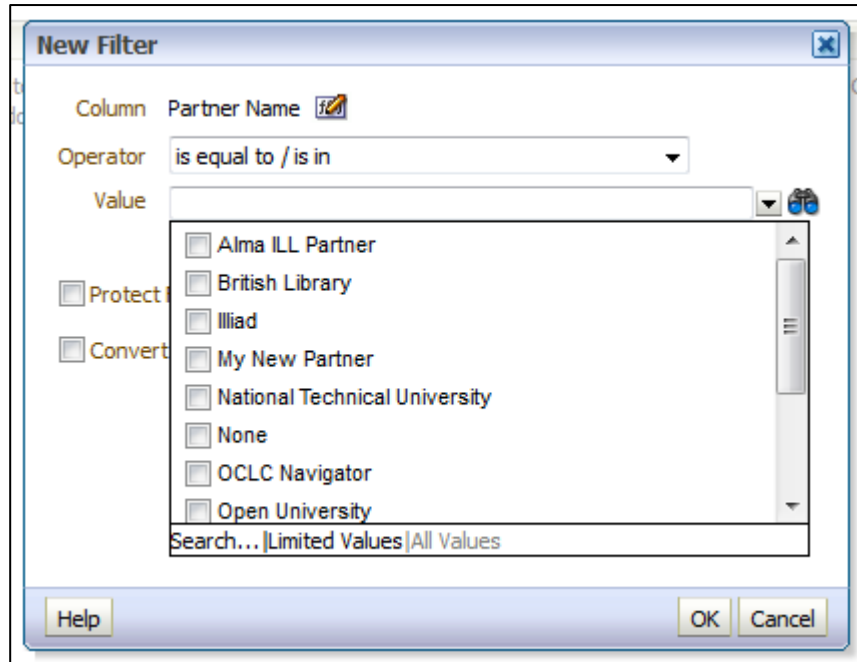
B.2.3.13. Resource sharing/ILL reporting features, such as borrowing and lending requests; filled, cancelled, and unfilled requests; physically and electronically

fulfilled requests; requests by patron type; alerts for high use titles in ILL; turn-around time; borrowing/lending by institution; and copyright clearance charges filtered by user and department. Does your system provide lending statistics for chapter and journal articles? Describe how your product's statistical data may be compatibly combined with data from related systems (e.g. RapidILL, ILLiad, LINK+, GetItNow, etc.) to produce meaningful, de-duplicated reports. Describe the system's ability to generate cost/use data on ILL transactions.

Ex Libris: Complies. Alma Analytics includes data elements for the Borrowing and Lending subject areas to create resource sharing and ILL reports. These two subject areas can be combined with bibliographic, item, holdings, purchase order, and invoice data, plus other relevant data points, some of which are listed below:

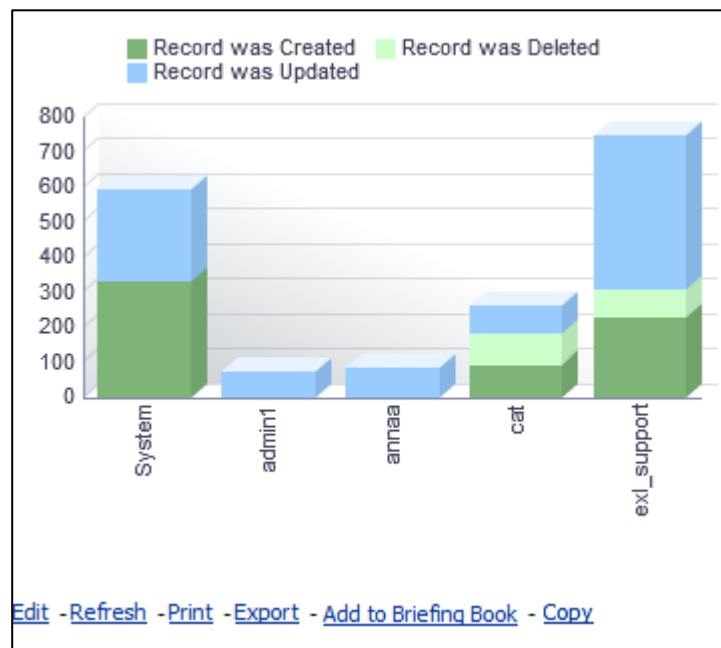


Alma integrates with third party ILL systems such as ILLiad, Relais D2D, OCLC Navigator, and more, and tracks this data within Alma Analytics. These third party systems are identified as Partners and this element can be added to any Borrowing/Lending report to include specific partner information.



B.2.3.14. Statistics from staff system usage, including workflow management data.

Ex Libris: Complies. Alma Analytics tracks system usage by staff user for auditing purposes. For example, one out of the box report is the Cataloger Activity widget that tracks cataloger activity, specifically, whenever a certain user edits, deletes, or updates a record.



Additional fields may be included in the report to gain additional insight into cataloger activity, and entirely new reports for other staff may be created, as well.

- B.2.3.15. Integration of statistics from non-bibliographic services such as instruction sessions and attendance, reference consultations, study room usage, equipment rentals, room reservations, and LibGuide usage.

Ex Libris: Alma Analytics is the platform by which Alma-generated and library-related data is made available for analysis and reporting purposes. As such, Alma Analytics does not support the ability to load non-Alma - data. It is possible to export Alma data in various ways (API, utilities) to combine with institutional data warehouses, to draw statistics in the areas cited above.

- B.2.3.16. Integration of patron data from sources traditionally gathered and stored outside a library services platform (e.g. user demographics, student level, major, course registration, GPA, faculty discipline). Describe how your system maintains confidentiality of this data in order to meet privacy requirements without compromising utility. Describe how your system retains this data for reporting purposes; how is it affected by changes to the patron database?

Ex Libris: As described above, Alma Analytics does not support the ability to load non-Alma-related data.

- B.2.3.17. Conformity to existing national standards, e.g., ANSI/NISO Z39.7-2013, ICoLC and COUNTER.

Ex Libris: Alma facilitates the collection and reporting of usage statistics information supplied by vendors (content providers) in COUNTER format.

Alma Analytics provides usage statistics reporting capabilities that enable the creation of reports such as usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, etc.

Alma Analytics can be used to generate different types of national and industry practice statistical standards such as ARL, SCOUNL, and others.

- B.2.3.18. Individual campuses and the consortia-level data for campus comparisons, such as collections comparisons, peer institution comparisons, etc. There should be options to report on pre-defined or ad hoc subgroups.

Ex Libris: Alma Analytics is capable of creating reports in various subject areas of the system. Currently, analytics reports are based on a single institution's data. The planned Analytics Network will allow for the defining and running of reports from within the Network Zone, making use of combined data from multiple institutions. Users authorized to log into the Network Zone will be able to launch the Network Zone's Analytics component to create reports for a single selected member, or a combined report for all of the network members. Analytics Network functionality is currently scheduled for 2015.

- B.2.3.19. Generation of data required by external organizations such as the Association for Research Libraries (ARL), Association of College and Research Libraries (ACRL), National Center for Education Statistics (NCES), accreditation agencies, and college rating guides.

Ex Libris: Alma come out of the box with many of the advanced reports required for end of the year analytic reporting such as ARL and ABA reports. Because these groups require similar reports, Alma will deliver standard reports that will be generic and easy to modify to comply with specific standards. Libraries can choose which reports they would like to include in their dashboards. Below is an example of one dashboard configuration for ARL reports:

Items Added, Items Withdrawal			Item Count by Library and Location			Cost per Use																																																											
<p>Items Added to Inventory A breakdown of items added by material type and library Time run: 11/7/2014 8:37:32 PM</p> <table border="1"> <thead> <tr> <th>Library Name</th> <th>Material Type</th> <th>Number of Items</th> </tr> </thead> <tbody> <tr> <td colspan="3">Total Added Items</td> <td colspan="3">96,987</td> </tr> <tr> <td rowspan="2">Art Library</td> <td>Book</td> <td>199</td> </tr> <tr> <td>Issue</td> <td>220</td> </tr> <tr> <td rowspan="4">Education Library</td> <td>Book</td> <td>1,787</td> </tr> <tr> <td>Issue</td> <td>254</td> </tr> <tr> <td>Mixed material</td> <td>16</td> </tr> <tr> <td>Music Score</td> <td>79</td> </tr> <tr> <td rowspan="2">Law Library</td> <td>Book</td> <td>44</td> </tr> <tr> <td>Issue</td> <td>68</td> </tr> <tr> <td rowspan="2">Main Library</td> <td>Book</td> <td>37,550</td> </tr> <tr> <td>Bound Issue</td> <td>38</td> </tr> </tbody> </table>						Library Name	Material Type	Number of Items	Total Added Items			96,987			Art Library	Book	199	Issue	220	Education Library	Book	1,787	Issue	254	Mixed material	16	Music Score	79	Law Library	Book	44	Issue	68	Main Library	Book	37,550	Bound Issue	38	<p>Items Withdrawn A breakdown of items withdrawn by item status Time run: 11/7/2014 8:37:32 PM</p> <table border="1"> <thead> <tr> <th>Status</th> <th>Process Type</th> <th>Num of Items</th> </tr> </thead> <tbody> <tr> <td>Item in place</td> <td>None</td> <td>243</td> </tr> <tr> <td rowspan="7">Item not in place</td> <td>Acquisition</td> <td>304</td> </tr> <tr> <td>Hold Shelf</td> <td>6</td> </tr> <tr> <td>In Process</td> <td>2</td> </tr> <tr> <td>Missing</td> <td>3</td> </tr> <tr> <td>None</td> <td>1</td> </tr> <tr> <td>Resource Sharing Request</td> <td>87</td> </tr> <tr> <td>Transit</td> <td>10</td> </tr> <tr> <td colspan="2">Total Items Withdrawn</td> <td>656</td> </tr> </tbody> </table> <p>Print - Export - Add to Briefing Book</p>			Status	Process Type	Num of Items	Item in place	None	243	Item not in place	Acquisition	304	Hold Shelf	6	In Process	2	Missing	3	None	1	Resource Sharing Request	87	Transit	10	Total Items Withdrawn		656
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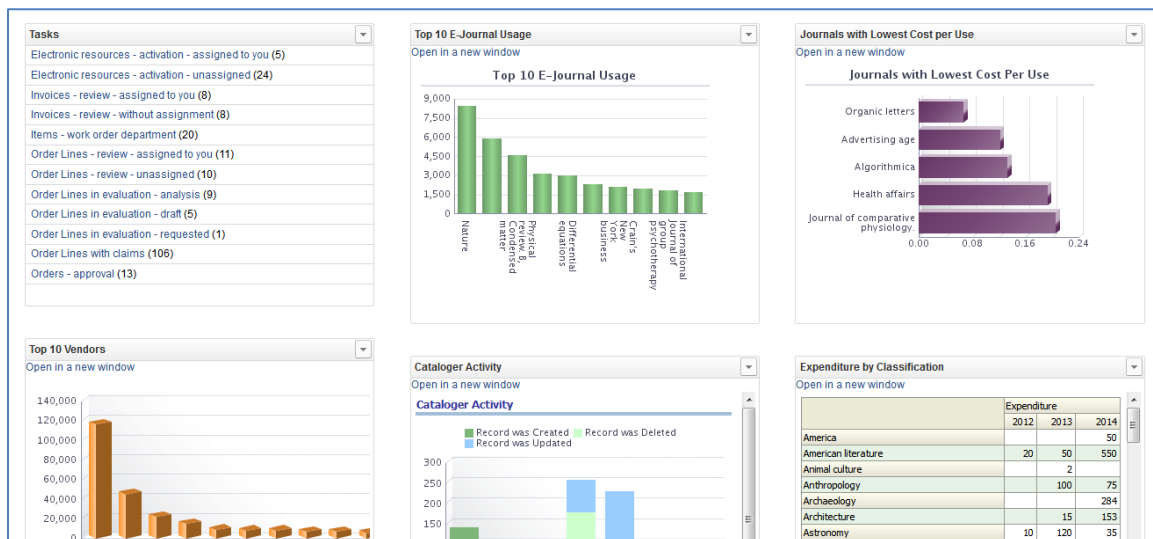
- B.2.3.20. How your system supplies accurate, de-duplicated counts of library resources by (including but not limited to) format, material type, title, discipline/LC call number range, status, date acquired/withdrawn, purchase source (i.e., local, consortia).

Ex Libris: Complies. Alma Analytics are fully configurable to allow users to combine all of these data elements into a rich report. These data elements can each be filtered to allow the library to focus in on the data that is the most meaningful.

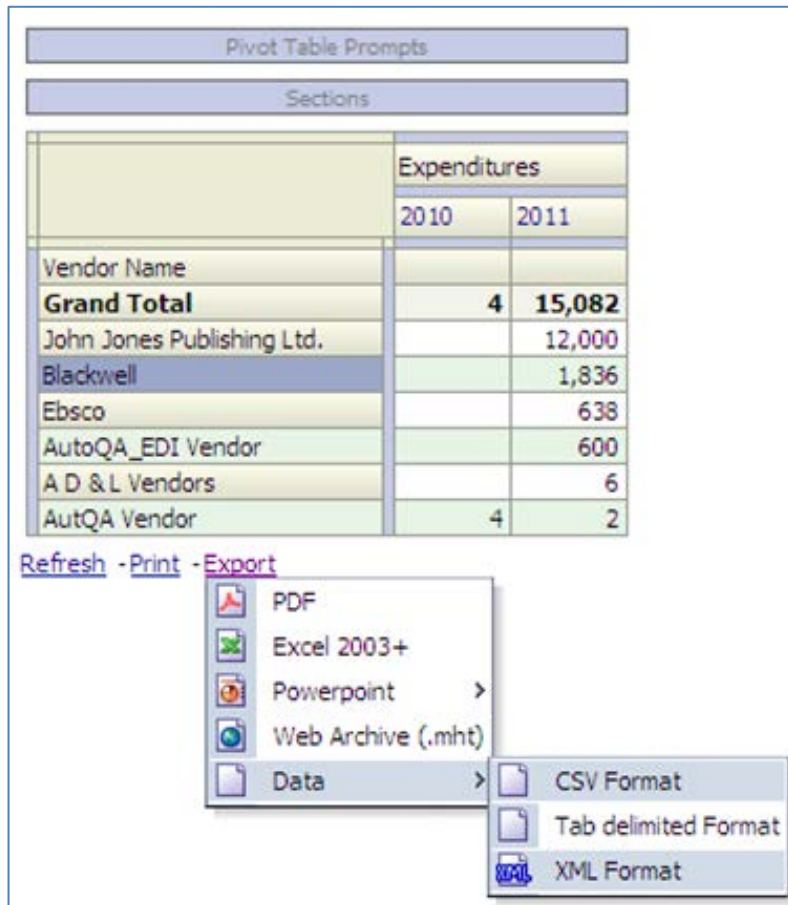
Material Type	Start Range	Subjects	Title	Item Count	Library Name	Process Type	Creation Date	Last Loan Date	Acquisition Method
Art Original	Unknown	Picture -- Ship.; Steamboats.; City of Rome (Steamship)	Anchor line S.S. City of Rome, 8415 tons [picture].	1	Main Library	None	12/22/2011	12/27/2011 6:56:56 AM	
		Sailing ships -- Australia.; Picture -- Ship.; Arabian (Ship)	The Australian clipper ship, Arabian [picture] /.	1	Main Library	In Process	9/29/2011		
Book	AE5	Domestic fiction.; Suspense fiction.; Psychological fiction.; Massachusetts Fiction.; Murder Fiction.; Married women Fiction.; Cambridge (Mass.) Fiction.; New Age ministers Fiction.; Women veterinarians Fiction.	While I was gone /	1	Main Library	None	9/15/2011		
	AG2	Encyclopedias and dictionaries.; Encyclopédies et dictionnaires anglais.	The modern library reference desk .	1	Main Library	Loan	4/23/2014	4/23/2014 5:33:28 PM	
	AP1	Liberté Indexes.	30 ans de Liberté : index des noms (1959-1989).	1	Main Library	None	9/15/2011		
	AS786	Nobel, Alfred Bernhard, 1833-1896.; Nobel Prizes.	The Nobel prizes and their founder, Alfred Nobel,.	1	Main Library	None	9/15/2011		
	AZ182	Learning and scholarship Japan.; Research Japan.	Nihon no gakujutsu kenkyū dōkō : Nihon Gakujutsu Kaigi /	1	Main Library	None	9/15/2011		
	B1	Materialism	A philosophy of the real and the possible.	1	Education Library	None	9/15/2011		
	B108	Plato. La République.	La République de Platon: étude et analyse /	1	Education Library	None	9/15/2011		
	B720	Theologians Biography. Poland; Philosophers Biography. Poland; Jan, z Kluczborka, ca. 1355-1360-ca. 1436.	Jan z Kluczborka : filozofi teolog Uniwersytetu Krakowskiego /	1	Main Library	None	9/15/2011		
B850	Expression (Philosophy); Existential phenomenology; Phenomenology; Perception (Philosophy); Aesthetics; Proust, Marcel, 1871-1922; Cézanne, Paul, 1839-1906;	Ai confini dell'esprimibile : Merleau-Ponty a partire da Cézanne e da Proust /	1	Main Library	None	9/15/2011			

B.2.3.21. Dashboard reporting features and capabilities, such as sharing features, (e.g. view-only access or live reports), customization, exporting both raw and formatted reports, automatic updating, or archiving.

Ex Libris: Alma provides a state-of-the-art dashboard that the user can configure and customize according to his/her roles. Alma comes with a set of out-of-the-box reports that show trends and the performance of the system as well as widgets that the user (based on his role) can select for display on the dashboard. The pre-defined reports are shown by default to the user (role-based). For example: if the user's role is Acquisitions Administrator, (s)he will be able to see expenditure trends during the last year. The user can arrange the reports and define which of them (s)he would like to see as part of the personalized dashboard. The following is a screenshot of the Alma dashboard



User access is restricted by User Role Management so only the relevant library staff will be able to activate restricted reports. Reports are automatically updated and run on the most recent set of data available. All reports are exportable in PDF and HTML format. In addition, each component within a report (chart, table etc.) can be exported in a variety of formats including Excel, XML, CSV. Below is a screen capture that demonstrates how this is achieved and the supported formats:



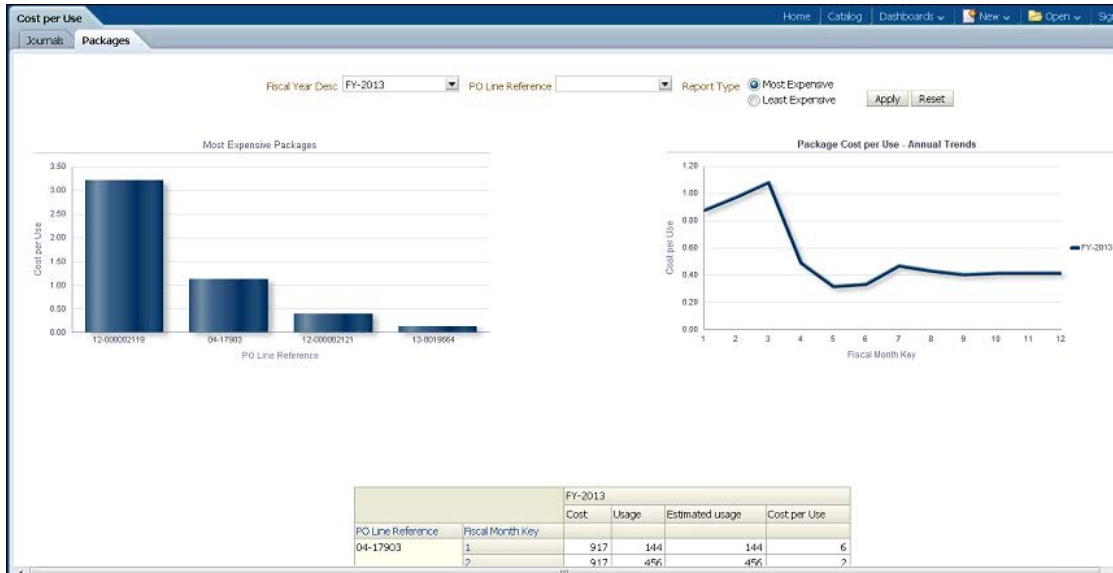
Pivot Table Prompts		
Sections		
	Expenditures	
	2010	2011
Vendor Name		
Grand Total	4	15,082
John Jones Publishing Ltd.		12,000
Blackwell		1,836
Ebsco		638
AutoQA_EDI Vendor		600
A D & L Vendors		6
AutQA Vendor	4	2

Refresh - Print - Export

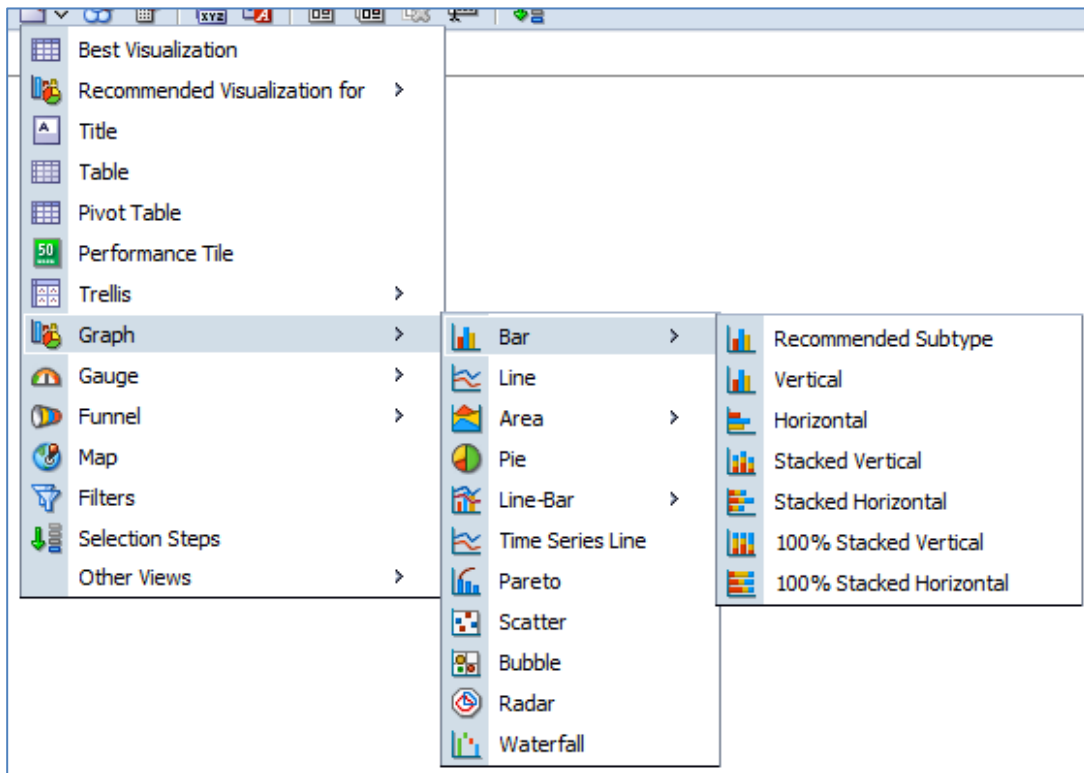
- PDF
- Excel 2003+
- Powerpoint >
- Web Archive (.mht)
- Data >
 - CSV Format
 - Tab delimited Format
 - XML Format

B.2.3.22. Data visualization functionality.

Ex Libris: Alma Analytics combines data elements from across the library to provide new insights into the library's decision-making process. This data is visualized through graphs and charts that make it easier to interpret and analyze subscription usage costs and trends. These visualizations are easily generated from existing reports and can be exposed to staff users via Alma Dashboards, widgets, Email, and other export functions. Attached is screen shot of a cost/usage report in Alma Analytics:



Reports can either be placed individually or in a custom grouping within dashboards and emails. Here is a list of some of the data visualizations available out of the box:



B.2.3.23. Time constraints for record changes to appear, including scheduled system refreshes. What differences in time constraints exist between different functions (e.g. patron record changes require a different wait time than electronic resources management changes). Is cached data available for

quicker reports? Describe the typical circumstances in which a user would have to wait more than one hour, 12 hours or 24 hours for a report.

Ex Libris: All the data available via Alma Analytics is updated on a daily basis from the production database. This daily update typically starts in the evening and is ready for use in Analytics the next morning.

B.2.3.24. How long does the system retain transactional data, including circulation, acquisitions and cataloging data such as withdrawn, lost or deleted items?

Ex Libris: Alma retains this data indefinitely from the moment of go-live until deleted by the library. This data is stored in Analytic data elements where filters can be applied to see how the data changed over time.

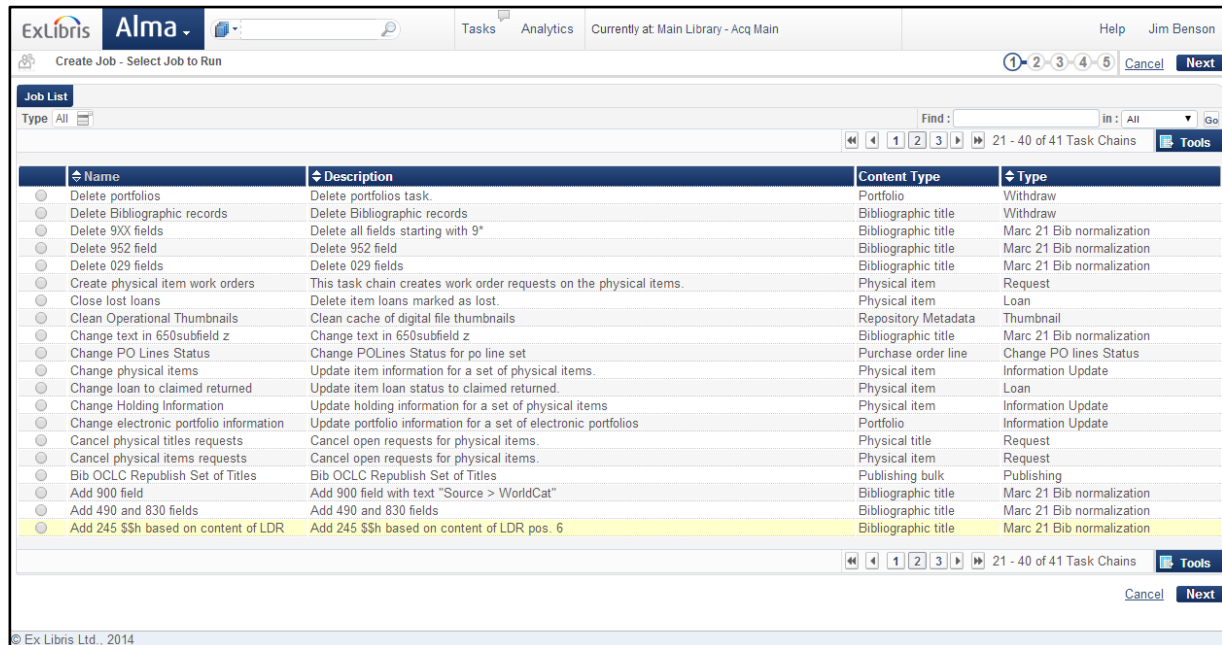
B.2.3.25. Does the system have dedicated fields in records for stats gathering, rather than using existing fields?

Ex Libris: Alma gathers statistical information from a variety of subject fields throughout the system, such as Acquisitions, Fulfillment, Usage Data, Cost Usage, and more. Within each of these subject areas there are workflows and tasks to assist day to day operations. Alma's Analytic layer indexes many of the fields required in these tasks to maintain an extensive index of library data across the entire system. Depending on the statistic one is trying to alter, it is

possible to change these statistics by changing fields in existing records. Again, as Alma encompasses a great deal of library data it depends on exactly which statistics are trying to be changed. In one example, reopening a closed PO Line or Invoice and changing the data here would most certainly change the results of an analytic report looking at that data, whereas the number of Physical Item Uses cannot be removed from the History tab for auditing purposes. Users can also create their own Statistical Categories for reporting, such as creating new library departments, student majors, or user groups in Fulfillment.

B.2.3.26. Automation of repetitive tasks, such as saved search strategies, macros, saved exports.

Ex Libris: Complies. In the process of designing Alma, we looked at what libraries were using macros for and, as much as possible, tried to integrate those as functions of the system. Wherever relevant, we've created hypertext links for ease of navigation so that the staff user doesn't have to back out of a workflow, in order to access information elsewhere in the system. Or, for example, wherever common information is repeated we offer the option of using templates - e.g. in cataloging or as part of the acquisitions workflow. Task-oriented macros may be implemented using Alma's process automation capabilities, which allow for tailoring a chain of tasks to be performed on a predefined set of data. The following shows the first step of running such a bulk change process—selecting the action to perform on all records. These actions are initial examples, with additional actions configurable by the library and/or added by Ex Libris.



Name	Description	Content Type	Type
Delete portfolios	Delete portfolios task	Portfolio	Withdraw
Delete Bibliographic records	Delete Bibliographic records	Bibliographic title	Withdraw
Delete 9XX fields	Delete all fields starting with 9*	Bibliographic title	Marc 21 Bib normalization
Delete 952 field	Delete 952 field	Bibliographic title	Marc 21 Bib normalization
Delete 029 fields	Delete 029 fields	Bibliographic title	Marc 21 Bib normalization
Create physical item work orders	This task chain creates work order requests on the physical items.	Physical item	Request
Close lost loans	Delete item loans marked as lost.	Physical item	Loan
Clean Operational Thumbnails	Clean cache of digital file thumbnails	Repository Metadata	Thumbnail
Change text in 650subfield z	Change text in 650subfield z	Bibliographic title	Marc 21 Bib normalization
Change PO Lines Status	Change POLines Status for po line set	Purchase order line	Change PO lines Status
Change physical items	Update item information for a set of physical items.	Physical item	Information Update
Change loan to claimed returned	Update item loan status to claimed returned	Physical item	Loan
Change Holding Information	Update holding information for a set of physical items	Physical item	Information Update
Change electronic portfolio information	Update portfolio information for a set of electronic portfolios	Portfolio	Information Update
Cancel physical titles requests	Cancel open requests for physical items.	Physical title	Request
Cancel physical items requests	Cancel open requests for physical items.	Physical item	Request
Bib OCLC Republish Set of Titles	Bib OCLC Republish Set of Titles	Publishing bulk	Publishing
Add 900 field	Add 900 field with text "Source > WorldCat"	Bibliographic title	Marc 21 Bib normalization
Add 490 and 830 fields	Add 490 and 830 fields	Bibliographic title	Marc 21 Bib normalization
Add 245 \$\$h based on content of LDR	Add 245 \$\$h based on content of LDR pos. 6	Bibliographic title	Marc 21 Bib normalization

Choosing one of these processes initiates a wizard that guides the staff user through the steps needed. These processes are run against sets of records created within the repository. Sets may be used for saving queries, publishing metadata, and moving a group of records to the editor and for running processes.

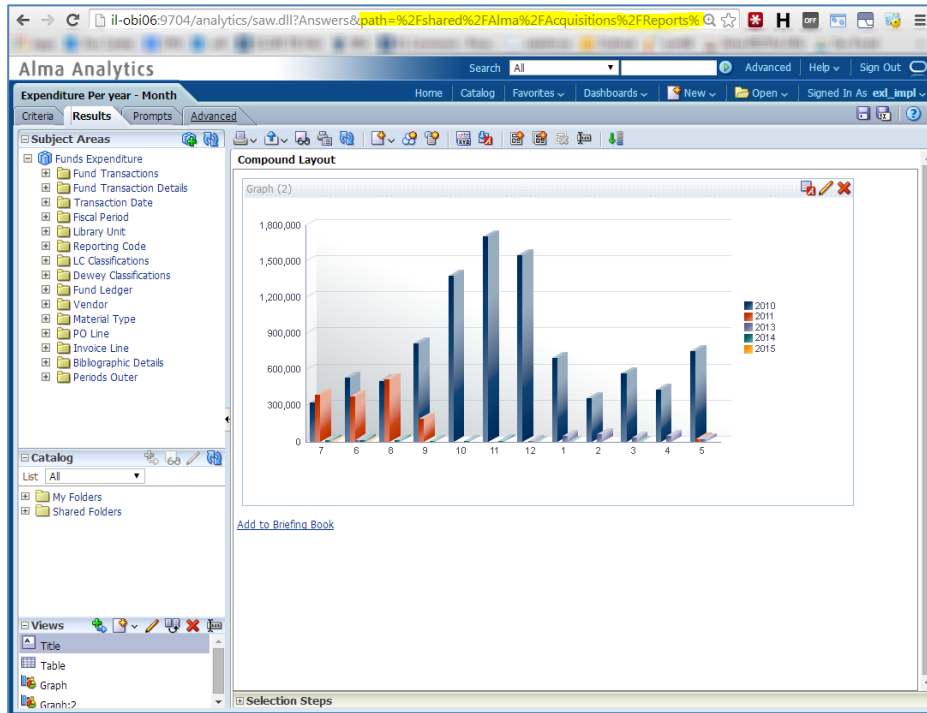
- B.2.3.27. How, and for how long, your system archives statistical/analytical data and reports. Include any limits on size of reports or upon stored or archived data. If data and reports are discarded after a period of time, what notifications does client receive and what processes are available for client to download and self-archive data?

Ex Libris: Alma saves statistical and analytical data indefinitely from the moment of go-live. There is no limit on the size of reports stored and viewed within Alma. Alma includes batch jobs to export various types of data and reports, such as Export Physical Items, Export Electronic Portfolios, Export Bibliographic Records, Export Authority Records, and more.

- B.2.3.28. Application programming interfaces (APIs), scripting functionality, or similar features your product offers that specifically enhances analytics and reporting.

Ex Libris: Complies. Alma provides APIs which provide access to data and workflows stored in Alma, including API for Analytics. The Analytics API enables creating, revising, and updating Alma Analytics, and exposing analytics to other staff operators. As of the September Alma release, the Analytics API is RESTful.

The reports resource (/almaws/v1/analytics/reports) requires one mandatory request parameter: path. The path is a URL-encoded full path to the report in the OBI catalog, so the simplest way to get this (and other arguments, as we will see) would be to open report in the Analytics UI. The path will appear in the URL:



So, all you need to get started is to copy and paste the path into your REST client (with a valid API key) with GET:

```
<report>
  <QueryResult>
    <ResumptionToken>
      E511F220827C3802A0A8F54FFB71E17AB58CFC1084DE6CB4569D0CB7BD58A243170DE23CEEC87262F09769BBC478908104D93C5C47D711E...
    </ResumptionToken>
    <IsFinished>false</IsFinished>
  </QueryResult>
  <ResultXml>
    <rowset xmlns:rowset="urn:schemas-microsoft-com:xml-analysis:rowset" xmlns="urn:schemas-microsoft-com:xml-analysis:rowset">
      <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:saw-sql="urn:saw-sql"
        targetNamespace="urn:schemas-microsoft-com:xml-analysis:rowset">
        <xsd:complexType name="Row">
          <xsd:sequence>
            <xsd:element maxOccurs="1" minOccurs="0" name="Column0" saw-sql:displayFormula="s_0" saw-sql:type="integer" type="xsd:int"/>
            <xsd:element maxOccurs="1" minOccurs="0" name="Column1" saw-sql:displayFormula="s_1" saw-sql:type="integer" type="xsd:int"/>
            <xsd:element maxOccurs="1" minOccurs="0" name="Column2" saw-sql:displayFormula="s_2" saw-sql:type="double" type="xsd:double"/>
            <xsd:element maxOccurs="1" minOccurs="0" name="Column3" saw-sql:displayFormula="s_3" saw-sql:type="double" type="xsd:double"/>
            <xsd:element maxOccurs="1" minOccurs="0" name="Column4" saw-sql:displayFormula="s_4" saw-sql:type="double" type="xsd:double"/>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:schema>
      <Row>
        <Column0>0</Column0>
        <Column1>2008</Column1>
        <Column2>9</Column2>
        <Column3>3</Column3>
        <Column4>89</Column4>
      </Row>
      <Row>
        <Column0>0</Column0>
        <Column1>2008</Column1>
        <Column2>9</Column2>
        <Column3>4</Column3>
        <Column4>89</Column4>
      </Row>
      <Row>
        <Column0>0</Column0>
        <Column1>2008</Column1>
        <Column2>10</Column2>
        <Column3>4</Column3>
        <Column4>-1197</Column4>
      </Row>
      <Row>
        <Column0>0</Column0>
        <Column1>2008</Column1>
        <Column2>10</Column2>
        <Column3>5</Column3>
        <Column4>-1197</Column4>
      </Row>
    </rowset>
  </ResultXml>
</report>
```

For more information on APIs in Alma, please visit <https://developers.exlibrisgroup.com/> to

explore and test all of the APIs currently available.

B.2.3.29. Data export capabilities and available export formats.

Ex Libris: All reports are exportable in PDF and HTML format. In addition, each component within a report (chart, table etc.) can be exported in a variety of formats including Excel, PPT, XML, CSV.

B.2.3.30. Usage statistics setup and harvesting processes, including publisher login management. Describe automated and manual processes to harvest reports from COUNTER and non-COUNTER compliant vendors, including data loading services at both the campus and consortium level. Also address:

- Optional COUNTER reports: How does your system obtain optional COUNTER reports? What optional COUNTER reports are supported;
- Added-value, non-COUNTER reports, such as Usage by IP Range;
- How often statistics are harvested, and what the time lag is;
- Harvesting failures: How your service monitors and resolves them;
- Describe the process for manually correcting usage data and how the user may access raw usage data.
- What is the process for manually uploading data?

Ex Libris: Alma facilitates the collection and reporting of usage statistics information supplied by vendors (content providers) in COUNTER format.

Alma Analytics provides usage statistics reporting capabilities that enable the creation of reports such as usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, etc.

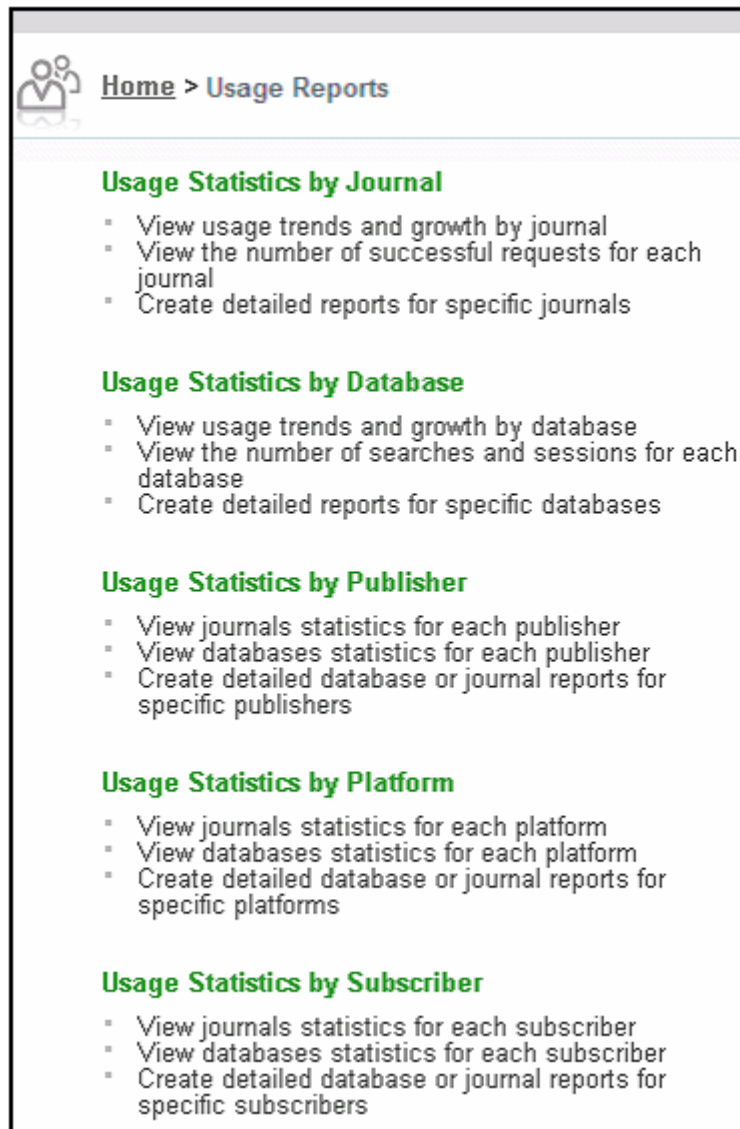
Today, UStat allows manual and automatic file uploading. The automated harvester begins harvesting data on the day of the month that a vendor is expected to have the data ready. The day of the month varies by vendor. The Harvest Now option from the SUSHI Accounts view gives you the flexibility to manually schedule a harvest. Harvested data retrieves full-month data. The journal file must contain all the conditions defined by COUNTER for Journal Report 1, Release 2,3, or 4. The database file must contain all the conditions defined by COUNTER for Database Report 1, Release 2, 3, or 4. Support for JR2 and DR2 reports are currently on our roadmap.

At the present time, some of the SUSHI supporting vendors provide unstable services. Since UStat serves as a mediator to these vendors' servers, some of the errors seen in UStat may be the result of vendor problems. UStat is designed to provide the maximum amount of information regarding the source of problems and should help you in analyzing these problems. The original error can be viewed by clicking the SUSHI Response link. For example, the following error messages may imply a problem on a vendor's server and should be solved by contacting the vendor:

- Failed to retrieve report for the ABC SUSHI vendor because of a connection time-out
ABC SUSHI service is not available.
- Either the ABC SUSHI service is not available or the entered URL is incorrect

- The SUSHI response does not contain a COUNTER report
- The SUSHI response does not contain any usage data
- For most SUSHI vendors, error messages are displayed at the top of the SUSHI account window if test connections fail.

Here is a screen shot of the USTAT services menu and an Alma Analytic report created with this data:



B.2.3.31. Data and/or logs from proxy/identity management (LDAP/Shibboleth etc.) systems that can identify which patrons are using library resources.

Ex Libris: While Alma can integrate with different IDM systems including LDAP and Shibboleth, Alma does not have access to these systems' logs. As mentioned in other sections, Alma Analytics does include extensive information related to resource usage (both print and electronic) which can be used to create reports and dashboards for analysis purposes.

B.2.3.32. External collection comparisons, e.g. Worldcat, Choice, or Books in Print. Explain any limitations or restrictions.

Ex Libris: External collection comparisons can be achieved by exporting relevant data from Alma using its built in exporting capabilities. Alma does not support this type of comparison from Alma directly or via Alma Analytics.

B.2.3.33. Integration with Google Analytics or similar products that track visitors, page hits.

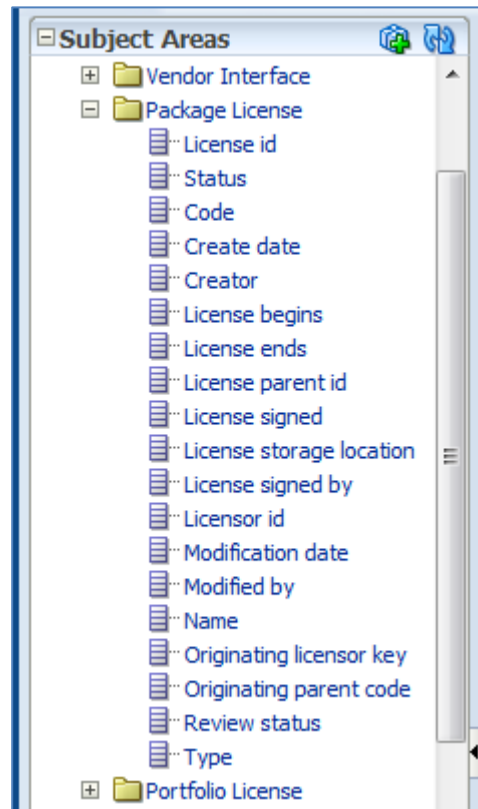
Ex Libris: As a multi-tenant, cloud based system, Alma does track page use on an ongoing basis for the purpose of performance monitoring.

B.2.3.34. Generation of reports from the license records.

Ex Libris: Complies. Alma Analytics includes data elements from e-resources and license records to create custom reports and activate out of the box reports, such as Licenses Signed by X Date, Licenses Modified by X Date, License Review Status = X, and more. License elements can be combined into an e-resource report for a truly customizable report. Here is an example of such a report:

License begins	No. of Portfolio	Title	Modification date	Review status	License storage location
8/1/2011	1	25 questions & answers on health & human rights	5/20/2014	Accepted	L1
	1	35 days to Gettysburg Diary Entries	5/20/2014	Accepted	L1
	1	3rd Annual Message to Congress (Franklin Roosevelt)	5/20/2014	Accepted	L1
	1	3rd Epidemic: Repercussions of the Fear of AIDS	5/20/2014	Accepted	L1
	1	5th International Conference on Applied Statistics	5/20/2014	Accepted	L1
	1	A Message To Garcia	5/20/2014	Accepted	L1
	1	A Process for Developing a Common Vocabulary in the Information Security Area	5/20/2014	Accepted	L1
	1	A Tripla Ameaca	5/20/2014	Accepted	L1
	1	A journal of church and state	5/20/2014	Accepted	L1
	1	AANA journal	5/20/2014	Accepted	L1
	1	AAOS now	5/20/2014	Accepted	L1
	1	ABA journal	5/20/2014	Accepted	L1
	1	ABA journal of affordable housing & community development law	5/20/2014	Accepted	L1

Below is a list of just some of the data elements collected on license data:



B.3. CIRCULATION & RESOURCE SHARING

The CSU seeks a system that enables efficient, transparent circulation and resource sharing as if each institution were a member of a single, large, multi-branch library system.

B.3.1. REQUIREMENTS

The system should:

- Support the creation, modification, and maintenance of patron and item records.
- Allow for a flexible and adaptable matrix of circulation rules.
- Allow for a continual process of modifying services and workflow based on empirical data.
- Provide for the tracking and allocation of resources in an efficient and responsible manner.
- Maintain strict data privacy and security.
- Accommodate individual institutional preferences while retaining the ability to eliminate duplicate record-keeping and redundant procedures across member libraries.

Furthermore, many CSU libraries have long partnered with non-CSU institutions to share resources. Nearly half the CSU libraries are members of a state-wide consortium called Link+, and San Marcos and San Diego are part of a San Diego area consortium called the Circuit. These consortia are valuable to many CSU libraries, and any system we acquire will need to give individual CSU libraries the ability to integrate with them.

B.3.2. CIRCULATION

B.3.2.1. GENERAL

Describe or Demonstrate:

- B.3.2.1.1. Workflow from the point of an item-level request made by a patron on a local item, to delivery of the item to the patron at the patron's specified pickup location, to circulation of the item to the patron.

Ex Libris: Alma's requests management functionality, like other functional areas such as purchase order or invoice management, utilizes built-in workflow engines to control the processing of the requests throughout the different stages in the request's lifecycle. Utilizing the workflow engines standardizes request management throughout Alma, regardless of whether the request is managed for fulfilling a patron placed request for borrowing a physical item, for fulfilling a patron request for receiving a digitized format of a physical item, or if it is a library placed request for managing internal physical item processes, such as technical services or bindery, or for fulfilling a resource sharing or course management related request.

Patron-placed requests in Alma are usually placed on a title. The patron places the request from a discovery interface such as Ex Libris' Primo, or library staff create the request for the patron in Alma. Alma, utilizing internal item location processes, identifies the best suitable item for

fulfilling the request, and triggers the request workflow process on the specific item. The considerations for selecting a specific item are based on item availability and ease of fetching. For example, Alma will prefer an item that is already shelved at the requested pickup location. If the items attached to a title have item descriptions, such as different volumes of a title, the request is then placed on the item level rather than the title level, to allow the user to select the needed item.

The full process of managing a request is managed as a workflow, utilizing the following steps:

1. Placing the request – The request is placed by a patron on a title (or item, as described above). Alma uses different considerations such as holdings availability, requested pickup location and requested time of pickup, and then selects the most suitable holdings for fulfilling the request. All of the subsequent steps in the workflow will be directed at getting a specific item of the selected holdings to the requester, at the requested pickup location and at the requested time.
2. Picking the item from the shelf – The request is viewed by the library staff responsible for the selected holdings. After viewing all of the requests that are his/her responsibility, and faceting them by the attributes of their choice (such as where the items are shelved, where they need to be sent, etc.), the library staff member creates pick slips.
3. The pick slips are used to approach the relevant shelves. Items are fetched and brought back to the responsible staff's desk.
4. The picked up items are wanded in at the desk. Alma notifies the operator what to do with each wanded-in material:
 - a. Place item on local hold shelf – This action is triggered if the wand-in takes place at the same location in which the item has been requested. A notification is sent

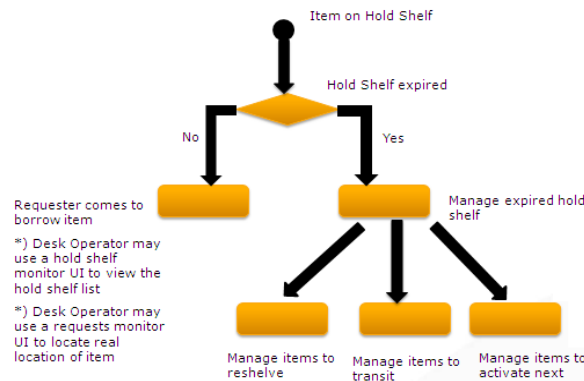
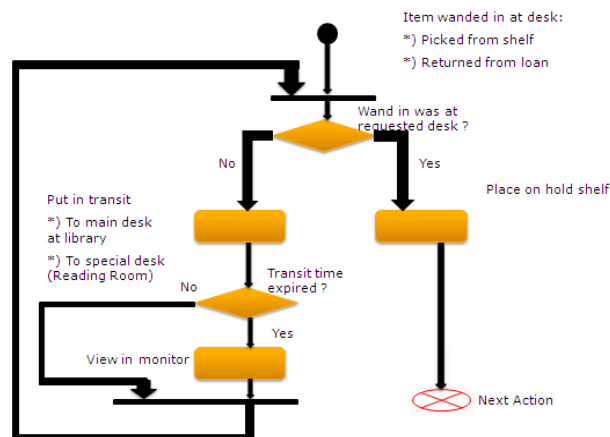
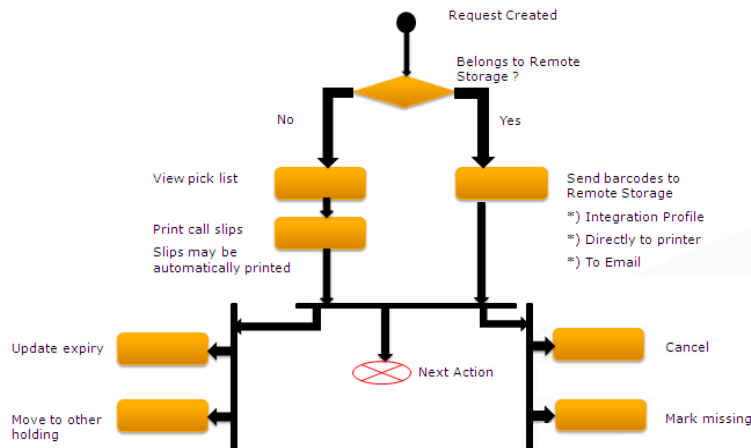
by email to the requester, letting him know that the requested item is waiting at the desk, and for how long it will remain at the desk.

- b. Move item – This action is triggered if the wand in takes place at a location other than the requested pickup location. Alma notifies the operator where the item needs to be sent out to, and creates a transit slip.
5. Patron approaches the desk and asks for the item. The item is loaned out.

During the process, additional actions may take place, such as:

1. Cancelling the request
2. Manually changing the Alma selected holdings to other holdings
3. A step may expire, i.e. the system calculated time to fulfill the step has passed and the step was not processed. For example:
 - a. An item is on the hold shelf for a longer period than expected. Operator handles the exception by removing the item from the hold shelf and re-shelving, or by cancelling the request and activating the next request in the queue.
 - b. Item is not pulled from shelf for a long time. Operator may cancel the request or try to assign another holding to fulfill it

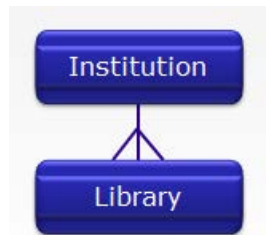
The full process is described in the following diagram:



B.3.2.1.2. Handling of multiple branches, remote storage facilities, and special collections within a single institution with respect to requesting, circulation, and delivery.

Ex Libris: Alma’s architecture easily accommodates multiple libraries and/or campuses within a single Alma institution, or even in multiple Alma institutions. This is achieved via the linkage between authorizations for staff, and the locations in which the work, and the policies are defined. Authorizations for staff are managed by the authenticated user’s assigned roles, which are stored and managed within Alma. Some roles are tied to specific locations, so staff need to be signed-in to the relevant location to perform those functions. The assignment of roles is defined by the institution.

We repeat here the discussion from Section A, about the Alma architecture, which is based on two organizational levels: the Institution, followed by the Library.



The Institution is the basic level of data and workflow management, but some processes may be managed at the Library level. In addition, in Alma we might define multiple Campuses. The Campus is a bundling of libraries, and may be used for:

- Setting availability of electronic resources to be only when discovered from within one of the campus libraries
- Setting the priority of discovered physical resources to match the physical location from which discovery is being made
- Setting the allowed pick up location of requested physical resource

An Institution manages the following data, accessible to all institution operators of the proper role:

- User management
- Vendors
- Funds management
- Licenses
- Metadata management
- Configurations

Some key processes may take place at the Library level:

Fulfillment - Operator roles, Policies

Acquisition - Purchase orders, Fund availability, Vendor availability

Alma utilizes sophisticated algorithms for selecting the exact copy that will be used to fulfill the request. For example:

1. An available item is preferred over a non-available item
2. An item that is already shelved at the requested pickup location will be preferred over an item that needs to be moved to the requested pickup location
3. Remote storage items will be selected only if no items may be used within the library to fulfill the request. A hierarchy of priorities may be set up between different remote storage locations.

In addition, selecting a specific copy makes use of a sophisticated means for setting up relationships between different branches or libraries. Libraries may be set up to allow moving items between them, or not allow such transports. In addition, the amount of time it takes for an item to be moved between different libraries and branches may be set up. This time to transport will be used when Alma determines which exact copy will be used for fulfilling a request.

Branches

Libraries have defined relationships between them:

- Deliver To—A library has a 'Deliver To' relationship with other libraries to which it is willing and capable of shipping its items. That library's inventory will be request-able for pickup at any of the libraries with which it has a 'Deliver To' relationship.
- Circulate For—A library has a 'Circulate For' relationship with any library which it is

willing and capable to check in items for. Items of a library will be allowed for check in at the library that has a 'Circulate For' relationship with it, and be put in transit to their owning library.

Libraries may also be grouped into campuses, and policies may be setup to allow items of a specific library to be deliverable only within its campus.

Alma's sophisticated copy selection processes may also be based on the availability of a copy. Copies may be allowed for transit to other libraries or other campuses unless they are available on shelf. A library's policies may be set up to allow transit of such copies only within the owning library or campus.

Remote Storage Facilities

Designated locations of a library may be given the attribute of 'remote facility'. Alma will designate items of a remote facility for fulfilling a request only if no other available copies may be used for fulfilling the request from one of the library shelves.

Remote storage facilities may be of two main types:

1. Facilities that manage their inventory and incoming requests using Alma. These facilities behave like normal library locations, in the sense that requests are assigned to their holdings (as last priority, as mentioned above), and operators process the requests in the same manner as operators working within the library.
2. Facilities that manage their inventory and incoming requests using some third party tool. Requests which Alma designates for fulfillment to such locations are exported via an FTP file to the third party system. Picking the item off the shelf is then managed by these third party systems. The items are shifted to an Alma operated circulation desk, where Alma is used to dispatch the items to their requested pickup location.

Special fulfillment terms of use may be set up for items of remote storage facilities.

Special Collections

Special collections may be managed by special terms of use, such as:

1. Items of the collection are not circulating, or are request-able and loan-able only to privileged patrons
2. Items of the collection are not circulating, and may only be requested to be received in digital form
3. Items of the collection may be requested for pickup only within a reading room, where the patron may use the item without taking it out of the room.

In addition, special fulfillment terms of use such as restricted loan periods and special overdue/lost item fines may be applied to these special collections.

B.3.2.2. ADMINISTRATIVE

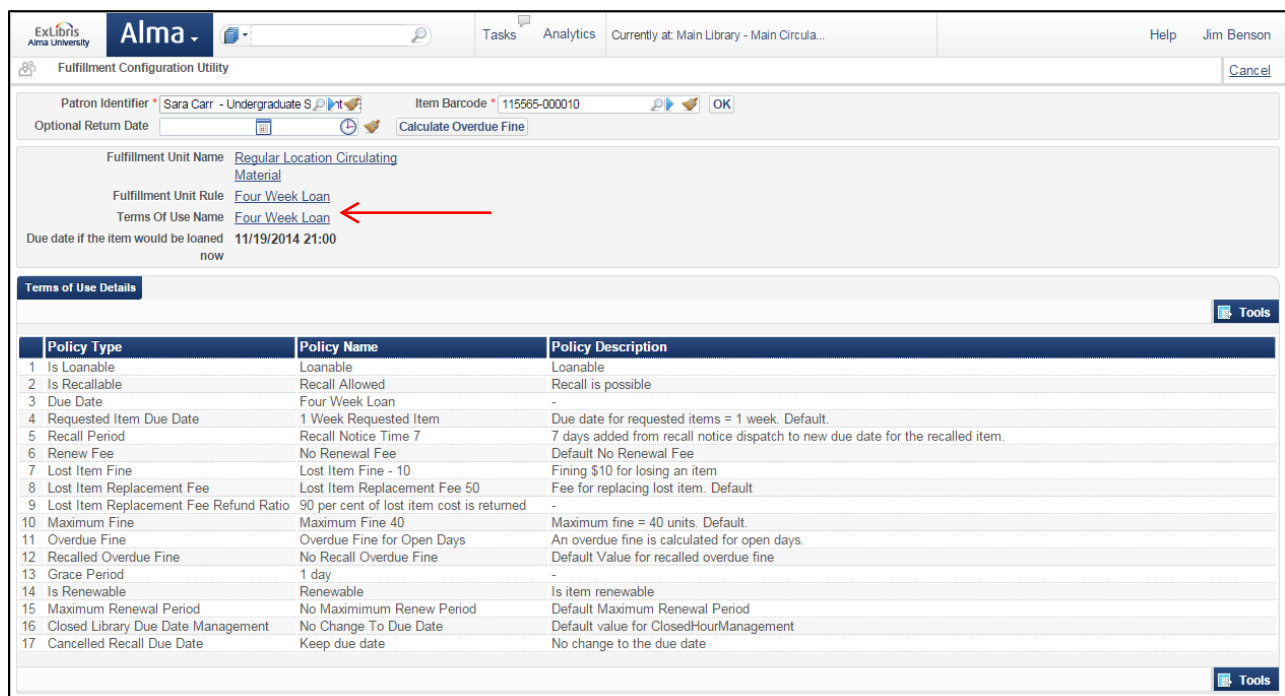
Describe or Demonstrate:

- B.3.2.2.1. Capabilities to view, edit and manage lending rules.

Ex Libris: Lending rules can be viewed, edited and managed by authorized staff through the Fulfillment Configuration Menu.

Also, since lending rules are flexible and may differ based on user groups and other factors, Alma offers a Fulfillment Configuration Utility that allow a staff user to input a patron and item in order to see the rules that apply to the lending of that item, as well as the due date if loaned now. Optionally, staff can also enter a return date and time and calculate what the overdue fine would be.

The authorized staff user can link directly from this page to the configuration page of the Fulfillment Unit, the Fulfillment Unit Rule, or the Terms of Use and edit them if needed.



Policy Type	Policy Name	Policy Description
1 Is Loanable	Loanable	Loanable
2 Is Recalable	Recall Allowed	Recall is possible
3 Due Date	Four Week Loan	-
4 Requested Item Due Date	1 Week Requested Item	Due date for requested items = 1 week. Default.
5 Recall Period	Recall Notice Time 7	7 days added from recall notice dispatch to new due date for the recalled item.
6 Renew Fee	No Renewal Fee	Default No Renewal Fee
7 Lost Item Fine	Lost Item Fine - 10	Fining \$10 for losing an item
8 Lost Item Replacement Fee	Lost Item Replacement Fee 50	Fee for replacing lost item. Default
9 Lost Item Replacement Fee Refund Ratio	90 per cent of lost item cost is returned	-
10 Maximum Fine	Maximum Fine 40	Maximum fine = 40 units. Default.
11 Overdue Fine	Overdue Fine for Open Days	An overdue fine is calculated for open days.
12 Recalled Overdue Fine	No Recall Overdue Fine	Default Value for recalled overdue fine
13 Grace Period	1 day	-
14 Is Renewable	Renewable	Is item renewable
15 Maximum Renewal Period	No Maximum Renew Period	Default Maximum Renewal Period
16 Closed Library Due Date Management	No Change To Due Date	Default value for ClosedHourManagement
17 Cancelled Recall Due Date	Keep due date	No change to the due date

B.3.2.2.2. How the system integrates lending rules with library hours and closures.

Ex Libris: Alma offers the option of defining a calendar of open and closed hours. Definitions can be on the level of the Institution, or on the level of the library. In addition, it is possible to define:

Events – special dates, such as the end of the year or the end of the semester

Exceptions – exceptions for open/closed dates and times, such as holidays

An event or an exception is defined on the Institution level.

In addition, the Terms of Use Policy includes a parameter for defining the behavior of due dates related to library hours and closures. For example, if an item is due when the library is closed, Alma can automatically change the due time to the upcoming closing time, the next open time, or leave the time as is.

B.3.2.2.3. Flexibility of circulation parameters and rules.

Ex Libris: Alma allows libraries flexibility in designing policies for the circulation and return of items, at the individual library and institution level. Also, an important concept in policy administration is the ability to inherit policy settings from higher locations in the organizational structure, so that global policies need to be defined just once at the institutional level to be inherited by libraries and branches within an organization. Policies that are specific to lower levels in the organization are then defined locally and override the institutional settings.

Policies, Terms of Use (ToU), and Fulfillment Unit rules determine the terms by which Alma services are provided by the library to the patron. For instance, based on these policies, a patron may be required to return a book three days after checking it out and, if returning it late, pay a late fee of \$10. The same item for a staff patron may be two-week loan and no late fee. To go into a bit more detail:

A **Policy** is the basic building block of a ToU. A policy sets specific conditions for a specific service. For example, 'Allowed Pickup Locations' = 'Anywhere', or 'Lost Item Fee' = 150. More than one policy may be configured for a given type of service. The policy which will be applied in a given situation depends upon the ToU which apply to that situation.

Policy Type	Policy Name	Value	Unit Of Measurement	Is Default	Policy Owner	Actions
Allow Resource Sharing Requesting	No Resource Sharing Requesting	False	-	✓	Generic	Actions
Allow Resource Sharing Requesting	Resource Sharing Allowed	True	-		Generic	Actions
Back to back booking	30 minute back to back booking	30	Minute		Institution	Actions
Back to back booking	One Hour Back to Back Booking	1	Hours		Institution	Actions
Back to back booking	No time back to back booking	None	-		Institution	Actions
Back to back booking	No limit	None	-	✓	Generic	Actions
Back to back booking	5 minute back to back booking	5	Minute		Institution	Actions
Booking release time	1 hour release time	1	Hours		Institution	Actions
Booking release time	No Booking Release Time	None	-	✓	Generic	Actions
Cancelled Recall Due Date	Attempt automatic renewal	Attempt automatic renewal	-		Generic	Actions
Cancelled Recall Due Date	Restore to original due date	Restore original due date	-		Generic	Actions
Cancelled Recall Due Date	Keep due date	Keep due date	-	✓	Generic	Actions
Card Renewal Fee	No Card Renew Fee	0	-	✓	Generic	Actions

Terms of Use are an aggregation of policies relating to a particular service. For example, ToU for a loan aggregates policies such as Lost Item Fine, Maximum Number of Renewals, Overdue Fine, etc. More than one ToU may be configured for a given service. The ToU to be applied in a given situation depends upon the applicable fulfillment unit and the rules configured for that service within the fulfillment unit.

Name	Type	TOU Owner	Description	Actions
3 day future limit TOU	Booking	Institution	Patrons can not make booking request more than 3 days in advance	Actions
Allow Limitless Resource Sharing	Borrowing Resource Sharing	Institution	Allow Limitless Resource Sharing - Fulfill Requests Received Within Institution With Other Institutions	Actions
Booking for non-standard items	Booking	Institution	Booking non-standard items - e.g. equipment, study rooms	Actions
Booking for One Hour Back to Back Booking	Booking	Institution	-	Actions
Default terms of use	Booking	Institution	Default Booking Terms No max length no back to back booking	Actions

B.3.2.2.4. Permission levels for maintaining access to specific circulation functions at the local and system levels.

Ex Libris: Permissions are managed by the authenticated user's assigned roles, which are stored and managed within Alma. The assigned roles control:

- What menus are displayed to the user
- What screens are accessible for the user
- What tables/lists/forms are accessible to the user
- What actions are allowed within screens
- What system jobs are allowed to be triggered by the user

Roles are assigned to users with specific scopes, setting the specific organization unit to which the role applies. The scopes may be set up as:

- Institutional scope—Role with an institutional scope is granted relevant privileges in the entire institution
- Library scope—Role with a library scope is granted relevant privileges only within the scope's library.

Role and privilege granularity reflects the common breakdown of responsibilities and authorizations within the library/institution, with sensitive actions being controlled by specific roles and privileges. For example:

- A Circulation Desk Operator has the permissions needed to manage circulation desk actions, such as loans, returns, and renewals; can add, edit, and delete notes, change due and return dates, mark items as lost, handle fines and fees, and perform offline circulation.
- A Circulation Desk Operator Limited has Circulation Desk Operator privileges, but cannot perform deletion activities
- A Fulfillment Administrator manages fulfillment-related configurations, such as policies, terms of use, fulfillment units, and circulation desks
- A Fulfillment Services Operator manages the library's fulfillment services related to course reserves and reading lists, as well as move requests
- A Fulfillment Services Manager manages the library's authoritative fulfillment service actions, such as course reading list assignments, assigns digitization requests, and assigns and handles resource sharing requests

Permission levels are handled at the institution (local) level.

B.3.2.2.5. How staff permissions can be assigned to groups, as well as to individuals.

Ex Libris: Multiple roles and scopes may be assigned to every user. Roles may be assigned manually, but this is normally done via role templates. Role templates may be automatically assigned to users based on user attributes such as user group, job category and job title. For example, the institution's job categories may be used to automatically assign a 'Fulfillment Manager' template or a 'Physical Item Receiving' template to a new user. The rules may be set up to assign more than one template, based on user attributes. The screenshot below displays a list of role templates in Alma. Note the options to add a new role template and to edit existing ones:

ExLibris Alma Configuration

You are configuring: Alma University

User Management

Roles and Registration

Role Templates Role Assignment Rules User Registration Rules

ExLibris Alma Role Templates List

1 - 18 of 18 Records

Name	Included Roles	Created By	Creation Date	Modified By	Modify Date	Actions
Acquisitions...	Trial Participant(Alma University), Vendor Manager(Alma University), Acquisitions Administrator(Alma University), Designs Analytics(Alma University), Fund Manager(Alma University), Invoice Manager(Alma University), Invoice Operator(Alma University), Ledger Manager(Alma University), License Manager(Alma University), Purchasing Manager(Alma University), Purchasing Operator(Alma University), Receiving Operator(Main Library), Trial Manager(Alma University), Trial Operator(Alma University), Catalog Administrator(Alma University), Cataloger(Alma University)	admin1	11/05/2011	Jim Benson	01/08/2014	Actions Edit Duplicate Delete
Acquisitions Managerial Template	Vendor Manager(Alma University), Fund Manager(Alma University), Receiving Operator(Alma University), License Manager(Alma University), Purchasing Operator(Alma University), Purchasing Manager(Alma University), Acquisitions Administrator(Alma University), Ledger Manager(Alma University), Invoice Operator(Alma University)	admin1	03/07/2011	admin1	08/14/2011	Actions
Acquisitions Staff Template	Designs Analytics(Alma University), Fund Manager(Alma University), Invoice Operator(Alma University), License Manager(Alma University), Purchasing Operator(Alma University), Receiving Operator(Alma University), Trial Manager(Alma University), Trial Participant(Alma University), Vendor Manager(Alma University)	admin1	08/14/2011	admin1	08/14/2011	Actions
Administrator Template	Catalog Administrator(Alma University), Fulfillment Administrator(Alma University), User Administrator(Alma University), Acquisitions Administrator(Alma University), Repository Administrator(Alma University), Patron(Alma University)	-	03/07/2011	-	03/07/2011	Actions
Cataloger	Physical Inventory Operator(Alma University), Cataloger(Alma University), Digital Inventory Operator(Alma University), Electronic Inventory Operator(Alma University)	admin1	03/16/2012	Super User	03/16/2012	Actions
circulation1	-	jueslow	05/23/2013	Juergen Kueslow	05/23/2013	Actions
Course Reserves	-	crc	07/11/2012	Chris Parson	07/11/2012	Actions
Demo	User Administrator(Alma University), User Manager(Alma University), Vendor Manager(Alma University), General System Administrator(Alma University)	crc	11/28/2011	crc	11/28/2011	Actions
E-Resources Librarian	License Manager(Alma University), Purchasing Operator(Alma University), Electronic Inventory Operator(Alma University)	admin1	08/14/2011	admin1	08/14/2011	Actions
Fulfillment Manager Template	User Manager(Alma University), Circulation Desk Operator(Resource Sharing Library), Fulfillment Administrator(Alma University), Fulfillment Services Manager(Alma University), Fulfillment Services Operator(Alma University), Patron(Alma University), Requests Operator(Resource Sharing Library), Work Order Operator(Alma University), Physical Inventory Operator(Alma University)	admin1	08/14/2011	admin1	12/18/2011	Actions
Fulfillment Staff Template	Circulation Desk Operator(null), Circulation Desk Operator(null), Patron(Alma University), Fulfillment Administrator(Alma University), Work Order Operator(Alma University), Fulfillment Services Operator(Alma University), Requests Operator(null), Physical Inventory Operator(Alma University), Circulation Desk Operator(null), Circulation Desk Operator(null), Circulation Desk Operator(null)	admin1	03/07/2011	admin1	01/01/2012	Actions
Inventory	Digital Inventory Operator(Alma University), Electronic Inventory Operator(Alma University), Physical Inventory Operator(Alma University), Repository Administrator(Alma University)	crc	07/11/2012	Chris Parson	07/11/2012	Actions
Patron	Patron(Alma University)	crc	11/01/2011	crc	11/01/2011	Actions
Patron/Main Library	Patron(Main Library)	crc	12/05/2011	crc	12/05/2011	Actions
Physical Inventory Operator	-	jueslow	12/09/2013	Juergen Kueslow	12/09/2013	Actions
User Management & Analytics Administrator	Designs Analytics(Alma University), User Administrator(Alma University), User Manager(Alma University), General System Administrator(Alma University)	same	05/04/2012	Sam Smith	05/04/2012	Actions
Workshop Users	-	marlesethomas	10/01/2013	Marlese Thomas	10/01/2013	Actions
Z All Functions Main Library	User Administrator(Alma University), User Manager(Alma University), Acquisitions Administrator(Alma University), Fiscal Period Manager(Alma University), Fund Manager(Alma University), Invoice Manager(Alma University), Invoice Operator(Alma University), Invoice Operator Extended(Alma University), Ledger Manager(Alma University), License Manager(Alma University), Purchasing Manager(Alma University), Purchasing Operator(Alma University), Purchasing Operator Extended(Alma University), Receiving Operator(Main Library), Selector(Alma University), Trial Manager(Alma University), Trial Operator(Alma University), Trial Participant(Alma University), Vendor Manager(Alma University), Circulation Desk Manager(Main Library), Circulation Desk Operator(Main Library), Course Reserves Manager(Alma University), Course Reserves Operator(Alma University), Fulfillment Administrator(Alma University), Fulfillment Services Manager(Alma University), Fulfillment Services Operator(Alma University), Patron(Alma University), Requests Operator(Main Library), Work Order Operator(Alma University), Collection Inventory Operator(Alma University), Collection Inventory Operator Extended(Alma University), Digital Inventory Operator(Alma University), Digital Inventory Operator Extended(Alma University), Electronic Inventory Operator(Alma University), Electronic Inventory Operator Extended(Alma University), Physical Inventory Operator(Alma University), Physical Inventory Operator Extended(Alma University), Repository Administrator(Alma University), Repository Manager(Alma University), Catalog Administrator(Alma University), Catalog Manager(Alma University), Cataloger(Alma University), Cataloger Extended(Alma University), API Analytics Read(Alma University), API Fulfillment Read(Alma University), API Fulfillment Write(Alma University), API Intra Read(Alma University), API Label Printing Read(Alma University), API Resource Management Read(Alma University), API User Information Read(Alma University), API User Information Write(Alma University), Designs Analytics(Alma University), General System Administrator(Alma University), Letter Administrator(Alma University), SDK Write(Alma University)	ext_support	01/14/2014	Cindy Brady	01/14/2014	Actions

1 - 18 of 18 Records

Alma supports the concept of automatic role assignment based on library-defined rules, for both groups and individuals. Any number of rules can be created, using the simple, intuitive interface shown below:

Add Rule

Enabled	Move Up	Move Down	Rule Name	Description
✓	▲	▼	Acq. Operator	Acquisitions Operator rules
✓	▲	▼	Acq+Cat Operator	Operator with Acq. and Cat permissions
✓	▲	▼	Circ Operator	Roles for Circ Managers

Multiple rule parameters can be assigned to define the group for which a rule will apply. In the following screen, we can see that input parameters have been defined relating to the Job Category and the User Group.



Name	Operator	Value
Job Category	=	Fulfillment Manager
User Group	=	Administrative Staff

Output parameters related to the role templates that have been defined:



Name	Result
RoleTemplate1	* Fulfillment Managerial Temp...
RoleTemplate2	
RoleTemplate3	

All users added to the system after the creation of the rule, and matching a rule's input parameters, will automatically receive all the roles defined in that rule's output parameters.

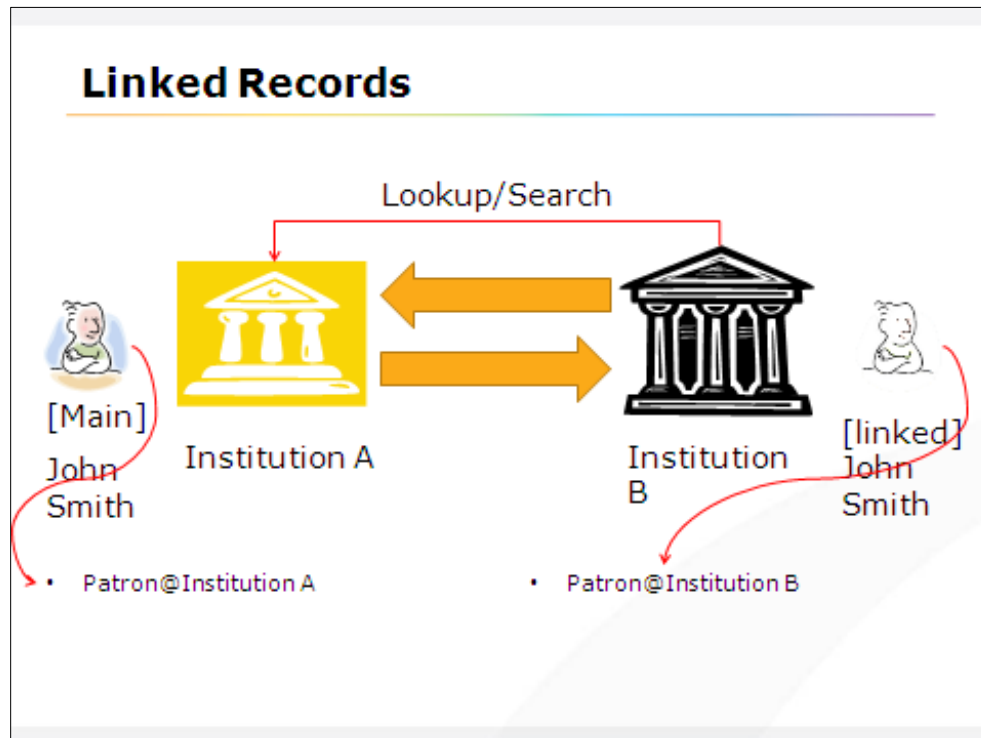
Alma's authorization system structure is based on roles and privileges, such that:

- Required privileges are bound to entities such as:
 - Menu options
 - Screen lists/tables/forms/buttons
 - Server side actions
- Roles bind privileges, so that assigning a role to a user is equivalent to granting the user all of the privileges that are bound to that role;
- Only users who have roles mapped to the required privileges will have access to the relevant menu/screen elements/server side actions.

B.3.2.2.6. How the system provides for the coexistence of consortial lending rules and local lending rules.

Ex Libris: Alma will allow for certain consortial fulfillment scenarios to be supported, including the case where users from one institution walk into another institution's libraries, and can easily register and loan or borrow items. To support this, institutions working together will define institutional relationships for end-user record-sharing. Via these institutional relationships, institutions will have control as to which other institutions they expose their user information, as well as the user types whose data will be exposed.

Once in place, staff users from one institution can look up user records in another institution, and link them to their user registry. These linked patron records will not be editable, and can be used as is. In the case of end-users, the institution will still be able to add local information such as roles, notes, fines/fees and other fulfillment related records.



Enhanced consortial fulfillment is on the roadmap for 2015. With this further enhancement, fulfillment rules will be made, if desired, on the consortium level with the option that each institution can either

- A. Inherit the rule from the institution
- B. Create rules unique to the institution.

Similarly, and already exists, each institution can make rules which apply to the whole institution, or each library can make their own unique rules.

- B.3.2.2.7. The process for making changes to circulation parameters and how they take effect, e.g., in real time, necessitating a system restart.

Ex Libris: Authorized staff may make changes to the circulation parameters through the Fulfillment Configuration menu. Changes take effect immediately; no restart is necessary.

- B.3.2.2.8. Flexibility of circulation parameters and rules to allow for circulating non-traditional materials (equipment, computers, laptops, software, etc.)

Ex Libris: Staff can create records for non-traditional materials to allow them to be circulated through a regular loan and/or as a booking request. Booking items in Alma reserves resources

for a patron to be used during a specified time frame. This functionality can be utilized for standard library materials – e.g. books, DVDs, etc., but can also be used to allow patrons to make bookings for other types of library-related resources such as study rooms, audio-video equipment, etc.

- B.3.2.2.9. Flexibility in setting loan/overdue/renewal periods, such as a hour loan, but with an overdue fine period calculated in minutes.

Ex Libris: Due dates and times can be configured in days, hours, or minutes and can be different for different types of transactions (or patron types). Fines are similarly defined within the Terms of Use and policies, and are very flexible as well.

- B.3.2.2.10. The ability to tailor staff screens by workstation, showing only functions needed by staff at that workstation rather than all available functions.

Ex Libris: Authorizations are managed by the authenticated user's assigned roles, which are stored and managed within Alma. The assigned roles control:

- What menus are displayed to the user
- What screens are accessible for the user
- What tables/lists/forms are accessible to the user
- What actions are allowed within screens
- What system jobs are allowed to be triggered by the user

Roles are assigned to users with specific scopes, setting the specific organization unit to which the role applies. The scopes may be set up as:

- Institutional scope – Role with an institutional scope is granted relevant privileges in the entire institution.
- Library scope – Role with a library scope is granted relevant privileges only within the scope's library.

This means that circulation desk workers, and all other staff, will only have access to the functions needed for their tasks, and only at the locations where they are assigned.

- B.3.2.2.11. Flexibility within the staff client to change between circulation and other staff modes, such as cataloging or acquisitions.

Ex Libris: Unlike legacy Integrated Library Systems with 'modules' or 'subsystems', Alma is fully web-based and supports all library operations in one user-friendly interface. Authorizations are managed by the authenticated user's assigned roles, which are stored and managed within Alma.

- B.3.2.2.12. The ability to set up permissions so that edits can be tracked by date and by who made the edits.

Ex Libris: Transactions in Alma are recorded with a date and operator stamp that indicates when they occurred and by which staff member. Using Alma Analytics, customizable audit reports can be generated, and can be output in various formats for immediate use, or for more permanent storage. The audit reports can be retained indefinitely, and the transactions on which the reports are based are retained in perpetuity.

Please see the screenshot below, which shows the date of changes made to circulation rules, and who performed the update.

Rule Type		Request							
Enabled	Move Up	Move Down	Rule Name	Description	Output	Updated By	Update Date		
1	✓		Main Lib Gen Loc Item Pol 4 week UG faculty	Main Lib Gen Location Item Policy 4 week loan User group faculty = always requestable pickup everywhere	Always requestable all the time pickup anywhere	Joseph Smith	10/29/2014		
2	✓	▲	item policy = requestable not bookable	item policy = requestable not bookable	Default terms of use	Joseph Smith	10/29/2014		
3	✓	▲	item policy = requestable and bookable	Standard policy for requesting items from the Main Library	Default terms of use	Super User	10/29/2014		
4	✓	▲	Requests for Study Rooms	Location=Main Library - Study Rooms	Non Standard Items	Super User	10/29/2014		
5	✓	▲	Requests for Equipment	Material Type=Equipment	Non Standard Items	Super User	10/29/2014		
6	✓	▲	High Priority Requests	User Group = Faculty	High Priority Requests	Super User	10/29/2014		
7	✓	▲	Distance Learners	User Group=Distance Learners	Distance Learners	Super User	10/29/2014		
8	✓	▲	Music Library General Location Requestable	Location=Music Library - General TOU=Requestable with pickup anywhere regardless of availability	High Priority Requests	Joseph Smith	10/29/2014		
9	✓	▲	Admin staff - no digitization	User Group=Administrative Staff	Resource Sharing Request	Super User	10/29/2014		
10	✓	▲	Science Library Books	-	High Priority Requests	Jim Benson	10/29/2014		
11	✓	▲	Asian Collection - no requests	-	No requests allowed	Super User	10/29/2014		

B.3.2.2.13. Management of circulation transactions alerts and overrides.

Ex Libris: Authorized circulation operators with the relevant role in Alma can override patron blocks, backdate check-in, change due dates, etc. The ability to override various blocks can be managed in the Block Preferences section of the Fulfillment Configuration. As shown in the screenshot below, the institution can define who is able to override various blocks, such as only a manager, anyone, or no one.

Description	Actions	Handlers	Blocks
1 The loan regular due date conflicts with booking request	Override By All	Shorten the due date to the last possible date	
2 The renew due date conflicts with booking request	Handle Automatically	Shorten the due date to the last possible date	
3 Item is not loanable	Override By Manager		
4 Item is not renewable	Override By Manager		
5 Item cannot be loaned to patron - insufficient due date	Override By Manager	Show all items	
6 Item does not belong to this institution	Override By All		
7 Item is on Hold Shelf for this patron	Block	Delete the request and loan the item	
8 Item cannot be loaned due to booking request	Override By Operator		
9 Item has not been received by Acquisitions Department	Block		
10 Item is requested by another patron	Override By Manager	Restart the request, since the item is no longer available	
11 Item renew period exceeded	Override By Manager		
12 Item cannot be loaned from this circulation desk	Handle Automatically		
13 Item cannot be returned at this circulation desk	Handle Automatically		
14 The loan cannot be renewed due to the loan status	Block		
15 Item is on hold shelf for another patron	Block	Restart the request, since the item is no longer available	
16 Patron cash limits has exceeded	Override By Manager		Both
17 Patron's card has expired	Override By Manager		
18 Patron is not active	Override By Manager		
19 Patron loan limit exceeded	Override By All		
20 Patron overdue limits has exceeded	Override By All		Both
21 Patron overdue recall limit exceeded	Block		Both
22 Not Renewable - Item has Request(s)	Handle Automatically		

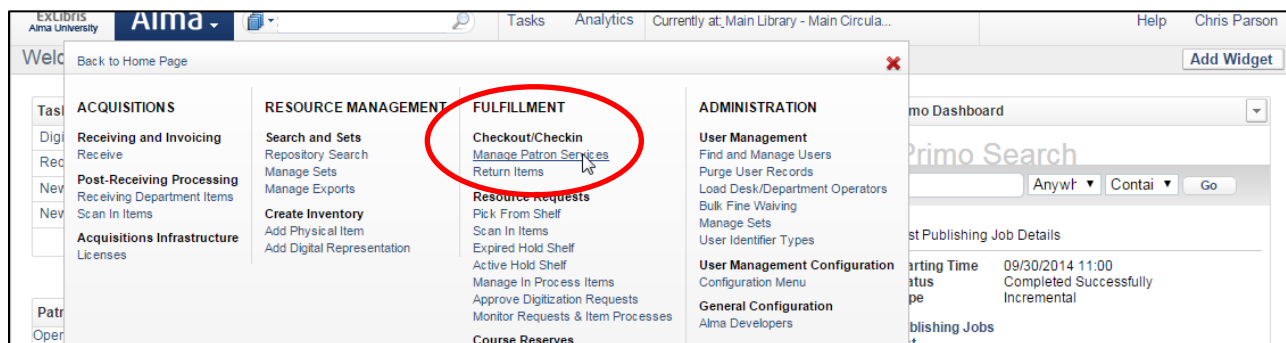
Alerts in the form of a pop-up are automatically created whenever there is a fulfillment note in an item record (such as for a multi-part item), a patron block, etc. The staff user must acknowledge the pop-up in order to proceed with the transaction.

B.3.2.3. CHECK-IN / CHECK-OUT / RENEWALS

Describe or Demonstrate:

B.3.2.3.1. Support for check in/checkout workflow at a local circulation desk.

Ex Libris: A staff user with the relevant role will select “Manage Patron Services” from the Alma menu:



Scan in the patron barcode, or manually enter the name of the patron:

ExLibris Alma University **Alma** Tasks Analytics Currently at: Main Library - Main Circula... Help Chris Parson

Patron Identification

Enter patron's ID

Scan patron's ID or search for patron

Use proxy

Import users from User Management System

Find user in other institution

Sara Carr - Undergraduate Student - Sara Carr

Note that a new user can also be added at this point if needed.

From the patron screen, items can be checked out, renewed, returned, etc. Information on loans, blocks, and notes are also available.

ExLibris Alma University **Alma** Tasks Analytics Currently at: Main Library - Main Circula... Help Chris Parson

Patron Services

Patron Sara Carr
ID [Sara Carr](#)
User group Undergraduate Student
Active balance 12.75 USD [Pay](#)
[Edit Info](#) [Send Activity Report](#) [Send Return Receipt](#) [Send Loan Receipt](#)

Notes

User has 1 overdue item(s) in this library

On Hold Shelf Items

- User has 3 item(s) waiting for pickup at this desk
- User has 1 item(s) waiting for pickup at Resource Sharing Library library

Loans

Scan item barcode*

Loan Display All in: Title

1 - 4 of 4 Records

<input type="checkbox"/>	Title	Due Date	Barcode	Fine	Loan Date	Loan Status	Item Policy	Library	Actions
<input type="checkbox"/>	Harmonica classics [sound recording]	11/19/2014 21:00	46328-10	-	10/22/2014	Normal	Four Week Loan	Main Library	<input type="button" value="Actions"/>
<input type="checkbox"/>	The Ultimate Harry Potter and Philosophy	11/19/2014 21:00	AU5101	-	10/22/2014	Normal	Four Week Loan	Main Library	<input type="button" value="Actions"/>
<input type="checkbox"/>	On the uses of benefit-cost reasoning in choosing policy toward global climate change /	10/24/2014 21:00	105111-000010	-	07/08/2014	Renewed	Four Week Loan	Main Library	<input type="button" value="Actions"/>
<input type="checkbox"/>	A layman's handbook of medicine : with special reference to social workers	09/10/2014 21:00	103687-000010	21.50 USD	06/27/2014	Renewed	Four Week Loan	Main Library	<input type="button" value="Actions"/>

ExLibris Alma University **Alma** Tasks Analytics Currently at: Main Library - Main Circula... Help Chris Parson

Patron Services

Patron Sara Carr
ID [Sara Carr](#)
User group Undergraduate Student
Active balance 12.75 USD [Pay](#)
[Edit Info](#) [Send Activity Report](#) [Send Return Receipt](#) [Send Loan Receipt](#)

Notes

User has 1 overdue item(s) in this library

On Hold Shelf Items

- User has 3 item(s) waiting for pickup at this desk
- User has 1 item(s) waiting for pickup at Resource Sharing Library library

Loans

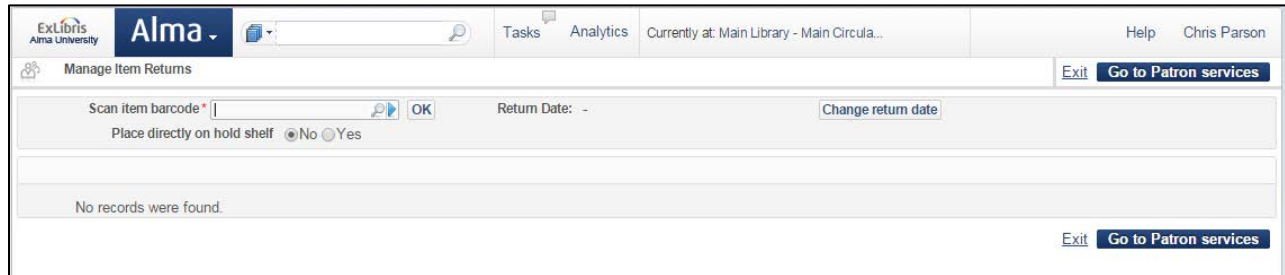
Scan item barcode*

Place directly on hold shelf No Yes

Returns Display This session

No records were found.

To check in items in bulk, the staff user will select "Return Items" from the Alma menu:



B.3.2.3.2. How the system determines due dates, due times, and fines for checkouts, renewals, recalls, holds, and bookings at a local and consortial level.

Ex Libris: Alma allows libraries flexibility in designing policies for the circulation and return of items, at the individual library and institution level. Also, an important concept in policy administration is the ability to inherit policy settings from higher locations in the organizational structure, so that global policies need to be defined just once at the institutional level to be inherited by libraries and branches within an organization. Policies that are specific to lower levels in the organization are then defined locally and override the institutional settings.

Policies, Terms of Use (ToU), and Fulfillment Unit rules determine the terms by which Alma services are provided by the library to the patron. For instance, based on these policies, a patron may be required to return a book three days after checking it out and, if returning it late, pay a late fee of \$10. The same item for a staff patron may be two-week loan and no late fee. To go into a bit more detail:

A **Policy** is the basic building block of a ToU. A policy sets specific conditions for a specific service. For example, 'Allowed Pickup Locations' = 'Anywhere', or 'Lost Item Fee' = 150. More than one policy may be configured for a given type of service. The policy which will be applied in a given situation depends upon the ToU which apply to that situation.

Policy Type	Policy Name	Value	Unit Of Measurement	Is Default	Policy Owner	Actions
Allow Resource Sharing Requesting	No Resource Sharing Requesting	False	-	✓	Generic	Actions
Allow Resource Sharing Requesting	Resource Sharing Allowed	True	-		Generic	Actions
Back to back booking	30 minute back to back booking	30	Minute		Institution	Actions
Back to back booking	One Hour Back to Back Booking	1	Hours		Institution	Actions
Back to back booking	No time back to back booking	None	-		Institution	Actions
Back to back booking	No limit	None	-	✓	Generic	Actions
Back to back booking	5 minute back to back booking	5	Minute		Institution	Actions
Booking release time	1 hour release time	1	Hours		Institution	Actions
Booking release time	No Booking Release Time	None	-	✓	Generic	Actions
Cancelled Recall Due Date	Attempt automatic renewal	Attempt automatic renewal	-		Generic	Actions
Cancelled Recall Due Date	Restore to original due date	Restore original due date	-		Generic	Actions
Cancelled Recall Due Date	Keep due date	Keep due date	-	✓	Generic	Actions
Card Renewal Fee	No Card Renew Fee	0	-	✓	Generic	Actions

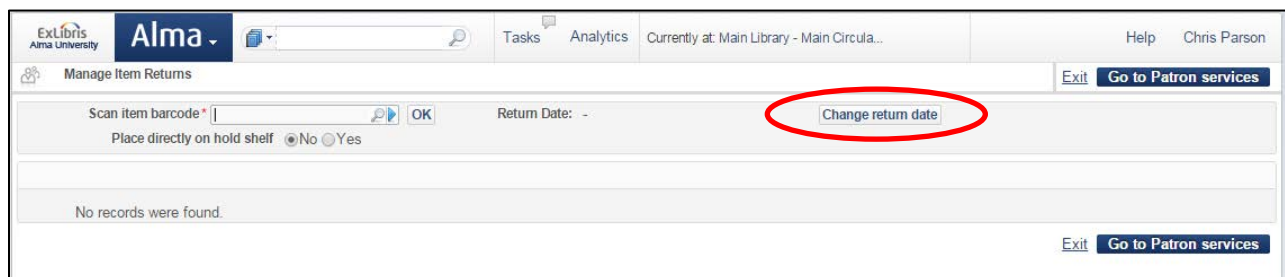
Terms of Use are an aggregation of policies relating to a particular service. For example, ToU for a loan aggregates policies such as Lost Item Fine, Maximum Number of Renewals, Overdue Fine, etc. More than one ToU may be configured for a given service. The ToU to be applied in a given situation depends upon the applicable fulfillment unit and the rules configured for that service within the fulfillment unit.

Name	Type	TOU Owner	Description	Actions
3 day future limit TOU	Booking	Institution	Patrons can not make booking request more than 3 days in advance	Actions
Allow Limitless Resource Sharing	Borrowing Resource Sharing	Institution	Allow Limitless Resource Sharing - Fulfill Requests Received Within Institution With Other Institutions	Actions
Booking for non-standard items	Booking	Institution	Booking non-standard items - e.g. equipment, study rooms	Actions
Booking for One Hour Back to Back Booking	Booking	Institution	-	Actions
Default terms of use	Booking	Institution	Default Booking Terms No max length no back to back booking	Actions

A consortium may manage its fulfillment policies and terms of use in a centralized manner. If such centralized management is required and a Network Zone is managed by the consortium, the policies and terms of use may be defined in the Network Zone and inherited by the different institutions, where they will be useable but not manageable. However, please note that at this time, Ex Libris is proposing a Network Zone for a later, phase two of the project.

- B.3.2.3.3. Available options when exceptions need to be made, e.g. backdating check-in or overriding a due date. How does this interact with local loan rule/policies when dealing with consortial lending?

Ex Libris: Backdating check in items can be done from the Manage Item Returns screen, as shown below:



The screenshot shows the 'Manage Item Returns' interface. At the top, there are navigation tabs for 'Tasks' and 'Analytics', and a breadcrumb trail 'Currently at: Main Library - Main Circula...'. Below the header, there is a search bar for 'Scan item barcode' and a 'Return Date' field. A red circle highlights the 'Change return date' button. At the bottom, there is a message 'No records were found.' and a 'Go to Patron services' button.

Due dates can also be changed manually in the patron account, or in bulk.

Any institution, as the owner of resources, sets the rules and policies by which its resources get used outside of the library, regardless of whether they are used by library patrons or by patrons of another CSU institution. Therefore, fulfillment policies management, whether the loan is managed as a direct loan to the requesting patron or to the requester's institution, are controlled by the lender institution based on borrower attributes and the lent resource attributes. The lending institution manages:

1. Assigning fulfillment attributes to foreign patrons/institutions
2. Assigning fulfillment rules based on the assigned fulfillment attributes

Therefore, this functionality will work the same way whether the loan is within the institution or the consortium.

- B.3.2.3.4. Support for offline circulation transactions when the system is unavailable. If a site loses access to the shared system, what kinds of activities (e.g., checkout, checkin, cataloging) would the site be able to

continue? Describe the process involved in resynchronizing the local site with the shared system after the issue has been resolved.

Ex Libris: Alma includes an offline circulation tool that will allow for the continuation of check-in and check-out activities when the system is available. The offline circulation tool can be installed locally and allows the data to be synched back to Alma when the network connection is back following a network failure. In addition, as Alma is hosted in the cloud, in case of local network outage there is also the option of using 3G or 4G mobile networks to access the system, enabling normal operations.

The offline circulation client stores patron barcodes and item barcodes. Loans are generated when the offline circulation files are uploaded to Alma. To upload offline loans and returns, on the Offline Circulation List page click in the File Name field and select the .dat file containing the list of loans and returns performed during connection downtime. Click Upload and Validate File Content. The job is displayed in the table at the bottom of the page. Its status is displayed in the Status column. To view details of a job, click View for the relevant job. The Job Report page opens, detailing the number of items processed successfully and unsuccessfully.

Job Id	Status	Creator	Time Started	Time Ended	Entities Finished	Entities Failed	
16421890000121	Initializing	admin1	27/12/2012 13:46:54 PM IST	-	-	-	View
81328840000121	Completed Successfully	admin1	29/10/2012 09:18:22 AM IST	29/10/2012 09:18:29 AM IST	1	11	View
81328440000121	Completed Successfully	admin1	29/10/2012 09:08:02 AM IST	29/10/2012 09:08:06 AM IST	0	11	View
35010400000121	Aborted by User	exl_support	10/06/2012 09:05:11 AM IDT	10/09/2012 14:29:25 PM IDT	-	-	View
35010390000121	Aborted by User	exl_support	10/06/2012 09:05:11 AM IDT	10/09/2012 14:29:22 PM IDT	-	-	View
35010380000121	Aborted by User	exl_support	10/06/2012 09:05:10 AM IDT	10/09/2012 14:29:20 PM IDT	-	-	View
35010370000121	Aborted by User	exl_support	10/06/2012 09:05:09 AM IDT	10/09/2012 14:29:17 PM IDT	-	-	View
35010360000121	Aborted by User	exl_support	10/06/2012 09:05:08 AM IDT	10/09/2012 14:29:14 PM IDT	-	-	View
35010350000121	Aborted by User	exl_support	10/06/2012 09:05:04 AM IDT	10/09/2012 14:29:11 PM IDT	-	-	View

B.3.2.3.5. Renewal functionality, including system generated renewals, staff initiated renewals, and patron initiated renewals at both the local and consortial levels.

Ex Libris: Items can be automatically renewed in Alma by a system job that runs nightly. Automatic renewals can be limited to specific user groups and/or libraries.

Input Parameters			
Name	Operator	Value	
1 User Group	In List	Faculty, Graduate Student	
2 Item Owner	=	Main Library	
Name	Operator	Value	
<input type="text"/>	<input type="text"/>	Possible Values >	
Output Parameters			
Name	Result		
AutoRenewal	* True		

Staff can also manually renew items from the patron's account page and patrons can renew items from their patron account in Primo.

Renewals can also be done via a RESTful API, allowing to batch renew in each institution at a time. There is no Alma interface that allows consortial renewals.

Patron Sara Carr
 ID Sara Carr
 User group Undergraduate Student
 Active balance 12.75 USD Pay
 Edit Info Send Activity Report Send Return Receipt Send Loan Receipt

Notes User Notes (4)
 User has 1 overdue item(s) in this library

On Hold Shelf Items
 1 User has 3 item(s) waiting for pickup at this desk
 2 User has 1 item(s) waiting for pickup at Resource Sharing Library library

Loans Returns Requests
 Scan item barcode* [] OK Create Item Loan Display All

Find: [] in: Title [] Go
 1 - 4 of 4 Records Tools

#	Title	Due Date	Barcode	Fine	Loan Date	Loan Status	Item Policy	Library	Actions
1	Harmonica classics [sound recording]	11/19/2014 21:00	46328-10	-	10/22/2014	Normal	Four Week Loan	Main Library	Actions
2	The Ultimate Harry Potter and Philosophy	11/19/2014 21:00	AU5101	-	10/22/2014	Normal	Four Week Loan	Main Library	Actions
3	On the uses of benefit-cost reasoning in choosing policy toward global climate change /	10/24/2014 21:00	105111-000010	-	07/08/2014	Renewed	Four Week Loan	Main Library	Actions
4	A layman's handbook of medicine - with special reference to social workers /	09/10/2014 21:00	103687-000010	21.50 USD	06/27/2014	Renewed	Four Week Loan	Main Library	Actions

ExLibris Alma University
 Sara Carr e-Shelf My Account Sign out
 Library Search Tags Citation Linker A to Z Help Language: English

All Records Course Reserves
 Alma University Search Advanced Search Browse Search

e-Shelf Queries My Account

Open University
 Alma University
 Loans (4)
 Requests (12)
 Fine & Fees (1)
 Blocks & Messages
 Personal Settings
 University of Knowledge

List of Active Loans List of Historic Loans

#	Title	Author	Due Date	Due Hour	Potential Fine	Location	Status
2	The Ultimate Harry Potter and Philosophy		11/19/2014	21:00		Main Library	Renewable
3	On the uses of benefit-cost reasoning in choosing policy toward global climate change /	Bradford, David F.,	10/24/2014	21:00		Main Library	Renewable
4	A layman's handbook of medicine : with special reference to social workers /	Cabot, Richard C.	09/10/2014	21:00	21.50 USD	Main Library	Renewable

B.3.2.3.6. Supported mechanisms to scan or read material and patron identifiers into the system (e.g. barcodes, RFID tags, mag stripes, etc.).

Ex Libris: Barcodes and RFID tags can be used to scan material and patron identifiers, using any reader that will output identifiers. Alma also includes interoperability with RFID, as described below.

In addition, the staff user can type in the name or title of the patron/item. Alma will display a list of matches, and the appropriate line can then be chosen:

Enter patron's ID

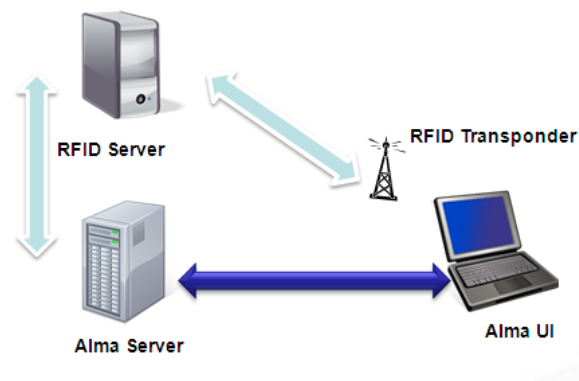
Scan patron's ID or search for patron*

- Saran Amicone - Graduate Student
- Sarai Anadio - Graduate Student
- Sarah Anania - Graduate Student
- Sara Anda - Graduate Student
- Sarah Arebalo - Graduate Student
- Sara E Bevington - Undergraduate Student
- Sara E Booklage - Undergraduate Student
- Sara Carr - Undergraduate Student

Alma integration with RFID machines is based on standard protocols such as SIP2. Being a cloud application, integrating Alma with RFID-enabled machines is best done based on a server-to-server type of integration, such as is provided by many RFID vendors. This type of integration is described in the diagram.

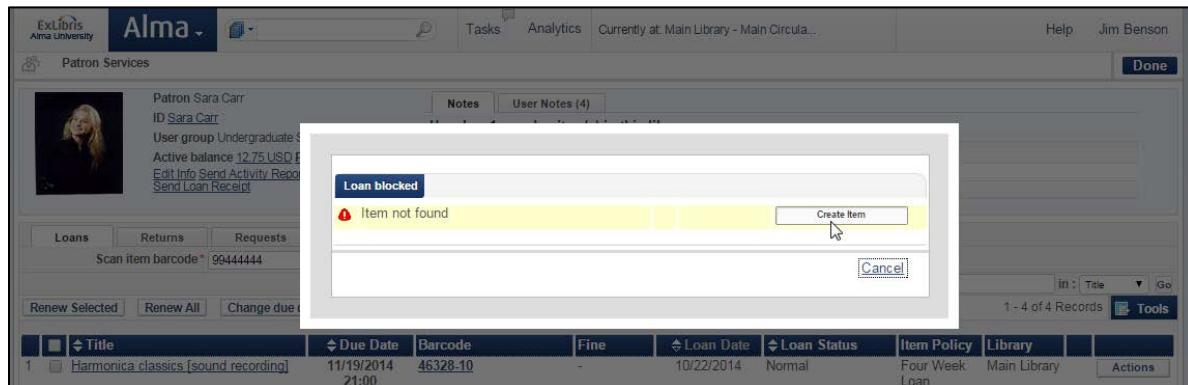
The RFID-enabled machines may interact with Alma using this protocol to:

1. Get feedback on loan/return actions that took place at the desk, signaling the RFID enabled machine that an update of the security bit is required.
2. Self Check—RFID-enabled machines communicate by sending SIP2 messages to inform that a check-out/check-in action has taken place at the machine. Alma will reply with SIP2 messages that include bin information for the return machine to be able to determine where the item needs to be reshelved.
3. Update of RFID tags—updating barcodes on the items via Alma's item forms.

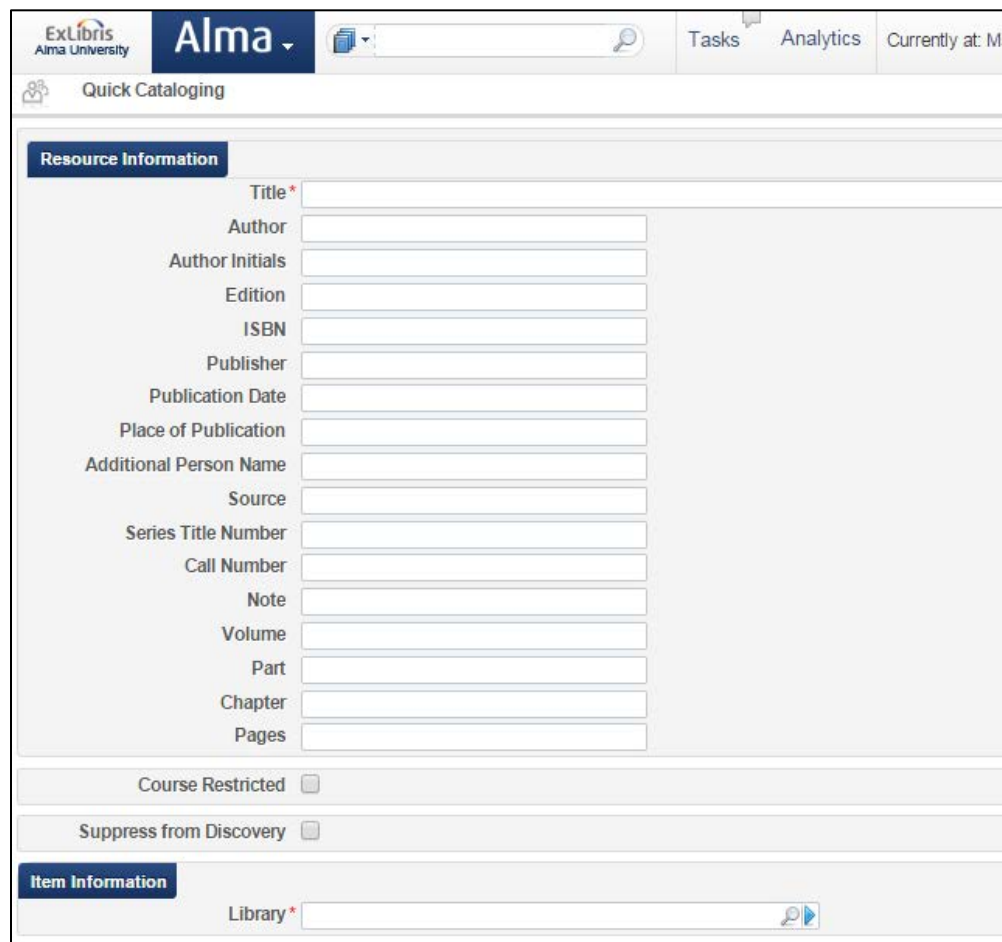


B.3.2.3.7. The ability to circulate materials on the fly.

Ex Libris: A staff user at the circulation desk, (with the relevant roles and privileges) can create a temporary item record:



Clicking on the “create item” link initiates a workflow for creating the item. Mandatory fields are marked:



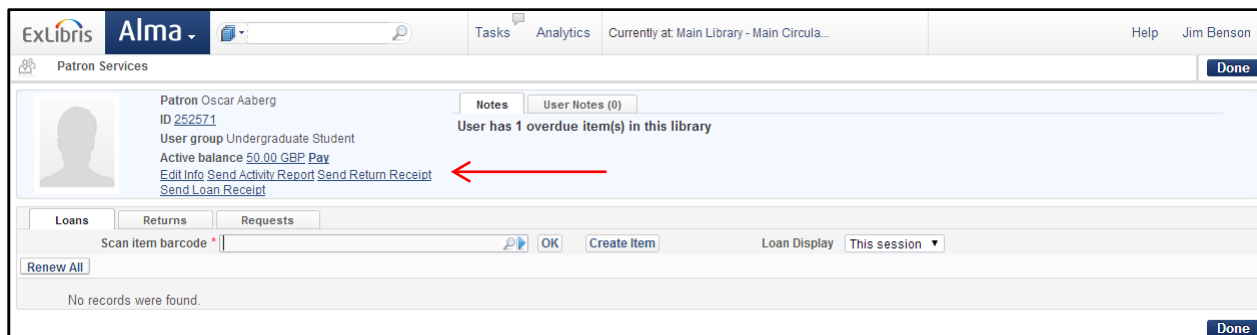
The creation of the item record can also include the creation of a brief bib and holdings record. Alma will automatically assign a work order to the item, so that on its return it will be flagged for further processing.

B.3.2.3.8. How the system manages simultaneous use of records.

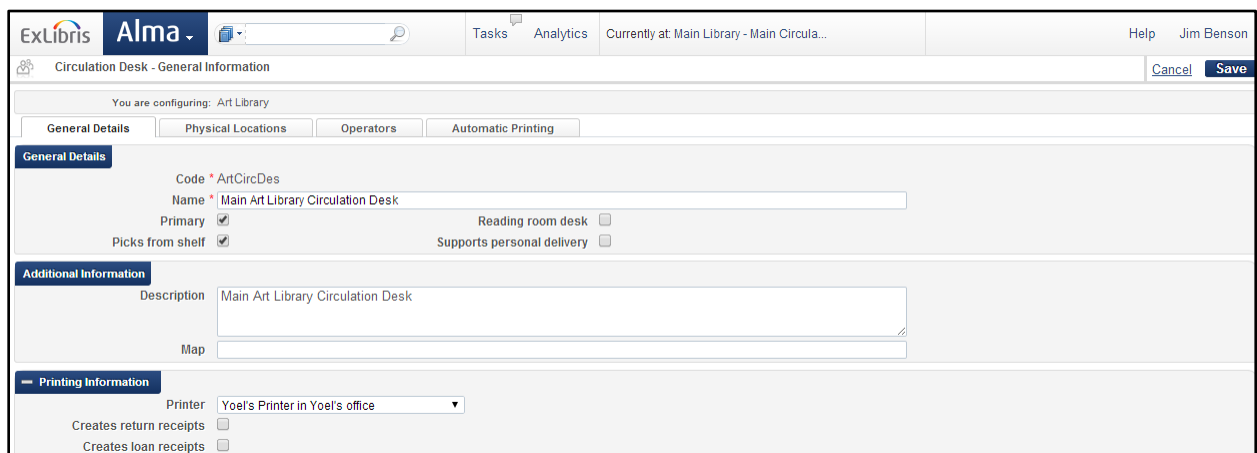
Ex Libris: An item may still be checked out even when the bib record is being edited. Please see our response to A.3.10 for more details on simultaneous use of records.

B.3.2.3.9. Support for customized checkin/checkout receipts by print and email?

Ex Libris: Check in receipts can be sent to a specified patron for items returned to the circulation desk. These receipts can either be sent to a patron via their user preferred email, or can be sent to a configured circulation desk printer:



When circulation desks are configured in Alma, there is an option for the library to select the option “Creates Return Receipts”. When this option is selected, return receipts will be automatically printed at the circulation desk printer or sent to the user’s preferred email. Receipts can also be configured and customized by the institution.



Similarly, check-out receipts can also be emailed or printed when loaning an item.

B.3.2.3.10. How items 'in transit' between locations appear and are managed in the system within the same library, i.e., main to/from branch/satellite libraries.

Ex Libris: Alma uses the concept of permanent and temporary locations to track and manage the location of physical items. When items are requested by patrons and a staff person pulls them from the shelf, they will scan in the items in Alma to determine the destination. If the item is to be put on the hold shelf, the staff person will see that and be able to route it to the relevant location. Until the item is scanned in at the hold desk, the items status will be "in transit" with a

destination of "Hold Shelf".

B.3.2.4. BILLING AND PAYMENTS

Describe or Demonstrate:

- B.3.2.4.1. Manual and automatic generation of bills and fees. Options to communicate these to patrons, both locally and in the CSU.

Ex Libris: Alma's TOU policies allow the library to determine the fines and fees policies that are applied to the use of library resources. This includes overdue fines and lost item fees, among others. Overdue fines are assessed and registered when the item is returned. Fines can be calculated by the hour or day; parameters also allow for defining if the fine runs when the Library is closed, or only during open hours. Separate fine policies may be defined for recalled items.

All details of the patron's transactions relating to fines and fees are stored in the patron record. From the patron record, an authorized staff user can manually add or waive library fines and fees.

A configuration table in Alma allows for defining fines and fees related to various activities in the library – e.g., overdue fine, registration fee, notification fee, lost item charge, etc. The library may add or subtract to the standard list of fines and fees. For example, loans are checked at the time of return to see if they are overdue. If a loan is found to be overdue, overdue policies are consulted to correctly calculate the fine. Fining policies may be set per days or hours and per open time or calendar dates. Fines may be controlled by a minimum and maximum fine policy. Also, grace time policies which allow additional time past an item's due date or time, may prevent creation of a fine even when an item is overdue.

In addition, it is also possible to define if:

- a fine/fee can be waived;
- it can be created manually, or is automatically generated by the system;
- it can be refunded;
- The fine/fee is on the level of the library or the institution.

Each TOU policy will have definitions related to fines and fees for the policy – e.g.:

- a renewal fee
- a lost item replacement fee
- a lost item fine
- An overdue fine, maximum fine, etc.

Overdue fines can be calculated based on several different parameters, such as only holidays, etc.

From the patron record, an authorized operator can manually add a fine or a fee (for those transactions that were defined as 'manual'). It is also possible to dispute or waive a fine. A dialog box opens, and staff can fill in details about why the fine is in dispute (or being waived). Partial waive is available. Specific debit lines may be disputed or waived.

Patrons can view their patron account, including any charges, in Primo. A fine and fee report can be printed or sent to patrons. Additionally, the Borrowing Activity Letter which is sent to patrons contains a list of all the patron's loans, overdue items and active fees. This notification can be sent by a job or by request.

- B.3.2.4.2. Types of payments the system can accommodate (credit card, cash, campus cash cards, etc.) and how it can be customized at each library.

Ex Libris: Alma can accommodate payment by credit card or cash, and this can be defined per circulation desk. Alma can update the institutional bursar system concerning user fines and fees. The system includes a wizard for defining the export of this data to the bursar system.

- B.3.2.4.3. Integration with a campus's financial system (e.g. PeopleSoft), or an institutional business office or external service bureau, to process Library financial transactions, (e.g., Can the system handle coordinating with such financial systems so that all pertinent records are cleared and/or adjusted in real time?)

Ex Libris: Many institutions handle patron-related charges in a dedicated bursar system, such as PeopleSoft. Institutions export fine and fee information from Alma to the bursar system. Exported fines and fees are considered closed in Alma, since they are handled outside of the library's scope.

An integration profile is created to define which patron groups will have fines and fees exported, specific types of fines or fees that are exported, a minimum amount before an export occurs, how many days should pass before a fine is exported, etc. If the "time before export" field is left blank, the export will occur immediately after the fine/fee is created.

In general, the export of fines and fees is handled using XML files that are placed by Alma at a predefined FTP location. These XML files can then be fetched by the bursar system.

- B.3.2.4.4. The ability to update, edit, and undo payments.

Ex Libris: Yes. If a fine/fee is discovered to be mistaken after it is exported, create and export a credit fine/fee to the bursar system to correct the charged amount.

- B.3.2.4.5. Maintenance of payment information and how long the data can be maintained at the consortial and local levels.

Ex Libris: Alma maintains historical fines and fees data for users as a "closed" status in the student record indefinitely, even if the item is removed from the collection.

- B.3.2.4.6. Online payment options.

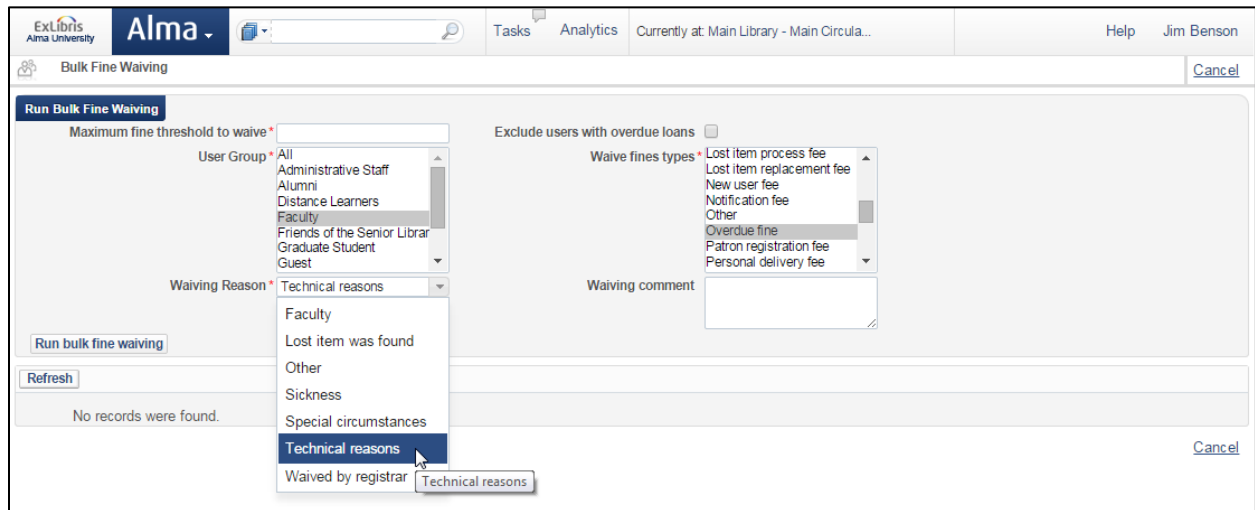
Ex Libris: The WPM Education E-Payment System allows Alma users to pay fines and fees via My Account in Primo. Once the request is initiated in Primo and processed in the payment system and Alma, both Alma and the WPM Education E-Payment System send payment receipt emails to the user. The WPM Education E-Payment System must first be configured in Alma to enable online payments. In addition, some configuration may be necessary in Primo.

- B.3.2.4.7. The interface with collection agency software and ability to update patron records accordingly. (e.g., What collection agency software can your system currently integrate?)

Ex Libris: Please see our response to B.3.2.4.6 above.

- B.3.2.4.8. Ability to globally purge and waive fines.

Ex Libris: Yes, a User Manager or User Administrator can waive fines in bulk based on user group, type of fine, and maximum fine:



There is also an option to exclude users with overdue loans.

- B.3.2.4.9. How the system can facilitate billing between CSU libraries, (e.g., Can the system automate financial processes between CSU libraries so they can be handled electronically as opposed to manually?)

Ex Libris: Financial processes can be managed automatically and this is done by making external integration profiles. Depending on the specific cases, this can be done either via APIs or via xml files. The xml files can be exported from Alma to other systems and imported from other institutions into Alma.

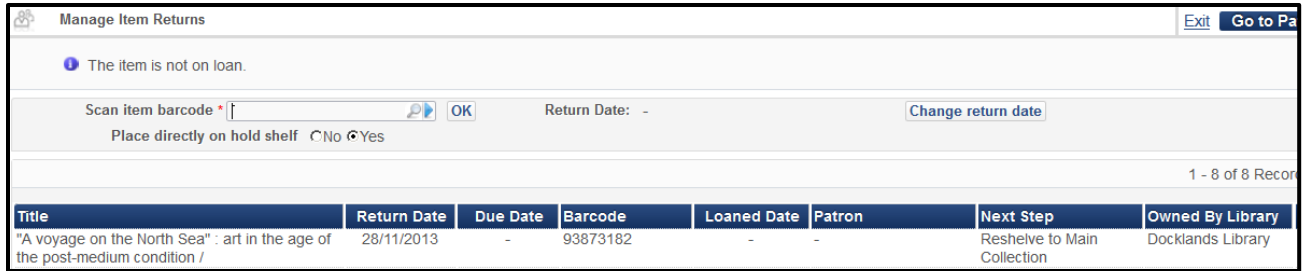
B.3.2.5. ITEMS

Describe or Demonstrate:

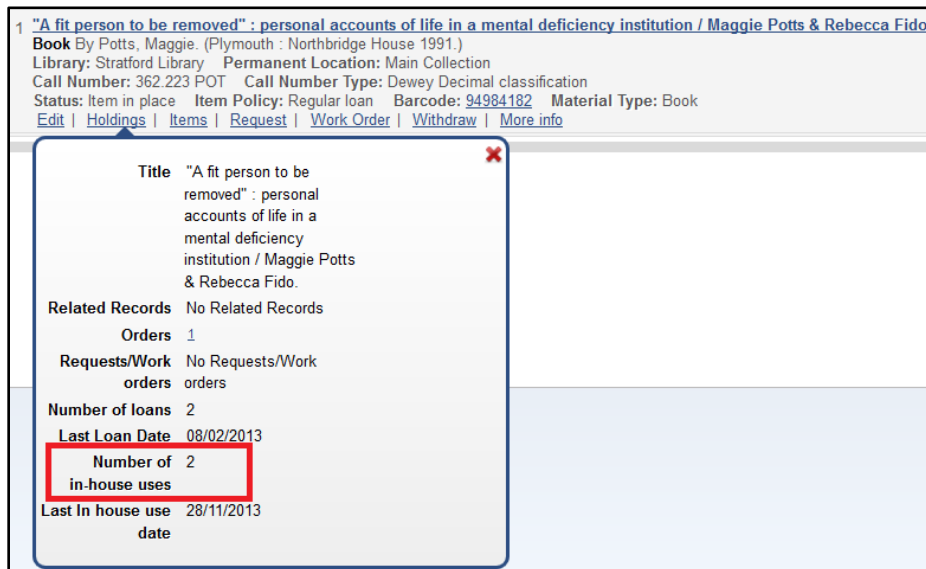
- B.3.2.5.1. Capabilities to track in-house use of materials and what statistical reports may be generated from this data.

Ex Libris: In-house loans are recorded when an item is scanned but not checked out (a non-

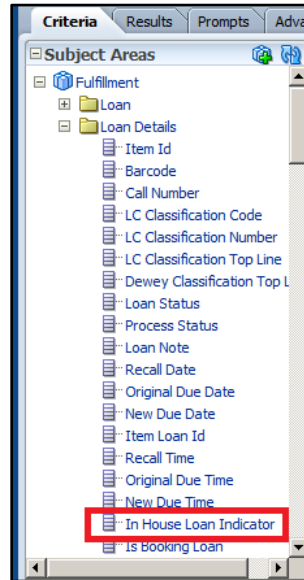
circulating item that is used by a patron, then scanned and re-shelved by staff, for example). A typical workflow for in-house use stats include staff members scanning in books that have been found on tables but not checked out of the library or on loan. When staff members return an item that does not have a loan, Alma indicates as such:



Each time a return is made for the item that does not have a loan, an in-house use is registered:



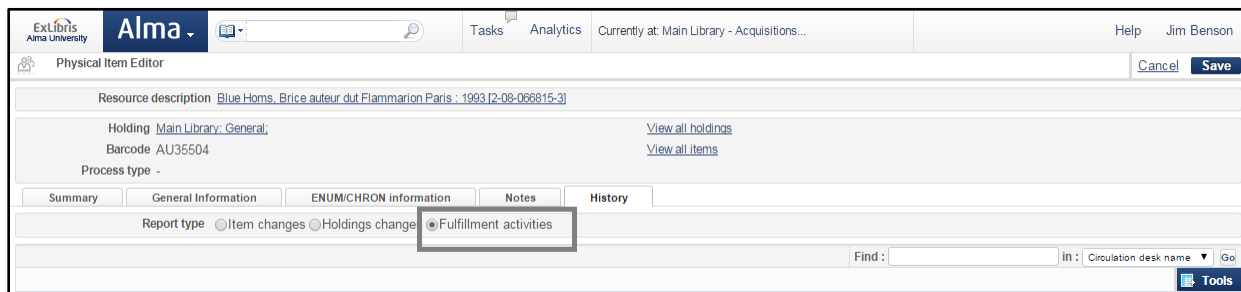
It is also possible to retrieve the information pertaining to in-house use via Alma Analytics to create custom reports:



B.3.2.5.2. How the following data is updated and maintained:

- total checkouts;
- total renewals;
- year-to-date and last-year-to-date checkouts.

Ex Libris: This data is automatically updated and maintained in the item record as a component of the history tab in the physical item editor, as shown in the screenshot below:

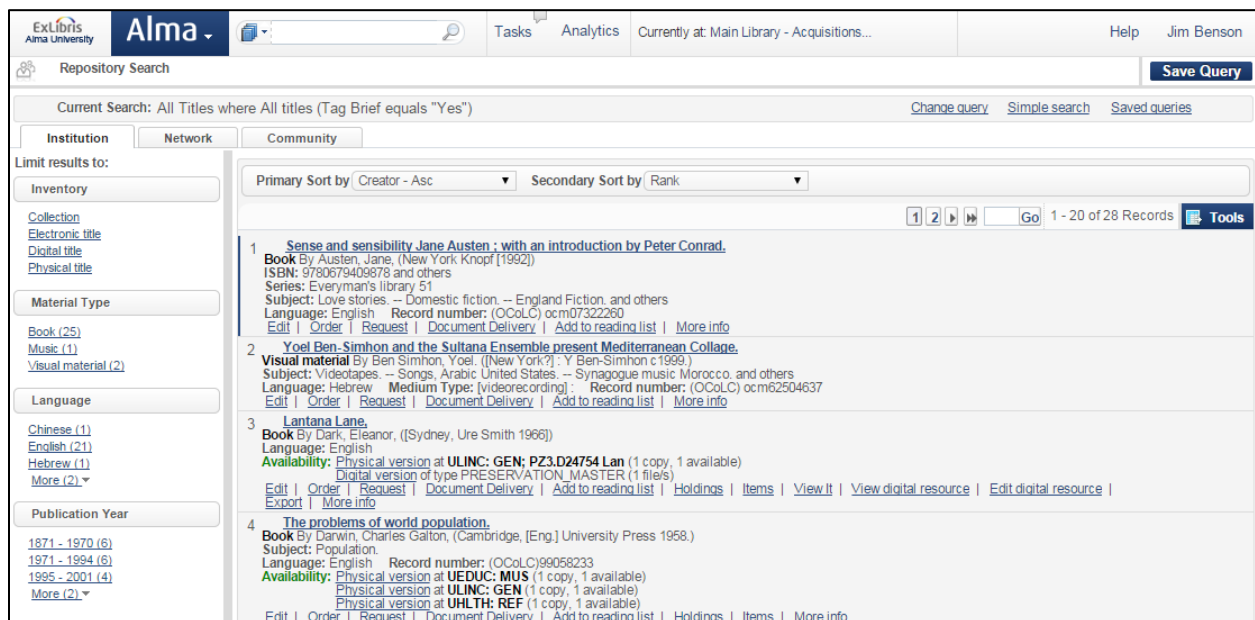


This report displays loan/return activity. It identifies the date the change was made, the action type completed (loan/return), the name of the operator/desk name that made the change, the borrower name, and the borrower ID. In-house loan/usage information displays on the page. Renewal activities are not displayed on this page, but are displayed in the loan audit trail in a patron's loan history. This information is stored indefinitely and can be used in Alma Analytics for report creation. For example, the screenshot below is a simple report of annual loans and renewals by patron group.

In House Loan Indicator	Patron Group	Loans	Renewals
Grand Total		627	123
N		2	0
	Administrative Staff	32	17
	Alumni	2	2
	Faculty	56	22
	Graduate Student	15	3
	Guest	1	0
	Undergraduate Student	393	79
	Walk In Loans - Network Members	18	0
Y		108	0

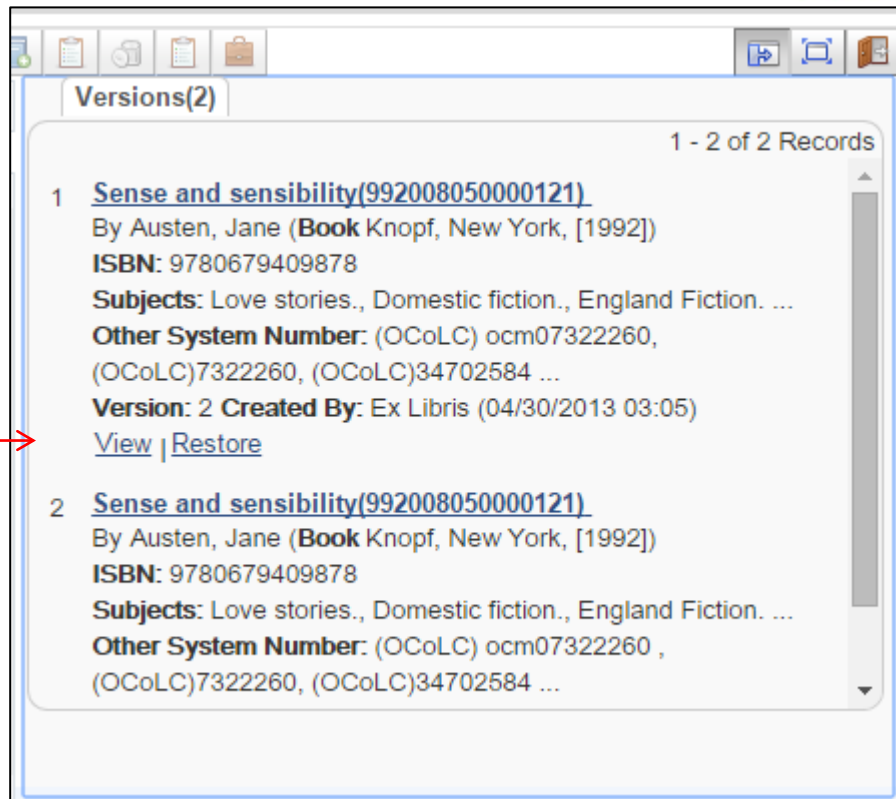
B.3.2.5.3. How the system handles and tracks the creation of and changes to temporary item records.

Ex Libris: Brief records can be searched using the advanced Repository Search:



The screenshot shows the Ex Libris Alma interface. At the top, there's a navigation bar with 'Alma' and 'Currently at: Main Library - Acquisitions...'. Below that is a search bar with 'Repository Search' and a 'Save Query' button. The current search is 'All Titles where All titles (Tag Brief equals "Yes")'. The results are displayed in a list format with columns for 'Institution', 'Network', and 'Community'. The first result is 'Sense and sensibility' by Jane Austen, with details like ISBN, series, subject, and language. The second result is 'Yoel Ben-Simhon and the Sultana Ensemble present Mediterranean Collage', a visual material. The third result is 'Lantana Lane' by Eleanor Dark. The fourth result is 'The problems of world population' by Darwin. Each result includes options to edit, order, request, or document delivery.

Full versioning is available so that the edits made to a record, as well as the editor can be viewed. A record can be reverted back to any earlier saved version.



- B.3.2.5.4. Cross circulation functionality, which is the ability to track at the item record level when patrons from one institution checkout material from another institution.

Ex Libris: The ability to track the item record level for loans from one institution to another can be done the same way as when it is loaned to someone in the same institution. This is because if item in institution A is loaned to a patron from institution B, then the patron record from institution B is copied to institution A. This is done for the purpose of the loan. Therefore, institution A knows it is on loan even though the patron originally came from institution B. The loan will appear in the facets of the item level search and in all other places including Alma Analytics reports.

- B.3.2.5.5. The level of granularity that local and consortial libraries have at retaining or deleting patron history after circulation discharge.

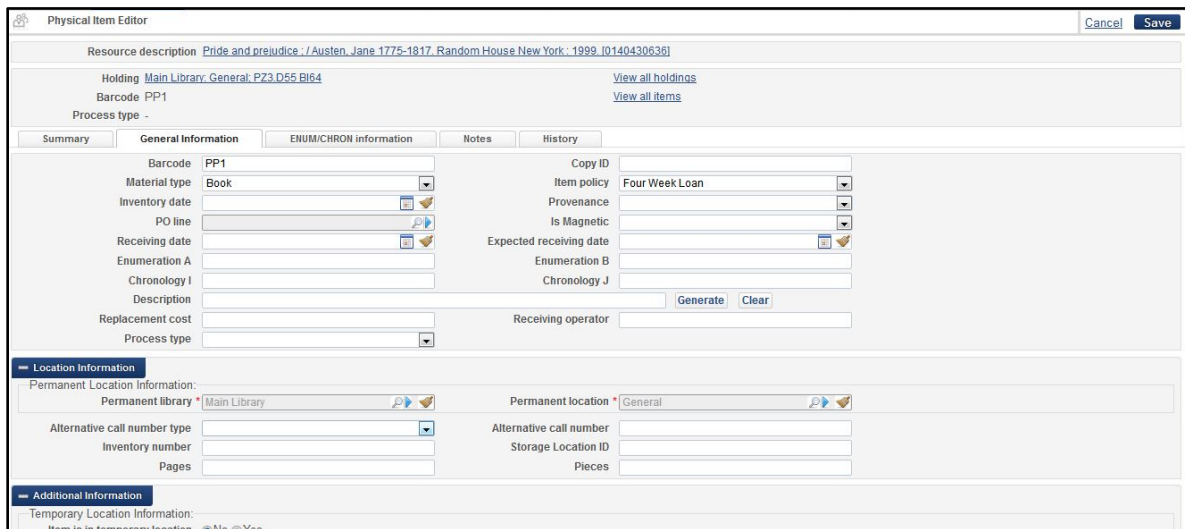
Ex Libris: Each local institution can define his own policy regarding retaining or deleting patron history. They can do this from the Fulfillment Configuration Menu using the following parameters:

- `should_anonymize_borrowing_request`: Indicate True to block viewing the patrons who have placed borrowing requests. Indicating False enables viewing this information.
- `should_anonymize_item_loan`: Indicate True to block viewing the patrons who have borrowed returned items. Indicating False enables viewing this information.

- should_anonymize_request: Indicate True to hide the requester ID in the request history details when a request is added to request history. When set to False, the requester ID appears.

B.3.2.5.6. How the system manages, updates or limits item statuses, such as automatic- vs. staff-initiated status changes.

Ex Libris: Changes to item status can be made by authorized staff using the Physical Item Editor, accessible through an item’s listing in the Repository Search:



B.3.2.5.7. The ability of the system to retain a history of item status changes, e.g. from “claims returned” to “not checked out.”

Ex Libris: Alma maintains extensive item history and fulfillment history which may be viewed from within Alma Analytics and from within the physical item editor of the Alma user interface. See the following screenshots.

- Fulfillment item history:

Physical Item Editor

Resource description [Literature and bibliometrics / Kortick, Yoel, 1971- C Bingley London : 1978. \[abanapeel\]](#)

Holding [Main Library: General: 025.13 Kor](#) [View all holdings](#)
 Barcode AU29905 [View all items](#)
 Process type Patron digitization request (NEW)

Summary General Information ENUM/CHRON information Notes **History**

Report type Item changes Holdings changes Fulfillment activities

Find:

Action type	Desk name	Operator	Date	Borrower name	Borrower id
1 Return	Main Circulation Desk	exl_support	06/15/2014 13:08	Naomi Greidinger	NaomiG613
2 Loan	Main Circulation Desk	exl_support	06/15/2014 13:06	Naomi Greidinger	NaomiG613
3 Return	Main Circulation Desk	exl_support	06/15/2014 12:58	Naomi Greidinger	NaomiG613
4 Loan	Main Circulation Desk	MichalG613	06/15/2014 11:05	Naomi Greidinger	NaomiG613
5 In house loan	Main Circulation Desk	MichalG613	06/15/2014 10:57	-	-
6 Return	Maps: Main Circulation Desk for Maps	MichalG613	06/15/2014 10:55	-	795730330000121
7 Loan	Main Circulation Desk	exl_support	06/15/2014 09:51	-	795730330000121
8 Return	Main Circulation Desk	exl_support	06/15/2014 09:50	-	795730330000121
9 Loan	Main Circulation Desk	exl_support	06/15/2014 09:50	-	795730330000121
10 Return	Main Circulation Desk	exl_support	06/15/2014 09:48	-	795730330000121
11 Loan	Main Circulation Desk	exl_support	06/15/2014 09:36	-	795730330000121
12 Return	Main Circulation Desk	exl_support	06/15/2014 09:36	-	795730330000121

- o Item history holding changes:

Physical Item Editor

Resource description [Literature and bibliometrics / Kortick, Yoel, 1971- C Bingley London : 1978. \[abanapeel\]](#)

Holding [Main Library: General: 025.13 Kor](#) [View all holdings](#)
 Barcode AU29905 [View all items](#)
 Process type Patron digitization request (NEW)

Summary General Information ENUM/CHRON information Notes **History**

Report type Item changes Holdings changes Fulfillment activities

Date	Operator	Field name	Old value	New value
1 07/21/2014 05:09	Ex Libris	Call number	025.3 Kor	025.13 Kor
2 05/08/2014 09:28	Ex Libris	Call number	Z669.8 .N5 1978	025.3 Kor
3 05/08/2014 08:47	Ex Libris	Call number	025.3 Kor	Z669.8 .N5 1978
4 05/08/2014 08:43	Ex Libris	Call number	025.3	025.3 Kor
5 05/08/2014 08:43	Ex Libris	Type of record	x	2

- o Item history item changes:

Resource description Literature and bibliometrics / Kortick, Yoel, 1971- C Bingley London : 1978. [bananapeel]					
Holding Main Library: General: 025.13 Kor			View all holdings		
Barcode AU29905			View all items		
Process type Patron digitization request (NEW)					
Summary	General Information	ENUM/CHRON information	Notes	History	
Report type <input checked="" type="radio"/> Item changes <input type="radio"/> Holdings changes <input type="radio"/> Fulfillment activities					
↓ Date	↓ Operator	↓ Field name	Old value	New value	
1 04/18/2014 12:16	MarshaB613	Arrival date	-	2014-04-18	
2 04/18/2014 12:16	MarshaB613	Receiving operator	-	MarshaB613	
3 04/18/2014 12:16	MarshaB613	Process type	-	Transit	
4 04/18/2014 12:16	MarshaB613	Process type	Acquisition	-	
5 06/15/2014 11:05	MichalG613	Process type	-	Loan	
6 06/15/2014 11:04	MichalG613	Item policy	-	1 Minute Loan	
7 06/15/2014 10:57	MichalG613	Process type	Transit	-	
8 06/15/2014 10:55	MichalG613	Process type	-	Transit	
9 06/15/2014 10:55	MichalG613	Process type	Loan	-	
10 05/07/2014 14:00	System	Item policy	3 Day Loan	-	
11 10/27/2014 11:56	exl_support	Process type	-	In Process	

B.3.2.5.8. What information is available for reporting after item records are deleted or withdrawn.

Ex Libris: Alma retains all historical loans. In order to comply with privacy regulations, patron personal information is “scrubbed” after a certain period (the period is configurable). However, information about the patron type”, group etc. is retained, although it contains no personal data.

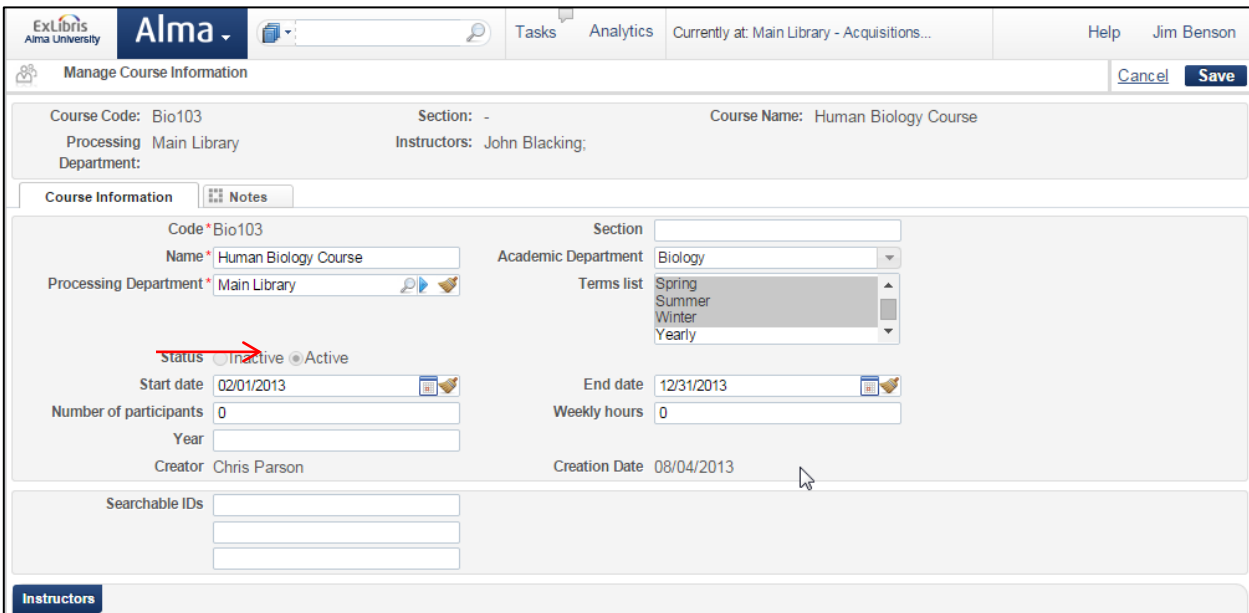
In addition, at the time of the loan some information about the item is copied to the loan record so that deletion of the item does not affect the historical information. As for bibliographic information, Alma performs only logical deletion, so this information is also available even if title is deleted.

B.3.2.6. COURSE RESERVES

Describe or Demonstrate:

B.3.2.6.1. Activation and deactivation of course reserve items and lists.

Ex Libris: Defining the course includes a start and end date. The lists for the course will automatically become active when the course starts and deactivate when the course ends. A course can be activated or deactivated manually as well.



Manage Course Information

Course Code: Bio103 Section: - Course Name: Human Biology Course
 Processing Main Library Instructors: John Blacking;
 Department:

Course Information Notes

Code *Bio103 Section
 Name *Human Biology Course Academic Department Biology
 Processing Department *Main Library Terms list Spring, Summer, Winter, Yearly

Status Inactive Active
 Start date 02/01/2013 End date 12/31/2013
 Number of participants 0 Weekly hours 0
 Year
 Creator Chris Parson Creation Date 08/04/2013

Searchable IDs

Instructors

B.3.2.6.2. Course reserves functionality (both print and electronic), including the ability to cross-link courses and items and to suppress temporary items.

Ex Libris: Course Reserves functionality in Alma allows course instructors to submit a list of resources to the library.

Course Reserves involves three entities:

1. Reading Lists – contain citations compiled by the course instructor and submitted to the library. Resources can be print and electronic. The list may include resources which are in the institutional repository, or which are not in the repository (e.g. the instructor’s personal copy, which will be suppressed from general discovery).
2. Courses – contain details concerning the course for which the Reading List has been submitted (e.g., name of instructor, start and end dates of the course, etc.). Courses may contain more than one Reading List.
3. Course Departments – Each course must be associated with a Course Department. A Course Department is itself associated with an organizational unit (institution or library/libraries), which determines the resources available for the course. Course Departments may (and usually do) contain more than one Course.

B.3.2.6.3. Course Reserves integration with the catalog/discovery layer. Does the system support the ability to suppress personal course reserve records outside the reserve layer/module? What are the fields that can be indexed?

Ex Libris: Course reserves are automatically published to Primo for discovery once the course is active and removed from discovery when the course is over. Course information includes instructor, start and end dates, number of participants, and weekly hours. In Primo, the information also includes the course number. Primo may be configured to include a specific Course Reserves search scope.

Cataloging a 'non-repository' citation results in a metadata record that is linked to the course but is not part of the institutional repository in any way – it is not searchable in the search interfaces, nor is it published to the discovery interface.

The Alma's Reading List Cataloging 'Brief' records result in a metadata description that is linked to the course and is part of the institutional repository, so that it may have linked holdings and items. Cataloging this resource, however, may be done in a manner that either suppresses the record from the discovery interface, or publishes it in a manner that makes it discoverable only in the context of a courses related search. This type of cataloging may be preferable if the resource is expected to be re-used for subsequent courses but is not a real part of the library inventory.

These records include a Note field that can be used, for example, for recording information from the instructor about when the article/chapter etc. should be read. This note may be exposed in the Discovery Interface. Alma publishes course dates, instructor name, course name and course number.

B.3.2.6.4. How patrons access Course Reserves materials online, including electronic material and information about print materials.

Ex Libris: Patrons access Course Reserves material through Primo. Many libraries include Course Reserves as a separate scope in the discovery layer.

The screenshot shows the ExLibris Alma interface. At the top, the 'Libraries | Usearch' logo is visible, along with navigation links for 'Guest', 'e-Shelf', 'My Account', and 'LOG IN'. Below the logo, there are links for 'Marriott Library', 'Quinn Law Library', 'Eccles Health Sciences Library', and 'McKay Music Library'. The search bar contains the text 'biology', and the 'Course Reserves' tab is highlighted with a red circle. The search results are displayed in a list format, showing the title, author, and availability status of various books. The results are sorted by relevance, and there are options to view details, request locations, and review tags for each item.

Links to electronic materials and information about print materials are visible in the same way as regular, non-course reserve materials.

The screenshot shows a detailed view of a journal article titled 'Adolescence' by Bruce Alberts, published in 1966. The article is available online and is also available in physical form. The interface provides options to view the article, get it, view locations, details, reviews, and tags, and to browse it virtually. The article is available in the Gale Cengage Psychology Collection and is available from 1993 until 2009. The license terms are listed as follows: Digitally copy: Not Applicable; Print copy: Permitted; Interlibrary loan electronic: Permitted; Interlibrary loan secure electronic transmission: Permitted; Scholarly sharing: Uninterpreted; Interlibrary loan record keeping required indicator: Yes; Interlibrary loan print or fax: Not Applicable; Concurrent User: 4.

B.3.2.6.5. How the system handles moving items from a permanent collection location to a temporary Course Reserves location.

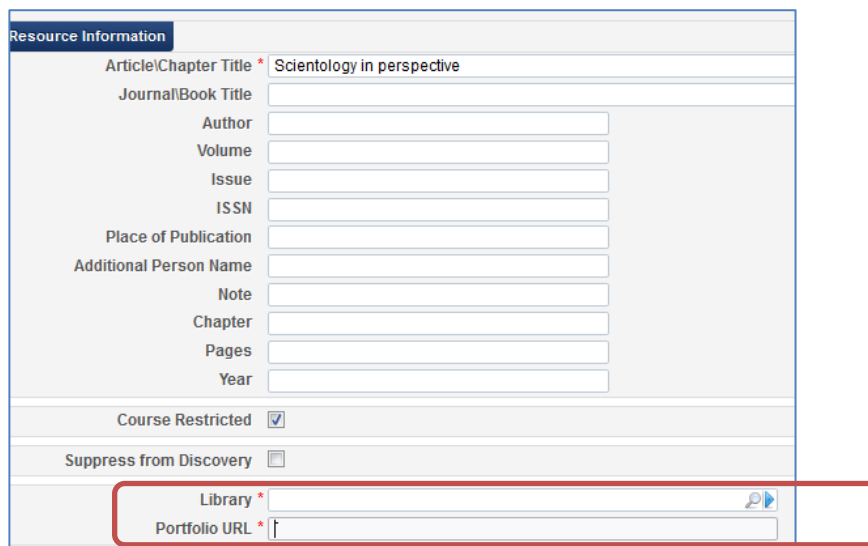
Ex Libris: Dedicated workflows facilitate the temporary change of item information for physical copies that have been moved to a reserved area. For example changing their temporary location or the terms of use by which they are circulated, and setting the date on which the item

is expected to be moved back to its permanent location. This date may be automatically calculated based on the length of course for which the item is moved.

Automatic processes trigger the moving of these items back to their permanent shelving locations.

- B.3.2.6.6. Creation of physical and electronic/digital item records specific to Course Reserves. What are the supported file formats for electronic reserves?

Ex Libris: The creation of reading lists allow for linking repository items to a reading list, as well as non-repository items – for non-repository electronic items it is possible to register the external link to the item:



On this brief form yes, only library and URL may be added. Once cataloged in this manner, the new record is a regular local portfolio and can be managed as such from the resource management editor screens. Alma stores only the URL. The file is remotely stored and Alma is agnostic to the file type.

- B.3.2.6.7. How the system supports integration of Course Reserves with learning management systems? (e.g. Blackboard, Moodle, etc.)

Ex Libris: Alma allows for integrating the Alma-supplied reading list citations and their statuses into a Course Management System (CMS), and provides a link that can be used from within the CMS to view the services that the library can supply for a given citation.

To achieve this integration Alma provides a set of Web services for retrieving course information from Alma:

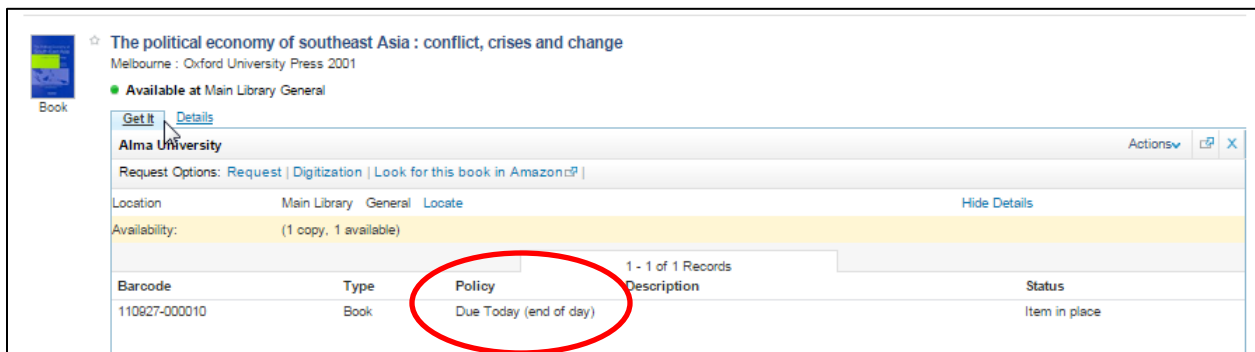
- searchCourseInformation – Search for Course Information
- createCourse – Create a Course
- updateCourse – Update a Course
- deleteCourse – Delete a Course

- createReadingList – Create a Reading List
- updateReadingList – Update a Reading List
- deleteReadingList – Delete a Reading List
- createCitation – Create a Citation
- updateCitation – Update a Citation
- deleteCitation – Delete a Citation

When adding a resource to a course reading list, the operator may use the system to consult its license terms. If the resource’s license terms indicate a limited allowed usage, the operator may add the resource to the reading list as a ‘course restricted’ title. The result of attaching such as attribute will be that the resource will be discoverable in Primo only when searching in the context of courses.

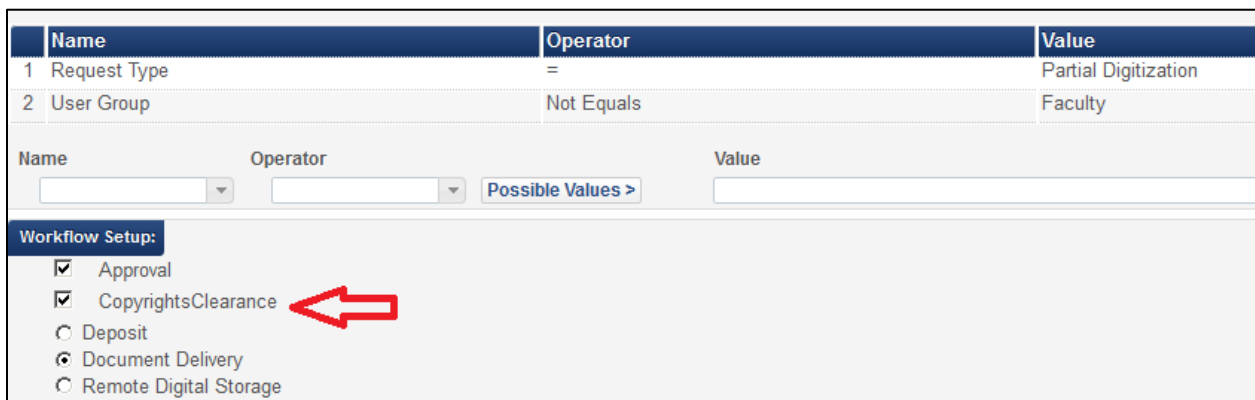
B.3.2.6.8. Does the loan period i.e. "-hour checkout" display in the course record in the discovery layer and in the item record?

Ex Libris: Since the loan terms may vary depending on the patron group, the loan period is displayed as long as a patron is signed in to Primo:

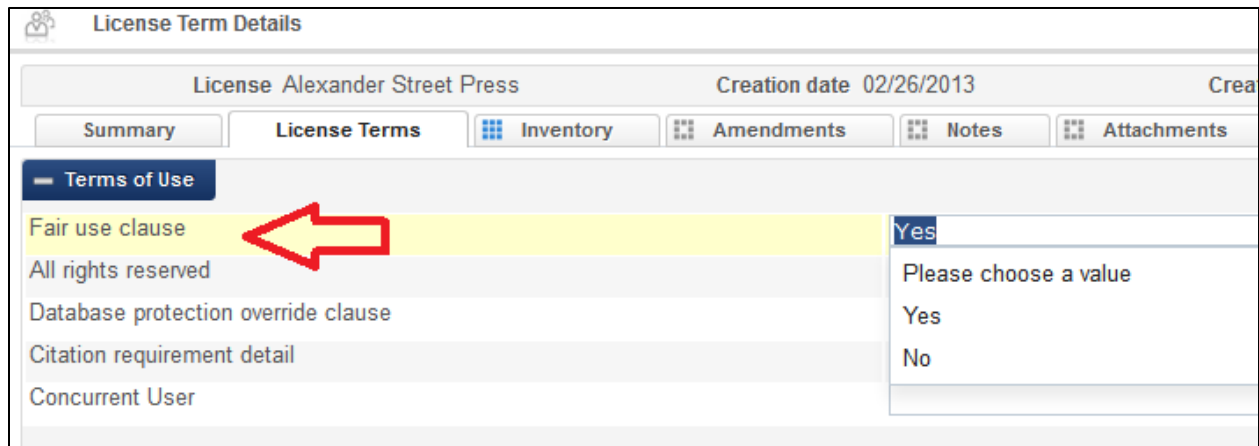


B.3.2.6.9. Any copyright and licensing agreements, procedures, and compliance tracking that your system offers.

Ex Libris: The institution can configure a digitization profile so that digitization requests and digital deposits into Alma will require a Copyright Clearance (CC).



It is possible in the license to define the “fair use clause indicator”. This is a clause that affirms statutory fair use rights under U.S. copyright law (17 USC Section 107), or that the agreement does not restrict or abrogate the rights of the licensee or its user community under copyright law.



License Term Details

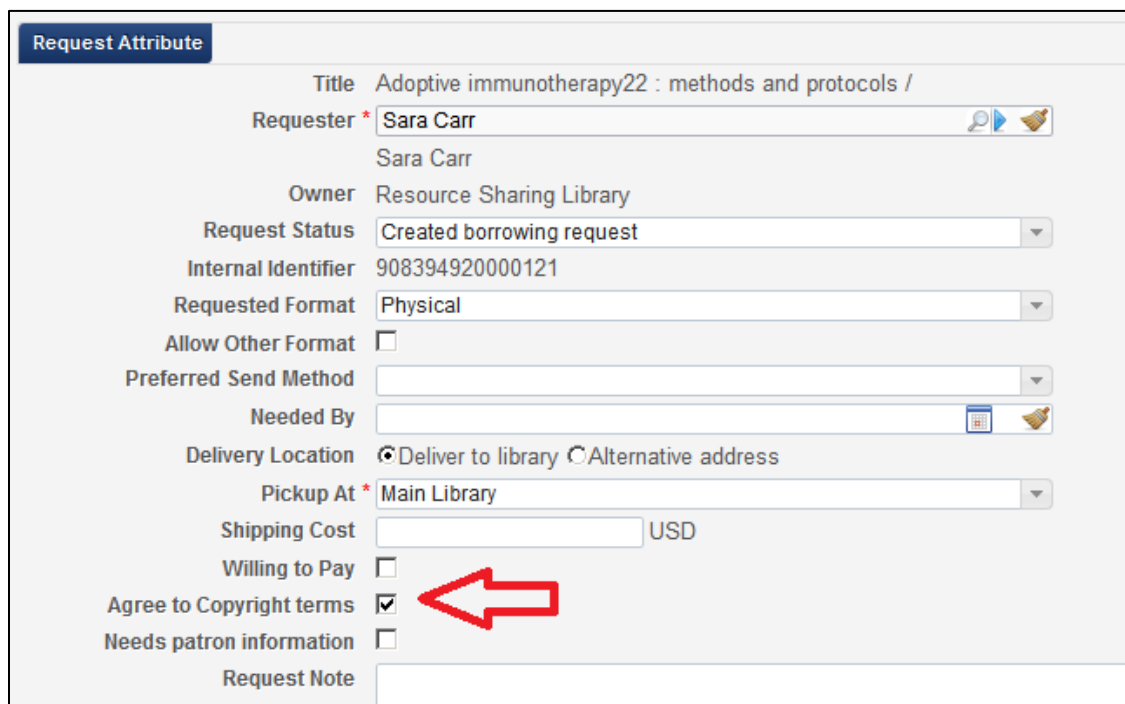
License Alexander Street Press Creation date 02/26/2013

Summary License Terms Inventory Amendments Notes Attachments

Terms of Use

Fair use clause	Yes
All rights reserved	Please choose a value
Database protection override clause	Yes
Citation requirement detail	No
Concurrent User	

In the resource sharing (ILL) request it is possible to require the request attribute, “agree to copyright terms”.



Request Attribute

Title Adoptive immunotherapy22 : methods and protocols /

Requester * Sara Carr

Owner Resource Sharing Library

Request Status Created borrowing request

Internal Identifier 908394920000121

Requested Format Physical

Allow Other Format

Preferred Send Method

Needed By

Delivery Location Deliver to library Alternative address

Pickup At * Main Library

Shipping Cost USD

Willing to Pay

Agree to Copyright terms

Needs patron information

Request Note

Alma enables the library to enter a copyright statement that is displayed to patrons before they are able to request an item from a partner. The copyright statement can be configured.

Configuration File	
Filename	resourceSharingCopyrights.html
File Key	com.exlibris.dps.viewers.resource_sharing_co
Description	Resource Sharing Copyrights
Updated by	exl_support
Update Date	-
Content	Full adherence to state copyright laws

B.3.2.6.10. How the system stores ON RESERVE/DATE OFF RESERVE/DATE history in the records of library-owned items. Does it retain course info, etc. as part of this history?

Ex Libris: Temporary and permanent location changes are stored in attachment to the item record, as shown below. The stored information includes where an item has been moved to, when the move took place, and whether the change was temporary or permanent.

Summary General Information ENUM/CHRON information Notes History History Debug					
Report type: <input checked="" type="radio"/> Item changes <input type="radio"/> Holdings changes <input type="radio"/> Fulfillment activities					
Find: <input type="text"/> in: <input type="text"/> Field name <input type="text"/> Go <input type="button" value="Tools"/>					
↕ Date	↕ Operator	↕ Field name	Old value	New value	
1 12/11/2014 09:42:16 AM IST	exl_impl [i]	Item is in temporary location	Yes	No	
2 12/11/2014 09:42:07 AM IST	exl_impl [i]	Item is in temporary location	No	Yes	
3 12/11/2014 09:41:49 AM IST	exl_impl [i]	Modification date	2014-11-04	2014-11-12	
4 12/11/2014 09:41:49 AM IST	exl_impl [i]	Temporary library	-	O'Neill	
5 12/11/2014 09:41:49 AM IST	exl_impl [i]	Temporary location	-	Course Reserves 24 hours	

B.3.2.6.11. How third-party rights management software (e.g., SIPX) can be integrated with Course Reserves.

Ex Libris: Access to resources that are stored outside of Alma, such as in an external e-resources management system, may be done by triggering an OpenURL from Alma (via Primo) to the external system. The third party system is what will manage the access rights in this scenario.

The external system may also query Alma inventory availability using OpenURLs or Z39.50 queries.

Other integration options include submitting reading list items to Alma using Alma dedicated APIs.

B.3.2.6.12. Does the system allow faculty instructors to request Course Reserves items via the Discovery system?

Ex Libris: Faculty may search course reserves items but at this time, it is not possible for them to use the discovery system to request that items be added.

B.3.2.6.13. The ability for access to electronic course reserves documents to be password protected or otherwise secured.

Ex Libris: Patrons access electronic resources through Primo. Any resources that are restricted require authentication to access, just as with any other resource in Primo:



Restricting materials to students enrolled in a particular course is on the long term roadmap.

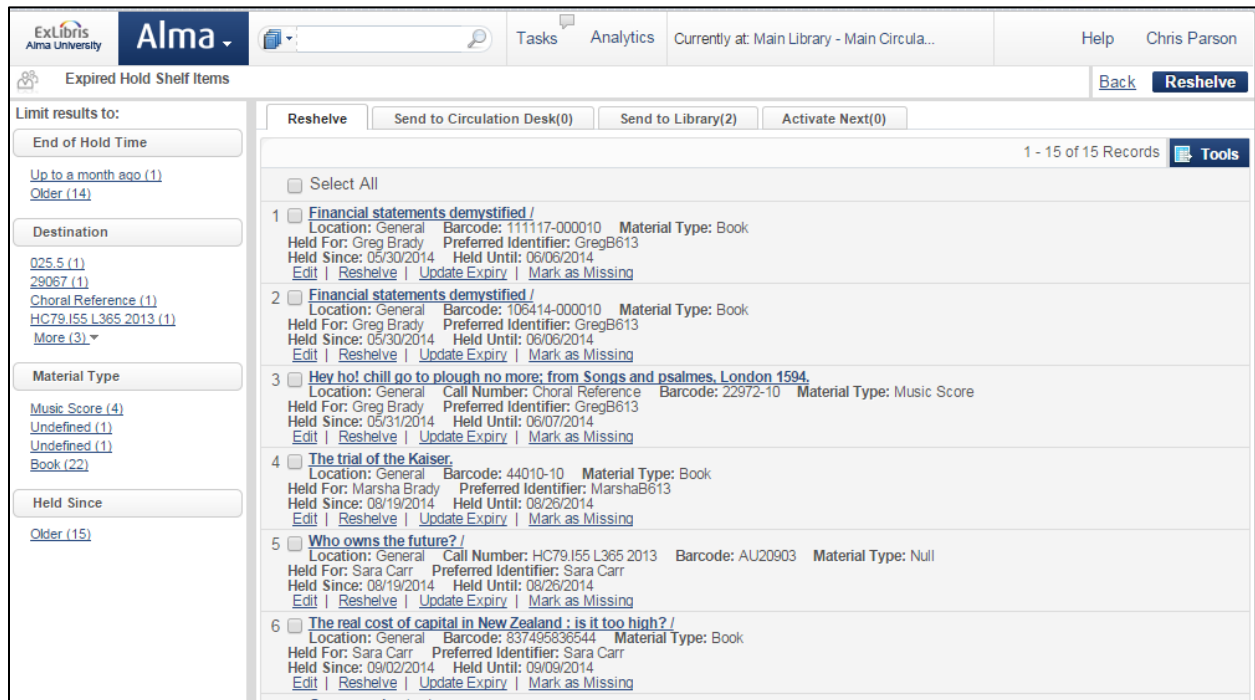
B.3.2.7. HOLD SHELF MANAGEMENT/PAGING LISTS

Describe or Demonstrate:

B.3.2.7.1. The hold/holdshelf management capabilities of the system.

Ex Libris: Once an item requested by a patron is picked from the shelf, it is sent to the hold shelf at the circulation desk. When the item arrives, its barcode is scanned so that the circulation desk operator can manage it, and an email is sent to the requesting patron indicating the last date the item will remain on the hold shelf.

While the item is at the hold shelf, the patron can request to update the expiration date or cancel the request. If the patron fails to pick up the item by the expiration date, notification is sent to the requesting patron and the item's request expires. At this point the item is listed on the Expired Hold Shelf page and the item is re-shelved or returned to its permanent location.



From the moment the item arrives at the hold shelf until it is removed from the hold shelf, it is considered to be on the active hold shelf of the circulation desk. The circulation desk operator can:

- View a list of items on the hold shelf;
- Remove an item from the active hold shelf and re-shelve it or move it back to its permanent location;
- Notify the requesting patron when a request is cancelled.

Alma allows for defining the maximum number of hold requests by patron group. Once a patron's limit is reached, a block is invoked and no further hold requests can be placed for that user. Authorized staff can override blocks on the hold request.

B.3.2.7.2. The ability to make items non-requestable, i.e., course reserves.

Ex Libris: Yes. When an item is transferred to course reserves at the beginning of a course, it will have the terms of use defined for the items in course reserves. The library can determine whether hold requests and/or booking requests are allowed.

B.3.2.8. COLLECTION MANAGEMENT

Describe or Demonstrate:

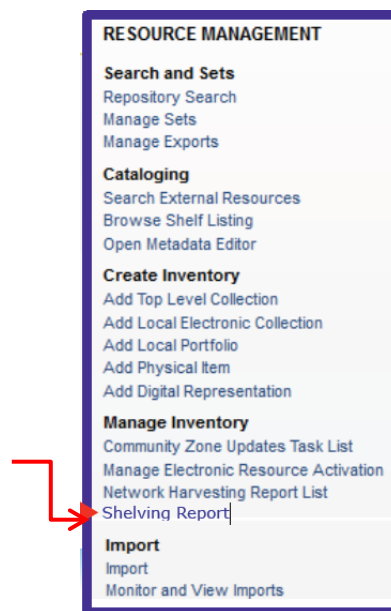
B.3.2.8.1. Inventory/collection management tools available in the system.

Ex Libris: Using the Physical Items subject area in Alma Analytics, a user with the Design Analytics role may create reports/dashboards for the Physical Items area to answer the following types of questions:

- How many physical items exist per Library/Location
- List of all the titles based on their process type
- Number of physical items per material type
- How many times each item was loaned
- What is the last date that the item was loaned

Staff users with the appropriate roles can run a search on missing items (by limiting their repository to “Process Type”= “Missing”) and monitor the withdraw process for items being withdrawn.

Alma can be used with a variety of tablets, smartphones, and laptop computers, and inventory capabilities will be introduced into Alma in early 2015. The plan is to include an entry in the Alma main menu under the existing “Manage Inventory” section entitled “Shelving Report”:



Clicking the “Shelving Report” link will bring the user to a screen with three check boxes:

1. Create report for Items out of place
2. Create report for Missing items
3. Update missing item’s status to Missing.

There will also be a place for uploading an input file, choosing a physical item set to which the input file will be compared, and choosing the call number type of the physical item set. The input file will be the same type of file used today for creating an itemized physical items set, and both the order and the contents of the input file will be compared to the items in the set to which the input file is being compared. The results of this comparison will determine the contents of the output files for missing and out of place items. This is an example of planned functionality; more detail will be provided upon the release of the feature.

B.3.2.8.2. Mechanisms offered for Floating Collections.

Ex Libris: Alma can track and manage the temporary assignment of ownership from one library to another (i.e., from its permanent location to a temporary one). When an item is registered at

a temporary location, standard processes for managing temporarily shelved inventory are used. This includes:

- Reports for items that are due back to their permanent location
- Automatic requests being placed to re-shelve the items back to their permanent shelving locations.

The items at their registered locations use the fulfillment policies and rules of the new location while being marked as being permanently owned by the other library.

B.3.2.8.3. Generation of shelving range labels.

Ex Libris: Alma integrates with locally-used label printing applications through downloading a local component that utilizes web service to communicate with Alma and the local label printer. You can choose to use the Alma provided Label Printer BIAF or your existing one. Boston College, for example, has developed SpineOMatic, a spine label printing application developed specifically for use with Alma.

B.3.2.9. BOOKINGS / SCHEDULING

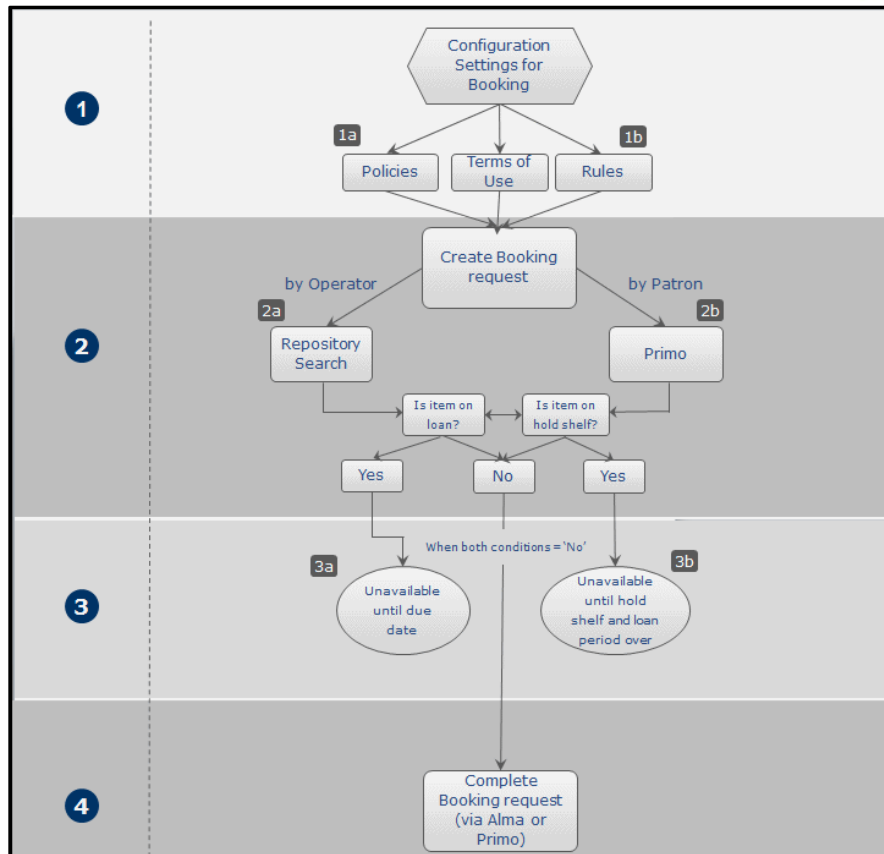
Describe or Demonstrate:

B.3.2.9.1. Booking and scheduling capabilities for equipment, materials, and rooms.

Ex Libris: Booking items in Alma reserves resources for a patron to use during a specified time frame. For example, if a researcher has located resources in a library's catalog, and he can be at the library only during a specific time, he can create a booking request to reserve those resources for the time that he is scheduled to be at the library. This provides exclusive rights to the materials reserved while the requester is physically at the library, thereby making maximum use of their limited time frame.

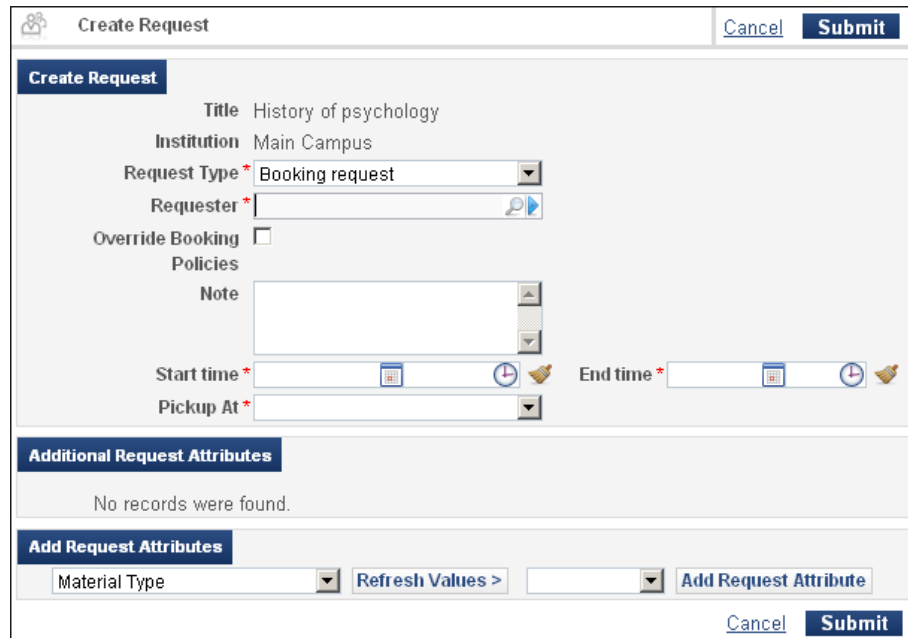
Booking resources can also be used for high-demand items with a limited number of copies. For example, resources moved to a course-reserved area can be configured to be requestable via booking requests, usable for a set time period before the item must be returned.

The following is an illustration of the booking requests workflow that governs the way the booking process is managed. The workflow outlines the configuration tasks necessary to implement booking requests, as well as the procedure for booking items in Alma.

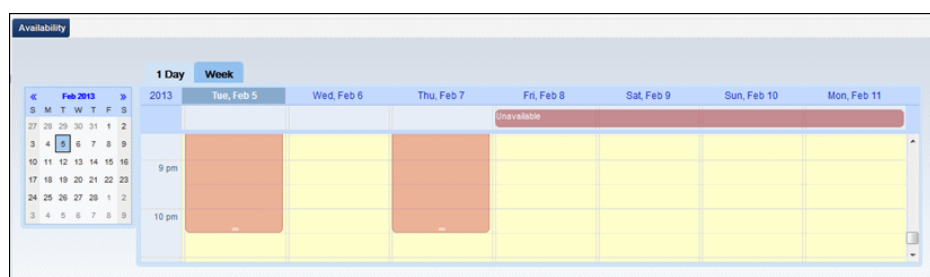


These are the steps taken when creating a booking request from the Alma staff interface:

1. On the Repository Search page, locate an item for which you want to create a booking request, and then click “Request” for the relevant item.
2. In the Request type field, select Booking request. The page automatically refreshes and displays the booking request fields:

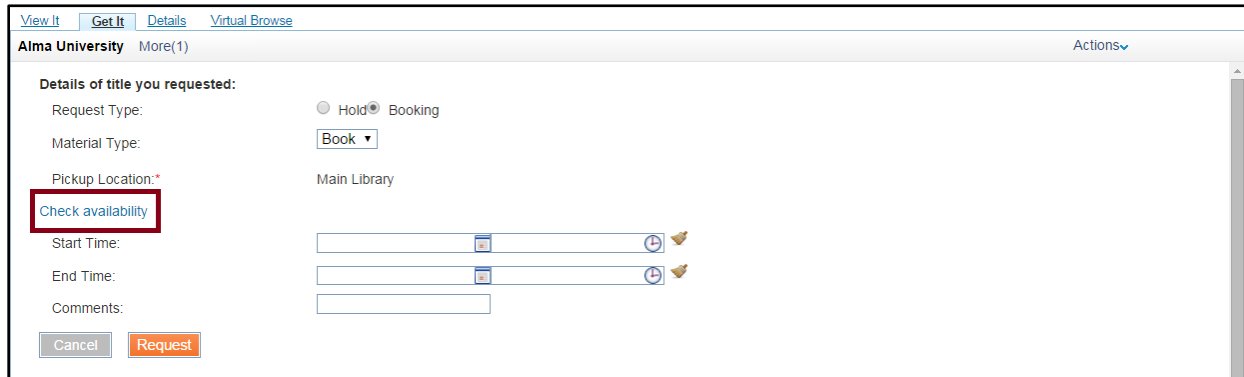


3. In the Requester field, browse for the user that is requesting the booking.
4. Select the Override Booking Policies check box if you want to ignore the following booking policies and still create a booking request: future limit, maximum allowed booking length, and back to back bookings by the same user.
5. Optionally, enter a note in the Note field.
6. In the Start time field, enter the date and time that the booking is to start.
7. In the End time field, enter the date and time that the booking is to end. The Start time and End time are automatically moved back or forward, as necessary, to ensure that they occur during the library's open hours. The updated start and end times are displayed on the page after the request is submitted.
8. In the Pickup at field, select a pickup location for the item.
9. In the Add Request Attributes section, select additional attributes to add to the request, as necessary, and click Add Request Attribute. The attributes are displayed in the Additional Request Attributes section.
10. The item's availability is displayed in calendar format in the Availability section of the page:



11. Submit the booking request. The item is displayed on the Patron Services Page – Requests tab with a Request Type of Booking.

Alternatively, patrons (with the appropriate permissions) may submit booking requests from the Get It tab in Primo:



View It **Get It** Details Virtual Browse

Alma University More(1) Actions

Details of title you requested:

Request Type: Hold Booking

Material Type: Book

Pickup Location*: Main Library

Check availability

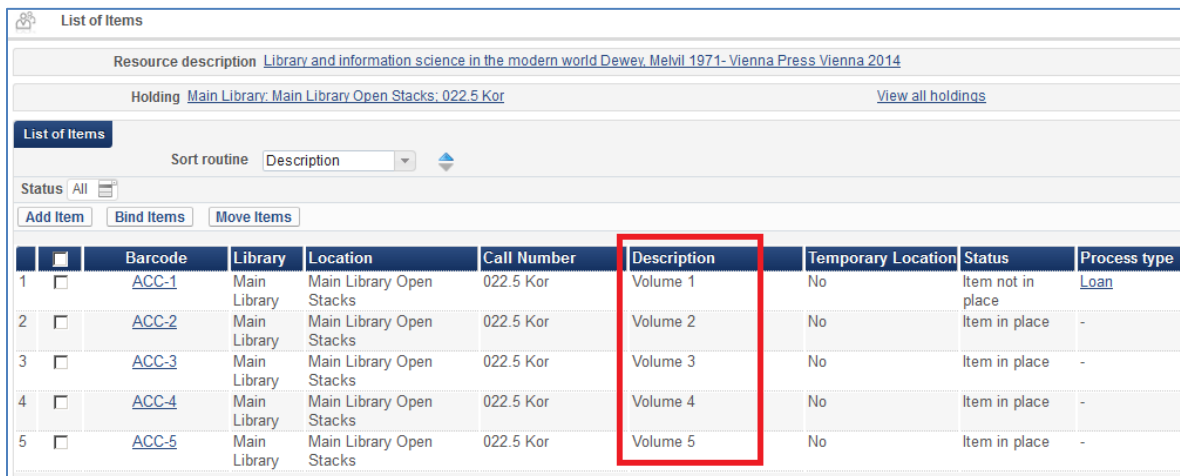
Start Time: [] []

End Time: [] []

Comments: []

Cancel Request

When the item description field is blank the booking request will be created on the title level. When the item description field is filled in then the booking request will be created on the item level. For instance, in the example below, the item description includes the volume number. In this case, when creating a booking request, the user must select the correct description from a drop down menu.



List of Items

Resource description [Library and information science in the modern world Dewey, Melvil 1971- Vienna Press Vienna 2014](#)

Holding [Main Library: Main Library Open Stacks: 022.5 Kor](#) [View all holdings](#)

List of Items

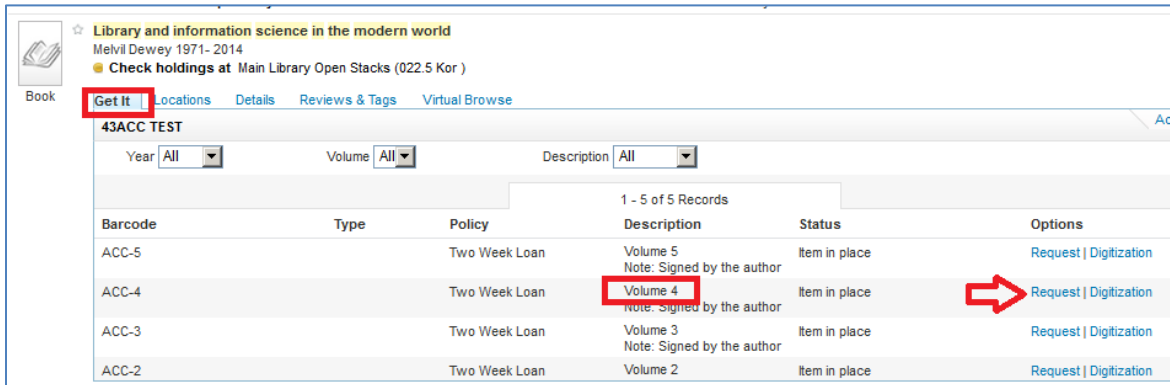
Sort routine Description

Status All

Add Item Bind Items Move Items

	Barcode	Library	Location	Call Number	Description	Temporary Location	Status	Process type
1	ACC-1	Main Library	Main Library Open Stacks	022.5 Kor	Volume 1	No	Item not in place	Loan
2	ACC-2	Main Library	Main Library Open Stacks	022.5 Kor	Volume 2	No	Item in place	-
3	ACC-3	Main Library	Main Library Open Stacks	022.5 Kor	Volume 3	No	Item in place	-
4	ACC-4	Main Library	Main Library Open Stacks	022.5 Kor	Volume 4	No	Item in place	-
5	ACC-5	Main Library	Main Library Open Stacks	022.5 Kor	Volume 5	No	Item in place	-

Note that there exists the option to click "Request" for each specific item:



Library and information science in the modern world
Melvil Dewey 1971- 2014
Check holdings at Main Library Open Stacks (022.5 Kor)

Book **Get It** Locations Details Reviews & Tags Virtual Browse

43ACC TEST

Year All Volume All Description All

1 - 5 of 5 Records

Barcode	Type	Policy	Description	Status	Options
ACC-5		Two Week Loan	Volume 5 Note: Signed by the author	Item in place	Request Digitization
ACC-4		Two Week Loan	Volume 4 Note: Signed by the author	Item in place	Request Digitization
ACC-3		Two Week Loan	Volume 3 Note: Signed by the author	Item in place	Request Digitization
ACC-2		Two Week Loan	Volume 2	Item in place	Request Digitization

By default the description is filled in and the booking request is made:



Library and information science in the modern world
Melvil Dewey 1971- 2014
Check holdings at Main Library Open Stacks (022.5 Kor)

Get It Locations Details Reviews & Tags Virtual Browse

43ACC TEST

Details of title you requested:

Request Type: Hold Booking

Description: Volume 4

Material Type: Null

Pickup Location: Main Library

Check availability

Start Time: 20/10/2014 11:00

This functionality can be utilized for standard library materials – e.g. books, DVDs, etc., but can also be used to allow patrons to make bookings for other types of library-related resources such as study rooms, audio-video equipment, etc.

B.3.2.9.2. Ability to manage rentals if a library charges a fee to rent equipment.

Ex Libris: Alma allows a fee to be added manually, so although there is no “loan fee” option, it is still possible to charge for renting equipment.

Alma does have a “Personal delivery fee”. Another possibility is to use this loan type which would make the fee automatic.

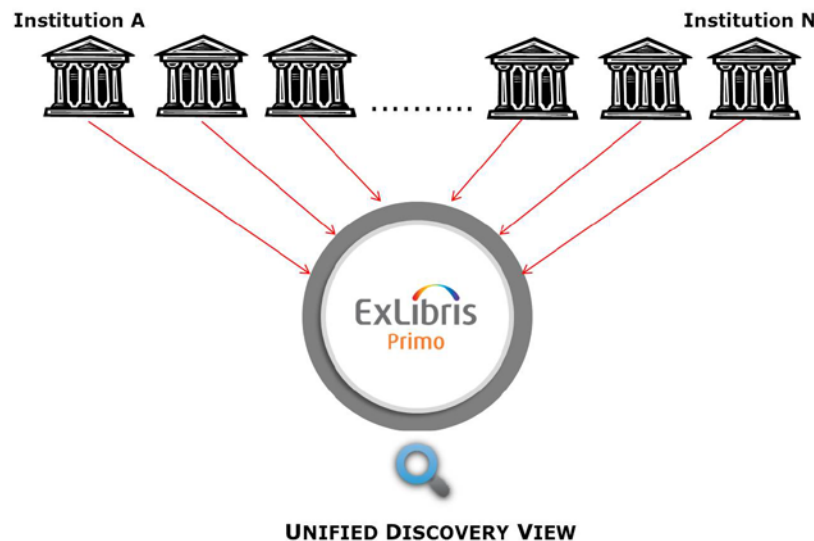
B.3.3. RESOURCE SHARING

B.3.3.1. CONSORTIAL (CSU)

Describe or Demonstrate:

- B.3.3.1.1. Borrowing and lending workflow of an item-level request made by a consortial patron on a consortial item, including:
- delivery of the item to the patron at the patron’s specified pickup location;
 - circulation of the item to the patron;
 - return of the item to its home library.

Ex Libris: Typically, borrowing and lending starts with patrons utilizing a discovery solution to locate items of interest. The integration of Alma and Primo provides a Unified Discovery View that will allow for smooth and streamlined discovery across all of CSU’s campuses, while still providing the patron with a single view (with associated institutional branding and preferences) into each campus’s holdings, using Primo’s “view” functionality. This capability provides a flexible way for patrons to conduct discovery in a single campus, as well as across the entire system, from a single interface. This is shown in the diagram below.



The Unified Discovery View is provided irrespective of how the CSU's campuses manage their cataloging and inventory. A unified discovery view also can be provided in cases of duplicate records among system members, thus maintaining complete separation between the discovery interface and the cataloging and inventory management methods.

Once an item has been selected using Primo or another discovery solution, the patron can initiate a resource sharing request in Alma.

”Resource Sharing Requests” is the general Alma term for all forms of inventory sharing between institutions. These forms include sharing formats known also as:

- Inter Library Loan
- (Direct) Consortial Borrowing

- Reciprocal Borrowing

All forms of Resource Sharing involve a patron of one institution receiving fulfillment services from another institution

Alma initially supports a model that involves a mediatory system that serves as broker between the requesting institution and the responding institution:

- Alma internally reflects the request for the purpose of managing the internal library processes that are needed for the fulfillment
- Bridging the gap between Alma and the Resource Sharing System may be done:
 - Manually by double typing
 - By an NCIP-based integration of the systems. Alma currently supports the following systems:
 - BorrowDirect (D2D)
 - OCLC Navigator
 - INN-Reach

In addition, Alma manages resource sharing requests as the owner of the request. Managing the potential suppliers for a specific resource sharing request is based on:

- The institution's defined list of resource sharing partners
- The existence of holdings at the target partner (if discoverable)

When Alma acts as the owner of the request, it's communications with the peer potential supplier may be in one of the following formats:

- ISO ILL – ISO ILL messages are based on the ISO 10160/10161 standards. Supported messages include:
 - Request
 - Shipped
 - Received
 - Returned
 - Checked In
 - Answer Unfil
 - Cancel
 - Cancel Reply
 - Renew
 - Renew Answer
 - General Messages
- ARTEmails – This format is used for communicating with British Library. Library configurations may setup the exact service codes, delivery format codes and query codes that may be used for every submitted request, in addition to the library's customer IDs as registered with the British Library.

All of the ARTEmail allowed query codes are supported, including options such as :

- Report that a recalled Loan has already been returned
- Request progress report if Speed exceeded and no response received
- Request to cancel an order on a waiting list
- Request to renew a loan

- Emails – Requests may be sent to potential suppliers as emails that are fully XSL configurable and include all of the request's metadata as well as request attributes such as interest period and requested format

Managing the resource sharing request lifecycle basically includes:

- For outgoing requests:
 - Sending request to supplier
 - Receiving rejection from supplier or Receiving material from supplier
 - Returning the material to supplier
- For incoming requests
 - Sending the material to requester
 - Receiving the material back from requester

Alma manages the lifecycle for all supply formats – Physical, Electronic or Digital. For example, the lending institution may decide to:

- Ship away the physical item
- To digitize a physical item and send the digital file
- To create a digital file for an electronically held item (after consulting the electronic resource license terms), and ship the digital file
- To create a physical printout for an electronically held item (after consulting the electronic resource license terms), and ship the digital file

From an end user perspective, there is no difference between a regular resource request and a resource sharing request. From a system and staff user perspective these involve different workflows and costs. Alma is able to transform one type into the other, based on the situation and institutional policies.

At request placement time, Alma identifies if the requested material has self-owned inventory that can fulfill it. In that case, Alma can hide or show the request type based on self ownership. Additionally, roadmap plans include Alma being able to transform the more complex (and expensive) resource sharing request into an institutional, patron initiated, resource request. This depends on:

- The user type (e.g. undergraduate)
- The Terms of Use (both can be taken out for extended periods)

Walk-in requests are placed by a patron of another CSU institution that directly walks into a library requesting services. The user will be considered a patron of the other institution from a fulfillment perspective. In this process institutions will be able to control:

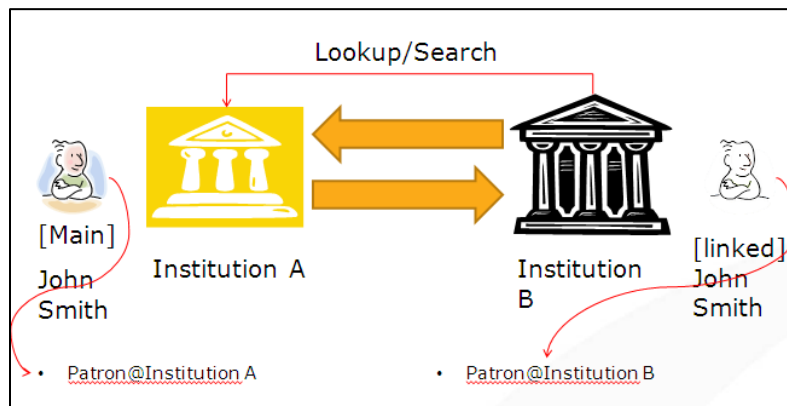
- The linking institutions to which they expose their user information
- The user types whose data will be exposed
- The user data elements that they are willing to expose

The scenario will therefore be:

1. Patron at the desk wants to check out an item
2. The patron identifies himself with his ID at another institution and the institution he's affiliated with

3. Circulation Desk Operator inputs:
 - a. Patron ID (at his home institution)
 - b. Linked institution
4. Alma looks up the user and replies with:
 - a. Failed\succeeded indication
 - b. A pop up of the supplied information
5. Operator continues with check out action
6. Overriding blocks may be set to be disallowed for external patrons

Walk-in patron identification may be described as in the diagram below, where John Smith of institution B walks into institution A and requests to borrow an item of institution A:



Alma’s Return Anywhere capability allows a user from one institution that has a resource directly loaned out from another institution directly to return it at his “home” institution. Alma identifies these cases and seamlessly handles them based on a “Check In For” relationship that is set up between the institutions. Setting up this relation means that the institutions have the logistic means to deliver checked in items to each other.

The detailed scenario may be described as:

1. Patron\non patron facing return is done at (a primary) desk
2. Item is identified as not local
 - a. The patron says ‘This book belongs to another institution’
 - b. The labels on the book identify its owner institution
3. Operator selects the institution (based on “Check In For” relations) and wands in
4. Remote institution is notified of the check in, and:
 - a. Discharges item
 - b. Places item in transit

Alma’s resource sharing functions may be summarized by:

1. Requested Resource and Potential Supplier Identification

The requesting patron may use Primo or other systems to identifying the requested resource, or submit a metadata description to the institutional Alma system, requesting the institutional system to identify potential suppliers and manage the request process. In that case, Alma:

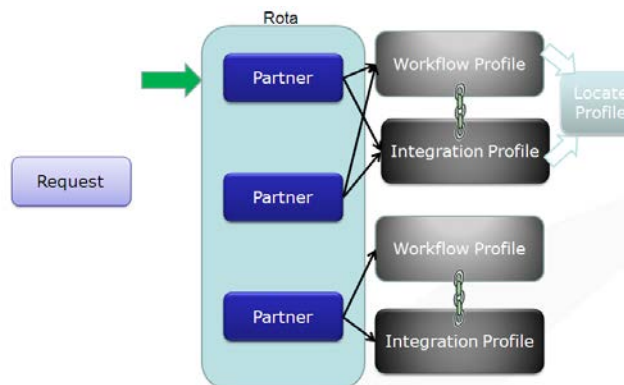
- a. Utilizes search profiles to identify what institution within the consortia holds a

relevant copy that may be used to fulfill the request. The search profiles may vary depending on the system which is used at other institutions of CCC. These search profiles may include:

- i. Z39.50 holdings based search
- ii. Alma proprietary holdings search

The exact search profile depends on the institutional Alma system specific definitions. Ex Libris has the ability to configure these and other resource sharing configurations at the network level.

- b. Registers the potential suppliers in a queue. The queue is constructed based on institutional profiles that may include a range of considerations, such as:
 - i. Target institution average supply time
 - ii. Target institution average supply costs
 - iii. Target institution material type expertise
 - iv. Target institution subject area expertise
- c. Manages the potential suppliers queue, requesting a single supplier each time, and managing the communications with the target CSU institution until request is either fulfilled or eventually rejected by the target institution. The communications with the target institution may be done in any standard protocol that the CSU institution supports, such as IPIG ISO communications (for peer to peer resource sharing), NCIP (for broker based integrations), etc.



2. Requester Authentication

When a target institution receives a request from a source requesting institution, it may request patron identification using standard protocols such as NCIP, or register the request for the requester's institution rather than the specific patron. The request management mode depends on how the institution is set up to work with incoming requests, and may be subject to source requesting institution profiling.

3. Request & Loan Management

Once the request has been registered on both the requester and the supplier side, utilizing requested resource shipment is subject to standard Alma processes.

The following describes some details of the loan management process:

1. On the Supplier's Side

The requested resource is identified (i.e. the requested metadata is compared with the local

inventory and fulfillment policies). If a match is found, standard fulfillment processes are utilized to move the requested resource to the required pickup, which may be:

- a. At a pickup location within the supplier's institution
- b. At a pickup location that is at the requester's institution
- c. At a pickup location that is neither at the requester's institution nor at the supplier's institution (this is not yet available but is on the roadmap).

The loan action utilizes standard fulfillment loan procedures. Note that the loan is registered specifically to the requesting patron.

If the return action is performed at the supplier institution, then the return action utilizes standard fulfillment return procedures. Note that loan may be registered specifically to the requesting patron or to the requester's institution, depending on the policies that have been profiles by the loaning institution.

If the loan has been registered to the specific patron then the lending institution will utilize standard fulfillment procedures for loan management actions such as overdue monitoring and courtesy notices. In that case, overdue fines will be charged as for standard lending institution affiliated patrons.

If the request is determined to be fulfilled by a digital resource, either one that already exists in digital form or one that is digitized for the purpose of fulfilling the request, the resource may be digitally sent to the requester's requested email, to an email address that is used by the requester's institution, or via document delivery tools.

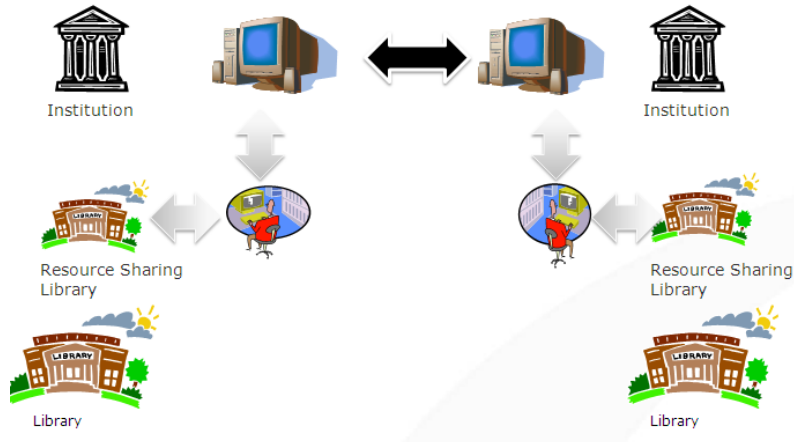
2. On the Requester's Side

A temporary item is locally created if a physical item arrives in and is requested for a patron of the institution. The item will receive a local barcode, and be managed using standard fulfillment procedures for:

- i. Moving the item to the requested pickup location
- ii. Notifying the requester that the item is on hold
- iii. Loaning the item to the requester
- iv. Monitoring the loan, including overdue loan monitoring and courtesy notices
- v. Managing the return of the item and its shipment back to the source supplier of the item

If loan management actions, such as check-out and check-in of the item happen at the requester side, the loan management actions are communicated to the loan's owner (the supplier institution) using standard messages, such as NCIP messages.

The entire process is diagrammed below:



B.3.3.1.2. Ability to restrict consortial privileges on local patrons (e.g. community / alumni / affiliated groups).

Ex Libris: In Alma, the infrastructure for fulfillment workflows (which include resource sharing, along with general loaning, requesting and the handling of requests, returning, bookings, reading rooms, and course reserves) includes the configuration of “fulfillment units” and policies, and rules for loans and requests.

Fulfillment units include rules that determine the “terms of use” (TOU) for patrons of the libraries. Terms of use can be applied differently for different combinations of user groups, job categories, material types, process types and locations. CSU may take advantage of the flexible fulfillment units and TOU to restrict certain requesting privileges for local (community, alumni, or affiliated groups) patrons.

B.3.3.1.3. How the system determines due dates and hold priority at the consortial level given numerous global and library-specific shelving locations, categories of patrons, and material formats. How does the system honor local lending periods when lending to a consortia member library?

Ex Libris: Alma has the ability to manage the configuration and policies of resource sharing and fulfillment policies and rules at the network level. This allows all members of the consortia to easily standardize their lending periods and due dates for consortial resource sharing purposes. The network level configuration includes the following:

- Resource Sharing Partners List
- Rota Templates\Assignment Rules
- Locate Profiles
- Automatic Send Rules
- Workflow Profiles
- Policies and Terms of Use

The ability to configure the above, in conjunction with planned capabilities to perform network level analysis of resource sharing patterns, gives the consortia the ability to organize and

'rebalance' the consortial resource sharing rules, such that certain members will not be unduly over loaded with requests.

Please note that Institutions that have special requirements can still, if they deem it necessary, configure institution specific policies and rules for the cases where the consortia rules need to be overridden.

- B.3.3.1.4. Tools available to manage and balance borrowing requests across member libraries, to target outcomes such as workload fairness and speed of delivery. Include information about how quickly such changes take effect.

Ex Libris: Managing the potential suppliers for a request is done in three tiers:

1. Each institution defines profiles of target institution rotas*. Each rota is an ordered or non-ordered list of potential suppliers. The rota will be used as a list of targets to request from, one at a time. Different rotas may be used for different purposes. For example, an institution may set up a 'quick to respond' rota, a 'expensive but likely to fulfill' rota or a 'e-material experts' rota. Institutional rules as well as manual operations may be used to attach a specific rota to a specific request.
2. The suppliers on a rota are checked to see whether they own relevant holdings. Potential suppliers will be contacted only if they appear to own relevant holdings
3. Within CSU, a supplier that is an Alma institution will be ranked lower in the rota if the number of requests from CSU partners has exceeded a defined threshold. This way, an overloaded partner will get fewer new requests directed at it. Calculating an overloaded target is based on Alma being able to collect information from each CSU member with regard to how many requests that institution has open with any target supplier

In addition, each CSU campus and resource sharing partner using Alma can automatically reject new incoming requests based on how many open incoming requests are currently managed at that institution. If the number is past a defined threshold, requests may be automatically turned down.

* Rota - An ordered list of potential suppliers that are assigned by Alma to a resource sharing request. The rota, sometimes termed also "roster" or "lending string", is used by Alma to attempt to fulfill a resource sharing request. Alma assigns the request to the first potential supplier on the rota, and then to the next potential supplier on the list whenever the active supplier fails to supply the requested material.

- B.3.3.1.5. Mechanisms for tracking items in transit for delivery from and to their home libraries.

Ex Libris: The mechanisms for tracking items in transit for delivery from and to their home libraries depend on whether the resource sharing process is managed as a direct request/loan to the patron, or as a request/loan that is mediated by the borrowing patron's institution.

If the resource sharing process is not mediated by the borrower's institution (i.e. the loan and request are directly made by the borrowing patron), then Alma's standard loan and item transit processes are used. In other words, as long as the item is held by the borrower, the standard loan control mechanisms for tracking overdue loans is used. After the item is checked in, standard transit routines are used to track where the item has been put in transit, where the item has been put in transit to, and when it is expected to arrive at its target destination. Like transits between libraries of the same institution, this information is based on delivery relationships that are set between the institutions, and the transit times that are defined for each relationship.

A resource sharing process that is mediated by the borrower's institution is managed using Alma's temporary locations. The item is registered as temporarily shelved at the resource sharing department at both the lender and borrower institution, throughout the resource sharing process. Being registered at a temporary location at both the borrower and lender side, standard processes for managing temporarily shelved inventory are used for managing the items. This includes processes such as:

- Reports for items that are due back to their permanent location
- Automatic requests being placed to reshelve the items back to their permanent shelving locations

B.3.3.1.6. How the system manages circulation of and access to licensed electronic materials, such as e-books and e-journals.

Ex Libris: Electronic inventory is linked to license terms in Alma. Operators may consult the license terms prior to deciding how to process the incoming resource sharing request. Certain license terms as determined by CSU and/or each campus can also be exposed to patrons through Primo, at the point of request.

B.3.3.1.7. How the system can handle on-demand scanning of local materials requests, such as book chapters or archive materials.

Ex Libris: Primo, as part of this smart fulfillment service integration with Alma supports a digitization on-demand request workflow. Alma's handling of digital delivery is by supplying a document delivery process. The Alma operators may trigger a digitization process in the system. The last step of the digitization process will be an email, triggered by the Alma operator, with the digitized content sent as an attachment to the requesting library.

B.3.3.1.8. The ability to generate shipping labels and paging slips.

Ex Libris: Pick slips (or paging slips) are created in Alma for any request that needs to be pulled from the shelf, including resource sharing requests. Transit slips for an item can be printed out by library staff, which is then added to an item when it is sent from one place to another. This option can be enabled and customized by each CSU institution.

Dedicated shipping slips are planned to be developed in the near roadmap, allowing specific customization of the printout that is sent with the shipped material.

B.3.3.2. INTERLIBRARY LOAN (NON-CSU)

Describe or Demonstrate:

- B.3.3.2.1. How the system interfaces with an external consortial borrowing system such as the Innovative INN-Reach product (Link+, Circuit).

Ex Libris: Integration with INN-Reach is in place and supported with the following workflow:

1. Alma publishing descriptive metadata of the local catalog to be imported into INN-Reach for facilitating the resource sharing process
2. Alma publishing patron information to INN-Reach
3. OpenURLs triggered from Alma (via Primo) to create new patron requests in INN-Reach
4. NCIP based integration is supported, so that actions done in INN-Reach, such as receive and ship (both borrower and lender side) are automatically updated in Alma.

California State University, San Marcos is successfully using this method, integrating Alma and Primo with Circuit.

- B.3.3.2.2. How to integrate request data from other library systems, such as ILLiad or OCLC WMS, so that patrons can:
- view outstanding requests;
 - have materials circulated from the external system via their patron account;
 - renew items;
 - view accrued fines;
 - pay fines.

Ex Libris: Support for NCIP based integration with ILLiad is being developed as an ILLiad add-on. This will allow automatic updates in Alma for all of the actions that the ILLiad add-on infrastructure has supported integrations for – receiving and shipping items on both the borrower and lender side, as well as creating lending side requests.

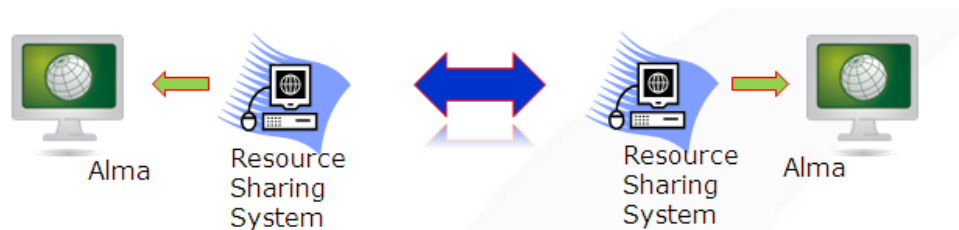
WordShare does not yet support NCIP based integrations. When OCLC introduces support for this important standard, it will be integrated into Alma in the same manner that is supported with ILLiad.

- B.3.3.2.3. How the system federates with other circulation platforms, including traditional interlibrary loan systems (ILLiad, Rapid-ILL, etc.), for the delivery of electronic and physical materials of items not owned by the CSU.

Ex Libris: Alma interacts with external circulation platforms in a number of models:

2. Reflecting the externally managed requests within Alma for supporting the required internal library processes.

The diagram below shows how the external systems communicate the resource sharing requests, while notifying Alma about actions that require supporting library processes. The supporting library processes are managed in Alma.



The supporting library processes that Alma orchestrates include processes such as:

- Fetching the items from shelf
- Moving arrived items to the requested pickup location
- Checking the arrived items out to the requesting patrons
- Checking the items back in from the requesting patron

In this model, Alma integrates with the external systems via NCIP (version 2.0) messages, such as:

- LookupUser
- RequestItem
- CheckOutItem
- CheckInItem
- AcceptItem

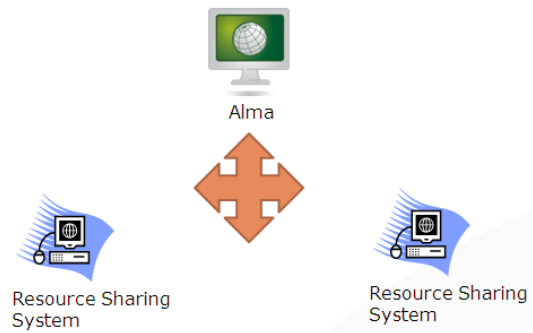
External supported systems include:

- ILLiad
- Relais D2D
- OCLC Navigator (NRE)
- III InnReach

Rapid-ILL does not have NCIP integration capabilities. Instead data is exported on an ongoing basis to the Rapid system.

In addition Alma pushes requests into the external systems, based on its integration capabilities. For example, requested metadata is pushed into ILLiad via an OpenURL.

3. Fully managing the request, by managing not only the internal library processes, but also the communications with the non-CSU partner. This includes managing the request's potential suppliers and managing the ILL communications protocols, such as ISO communications and others. The diagram below illustrates how Alma directly communicates with resource sharing systems:



Alma uses industry standards where they exist to manage resource sharing communications, implementing a wide variety of standards, including (in addition to simple email communication):

- ISO ILL
- British Library ARTEMail
- NCIP

B.3.3.2.4. The ability to create temporary circulation records for ILL items coming from a non-CSU library.

Ex Libris: When physical items of the non-CSU partner are received in Alma, a full temporary item is created, from the bibliographic description down to the holdings record and the physical item.

- The bibliographic record is created as a suppressed record and is not published to the discovery interface.
- The item is temporarily owned by the receiving ILL department. Being an independent organization unit within the institution, the resource sharing library is where the fulfillment terms of use that apply to the temporary item will be set. The entire fulfillment lifecycle of the item is managed using standard Alma fulfillment procedures, including:
 - Setting up loans and the loans' terms of use
 - Managing the loans, in terms of overdue/courtesy notices
 - Allowing return of the item at all desks, or at designated desks

Creating the temporary item, including assigning of the temporary barcode to the item, may be done manually in Alma at receive time, or automatically via the NCIP AcceptItem message.

When the item is shipped back to its owning institution, the entire item gets deleted, from the bibliographic record down to the physical item

B.3.3.2.5. How the catalog integrates with ILLiad or OCLC WMS for requesting un-owned items using single sign on.

Ex Libris: Patron requests are placed via Primo. As authentication in Primo is based on the Ex Libris PDS component, its Shibboleth-based SSO capability may be used to set up an SSO connection to the ILLiad system.

B.3.3.2.6. Any copyright and licensing agreements, procedures, and compliance tracking that your system offers.

Ex Libris: Copyright and license management, in the context of resource sharing and fulfillment, is done at both the borrowing side and the lending side of the request processing:

Borrowing Side - Outgoing borrowing requests for receiving digital materials are tracked by the system, based on a defined profile. For example, a request for a title that has a publishing date later than a defined date will be counted. When the number of fulfilled requests (within a defined period of time) reaches a threshold, management of subsequent requests for the same title are blocked until copyright cleared.

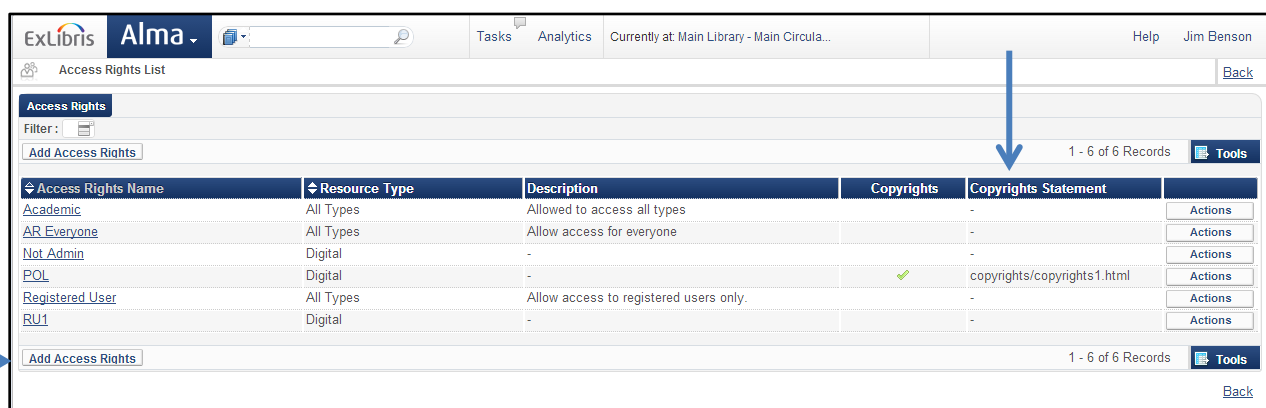
Clearing the block is done by managing the relevant copyright aspects, such as paying the relevant fees.

Lending Side - The lending side may fulfill incoming requests by using digital or electronic material of two types:

1. Digitally Stored Material—A resource sharing operator that consults Alma for a specific resource sharing request’s fulfillment options may get a list of suggested electronic resources that can be used for fulfilling the request. In this case, Alma will display the electronic resource’s terms of use alongside the resource’s link. The operator will be able to view the resource’s license in a single click, and make a decision on whether the electronic resource may be used for fulfilling the request or not.
2. Digitizing Physical Material—A resource sharing operator who consults Alma for a specific resource sharing request’s fulfillment options may get a list of suggested physical resources that can be used for fulfilling the request. In this case, Alma supplies alongside the description of the physical resource the possibility to request the use of the physical item in a digital form, i.e. to digitize the material.

Either way, the process may be configured to require copyright clearance. For example, a request for items with a publication data that is later than a specific date will require copyright clearance before the digitization process in complete. If this is the case, the digitization process will not be complete until the copyright clearance is signed off.

Below is a screenshot of the operator’s ability to add access rights in Alma, along with the option to include copyrights and a copyrights statement:



The screenshot shows the 'Access Rights List' page in the Alma system. The page has a header with the ExLibris Alma logo, navigation tabs (Tasks, Analytics), and user information (Help, Jim Benson). Below the header is a search bar and a 'Back' button. The main content area is titled 'Access Rights List' and contains a table with the following columns: Access Rights Name, Resource Type, Description, Copyrights, and Copyrights Statement. The table lists several access rights, including 'Academic', 'AR Everyone', 'Not Admin', 'POL', 'Registered User', and 'RU1'. The 'POL' row has a green checkmark in the 'Copyrights' column and a link to 'copyrights/copyrights1.html' in the 'Copyrights Statement' column. At the bottom of the table, there is an 'Add Access Rights' button and a 'Tools' button. A blue arrow points to the 'Add Access Rights' button, and another blue arrow points to the 'Copyrights' column header.

Access Rights Name	Resource Type	Description	Copyrights	Copyrights Statement	Actions
Academic	All Types	Allowed to access all types	-	-	Actions
AR Everyone	All Types	Allow access for everyone	-	-	Actions
Not Admin	Digital	-	-	-	Actions
POL	Digital	-	✓	copyrights/copyrights1.html	Actions
Registered User	All Types	Allow access to registered users only.	-	-	Actions
RU1	Digital	-	-	-	Actions

B.3.4. PATRONS

B.3.4.1. PATRON MANAGEMENT

Describe or Demonstrate:

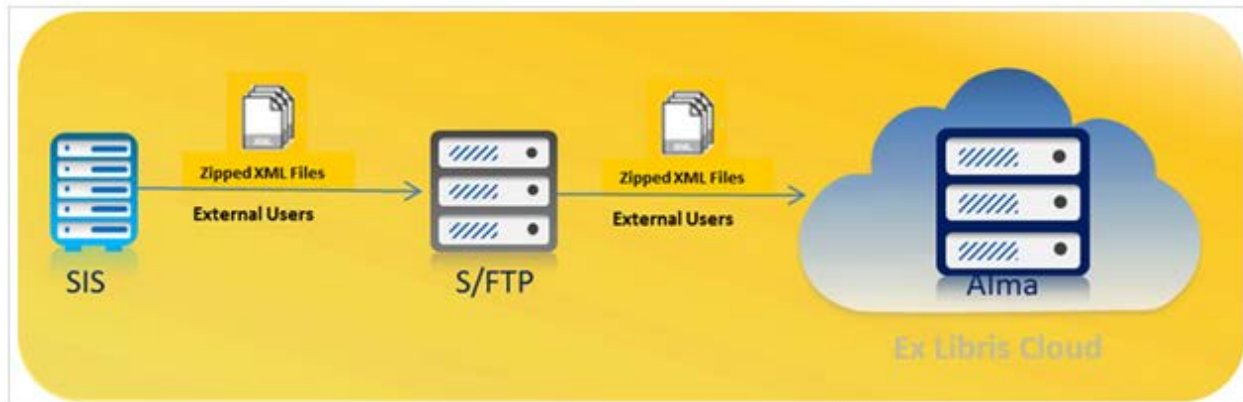
- B.3.4.1.1. Integration with the campus CMS (PeopleSoft) for patron management and batch patron loads.

Ex Libris: Alma's Integration Profiles facilitate the import of user data from user management systems such as Student Information Systems (SIS) or other ERP systems, (PeopleSoft in CSU's case). This integration is in-place and is being used by other clients that have adopted Alma. Alma preserves the ownership of user records, so that the donating system remains the sole owner of the data and is the only allowed update source for the user data. While attaching additional Alma-owned user data is possible, enabling the institution to manage internally owned information about the user, the external system's donated information remains at the ownership of the external system.

A User (patron) can be defined as:

- Internal – An internal user is one whose core user details are managed within the system (for example, user name, password, contact information, and so on).
- Internal with external authentication – This account type is similar to Internal. However, the user name and password are managed externally, while the remaining user details are managed internally.
- External – With this account type, users are migrated into Alma from an external system. The core user details are managed in an external system where the core details can be viewed but not edited. Such users are likely updated by batch patron information loaders.

The loading of user data from an external system(s) is performed using zipped XML files, which are placed at a predefined, secure FTP location. Alma fetches the files, parses them, and updates external users according to the input file and the parameters defined in the external system profile(s). The diagram below illustrates the communication between the external system(s) [PeopleSoft] and Alma. The loading of external users into Alma can be performed in one of two modes: (i) import, or (ii) synchronize. The import mode is a one-time load, used to initially create new external users. It is intended to be used only when you have a file of users you know are new, such as during the migration process, when you want to load users from your legacy system into Alma. The synchronize mode is an on-going load, used to update external users and add new ones.



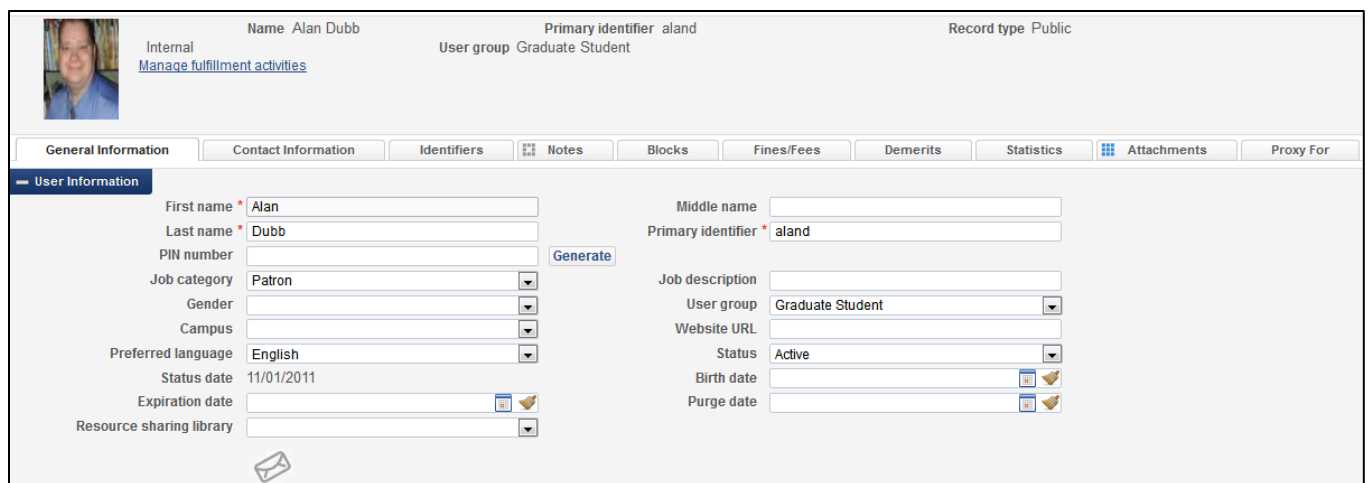
B.3.4.1.2. Allowances for the management of patrons (alumni, community borrowers, etc.) who have local privileges, but not consortial privileges.

Ex Libris: Alma allows for the definition of patron groups, such as Graduate Student, Undergraduate Student, Staff, Alumni or Community patron groups. Each patron must be associated with a patron group. This enables the library to apply specific rules to the patron, based on the group with which the patron is associated. For example, a patron in the Undergraduate Student group may be able to borrow a book for two weeks, whereas a patron in the Graduate Student group may be able to borrow the same book for one month. Alma also allows for the ability to limit requesting privileges by patron group.

Setting up consortial privileges requires a separate set of rules for determining which user group is assigned privileges for consortial fulfillment, and which is not.

B.3.4.1.3. Elements and structure of a patron record in the system and how patron records are created. For example, does the system support record templates at the consortial and local level?

Ex Libris: A patron record is structured with tabs containing segments of information such as addresses, phone numbers, email addresses, notes, blocks, match IDs, etc.) In addition, a patron photograph may be included. The screenshots below illustrate this concept:

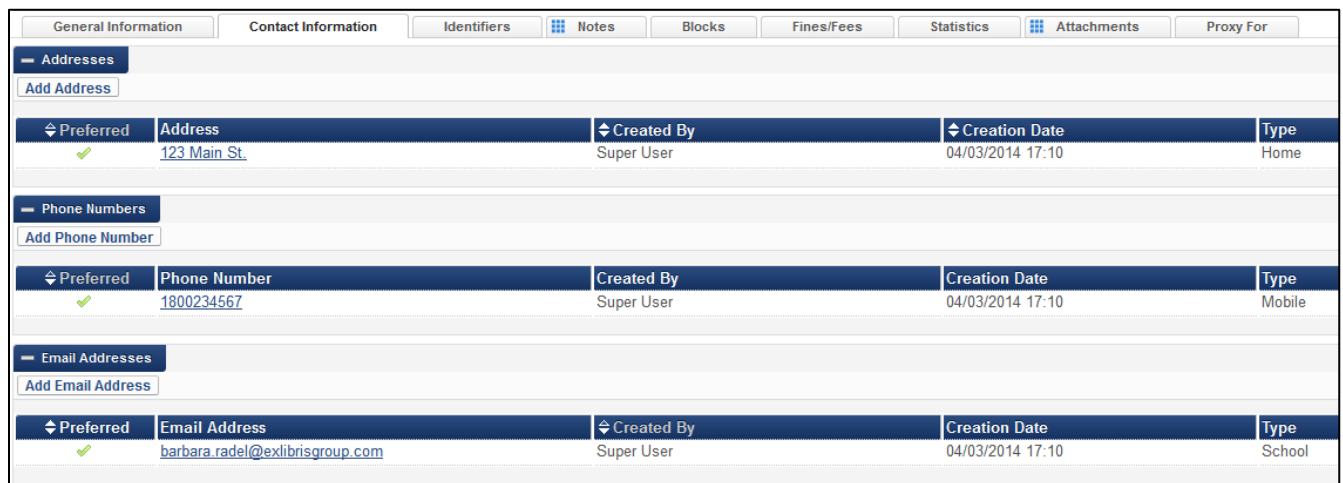


The screenshot shows the Alma user record interface for a user named Alan Dubb. At the top, it displays the user's name, primary identifier (aland), record type (Public), and user group (Graduate Student). Below this is a navigation bar with tabs for General Information, Contact Information, Identifiers, Notes, Blocks, Fines/Fees, Demerits, Statistics, Attachments, and Proxy For. The 'User Information' tab is selected, showing a form with the following fields:

- First name: Alan
- Last name: Dubb
- Middle name: (empty)
- Primary identifier: aland
- PIN number: (empty) with a 'Generate' button
- Job category: Patron
- Job description: (empty)
- Gender: (empty)
- User group: Graduate Student
- Campus: (empty)
- Website URL: (empty)
- Preferred language: English
- Status: Active
- Status date: 11/01/2011
- Birth date: (empty)
- Expiration date: (empty)
- Purge date: (empty)
- Resource sharing library: (empty)

The first tab of the patron record includes fields for defining first and last name (mandatory), gender, campus, user group, preferred language, status, birth date, expiration date and purge date. Not all (non-mandatory) fields need to be populated.

The second tab is for contact information – address, email and phone. Any number of these may be defined, as seen in the portion of a patron record screen below:



Preferred	Address	Created By	Creation Date	Type
✓	123 Main St.	Super User	04/03/2014 17:10	Home

Preferred	Phone Number	Created By	Creation Date	Type
✓	1800234567	Super User	04/03/2014 17:10	Mobile

Preferred	Email Address	Created By	Creation Date	Type
✓	barbara.radel@exlibrisgroup.com	Super User	04/03/2014 17:10	School

Additional tabs in the user record are used for recording the user's IDs, Blocks, Fines and Fees and Attachments. The Attachments tab is loaded with all the communications to the patron including overdue letters, notifications of items waiting on the hold shelf, etc. These communications can be downloaded at any time for review.

Patron records are usually imported from an external system. However, it is also possible to manually add a patron record (e.g. a guest) either from the User Management area of Alma, or from the Patron Loan Screen:



Alma has privilege (role) templates, which are managed at the local level, and which may be used to determine the set of privileges that are automatically assigned to a newly created patron, based on patron information such as the user group of job description.

- B.3.4.1.4. Fixed and variable fields available in the patron record. Does the system support the ability of a single campus to have custom fields? Which patron fields are indexed?

Ex Libris: While the library cannot customize fields, the only mandatory fields are the first and last name, and a unique identifier. All users in Alma have a primary identifier, which is part of the core user information. They may also have additional identifiers (for example, a student ID, barcode, and so forth).

Other, non-mandatory fields include gender, campus, user group, preferred language, status,

birth date, address, email and phone, record expiration date and purge date.

The mandatory fields in a user form may be configured. Indexed and searchable fields include first/middle/last name, all identifiers, job category and emails.

B.3.4.1.5. How the system tracks and changes to patron records.

Ex Libris: It is currently possible to view who last changed a user record and when the change took place. Roadmap plans will enable tracking what changes have been made, by whom and when.

B.3.4.1.6. Protection for patron data and privacy.

Ex Libris: Alma conforms to FERPA guidelines by providing multi-tier access control based on the security industry's best practices. Such controls consist of (but are not limited to):

- Staff member authentication prior to accessing Alma
- Each staff has privileges and access to data according to his/her role
- Only authorized staff members have access to patron data, to view and edit
- Alma's browser sessions are encrypted using SSL
- Sensitive patron information is encrypted

B.3.4.1.7. The process for merging duplicate patron records.

Ex Libris: As mentioned in B.3.4.1.1. above, the loading of external users from the Student Information System (PeopleSoft in CSU's case) can be performed in one of two modes (i) import and (ii) synchronize. The synchronize modes is an ongoing load, used to update external users and add new ones. The IT department and the library must determine the identifier that Alma and PeopleSoft have in common in order to provide a matching point when synchronizing external users in Alma with the incoming data from PeopleSoft. This may be the primary identifier or any other identifier, unique cross-institution or cross-type. For each external user in the input file, the synchronization job attempts to find a match according to the defined match identifier. All the existing external users are checked, regardless of the SIS to which they initially belonged. (Internal users are not considered for matching purposes.)

If no match is found, the synchronization job adds the user as a new external user or rejects the user, according to criteria selected in the external system profile. The addition of a new external user is similar to the addition of a new user via the import mode.

If a match is found (that is, the external user already exists in Alma), all the external information of the user is replaced as follows:

- Core information – All the fields are replaced by those in the input file. Only the following fields are not replaced if they were updated manually (or if they are empty in the incoming user record): **User group, Job title, PIN number, User language.**
- Related segments (identifiers, addresses, phone numbers, email addresses, notes, blocks, and statistics) – The existing external segments are deleted and the segments from the input file are added. Internal segments (that were added manually) are not deleted.

It might happen that a patron comes to the circulation desk, and the circulation staff finds that no

such user exists in Alma. This can happen, for example, for a new student, whose information was not yet loaded from the student information system. In such a case, the circulation staff can perform a “fast registration” of the user: the user will be created manually as an external user. His information will be updated by the next synchronization.

B.3.4.1.8. How the system supports online patron account creation and management.

Ex Libris: Patron records are usually imported from an external system. However, it is also possible to manually add a patron record either from the User Management area of Alma, or from the loan screen:

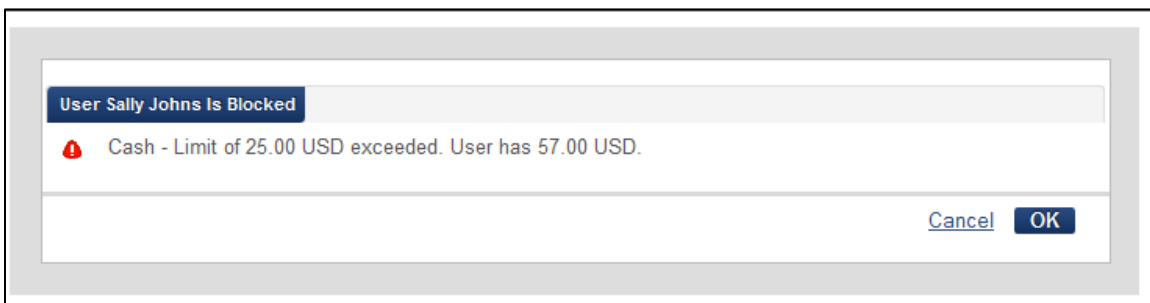


Alma allows authorized staff to create, modify, and delete user records that have been created in the system. It is possible to edit only specific fields on the General Information tab of the User Details page for users that are maintained in an external SIS system (Student Information System). Staff cannot edit but can add contact information to the Contact Information tab. Staff can edit or add information to all the other tabs on the User Details page.

Patron records may be updated independently by staff and/or external ERP systems.

B.3.4.1.9. How the system allows automatic and manual blocks of patrons from borrowing and other services both at the consortial and local level.

Ex Libris: Alma supports automatic and manual blocking of patrons. Automatic blocks are applied based on library-defined rules; for example, if a patron has more than X number of overdue items, or owes the library above a library-defined threshold. These rules can vary for different item types and for different patron groups.



In addition, patron specific blocks can be defined and assigned to a patron record. If any blocks have been placed, the circulation operator will be notified upon scanning the patron’s ID.

Enabled	Id	Type	Description
✓	11	User	Personal item left in library
✓	08	General	Patron is blocked from pickup
✓	09	User	Patron to contact academic
✓	01	General	All patron's privileges are blocked
✓	02	General	Always bothers the staff at the reference desk
✓	03	General	Borrower suspended - inventory
✓	04	General	Bothers circulation desk staff
✓	05	General	Disruptive behaviour in library
✓	06	General	Patron consistently returns books late

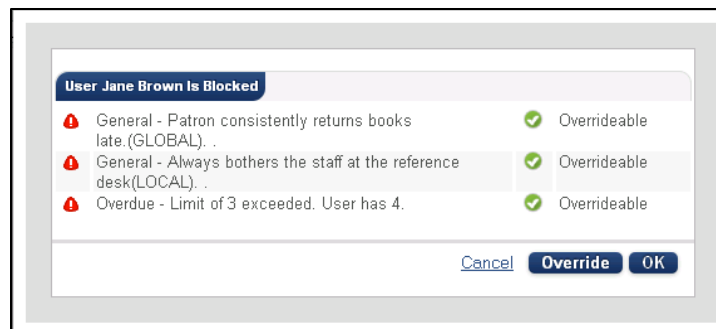
Create a New Mapping Row

Id:

Description: All patron's privileges are blocked.

BlockedAction: 01

If any blocks have been placed on the user, the operator will be notified upon scanning the patron's ID. Circulation staff members with the relevant roles have the ability to override blocks, according to the policies determined by the institution.

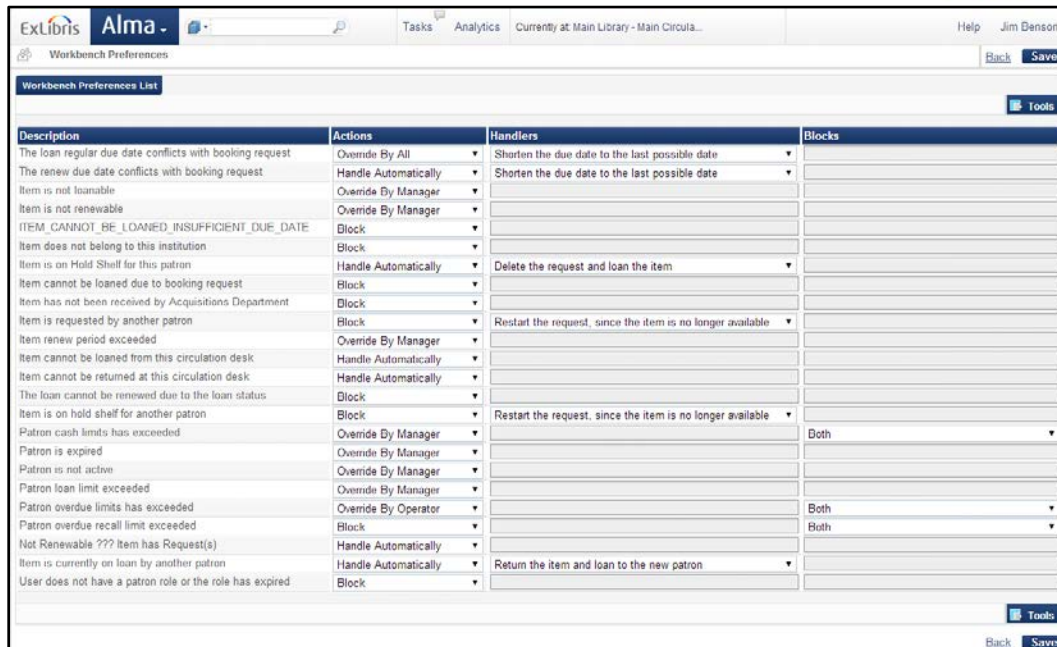


The Primo 'My Account' function provides users with the ability to manage their ILS account, including the options to view current items on loan, renew items, view current requests, cancel requests, view fine/fee information, and view blocks and other messages.

There are no blocks on the consortial level.

Block preferences can be configured in Alma, which will let the library control how various scenarios are handled at circulation desks within the institution. A typical scenario may be as follows:

A patron brings a book to a circulation desk and attempts to borrow the book. When the circulation desk operator enters the book's ID into the system, it is discovered that the book has been requested by another patron, preventing the user from borrowing it. Depending on the block preferences and the staff member's permissions, the block may be overridden.



Description	Actions	Handlers	Blocks
The loan regular due date conflicts with booking request	Override By All	Shorten the due date to the last possible date	
The renew due date conflicts with booking request	Handle Automatically	Shorten the due date to the last possible date	
Item is not loanable	Override By Manager		
Item is not renewable	Override By Manager		
ITEM_CANNOT_BE_LOANED_INSUFFICIENT_DUE_DATE	Block		
Item does not belong to this institution	Block		
Item is on Hold Shelf for this patron	Handle Automatically	Delete the request and loan the item	
Item cannot be loaned due to booking request	Block		
Item has not been received by Acquisitions Department	Block		
Item is requested by another patron	Block	Restart the request, since the item is no longer available	
Item renew period exceeded	Override By Manager		
Item cannot be loaned from this circulation desk	Handle Automatically		
Item cannot be returned at this circulation desk	Handle Automatically		
The loan cannot be renewed due to the loan status	Block		
Item is on hold shelf for another patron	Block	Restart the request, since the item is no longer available	
Patron cash limits has exceeded	Override By Manager		Both
Patron is expired	Override By Manager		
Patron is not active	Override By Manager		
Patron loan limit exceeded	Override By Manager		
Patron overdue limits has exceeded	Override By Operator		Both
Patron overdue recall limit exceeded	Block		Both
Not Renewable ??? Item has Request(s)	Handle Automatically		
Item is currently on loan by another patron	Handle Automatically	Return the item and loan to the new patron	
User does not have a patron role or the role has expired	Block		

The list of block preferences is predefined and cannot be added to or deleted, but the institution can modify its settings. Block preferences are set at the institution level, and these preferences will apply to all libraries within the institution. In addition, there are roadmap plans to propagate blocks to linked accounts across consortium members.

B.3.4.1.10. How the system allows a patron to access services at multiple CSU campuses while maintaining a primary affiliation.

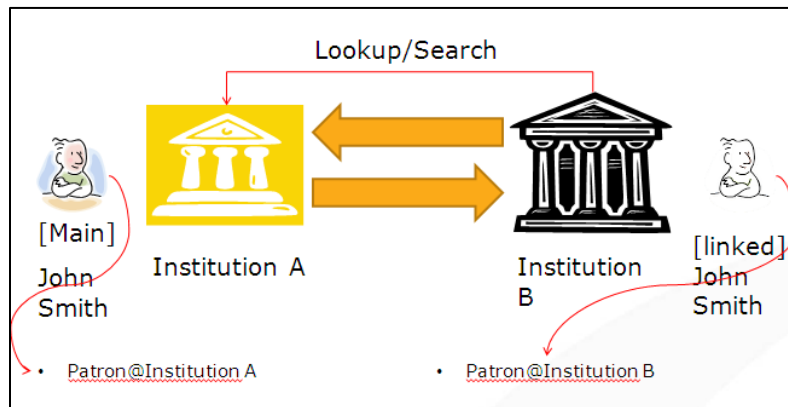
Ex Libris: Walk-in requests are placed by a patron of another CSU institution that directly walks into a library requesting services. The user will be considered a patron of the other institution from a fulfillment perspective. In this process institutions will be able to control:

- The linking institutions to which they expose their user information
- The user types whose data will be exposed
- The user data elements that they are willing to expose

The scenario will therefore be:

1. Patron at the desk wants to check out an item
2. The patron identifies himself with his ID at another institution and the institution he's affiliated with
3. Circulation Desk Operator inputs:
 - a. Patron ID (at his home institution)
 - b. Linked institution
4. Alma looks up the user and replies with:
 - a. Failed\succeeded indication
 - b. A pop up of the supplied information
5. Operator continues with check out action
6. Overriding blocks may be set to be disallowed for external patrons

Walk-in patron identification may be described as in the diagram below, where John Smith of institution B walks into institution A and requests to borrow an item of institution A:



B.3.4.1.11. The ability to update patron records both individually and globally.

Ex Libris: Alma allows authorized staff to create, modify, and delete user records that have been created in-the system. It is possible to edit only specific fields on the General Information tab of the User Details page for users that are maintained in an external system, SIS (Student Information System). Staff cannot edit, but can add contact information to the Contact Information tab. Staff can edit or add information to all the other tabs on the User Details page.

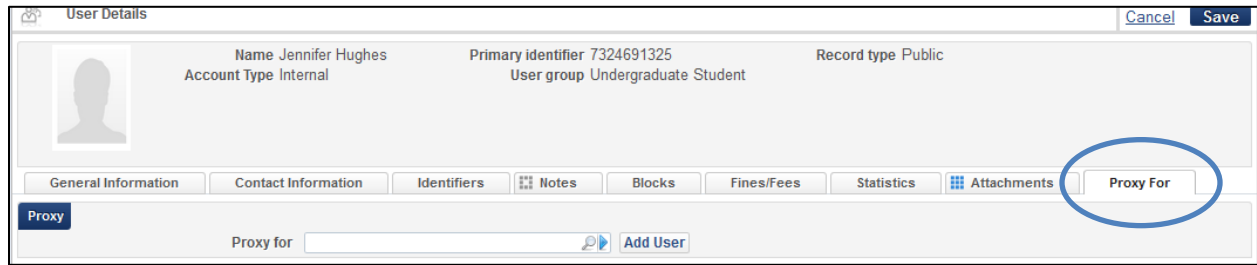
Patron records may be updated independently by staff and/or external ERP systems.

B.3.4.1.12. How the system accommodates multiple patron statuses (staff that is also a grad student, etc.). Does the system allow specification of a hierarchy of privileges of multiple simultaneous statuses when there may be a conflict?

Ex Libris: Alma allows for the definition of patron groups, such as Graduate Student, Undergraduate Student, and Staff patron groups. Each patron must be associated with a single patron group. This enables the library to apply specific rules to the patron, based on the group with which the patron is associated. Rules can vary for different item types and for different patron groups. There can be only one user group attached to a user record. A single user group should be configured for any type of users who require separate policy rules.

B.3.4.1.13. How the system supports proxy and/or linked patron records.

Ex Libris: A proxy user can be defined to perform loans and returns on behalf of another patron. Proxy users are configured on the User Details page, via the **Proxy For** tab:



To loan or return an item on behalf of another user, from the Patron Identification page, the staff operator enters the ID of the user acting as a proxy and selects **Use Proxy**:

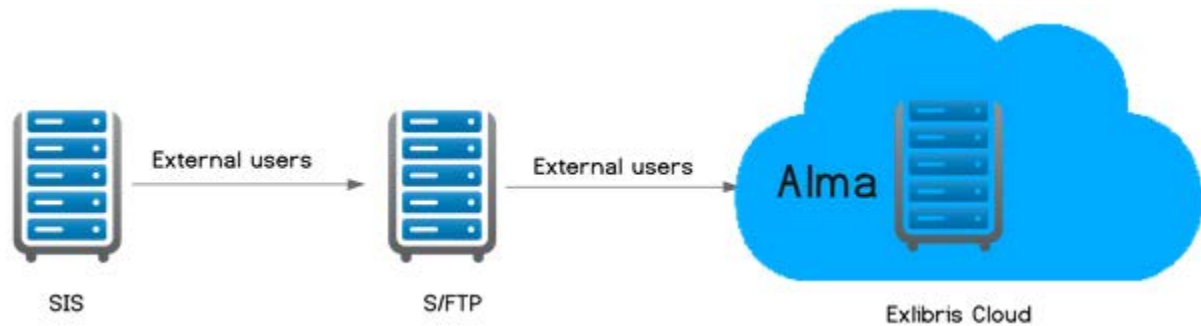


B.3.4.1.14. What information is available after patron records are deleted.

Ex Libris: The mode in which deleting a user record is done is configurable and depends on how the library would like to retain deleted records. The recommended mode includes retaining only statistical information such as the user group and the user statistical categories. A library may also choose to retain full information that is fully reportable in Analytics, or choose to fully delete, leaving no trace of the deleted record.

B.3.4.1.15. How the system supports patron record loading and field protection in existing patron records. Is there an interface for mediating/translating patron data as it is ingested from a student information system? If so, what are the supported options and is scripting functionality (e.g. regular expressions, Perl) provided for more advanced manipulation of incoming data?

Ex Libris: The loading from a Student Information System is performed using zipped XML files that are placed at a predefined, secure FTP location. Alma fetches the files, parses them, and updates external users according to the input file and the parameters defined in the integration profile. The following diagram illustrates the communication between the SIS and Alma:



The loading of external users into Alma can be performed in one of two modes:

- Import
- Synchronize

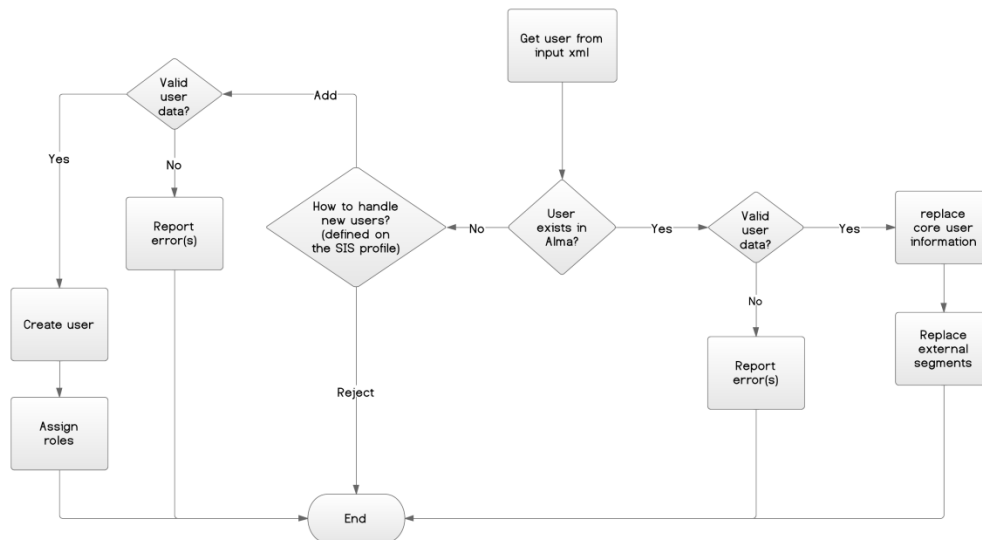
The **import** mode is a one-time load, used to initially create new external users. It is intended to be used only when you have a file of users you know are new, such as during the migration process, when you want to load users from your legacy system into Alma.

The **synchronize** mode is an ongoing load, used to update external users and add new ones.

The input file containing external user information must be in XML format, adhere to the rules defined in the XSD schema (available here: https://developers.exlibrisgroup.com/alma/apis/xsd/external_sys_user.xsd), and contained within a .zip file. The zip file should be placed on a secure FTP server, as defined in the integration profile. After the file is handled by Alma, its name is changed to <filename>.zip.old.

Section B.3.4.1.7. above reviews the synchronization process of loading patron records. Generally speaking, synchronization is performed in a “swap all” mode. This means that all of the existing information is replaced. If a field does not exist in the input file, it is deleted from the existing user. The input file must therefore always include all of external user’s information, not only the updated fields. An exception to this rule is the above-mentioned fields (**User group, Job title, PIN number, and User language**), which are not replaced if they have been updated manually or if they are empty in the incoming user record.

The synchronization job workflow is illustrated in the following diagram:



B.3.4.1.16. How the system integrates with third-party ID card systems, such as CI Badge.

Ex Libris: Patron information may be exported from Alma as XML files. An integration profile may be set up to export new users' information to an FTP location as an XML file, where an external application may grab the file to create cards. In addition, on line integrations via an Alma web service may be used to retrieve patron information in an XML format as an on-line action.

B.3.4.1.17. What kind of data, other than text, can be attached to patron records (e.g. patron photos).

Ex Libris: As mentioned above, patron records in Alma comprise addresses, phone numbers, email addresses, notes, blocks, match IDs, etc. In addition, a photograph of the user may be displayed. Additionally, the patron record includes an Attachments tab which is loaded with all the communications to the patron including overdue letters, notifications of items waiting on the hold shelf, etc. These communications can be downloaded at any time for review.

B.3.4.2. PATRON SELF-SERVICE

Describe or Demonstrate:

B.3.4.2.1. Integration with self-checkout systems, automated material handling systems, and automated storage/retrieval systems.

Ex Libris: Alma integrates with self-check machines via SIP2.0. SIP2.0 is supported for managing self-check actions such as:

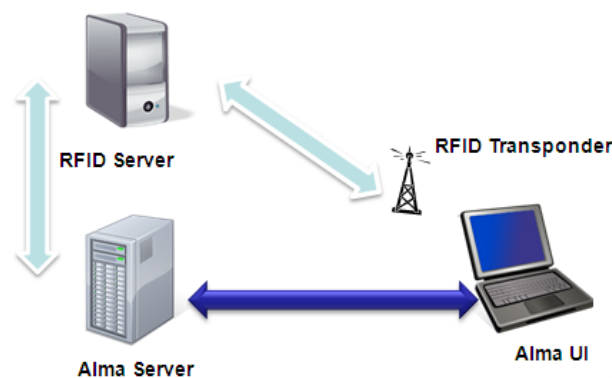
- Self check-out
- Self check-in
- Self payment of fines/fees

All of the SIP2.0 messages that are required for supporting these actions are currently supported in Alma, including:

- 11,12 – Check -Out
- 09,10 – Check- In
- 37,38 – Fee Paid
- 93,94 – Login
- 23,24 – Patron Status Request
- 63,64 – Patron Information

A Self- Check Integration Profile is used to define which of the above listed actions is to be supported by the institution’s different self-check machines. The Self-Check Integration Profile is also linked to an Alma Circulation Desk, inheriting attributes from the attached desk such as which physical locations are served by the self-check machine.

Integration with RFID machines is yet another integration that Alma supports based on standard protocols such as SIP2. Being a cloud application, integrating Alma with RFID enabled machines can be best done based on a server-to-server type of integration, such as is provided by many RFID vendors. This type of integration is described below:



The RFID enabled machines may interact with Alma using this protocol, to:

1. Get feedback on loan/return actions that took place at the desk, signaling the RFID enabled machine that an update of the security bit is required.
2. Self Check – RFID enabled machines communicate can send SIP2 messages to inform that a check-out/check-in action has taken place at the machine. Alma will reply with SIP2 messages that include bin information for the return machine to be able to determine where the item needs to be reshelfed.
3. Update of RFID tags – updating barcodes on the items via Alma’s item forms.

Alma integration with remote storage systems is based on a workflow in which a patron uses Alma’s and Primo’s requesting interfaces to request an item. Alma will automatically request the items held by the Remote Storage. In most instances, the item will be waiting for the patron at the designated circulation desk within the time it takes the patron to walk to the desk.

Returned items are collected at a library check-in location. Alma will determine if the items should be sent back to the shelves or returned to the Automated Remote Storage.

Alma's integration with remote storage systems, such as the Dematic remote storage system, is based on online messages that are communicated between Alma and the remote storage for actions such as:

1. Add item to remote storage
2. Remove item from remote storage
3. Request item from remote storage
4. Check in item at remote storage

This integration is in place and is being used at institutions such as the University of Utah.

In addition to the vendor specific integration that Alma implements with the Dematic remote storage system, Alma may also communicate with remote storage systems by applying NCIP messages at the relevant points in the workflow.

In addition to the Dematic and NCIP based remote storage systems, in which the integration is achieved using Dematic specific online messages or NCIP messages, Alma may also integrate with remote storage systems by sending XML files of requested resources. These XML files are used by the remote storage system to off-line load requests and start processing them in the system.

B.3.4.2.2. Patron self-service capabilities.

Ex Libris: As stated above, Alma complies with various self-service systems via the SIP2.0 protocol, including self-check machines and RFID equipment. Users may also access their My Account details from the self-service kiosks using the SIP2.0 protocol.

B.3.4.2.3. The ability for patrons to opt-in to retain reading history and/or reading lists for materials not yet checked out.

Ex Libris: Reading lists may be exposed to patrons via Primo, or through external applications by using Alma supplied RESTful web services.

In addition, Ex Libris is developing a product that patrons and instructors will use for creating, maintaining, and accessing reading lists, and monitoring their use. This will be a standalone solution which will be tightly integrated with Alma and Primo, and with course management systems. Our plans will facilitate cross-system workflows to expedite the back-office work related to reading lists, and deliver innovative services to instructors and patrons both. We expect this feature to be available in August 2015, ready for the 2015-2016 academic year.

B.3.4.2.4. How the system allows for automated patron information system e.g. tele-renewal.

Ex Libris: Alma and Primo do not include telephone renewal capabilities. Patrons may use the Primo interface to renew items and perform other actions related to their accounts.

B.3.5. COMMUNICATIONS AND NOTIFICATIONS

Describe or Demonstrate:

- B.3.5.1. Types of notices that the system provides (e.g., receipts, paging slips/lists, book bands, hold shelf tags, pick up and overdue notices).

Ex Libris: Alma supports notices to users, external contacts and staff. These can be printed or emailed. There are currently more than 30 types of letters that can be customized locally, including receipts, pick slips/paging slips, hold availability notices, overdue notices, and borrowing activity notices.

Here is a sample of the types of notices provided in Alma:

Borrowed By Letter	Sent to patrons indicating that a proxy user has borrowed an item on their behalf.
Borrowing Activity Letter	Sent to patrons; contains a list of all the patron's loans, overdue items, and active fines. Sent either by a job or by request..
Conversation Letter	Used to conduct communication with vendors.
Courtesy Letter	Sent to patrons in a nightly job; contains a list of the patron's loans that are due. Generated when the Notifications - Send Courtesy Notices and Handle Loan Renewals job runs and one of the following occurs: Conditions of an automatic loan renewal rule are not met A block exists on the patron or item, preventing item renewal)
Fine and Fees Report Letter	Sent to patrons; contains a report of the fine and fee transactions that have been performed over a 1- to 7-day period..
Fine Fee Payment Receipt Letter	Sent to patrons; indicates that payment has been received.
footer.xsl Letter	Defines the text (such as <i>Contact Us</i> and <i>My Account</i>) used in the footer for all letter emails.
Borrowing Info Letter	Sent to patrons; indicates whether a loaned resource sharing item was successfully renewed.
Cancel Request Letter	Sent to patrons; indicates that a request has been canceled and the reason for the cancellation.
Citation Slip Letter	A slip that is printed out by library staff of a course reading list citation, so that the item can be retrieved from the shelf.
Citations Slip Letter	A slip that is printed out by library staff of all course reading list citations so that the item can be retrieved from the shelf.

Digitization Notification Item Letter	Sent to a patron who asked for material to be digitized. The letter informs the patron that the digitization request has been completed and informs the patron where the digital material can be viewed.
Incoming Slip Letter	A slip that is printed out by library staff from the Resource Sharing Lending Requests Task List when they need to retrieve an item from the shelf to be shipped to a borrower.
Lost Loan Letter	Sent to patrons when a loan has been declared lost. Sent either by a job or when manually changing the loan. ..
Lost Loan Notification Letter	Sent to patrons; indicates that if an overdue resource is not returned, it will be considered lost. ..
Lost Refund Fee Loan Letter	Sent to patrons when a loan that was declared lost is found. Includes refund if applicable.
Personal Delivery Letter	Sent to a patron when an item is scanned in for personal delivery from a circulation desk that support personal delivery.
Pickup Request Report Letter	Sent to users; contains a detailed list of resources that need to be picked up.
Resource Request Slip Letter	A slip that is printed out by library staff from the Pick Up Requested Resources page when they need to retrieve an item from the shelf. .
Transit Slip Letter	A slip that is printed out by library staff that is added to an item when it is sent from one place to another.
General Assign To Letter	Indicates that an item has been assigned to someone.
Interested In Letter	Informs someone who is registered as “interested in” about a change in a PO line status. ..
Loan Receipt Letter	Sent to patrons after items are loaned from the circulation desk. .
Loan Status Notice	Sent to patrons; indicates changes in the status of a loan or the due date. ..
mailReason.xsl Letter	Defines the greeting (such as <i>Dear Sir/Madam</i>) used in most letter emails. ..
On Hold Shelf Letter	Sent to patrons; indicates that an item is ready for pickup at the hold shelf.
Order List Letter	Sent to vendors; contains a list of ordered items.
Order Now Letter	Sent to a staff user who initiates an immediate order that bypasses the usual procedure. The letter indicates whether the order is successful.
Overdue Notice Letter	Sent to patrons; contains a list of all the patron’s loans due that day. Sent in a nightly job.
PIN Number	Sent to patrons when a PIN code is set in the user management pages.

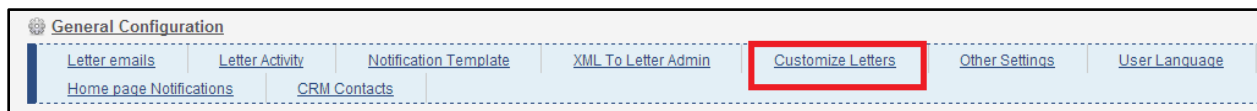
Generation Letter	
PO Line Cancellation Letter	Sent to vendors, requesting that an order be canceled.
PO Line Claim Letter	Sent to vendors when an order does not arrive by the expected date
PO Line Renewal Letter	Sent to vendors, requesting that a subscription be renewed.
Process Bib Export Finished Letter	Sent to a staff user, indicating that a bibliographic export has finished.
Process Creation	This letter is sent upon completion of some user-submitted jobs.
Receiving Slip Letter	A slip that is printed out by library staff with item information that is put in a new item when it arrives at the library.
Return Receipt Letter	Sent to patrons after items are returned to the circulation desk.
Short Loan Letter	Sent to a patron when loaning an item for a short period (number of hours), informing the patron of the due date and the fine policy.
SMS Cancel Request Letter	An SMS message sent to patrons indicating the reason for the request cancellation.
SMS Courtesy Letter	An SMS message indicating that the due date for a loaned item is approaching.
SMS Change Due Date Letter	An SMS message sent to patrons indicating changes to the due date.
SMS Lost Loan Letter	An SMS message sent to patrons when a loan has been declared lost. Sent either by a job or when manually changing the loan.
SMS Lost Loan Notification	An SMS message sent to patrons; indicates that if an overdue resource is not returned, it will be considered lost.
SMS On Hold Shelf Letter	An SMS message indicating that an item requested by a patron is on the hold shelf.
SMS Overdue Notice Letter	An SMS message indicating that a loaned item is overdue.
SMS User Borrowing Activity Letter	An SMS message sent to patrons containing a list of all the patron's loans and active fines. Sent either by a job or by request.
System Job Letter	Sent when jobs initiated in Alma start and complete (letter is sent to the user who initiated the job).
Trial Letter	Contains a request to evaluate an electronic resource.

User Deletion Letter	Sent to a patron before the patron is deleted, containing details of the patron's active fines and fees.
----------------------	----------------------------------------------------------------------------------------------------------

B.3.5.2. The ability to customize, design, and brand print and electronic notices.

Ex Libris: Notices in Alma are based on XML files that are generated by the system, and run through XSL files that customize and set the styling on the Alma-generated XML data. The XSL files are fully customizable by the library, so that styling of the printouts is fully controlled by the library.

Notices and forms can be customized at the institution level and inherited by all libraries, or any sub-library can customize their own rules and notices. The delivery schedule of notices can also be configured. The Configuration Files page lists all of the XML style sheets that are used to format each type of letter and determine what XML data fields display in the letter emails and SMS messages. Alma allows you to configure these style sheets to customize letters for your institution. The customizations may include changes to the style, the addition or subtraction of information sent to users, and so forth.



Customized	Enabled	Filename	Description	Updated by	Update Date	
	✓	./xsl/letters/sms/SmsFulPlaceOnHoldSh...	Sms Ful Place On Hold Shelf Letter	-	-	Customize
	✓	./xsl/letters/call_template/style.xsl	Style Letter XSL	-	-	Customize
	✓	./xsl/letters/call_template/smsRecord...	sms record Title xsl	-	-	Customize
✓	✓	./xsl/letters/call_template/senderRec...	Sender Receiver Letter XSL	anna	08/14/2013	Actions
	✓	./xsl/letters/call_template/recordTit...	record Title xsl	-	-	Customize
	✓	./xsl/letters/call_template/mailReaso...	Mail Reason Letter XSL	-	-	Customize
	✓	./xsl/letters/call_template/header.xsl	header Letter XSL	-	-	Customize
	✓	./xsl/letters/call_template/footer.xsl	Footer Letter XSL	-	-	Customize
	✓	./xsl/letters/UserDeletionLetter.xsl	User Deletion Notification Letter	-	-	Customize
	✓	./xsl/letters/TrialLetter.xsl	Trial Letter	-	-	Customize
	✓	./xsl/letters/SystemJobLetter.xsl	System Job Letter	-	-	Customize
	✓	./xsl/letters/ReceivingSlipLetter.xsl	Receiving slip Notification Letter	-	-	Customize
	✓	./xsl/letters/ProcessBibExportFinishe...	Finish Bib Export Notofocation Letter	-	-	Customize
	✓	./xsl/letters/POLineRenewalLetter.xsl	POLine Renewal Letter	-	-	Customize
	✓	./xsl/letters/POLineClaimLetter.xsl	POLine Claim Letter	-	-	Customize
	✓	./xsl/letters/POLineCancellationLette...	POLine Cancellation Letter	-	-	Customize
	✓	./xsl/letters/PINNumberLetter.xsl	PIN Number Generation Letter	-	-	Customize
	✓	./xsl/letters/OrderNowLetter.xsl	Order Now Letter	-	-	Customize
✓	✓	./xsl/letters/OrderListLetter.xsl	Order List Letter	exl_support	01/29/2014	Actions
	✓	./xsl/letters/LendingReqReportSlipLet...	Lending Requests Report Slip Letter	-	-	Customize
	✓	./xsl/letters/InterestedInLetter.xsl	Interested In Letter	-	-	Customize
	✓	./xsl/letters/GeneralAssignToLetter.xsl	General Assign To Letter	-	-	Customize
	✓	./xsl/letters/FulUserOverdueNoticeLet...	Ful Use Overdue Notice Letter	-	-	Customize
	✓	./xsl/letters/FulUserLoansCourtesyLet...	Ful User Loans Courtesy Letter	-	-	Customize
	✓	./xsl/letters/FulUserBorrowingActivit...	Ful User Borrowing Activity Letter	-	-	Customize
	✓	./xsl/letters/FulTransitSlipLetter.xsl	Ful Transit Letter	-	-	Customize

B.3.5.3. The types and methods of automated and staff-initiated patron notifications the system provides (e-mail, SMS, instant messaging, mail, telephone etc.). How would this work for hourly checkouts?

Ex Libris: When an hourly check out is done, Alma immediately sends an email (or SMS) reminder to the patron. This serves as a reminder for the patron, in addition to an overdue notice that will be triggered should the patron fail to return the item when due.

Patron notices can be printed or emailed. There are currently over 30 types of letters that can be customized locally. Some notices are sent as a batch job overnight (fines/fees, courtesy notices, due date reminders) and others are sent real time (borrowing activity, fine payment receipt, recall/hold notifications). Generally speaking, courtesy notices and reminders are sent as a batch job and notifications of a change are sent real time.

Email messages can be sent to patrons from the patron record by activating the email icon on the General Summary tab. Alma supports standard SMS communications (e.g. for item on hold shelf, courtesy notices, overdue notices, etc.). SMS messages are sent to patrons only if they have indicated preferred SMS numbers.

In general, the transmission of SMS notifications is based on an external SMS service provider, which handles the actual SMS message delivery. Alma's role is to identify the need to text the patron and produce a message with the required information in the format defined by the institution. Alma places the required information at a configured FTP location for the service provider to collect and subsequently deliver to the patron.

B.3.5.4. Circulation events that trigger generation of notices.

Ex Libris: There are many events which may trigger notices, as the list provided above suggests. For example, Alma automatically sends patrons courtesy notices and due date reminders via email, in addition to lost loan notices, and notifications of items waiting on the hold shelf, etc. The list provided above includes additional examples. Each CSU institution may configure which notices are active for their institution.

B.3.5.5. The ability to schedule generation of notices.

Ex Libris: Some notices are sent as a batch job overnight (fines/fees, courtesy notices, due date reminders) and others are sent real time (borrowing activity, fine payment receipt, recall/hold notifications). Generally speaking courtesy notices and reminders are sent as a batch job and notifications of a change are sent real time.

B.3.5.6. Staff intervention/communication options between individual libraries about local and consortial transactions.

Ex Libris: Consortial transactions, where managed using Alma's resource sharing features, allow for borrower and lender to exchange loan related information using built in 'General messages'. The general messages may be triggered by either the lender or the borrower, and show up at the peer library's task list in attachment to the loan to which it relates.

B.3.5.7. Standard and custom patron and item alerts.

Ex Libris: All notices in Alma may be customized by each CSU institution and any of its sub-libraries as described above in B.3.5.2.

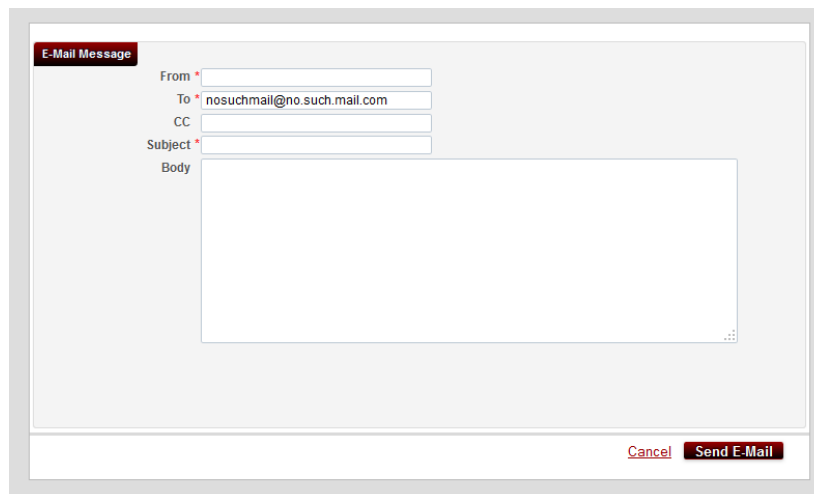
- B.3.5.8. Notice and label templates available for each type of notice or label generated, with the ability to customize and brand for each individual library?

Ex Libris: Letters are generically configured out of the box. Each CSU institution and sub-library may customize their own rules and notices. Each library can edit the XML style sheet that is used to format each type of letter and determine which XML data fields display in the letter emails and SMS messages.

Alma has the ability to integrate with locally used label printing applications through downloading a local component that utilizes web service to communicate with Alma and the local label printer. You can choose to use the Alma provided Label Printer BIAF, your existing one, or tools created by other Alma customers.

- B.3.5.9. The ability to send custom and standard emails/SMS from patron records within the system.

Ex Libris: Staff with the appropriate role may trigger a general email sending interface when looking at a patron record. This interface may be used to send any type of notice to a specific patron.



C. DISCOVERY AND USER EXPERIENCE

The CSU libraries seek a resource discovery system, *either as part of a library services platform or as a stand-alone offering*, that allows users to search the library's various collections with a either a simple, "Google-like" search experience or using more advanced search options.

Most users do not understand the myriad resource silos and access restrictions they encounter when searching library collections. Because our libraries serve diverse user needs, levels, and requirements, we seek a discovery system that will serve the needs of all our users.

C.1. REQUIREMENTS

Any Discovery system must:

- Seamlessly connect users to all available content.
- Make availability and access clear and easy to the user.
- Allow the user to fully manage their experience.
- Use existing campus user credentials for authentication and authorization.
- Integrate with any library services platform selected by the CSU

C.2. DISCOVERY

We envision a discovery system that enables discovery of resources, regardless of format or resource type, in locally held collections and beyond. The discovery system will enable users to customize their search experience by setting selected parameters

Librarians will be able to set and control available search parameters through an intuitive backend interface. The discovery system will index metadata and full text documents from disparate resource silos, and present an integrated, faceted search through an intuitive interface.

Describe or Demonstrate:

- C.2.1.** The discovery system's integration with third-party library services platforms. Which systems are supported and to what degree?

Ex Libris: Primo is a unified solution for the discovery and delivery of the full spectrum of library materials—print, electronic, and digital—regardless of format and location. Primo supports the ability to harvest resources from any ILS, as well as a diverse range of library-selected data sources, including digital repositories such as ContentDM and DSpace as well as LibGuides and more. Primo, like other Ex Libris solutions, is built upon an open platform, allowing clients to extend the system for interoperability with third-party applications, plug-ins and custom code.

Bringing together unified resource management and unified discovery, Alma and Primo are tightly integrated in order to provide the end user with the most effective, easy to use, and seamless user experience. Library users are able to:

- Search and access Alma-managed resources via the Primo interface
- Access library services in Alma directly from the Primo interface, including:
- Electronic access to an e-resource
- Location information for physical items
- Digital services where applicable
- License information where applicable
- Request options fine-tuned to the item location and patron type
- Course Reserve information
- My Account details

Primo integration supports next-generation user services such as patron-driven acquisitions, smart fulfillment, digitization-on-demand, and more, through its unique, advanced integration with Alma. This type of integration is available without any additional work from the library. Through a unified, intuitive interface, end-users can discover and request items from the Alma Institution (local institutional holdings, digital collections, etc.), as well as access commercial and

open access resources through Primo's Central Index.

- C.2.2.** A listing of those databases, publishers, open access repositories, and other data sources that are indexed by the discovery system and the level of indexing, e.g. metadata or full-text.

Ex Libris: Please see the Primo Central Collection lists provided in Section 2 (Confidential Information) of this response.

- C.2.3.** The level of control each campus will have over the indexing of local catalog and digital collection records. To what degree can each campus modify indexing, scopes, and facets?

Ex Libris: Through Primo's strong consortium support, each institution within a consortium can leverage its trusted relationship with its users to deliver to them the most appropriate and relevant information. Consortium members can not only each have their own Primo view with local branding, but also other site-specific parameters such as field order, labels, facet locations and much more. Each view can have its own CSS and interface element layout set. And, a central view can be defined for the entire consortium, allowing for easy administration and maintenance. The ILS and link resolver holdings from multiple locations can be de-duplicated and presented with holdings lists ranked by owning location (per view) and availability.

The Back Office is a Web-based module that enables access to all of the Primo configuration options and advanced monitoring facilities. From the dashboard, staff can view at-a-glance status information for the system's pipes, processes, search engines, and database. Clicking on any of these status indicators will display more in-depth information, as well as a graph of statistics.

The Back Office consists of:

- Configuration and Management wizards for initial, ongoing and advanced configurations
- Monitoring and Maintenance functions to:
 - Monitor Primo status
 - Run Primo reports
 - Schedule tasks (such as cleanup, indexing, index swapping, etc.)
- View PNX records (Primo Normalized XML)
- Search Statistics Display
- Site Map

In a consortial environment, each library will have its own set of configuration files (institution, data source, normalization rules, pipes) which will ensure that each library can maintain its own configuration settings.

- C.2.4.** An intuitive interface that searches disparate resource silos and enables users to create searches using natural language queries.

Ex Libris: Primo is a unified solution for the discovery and delivery of the full spectrum of library materials—print, electronic, and digital—regardless of format and location. Primo supports the ability to harvest resources from Alma, as well as from a diverse range of library-selected data sources, including other digital repositories, LibGuides and more.

Through a unified, intuitive interface, end-users can discover and request items from the Alma Institution Zone (local institutional holdings, digital collections, etc.), items from the Alma Network Zone (shared, consortium-wide resources), as well as access commercial and open access resources through Primo's Central Index.

Primo harvests metadata and full-text where applicable from each source, generating normalized, indexed information that can be quickly and efficiently accessed by end-users. Primo performs the following processes as part of the harvesting operation:

- Intelligent harvesting of raw data from a variety of standard and library-defined metadata schemas;
- Metadata normalization;
- Metadata enrichment, based on proprietary algorithms and external information;
- De-duplication and title grouping.

Primo serves researchers of every skill level by providing two search interfaces: a simple keyword search and an advanced search. The configuration of both interfaces can be defined by each CSU member, including how many pre-search limiters to offer, what types of limiters, which sorting options to offer, and more.

Primo offers several features to aid users in their search, including "Did You Mean?" search suggestions based on spelling corrections and other algorithms, and a more sophisticated "Did You Mean" suggestions based on synonyms. Primo also offers alternative spelling options (e.g., British and American variations or commonly misspelled words), context-sensitive autocomplete, and supports semantic searching (for example, when a user types a questions into the search box, they are still returned accurate and relevant results).

- C.2.5.** Retrieval of relevant items available to users regardless of format or physical location including display, organization, and limits of intuitive search results.

Ex Libris: Primo, Ex Libris' advanced discovery solution, provides academic and research libraries with unified discovery across all library resources, regardless of format or location. It supports the needs of students, faculty and researchers by unifying access across print, electronic, and digital resources in a single, intuitive search interface. Primo has been adopted by libraries around the globe, of all sizes and types.

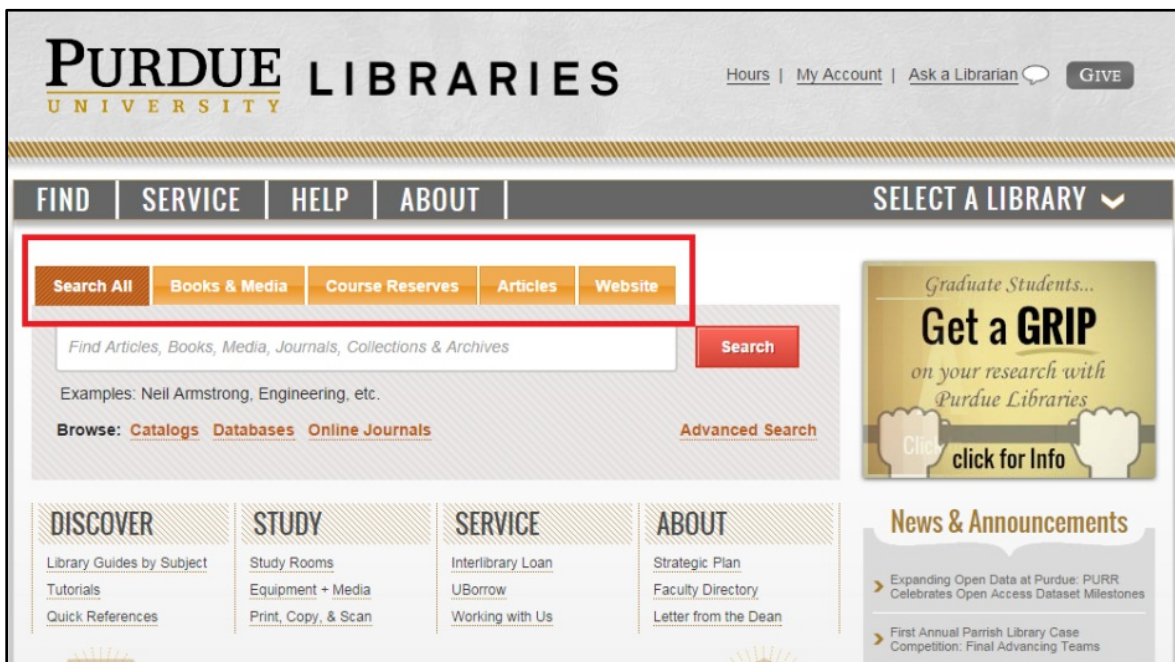
Primo offers libraries unparalleled flexibility. Among many other configuration options, such as branding, search scopes, search limits and refinements, libraries can use Primo's facets but also create their own facets and place them on the results page in the way that libraries find best for their individual institution and end users. Librarians can also tweak the ranking algorithm and control the blending of results from the Primo Central Index of remote, electronic resources and local collections, ensuring that local collections are not drowned in the vast amount of global results.

- C.2.6.** Users' control of the scope and refinement of a search.

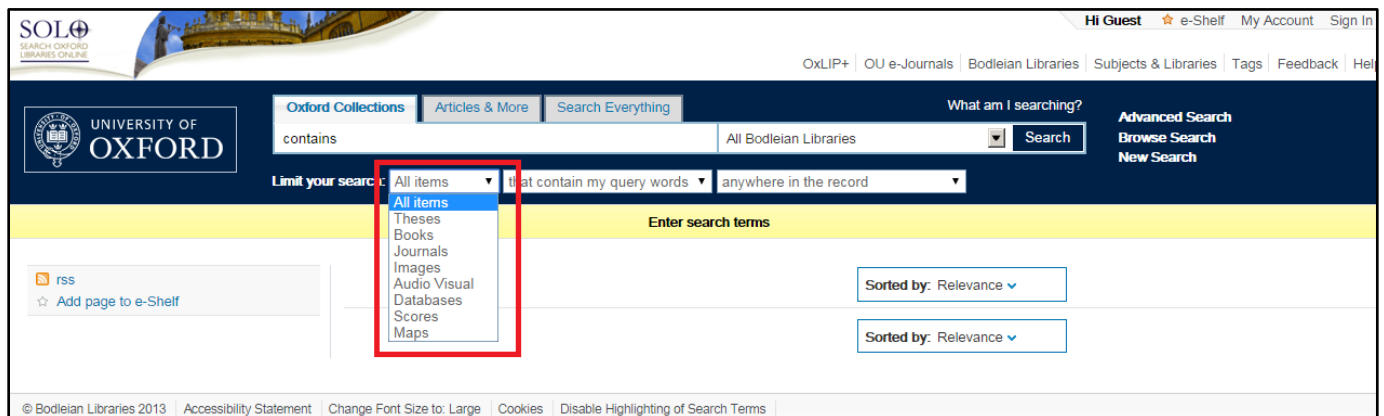
Ex Libris: Primo provides pre-and post-search limiters. Both the basic and the advanced

search are customizable. Pre-search limiters can be included in the basic search as well as the advanced search. Post-search limiters include facets and limiters to narrow the results to items available in the library, items that are available full-text online, or only peer-reviewed items. Default facet options include resource type, language, creator, topic, genre, classification (LCSH, MeSH), local thesauri, creation date, format, file size and collection. The library can customize facet types, labels, order, and the order of the facets values within a facet group. In addition to default facet types, customers may add custom facets.

Pre-search filter options include location, collection, item type (such as the ILS catalog only, or articles only), format (such as book, DVD, map, etc.), and more. The advanced search offers even more filters: language, publication date, phrase searching, and more. All filters are library-defined, and the library can decide which filters to use in the simple and advanced searches. Below are some examples at various Primo libraries:



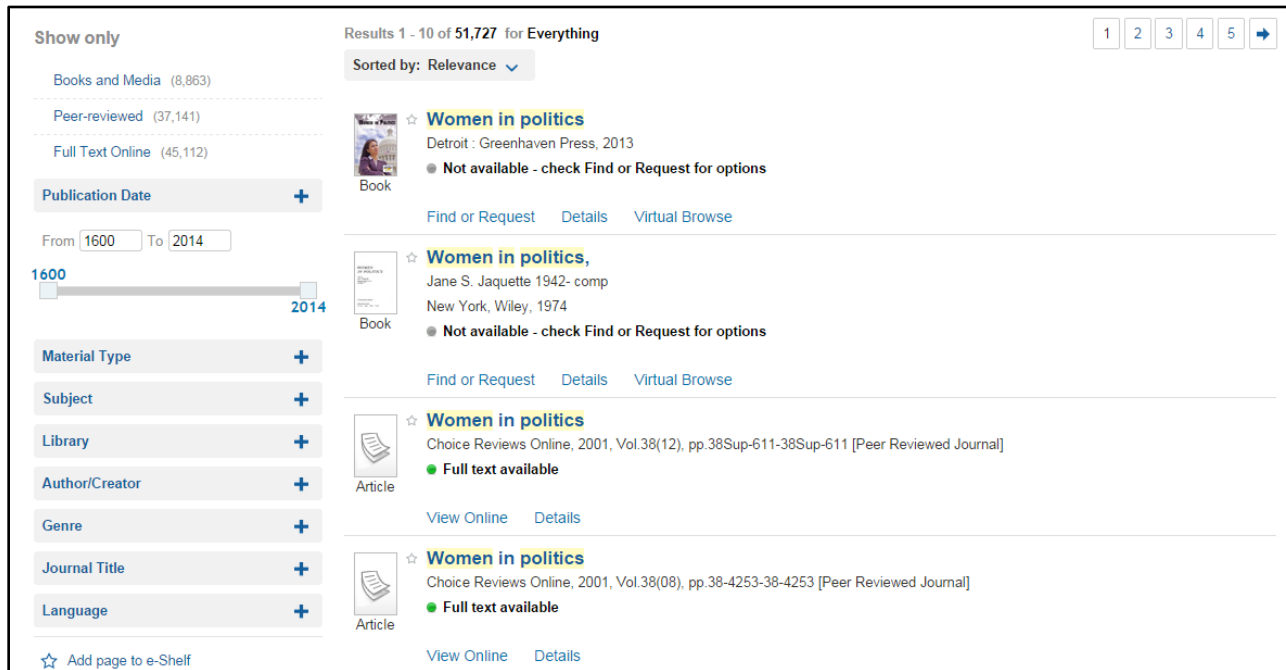
Search Scopes Offered at Purdue University Libraries



Format based pre-search filters at Oxford Libraries

The screenshot below is an example of a search performed at Virginia Commonwealth

University and the numerous facets presented to the end user. Note the options to limit to Peer-reviewed Journals only, Full Text Online, and Available in the Library, as well as the ability to refine the search by location of the material:



The library decides which pre-search and post-search limiters to offer patrons. During implementation, your library will be able to make decisions about how facets, limiters, etc., will be configured. After implementation, the library may use the Primo Back Office to make changes to the configuration.

C.2.7. Method used to find, interpret and assign metadata to facets in the system.

Ex Libris: Primo is delivered with a large number of default facets. However, the library may modify the facets, add new facets, and change the order in which the facets are displayed and sorted. Default facets delivered with Primo include collection, location, material type, language, publication date, online items only, and any metadata in the Primo record (title, author, subject, etc.).

Facets and data points may be re-ordered and otherwise customized, at the library's convenience. Note that availability is not a true facet, but rather a search refinement, as seen here:



Types of facets:

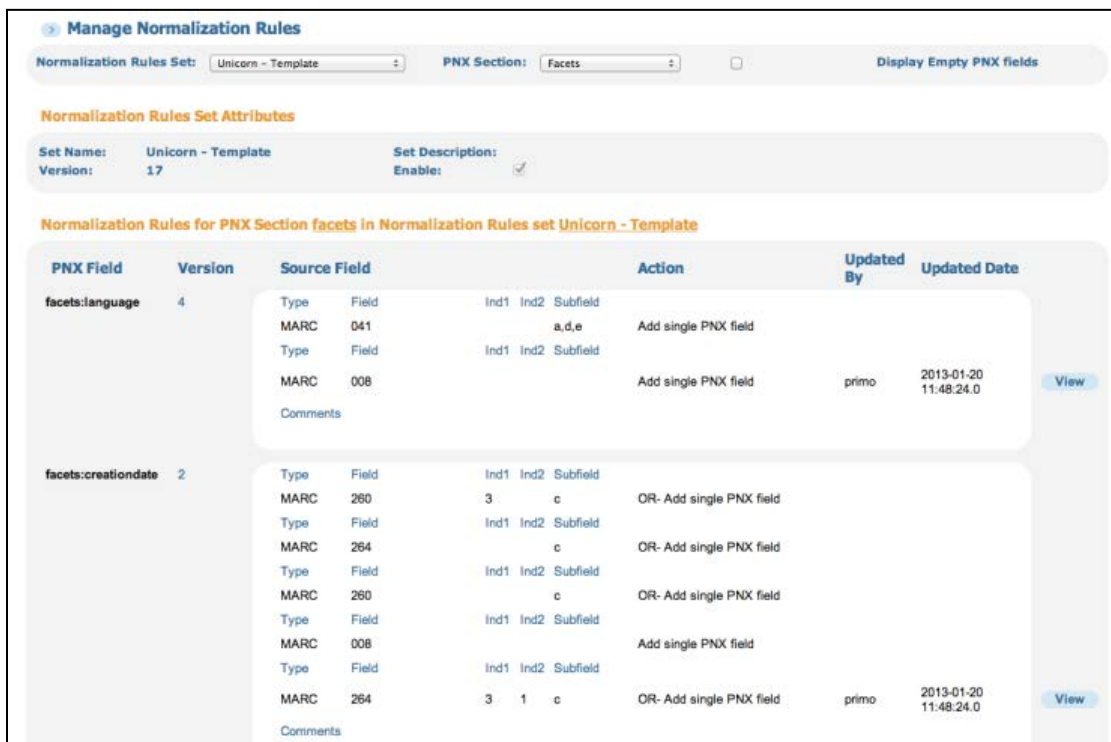
Dynamic - in which the values for each facet category (such as topic) are derived from the values stored in the Facets section of the 200 top-ranked PNX records in the search results. Once the system determines which values to display for each category, it counts the matching records from the first 50,000 results per slice and display the count next to the facet value. In general, all facets are dynamic unless you define and enable static values for the facet.

Static - in which the values for a facet category are taken from a list of predefined values defined in a static facets values mapping table. Static facets are useful for categories (such as resource type) that have a limited number of possible values not exceeding 200, which is the maximum limit for static facets. It guarantees that a facet will display even if it does not have a matching record in the 200 top-ranked records.

After the system retrieves the list of facet values for each category, it counts the number of matching records found in the first 50,000 results per slice and displays the count next to each of the predefined facet values. If a facet value has no matching records, it will not display on the Brief Results page. All static facet labels display on the Brief Results page regardless of the maximum value specified in the Search Engine Configurations.

Top-level static - Displays in the Show only sections of the Brief Results page. Unlike other types of facets, top-level facets display even if matching results are found only in one category (such as Available in the library).

As noted above, Primo is delivered with a large number of default facets, and the library may add up to fifty local facet fields. Below are two screenshots from the Primo Back Office that illustrate facet definition:



Manage Normalization Rules

Normalization Rules Set: Unicorn - Template | PNX Section: Facets | Display Empty PNX fields

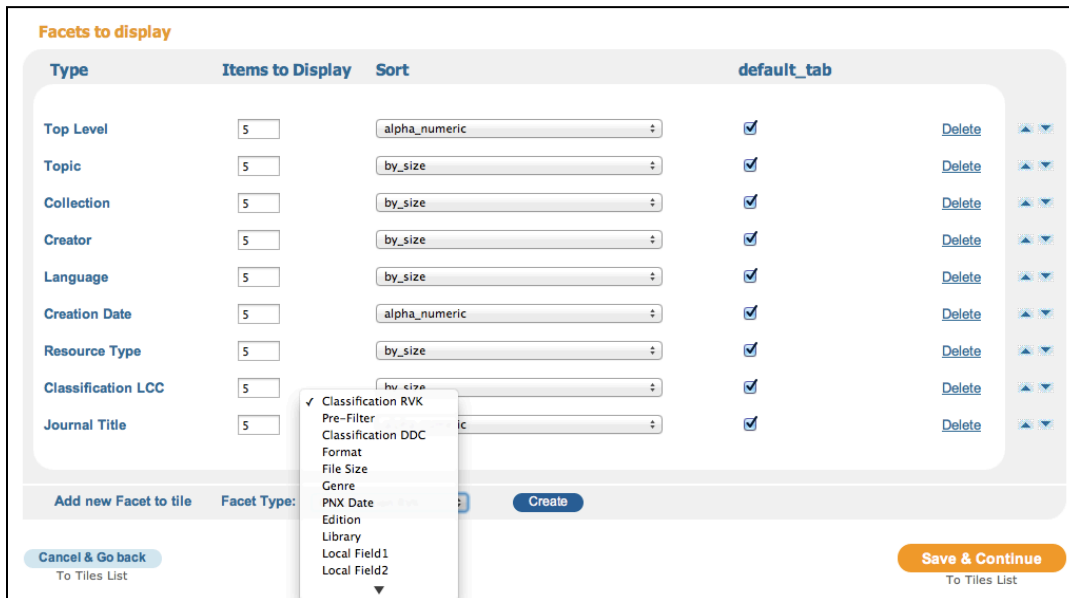
Normalization Rules Set Attributes

Set Name: Unicorn - Template | Set Description: Enable:

Version: 1.7

Normalization Rules for PNX Section facets in Normalization Rules set Unicorn - Template

PNX Field	Version	Source Field	Action	Updated By	Updated Date
facets:language	4	Type: Field Ind1 Ind2 Subfield			
		MARC 041 a,d,e	Add single PNX field		
		Type: Field Ind1 Ind2 Subfield			
		MARC 008	Add single PNX field	primo	2013-01-20 11:48:24.0
Comments					
facets:creationdate	2	Type: Field Ind1 Ind2 Subfield			
		MARC 260 3 c	OR- Add single PNX field		
		Type: Field Ind1 Ind2 Subfield			
		MARC 264 c	OR- Add single PNX field		
		Type: Field Ind1 Ind2 Subfield			
		MARC 260 c	OR- Add single PNX field		
		Type: Field Ind1 Ind2 Subfield			
		MARC 008	Add single PNX field		
Type: Field Ind1 Ind2 Subfield					
MARC 264 3 1 c	OR- Add single PNX field	primo	2013-01-20 11:48:24.0		
Comments					



Type	Items to Display	Sort	default_tab	
Top Level	5	alpha_numeric	<input checked="" type="checkbox"/>	Delete
Topic	5	by_size	<input checked="" type="checkbox"/>	Delete
Collection	5	by_size	<input checked="" type="checkbox"/>	Delete
Creator	5	by_size	<input checked="" type="checkbox"/>	Delete
Language	5	by_size	<input checked="" type="checkbox"/>	Delete
Creation Date	5	alpha_numeric	<input checked="" type="checkbox"/>	Delete
Resource Type	5	by_size	<input checked="" type="checkbox"/>	Delete
Classification LCC	5	by_size	<input checked="" type="checkbox"/>	Delete
Journal Title	5	by_size	<input checked="" type="checkbox"/>	Delete

A single record can have many types of facets, as well as multiple values for a single facet type.

C.2.8. How the vendor responds to requests to create customized indexes and facets.

Ex Libris: Using the Primo Back Office, the library can configure which facets will appear, as well as the sorting of the results of the facets, etc. In addition to the out of the box facets provided with Primo, the library can define additional facets. Please refer to our response to C.2.3 for more information.

C.2.9. Supplemental and contextual information provided about items such as book covers, tables of content, indexes, etc. and accommodates add-in resources for discovery (e.g. LibraryThing, book covers, Google Books preview).

Ex Libris: Primo local records can be enriched with additional data. During the enrichment stage, data can be added to enhance the discovery and delivery functions. Some examples of this include:

- Library of Congress: classification numbers translated to description
- Amazon: thumbnails, book covers, reviews (link-to)
- Syndetics: table of contents, abstracts, reviews, book covers
- Customer-defined enrichments: “plug-in” enrichments
- Google Books

Snippets can be taken from abstracts, full text, and tables of contents and displayed in the brief results. The library can define which of these is used for the snippet.

C.2.10. How you will facilitate both known-item searches and open-ended searches (e.g. authors, titles, subject terms, etc.).

Ex Libris: Primo facilitates known-item searches in a number of ways. To begin with, searchers may limit their searches as described immediately above, by library-defined

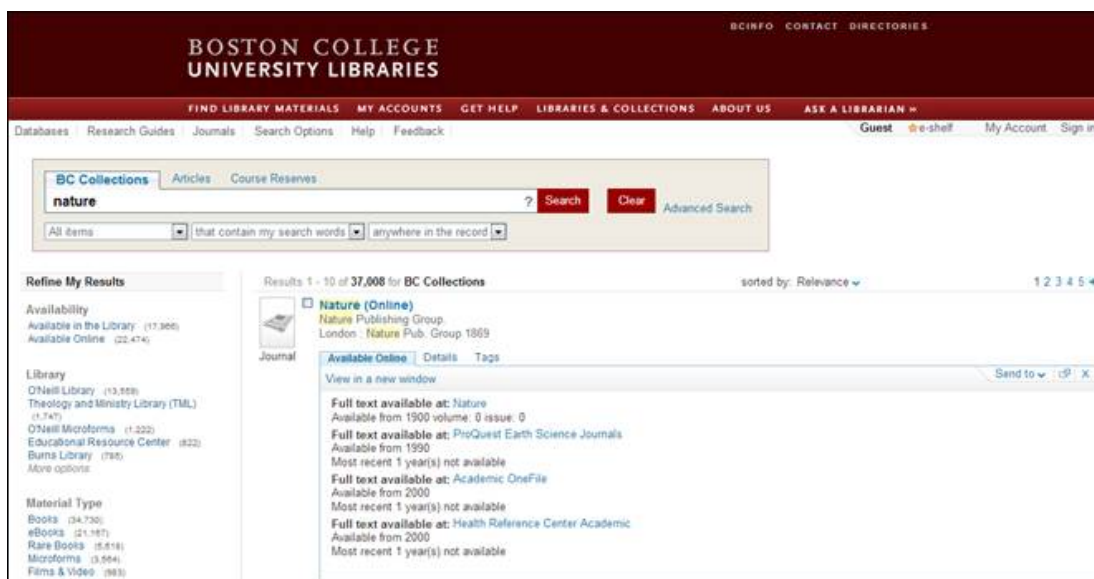
parameters.

A user’s specific information need is factored into the relevance-ranking equation in Primo. By analyzing a query, the Primo ScholarRank technology “infers” the user’s need and adapts to the type of search (a known-item search, narrow topic search, broad-topic search, or author-related search). For example, in a broad-topic search, reference materials or review articles are likely to be more relevant to the user than an article dealing with a specific aspect of the subject matter.

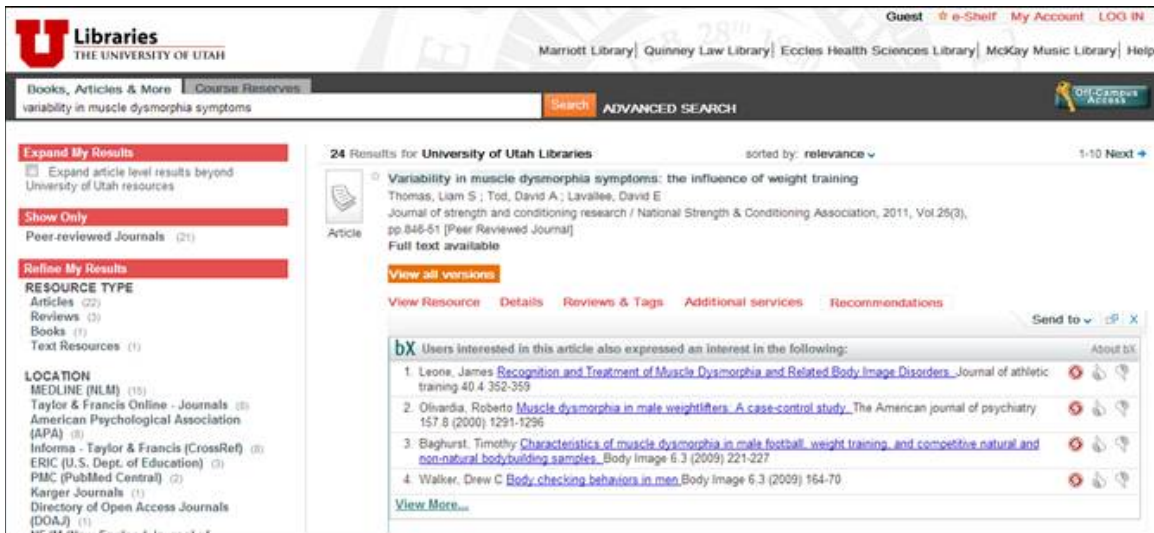
Additionally, Primo’s relevancy ranking configuration (“boosting”) allows the library to boost some items ahead of others, on a per-field basis, increasing the likelihood that a search for a specific title or author will be close to the top of the result set. Ranking is based on the metadata and full-text, and Primo provides the ability to manipulate the relevancy ranking algorithm by defining field-level boosting factors, as follows:

- Setting the importance of specific fields for boosting purposes;
- Boosting documents in publishing by use of normalization rules. A number is placed in the boost field in the Primo Normalized XML record, and the ranking algorithm relates to this number when defining the item’s rank. The boost field may push the item up or down in the ranking in varying degrees, depending on the value that populates it;
- Boosting by synonyms—typically, a record that contains a synonym to the searched term should be ranked below a similar record that contains the searched term. The degree to which the record that contains the synonym should be pushed down is configurable; and
- Boosting local collections vs. Primo Central content.

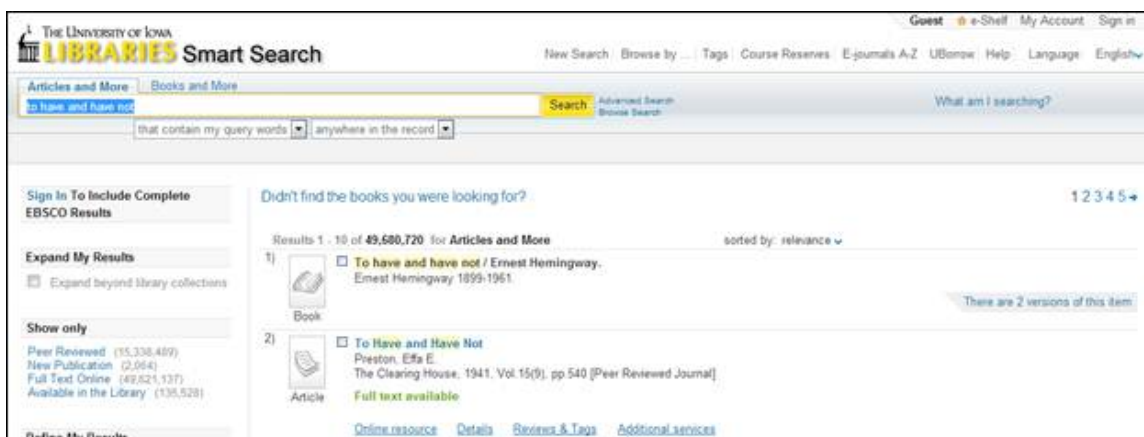
Primo’s keyword search delivers relevant results even with an open-ended search, thanks to relevancy ranking and indexing. Below, a search for the general term “Nature” reveals the journal title “Nature” and, specifically, the online version as the first result:



A search for a known article title reveals even more exact results, with the expected title “variability in muscle dysmorphia symptoms” at the top of the result set. Also shown here is an example of Primo’s article recommendation capabilities:



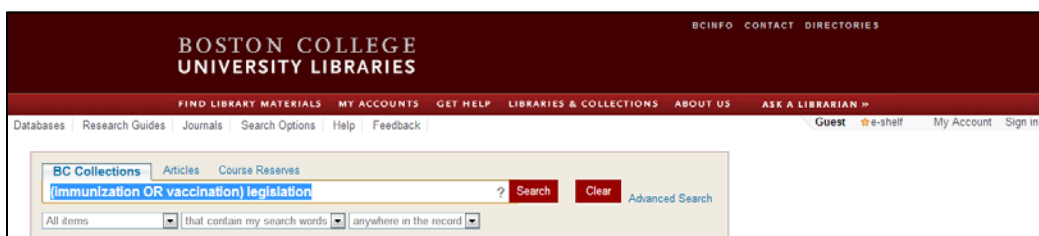
Below is a list of results for the search “to have and have not” at the University of Iowa:



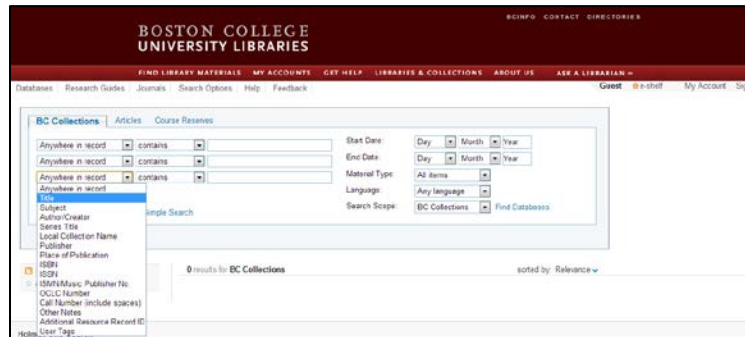
Primo also makes it easy for end users to find resources based upon author. End users can use Primo’s author index to pre-limit the search to terms found within the author fields of the Primo normalized record. Alternatively, end-users can leverage Primo’s author facet to narrow results.

C.2.11. Facilitation of advanced search features.

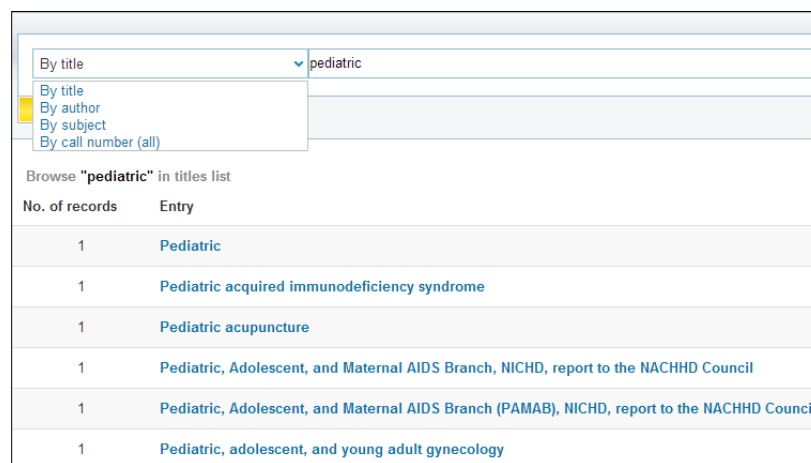
Ex Libris: Primo allows advanced searchers to input their own Boolean search statement in the search bar:



Additionally, Primo provides a guided advanced search interface with up to three advanced search bars, with drop down menus to qualify the search ('contains', 'is (exact)' or 'starts with'). The limits are defined by the library. Also, note the ability to limit the search by date:



In addition to the searches described above, Primo offers browse search functionality, enabling users to browse through subject headings, titles, authors, and call numbers in the familiar Primo interface, providing yet another distinct method of advanced searching, as seen below:



Finally, Primo's ScholarRank technology takes into account certain characteristics of a user to provide personalized ranking. For example, by applying information about the user's area of research, ScholarRank can boost materials related to the user's discipline when the topic that is inferred from the query is ambiguous. The first time a user logs in to Primo, they are prompted to provide information about their academic degree. If the user provides this, ScholarRank is able to boost materials that would be considered appropriate for that degree; for example, for a query submitted by a researcher who holds a Ph.D., in-depth items would be among the highest ranked. Below is the selection box the user employs to select disciplines:

Personalize your results

Degree:

Discipline:

<input type="checkbox"/> Agriculture & Forestry	<input type="checkbox"/> Library & Information Science
<input type="checkbox"/> Anthropology	<input type="checkbox"/> Mathematics
<input type="checkbox"/> Arts & Humanities	<input type="checkbox"/> Medicine
<input type="checkbox"/> Biology	<input type="checkbox"/> Nursing
<input type="checkbox"/> Business	<input type="checkbox"/> Pharmacy, Therapeutics & Pharmacology
<input type="checkbox"/> Chemistry	<input type="checkbox"/> Philosophy & Religion
<input type="checkbox"/> Computer Science	<input type="checkbox"/> Physics
<input type="checkbox"/> Earth Sciences	<input type="checkbox"/> Political Sciences
<input type="checkbox"/> Economics	<input type="checkbox"/> Psychology
<input type="checkbox"/> Education	<input type="checkbox"/> Public Health
<input type="checkbox"/> Engineering	<input type="checkbox"/> Sciences
<input type="checkbox"/> Geography	<input type="checkbox"/> Social Sciences
<input type="checkbox"/> Languages & Literature	<input type="checkbox"/> Sociology
<input type="checkbox"/> Law	<input type="checkbox"/> Veterinary Medicine

If you want us to find materials that better match your needs, please give us a few details about yourself. These details will enable us to display items that are more relevant to you at the top of the results list.

ExLibris Primo search results for "brain damage". The interface shows 69,970 results for the Primo Local Repository. The "Refine My Results" sidebar on the left includes a "Discipline" filter where "Psychology" is selected. Three search results are highlighted with callouts:

- Rehabilitation of Brain Damage** by Robertson, Ian H ; Murre, Jaap M. J. (Psychological Bulletin, 1992, Vol. 125(5), p.544-575)
- Personality disturbances associated with traumatic brain injury. (Special Section: The Emotional Concomitants of Brain Damage)** by Prigatano, George P. (Journal of Consulting and Clinical Psychology, 1992, Vol.60(3), p.360(9))
- The Hunt-Minnesota Test for Organic Brain Damage in cases of functional depression** by Meehl, P. E.; Jeffery, M. (Journal of Applied Psychology, 1946, Vol. 30(3), p.276-287)

A callout box on the right states: "Psychology-related results boosted".

Results on the search terms of "brain damage" for a user who specified "psychology as a discipline of interest"

ExLibris Primo search results for "brain damage". The interface shows 69,970 results for the Primo Local Repository. The "Refine My Results" sidebar on the left includes a "Discipline" filter where "Nursing" is selected. Three search results are highlighted with callouts:

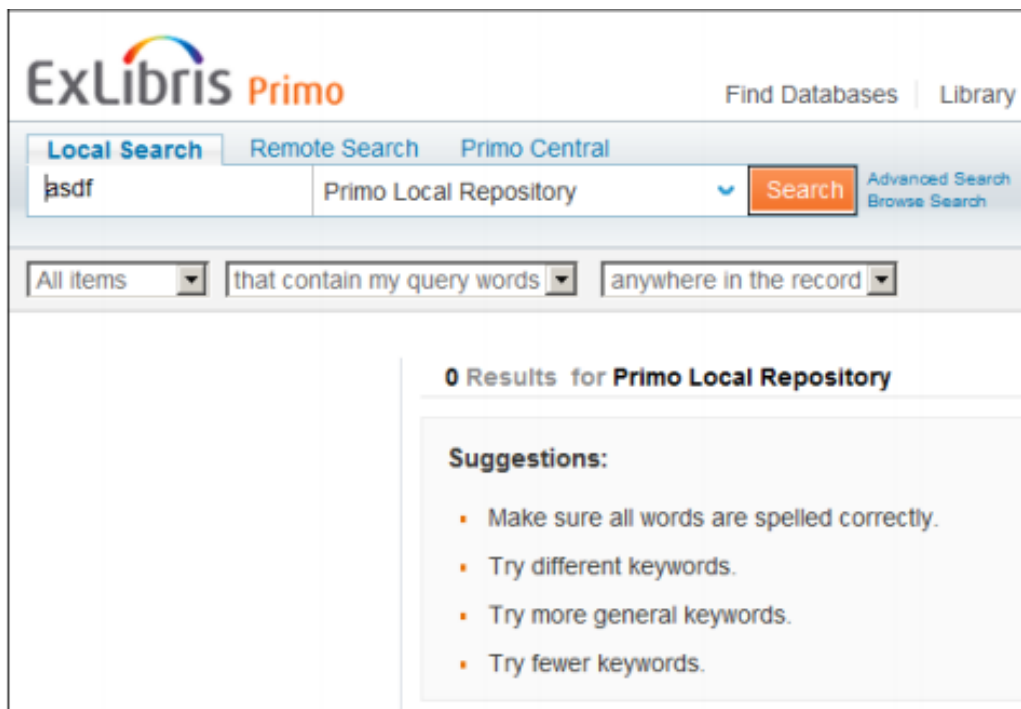
- MRI scans for predicting brain damage in babies** by Rassoul, G Hussein (Journal of advanced nursing, Jun, 2004, Vol.46(6), p.672-3)
- Needs of parents of the child hospitalised with Acquired Brain Damage** by Ramritu, PL.; Croft, G. (International journal of nursing studies, 1999 JUN, Vol.36(3), p.209-216)
- Models highlight dangers of alcohol use in pregnancy.(NEWS)(Brief article)** (Nursing Standard, Sep 25, 2009, Vol.24(4), p.9(1))

A callout box on the right states: "Nursing-related results boosted".

Results on the search terms of "brain damage" for a user who specified "Nursing" as a discipline of interest

C.2.12. How your system provides help to users who receive zero results for their query, including ways to connect users virtually with librarians.

Ex Libris: The No Results page in Primo returns when a user performs a query that has no results. It allows the library to provide additional instructions to users to help them perform more productive searches. Primo comes out of the box with a no results page, and the library can rename the default page or copy it to another directory, modify its contents, and then specify its new name or path name, all in the Views Wizard of the Primo Back Office.

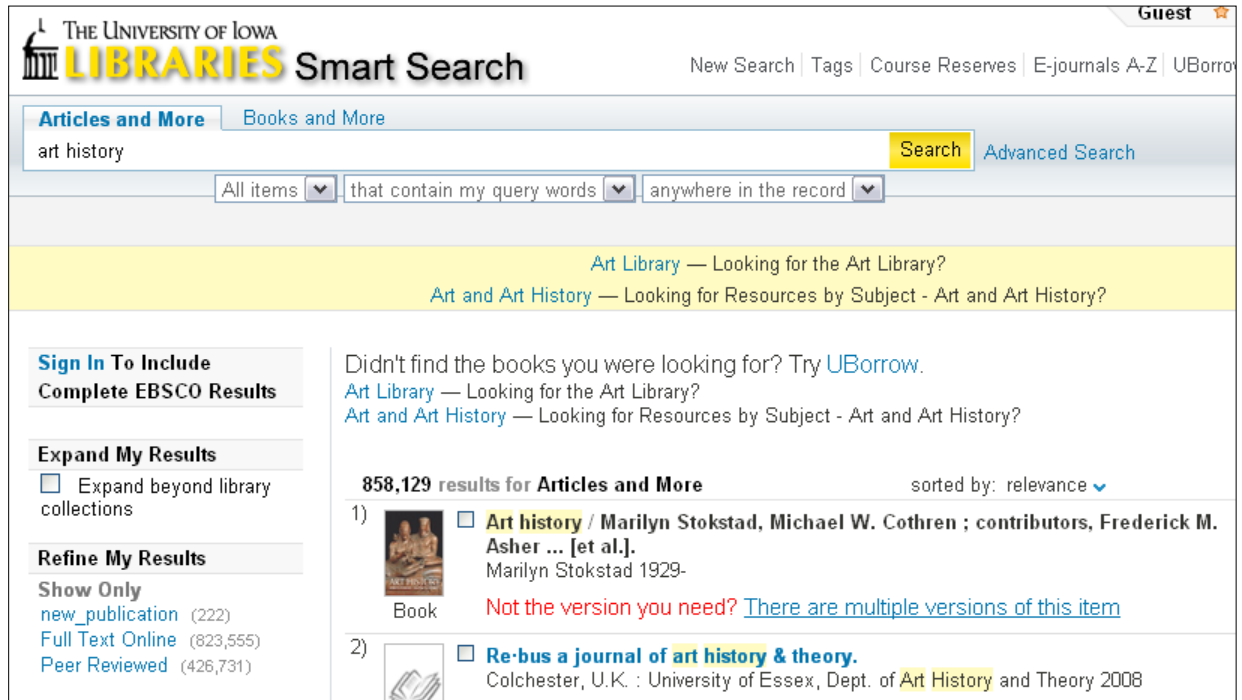


Additionally, Primo offers several options to assist the user in acquiring the most relevant search results:

- “Did You Mean” search suggestions, based on spelling corrections and other algorithms;
- Alternative spelling for, e.g., British and American variations or commonly misspelled words;
- Search suggestions based on the use of synonyms.

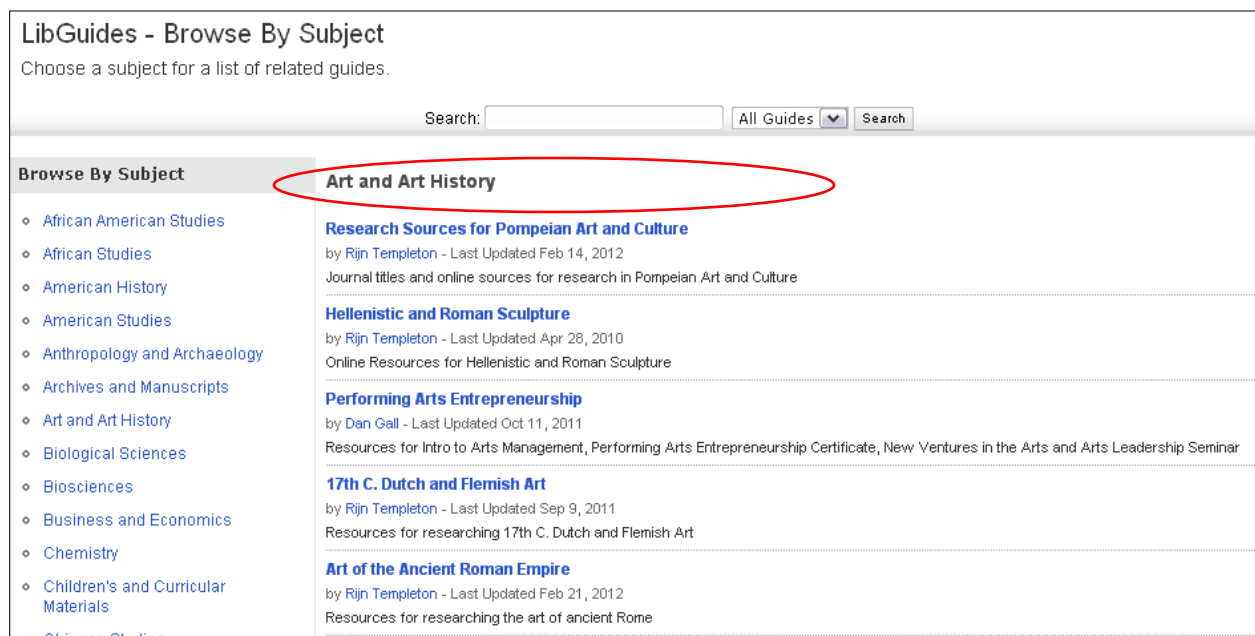
In addition, Primo provides suggested new searches, and the topic or subject facets provide additional ways for users to explore a subject.

Because Primo is an open platform, many clients have developed and incorporated inventive and broad applicable extensions that are then shared with the rest of the global Primo community via EL Commons, our collaboration site. One of these extensions, Adwords, was developed by the University of Iowa. The University of Iowa Libraries uses Adwords to direct users who enter general search terms to the relevant LibGuides page for the topic they are searching for or other resources on the library website. Below is an example of its use:



The screenshot shows the search results for 'art history' on the University of Iowa Libraries Smart Search interface. The search bar contains 'art history' and the results are sorted by relevance. The top result is a book titled 'Art history / Marilyn Stokstad, Michael W. Cothren ; contributors, Frederick M. Asher ... [et al.]' by Marilyn Stokstad, published in 1929. A red circle highlights the text 'Not the version you need? There are multiple versions of this item' next to the book cover. Below it is another result, 'Re-bus a journal of art history & theory' from Colchester, U.K., published by the University of Essex in 2008. The page also features navigation links for 'Art Library' and 'Art and Art History'.

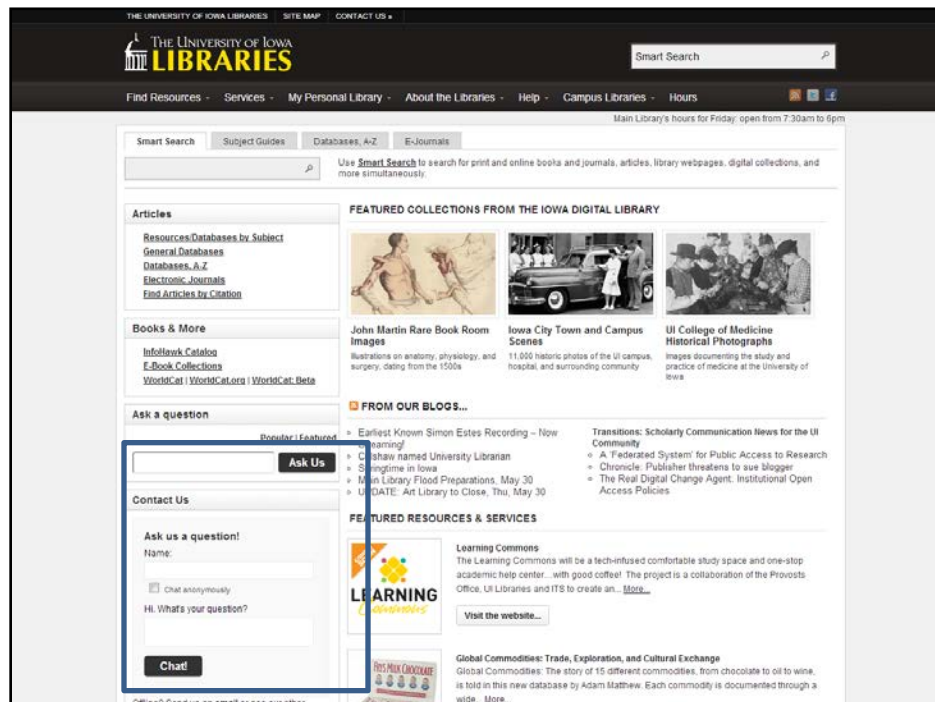
When the user clicks on the link, “art and art history”, the subject-based LibGuides page displays:



The screenshot shows the 'LibGuides - Browse By Subject' page. The 'Art and Art History' category is highlighted with a red oval. The page lists various subject categories on the left, including African American Studies, African Studies, American History, American Studies, Anthropology and Archaeology, Archives and Manuscripts, Art and Art History, Biological Sciences, Biosciences, Business and Economics, Chemistry, Children's and Curricular Materials, and Chinese Studies. The main content area displays several research guides, such as 'Research Sources for Pompeian Art and Culture', 'Hellenistic and Roman Sculpture', 'Performing Arts Entrepreneurship', '17th C. Dutch and Flemish Art', and 'Art of the Ancient Roman Empire'.

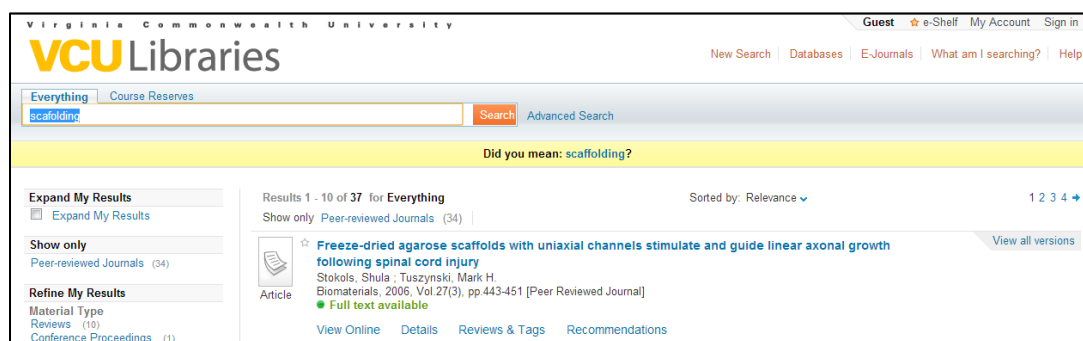
Note that Adwords doesn't need to go to LibGuides; it could also be used to link to other sources relevant to a user's search, such as a specific database.

It is also possible to incorporate the library's chat service or other widgets directly into the Primo interface. See the screenshot below:



C.2.13. Recommendations to subjects, related terms, alternate titles, spelling corrections, and other ways to help user identify and use alternate search strategies.

Ex Libris: Primo offers several features to aid users in their search, including alternative spelling options (e.g., British and American variations or commonly misspelled words), “Did You Mean?” search suggestions based on spelling corrections and other algorithms, and a more sophisticated “Did You Mean” suggestion based on synonyms. The example below demonstrates Primo’s “Did You Mean” function for a misspelled search term:

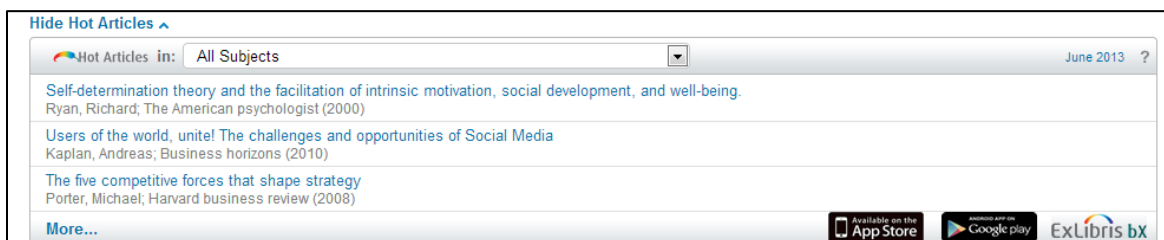


The library may define the threshold that invokes the “Did You Mean” function, and may also decide whether to invoke this function for all results, only for locally-held items, or only for remote resources.

In addition, Primo supplies suggested new searches, and the topic or subject facets provide even more ways for users to explore a subject:

Suggested New Searches	
by this author/creator: ebrary, Inc Fulford, T Wu, Duncan Rajan, T Kroeber, Karl	Subject Literature (6,646) Romanticism (6,477) English Literature (4,100) 1800-1899 (3,664) Poetry (2,696) More options ▾
on this subject: Literature Romanticism English Literature 1800-1899 Poetry	

Finally, a distinguishing feature that libraries using Primo can offer their users is how recommended articles from scholarly journals are displayed. Primo integrates article recommendations from the Ex Libris bX recommender service directly into the user interface, providing even more value to end users. The recommended items can be displayed directly in the Primo results set. The bX recommender is significant because it uses an approach other than the suggested new searches below the facets; instead, it recommends related articles that do not necessarily share the original item’s keywords, subjects, creator, or source, thereby enabling serendipitous discovery of items the user may have never thought to look for. The bX recommender also comes with the “Hot Articles” service, which displays the most popular articles in a chosen field of study:



The screenshot shows a user interface for 'Hot Articles'. At the top, there is a dropdown menu set to 'All Subjects' and a date filter for 'June 2013'. Below this, a list of articles is displayed:

- Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. Ryan, Richard; The American psychologist (2000)
- Users of the world, unite! The challenges and opportunities of Social Media. Kaplan, Andreas; Business horizons (2010)
- The five competitive forces that shape strategy. Porter, Michael; Harvard business review (2008)

At the bottom of the list, there is a 'More...' link and logos for 'Available on the App Store', 'Get it on Google play', and 'ExLibris bx'.

Primo also enables the institution to define one or more scopes to provide access to all or discrete subsets of its local collections. A scope determines the domain of the search, and might restrict the search by location (for example, by campus), by collection, or by other parameters determined by the institution. An institution may define multiple scopes and enable them for use by all users or by specific user groups.

C.2.14. How your discovery tool operates as an integrated component of an ILS or as an independent, stand-alone product with other ILSs.

Ex Libris: Primo is Ex Libris’ end-user interface to Alma and is the only discovery solution that is optimized to fully leverage the advanced capabilities provided by Alma for smart fulfillment, digitization on-demand, course reserves, patron driven acquisitions and more. However, it can also be integrated with any other ILS (Ex Libris or non-Ex Libris). For more information on this topic, please refer to our response to C.2.1.

C.2.15. Ability to display or suppress titles on order in the discovery system at both the bibliographic and order record level.

Ex Libris: Primo delivers availability status for print, electronic and digital items in both the brief and detailed views. Primo offers unique integration with Alma, leveraging Alma’s advanced

Smart Fulfillment capabilities to present real-time availability information and advising end users about the best method to access resources, taking into account user entitlements, library preferences and time to delivery. Availability elements (such as the call number, item status, location) are library-defined. The process of making Alma inventory available to end user discovery comprises two stages:

1. Publishing, which is done by Alma; and
2. Harvesting, which is performed by Primo.

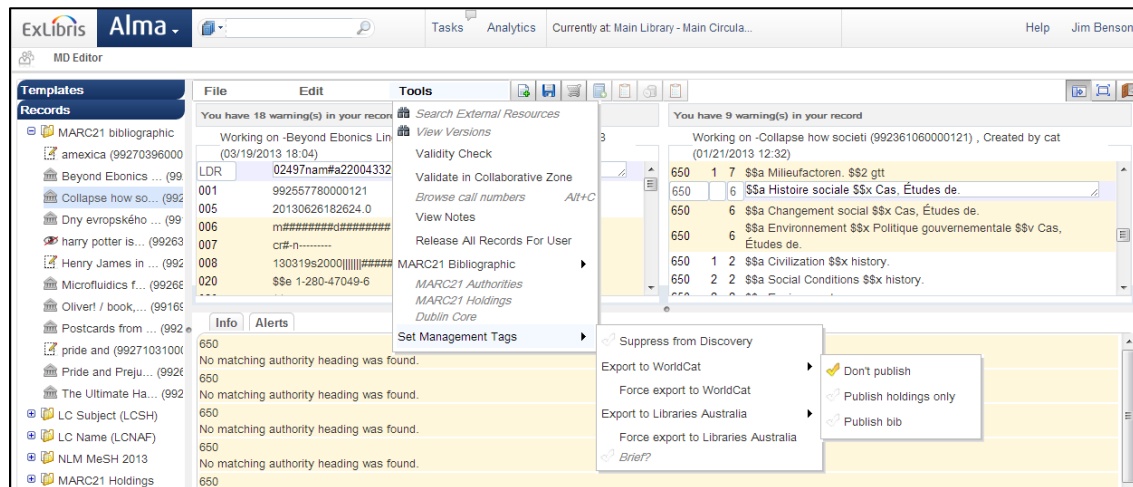
The process of publishing is based on publishing profiles, depending on the publishing target. Alma supports two types of publishing processes:

- Full Publishing—publishing of complete inventory according to publishing profile configuration
- Incremental Publishing—publishing subsets of records that were added, deleted or changed since the previous publishing, based on a log which tracks the Alma Metadata Management System (MMS) and inventory changes.

Records can be suppressed from publishing, and this also may take place on different levels:

- Title (via the MMS) record
- Holdings record
- Location

Following is an example of suppression at the title level, as seen in Alma:



C.3. USER/SYSTEM INTERACTION

We envision a discovery tool that provides an intuitive interface for users to obtain or access all resources available to them. Users must be provided with easy-to-understand tools for using system features to request, obtain, and access resources.

Describe or Demonstrate:

- C.3.1.** Display of the availability, status, and location of specific resources.

Ex Libris: As stated above, Primo delivers availability status for print, electronic and digital items in both the brief and detailed views. Primo offers unique integration with Alma, leveraging Alma’s advanced Smart Fulfillment capabilities to present real-time availability information and advising end users about the best method to access resources, taking into account user entitlements, library preferences and time to delivery. Availability elements (such as the call number, item status, location) are library-defined.

Data may be enriched during publishing:

- To include non-preferred terms (in addition to the preferred) in the published record in order to broaden the discovery options
- To add a title linked to a course reading list that will also be published with course information
- Where relationships between records exists, the relationships are also published

The published information includes:

- BIB record
- Enrichments
- Linked course information
- Non-preferred terms
- Relationships
- Physical inventory availability:
- Each library/location is reported separately
- Availability indicator:
 - Available
 - Not Available
 - Check Holdings - this is relevant when it is an issue or multi-volume monograph (some may be available and some not, or when No items exist)

Delivery is achieved in Primo using the “View It” and “Get It” tabs.

View It Tab

The View It Tab provides access to electronic resources or digital resources. Where a single resource exists, access is supplied directly to the resource itself (e.g. full text). Where multiple resources exist, they are listed for the user to select one:



The screenshot shows the Primo interface for the article "Global warming". The title is highlighted in yellow. Below the title, it says "Science (New York, N.Y.), 1990, Vol.247(4945), pp.919 [Peer Reviewed Journal]". A green dot indicates "Full text available". There are tabs for "View Online", "Details", "Reviews & Tags", and "Recommendations". The "View Online" tab is active, showing a list of full-text availability options:

- Full text available at: [JSTOR Health & General Sciences](#)
Available from 1880 volume: 1 issue: 1 until 2007 volume: 318 issue: 5858
- Full text available at: [JSTOR Life Sciences Collection](#)
Available from 1880 volume: 1 issue: 1 until 2007 volume: 318 issue: 5858
- Full text available at: [Gale Cengage GreenR](#)
Available from 1983 until 2005

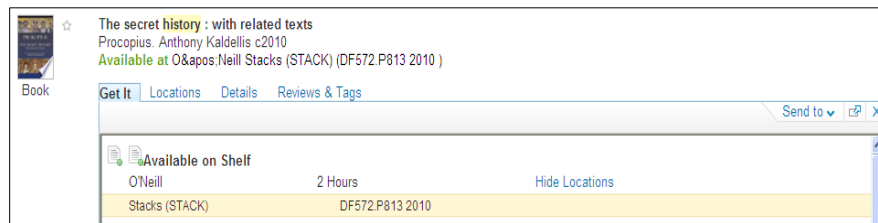
Get It Tab

The Get It Tab provides access to library-mediated services:

- Available on the shelf
- Available for request
- Currently out

Available on the shelf

Primo provides the end user with a list of holdings that are on open shelves. If the user is signed in, the exact terms of use are displayed. If the user is not signed in, a general indication of whether the items are for circulation is displayed as an option – library can integrate map applications to show locations of the material in the library.



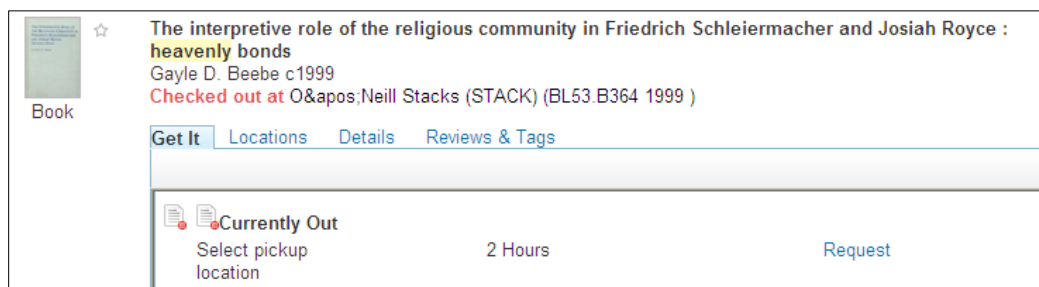
Available for request

Primo provides end-users with a list of holdings that are available but which are in a closed area of the library, or items on open shelves which are able to be requested by authenticated users based on the library's fulfillment policies.



Currently Checked Out

Primo provides the authenticated end user with a list of items that are not available (on loan, hold shelf, etc.).



- Primo provides access to other library-mediated services, for authenticated users:

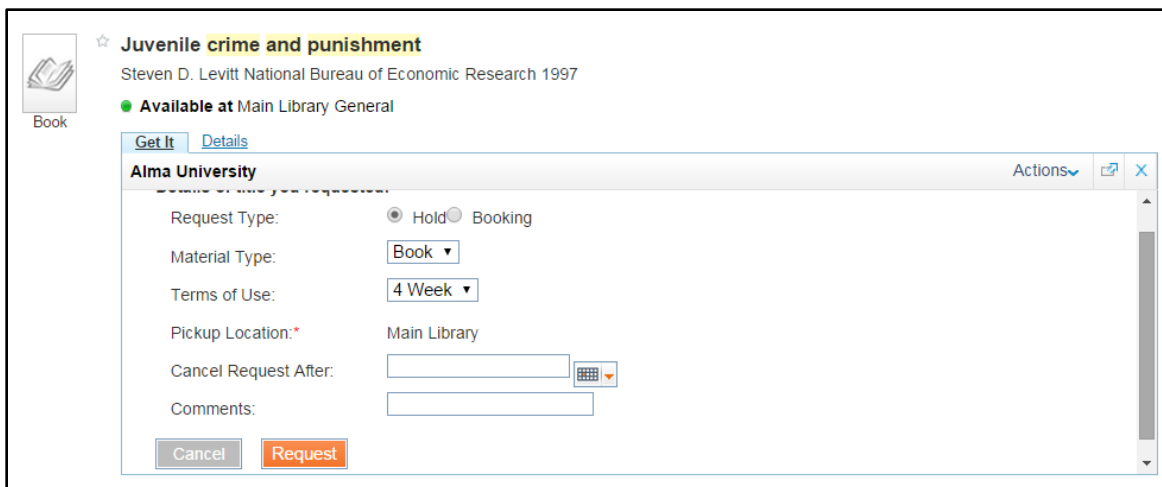
- Digitization
- Resource Sharing – Will directly link to resource sharing system where system supplies integration points



C.3.2. How users place holds and/or recall items from their own institution.

Ex Libris: A key benefit of using Primo with Alma is that it allows for complete integration of the OPAC via Primo to perform catalog functions such as holds, requests, interlibrary loan, and more, all via the Primo interface. Primo supports the ability to harvest full and incremental exports of data (bibliographic, items, etc.) from the ILS system. Descriptive metadata and item status information can be harvested separately and the library can define the harvesting schedule and frequency.

In addition, end users can access and view ILS holdings and item information, place requests, perform renewals and manage their patron accounts directly from the Primo interface, rather than linking back to the ILS to perform OPAC functions. This capability enables real-time patron empowerment activities within the native Primo interface without the need for the user to sign into two separate systems or view two separate interfaces. See the example below:



e-Shelf		Queries	My Account				
Open University Alma University Loans (3) Requests (12) Fine & Fees (1) Blocks & Messages Personal Settings University of Knowledge							
List of Active Loans List of Historic Loans		Renew All Renew Selected					
#	Title	Author	Due Date	Due Hour	Potential Fine	Location	Status
1	Harmonica classics		11/19/2014	21:00		Main Library	Renewable
2	On the uses of benefit-cost reasoning in choosing policy toward global climate change /	Bradford, David F., Cabot, Richard C.	10/24/2014	21:00		Main Library	Renewable
3	A layman's handbook of medicine : with special reference to social workers /		09/10/2014	21:00	22.00 USD	Main Library	Renewable

It is also possible to cancel current requests, as seen in the screenshot below:

e-Shelf		Queries	My Account				
Open University Alma University Loans (3) Requests (12) Fine & Fees (1) Blocks & Messages Personal Settings University of Knowledge							
List of Requests							
#	Type	Title	Author	Status	Pickup Location	Location	Actions
01	Hold	Green : orchestra /	Takemitsu, Tôru	On Hold Shelf	Main Library		Cancel
02	Hold	The real cost of capital in New Zealand : is it too high? /	Lally, Martin Thomas.	On Hold Shelf	Main Library		Cancel
03	Hold	Who owns the future? /	Lanier, Jaron.	On Hold Shelf	Main Library		Cancel
04	ILL	Course.		Created borrowing request	Main Library		Cancel
05	ILL	Adoptive immunotherapy22 : methods and protocols /		Created borrowing request	Main Library		Cancel
06	ILL	Adoptive immunotherapy22 : methods and protocols /		Created borrowing request	Main Library		Cancel
07	ILL	history of ILL problems		Created borrowing request	Resource Sharing Library		Cancel
08	ILL	Social economics	Green, Joseph	Physically received by library	Resource Sharing Library		Cancel
09	ILL	el mecanoscrit del segon origen	de pedrolo, manuel	Request accepted	Resource Sharing Library		Cancel
10	Digitization	Climate change 2001 : mitigation /		In Process	Institutional Digitization Department		Cancel
11	Digitization	The amenity value of the global climate /	Maddison, David, 1965-	In Process	Institutional Digitization Department		Cancel
12	Digitization	Mockingjay	Collins, Suzanne.	In Process	Institutional Digitization Department		Cancel

C.3.3. How your system distinguishes between available full text electronic or print and unavailable full text in print or electronic formats.

Ex Libris: Primo supports the OpenURL standard and uses the Alma link resolver to provide patrons with context-sensitive electronic, digital and print services. The Alma link resolver is based on Ex Libris' experience delivering the SFX link resolver to over 2300 institutions worldwide. Patrons access the data through Primo, as seen in the example below, where the full text is available from a number of sources at Boston University:

Article

Nash's beautiful mind pre-empted million-dollar puzzle
 New Scientist, 2012, Vol.213(2853), pp.4-5
● Full text available

[View all versions](#)

View It | More Information

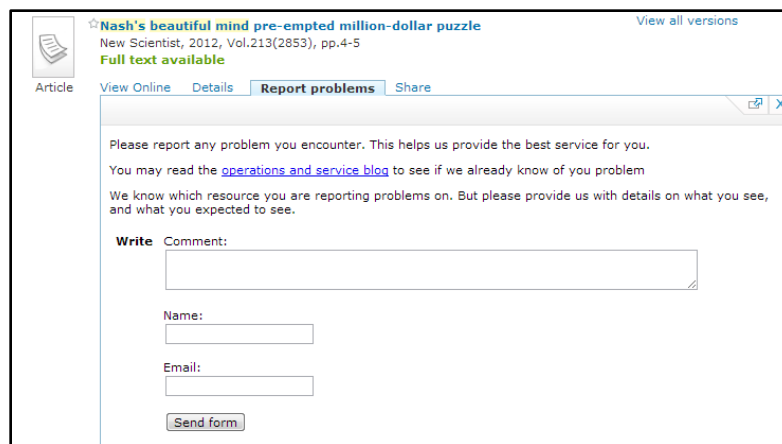
Open in a new window Send to X

- [EBSCOhost Academic Search Premier](#)
Available from 2002
Most recent 1 month(s) not available
- [LexisNexis Academic](#)
Available from 1998
- [EBSCOhost General Science Full Text](#)
Available from 2002
Most recent 1 month(s) not available
- [EBSCOhost Applied Science & Technology Full Text](#)

The Alma link resolver offers these services via a menu that can be customized by the institution, defining the labels of the services and the order in which they appear. In addition, the institution can define display logic rules among services based on local preferences; for example, if an electronic journal is available from more than one provider, the institution can boost one provider over the other. The institution can also define logic rules among different service types, such as not offering a document delivery service if a full text service exists for the electronic resource.

Alma also permits direct linking such that a user need only click on the title in the Primo results to be taken directly to the article.

Any error reporting or support for resolving issues related to OpenURL linking is part of Ex Libris' standard support services. Additionally, patron feedback/support requests can be integrated directly into the Primo interface:



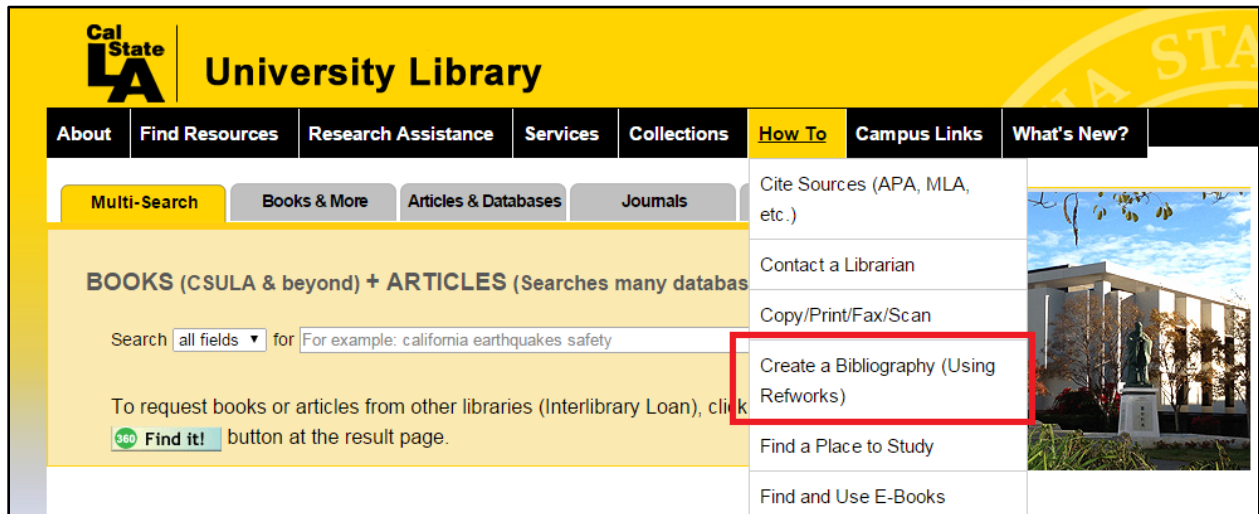
It is also possible to report an issue related to packages and portfolios to Ex Libris directly from the Alma interface. This is achieved by clicking the “Send to Ex Libris” link, as demonstrated in the screenshot below:



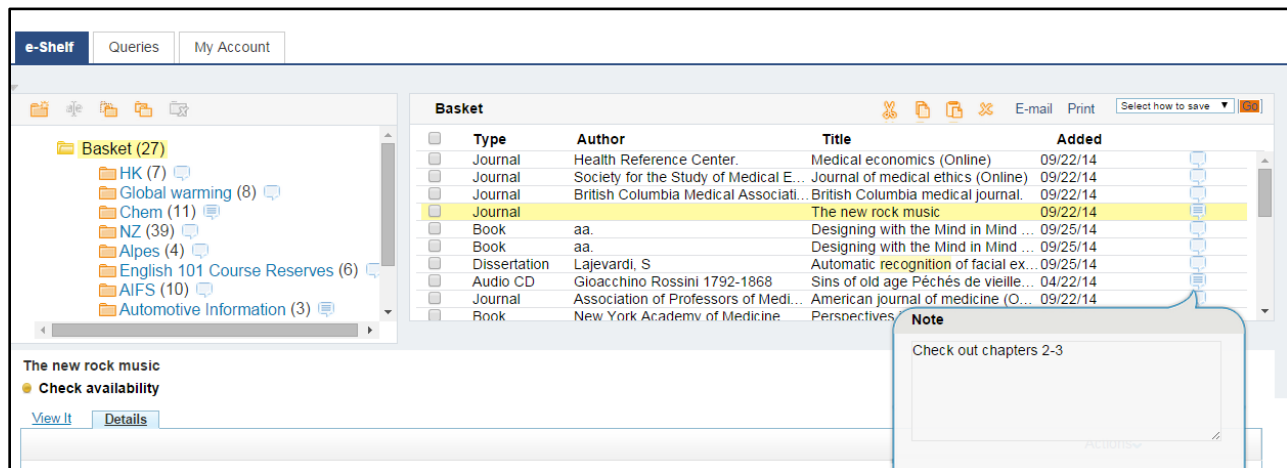
C.3.4. How patrons can email, save records and searches, print, share permalinks for searches and results? Provide an example of a permalink.

Ex Libris: Primo uses persistent linking syntax so that works and item records have persistent URLs. Searcher’s queries can be saved and shared and records can also be saved to the user’s e-shelf, organized in folders with both folder and item-level notes. Primo’s patron personalization features provide all patrons with the ability to:

- Save search queries and use them again without having to reformulate the query;
- Change the number of results that appear in the brief result display;
- Save (“push-to”) items to a personal e-shelf as well as third-party applications such as RefWorks, and EndNote Web.

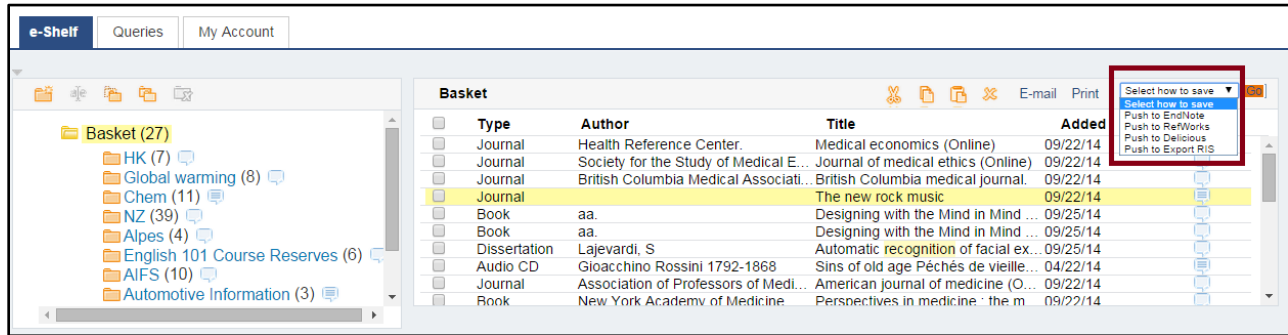


- Print and e-mail results so that items can be easily located on the library shelf;
- Define alerts to be delivered via e-mail or RSS;
- Items in the e-shelf can be grouped into folders, saved, and exported;
- Define preferences for language;
- Define preferences for search results, based on academic degree and preferred disciplines;
- Unauthenticated users may save searches and items for the session.

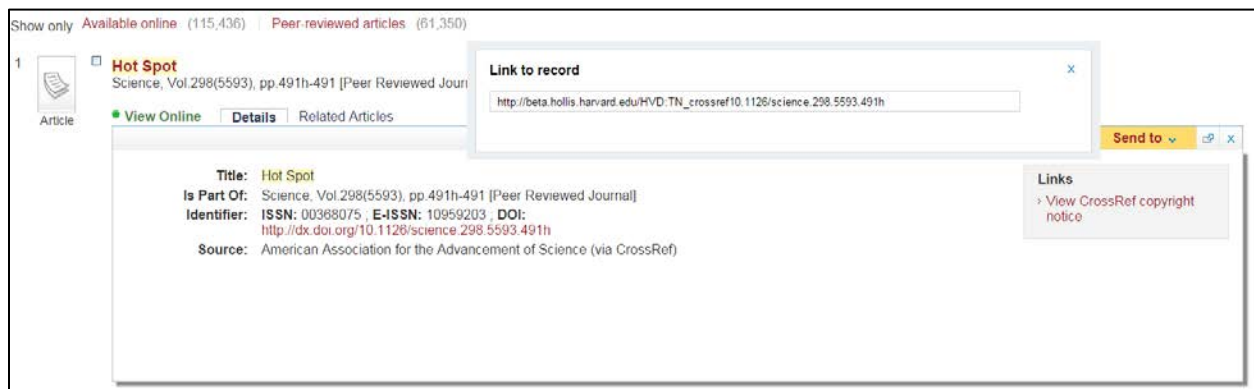


Primo e-Shelf, displaying a range of records a user has saved; note also the item-level note and export options

Items from the e-shelf can be emailed, printed, and exported. Users can export citations to citation or reference management tools such as RefWorks, EndNote Web, del.icio.us, RefMan, Mendeley, Citavie, Zotero, etc. Primo also enables users to export using RIS format. Below is an example of several “push to” options in Primo:



Below is an example of a permalink in Harvard's Primo:



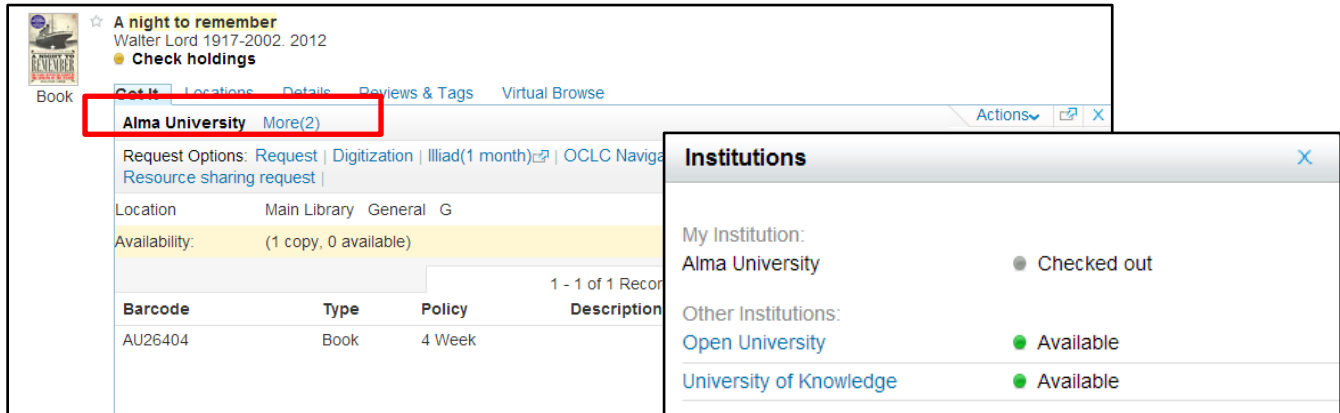
C.3.5. How your system indicates to users when items are subject to embargo and may not have full text available?

Ex Libris: With Alma, links are built dynamically at the point of need. Users click on a citation link in Primo and the Alma link resolver examines the citation information and determines what resources are available in Alma to meet the need. For example, if the library has a subscription to a journal but there is an embargo period, Alma will know this when it considers available resources.

C.3.6. Presentation of holdings for individual campuses. Is there the option to display holdings from multiple branches or campuses on one bib record?

Ex Libris: Yes, it is possible to display holdings from multiple branches or campuses on one bibliographic record. With Alma-Primo interoperability, patrons from an institution in a Fulfillment Network can request an item from another institution in the network using their home institution's Primo. If the patron does not have a user name in the non-home institution, Alma will automatically create a linked user in the non-home institution.

In the example below, a logged in patron is searching their entire consortium for the title "Night to Remember":



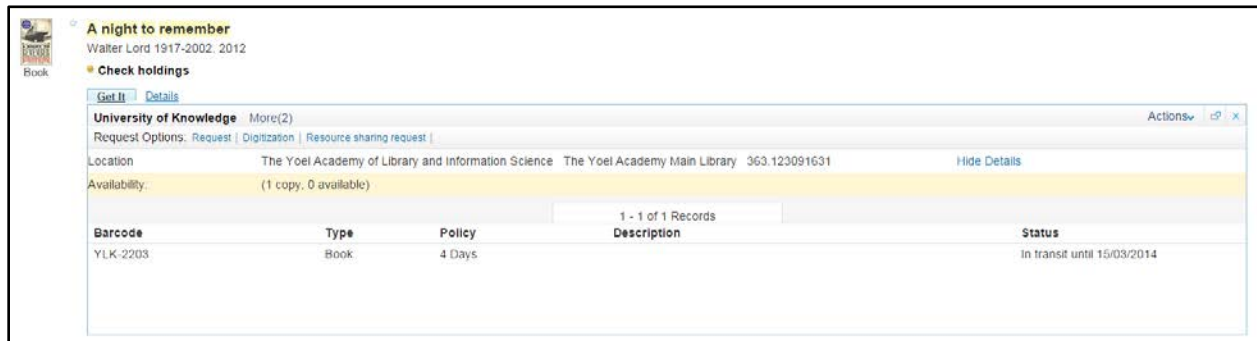
The screenshot shows the search results for the book "A night to remember" by Walter Lord. The main record shows it is checked out from Alma University. A modal window titled "Institutions" is open, showing that the book is available at Open University and University of Knowledge, but checked out at Alma University.

Barcode	Type	Policy	Description
AU26404	Book	4 Week	

From the search result, they can see that the item is currently checked out from their home institution, but by clicking on the “More” link, they can see that it is available at the two of the institutions in the consortium. From there, they can either request the item to be sent to their institution, or they can go as a walk in user and pick up the available item.

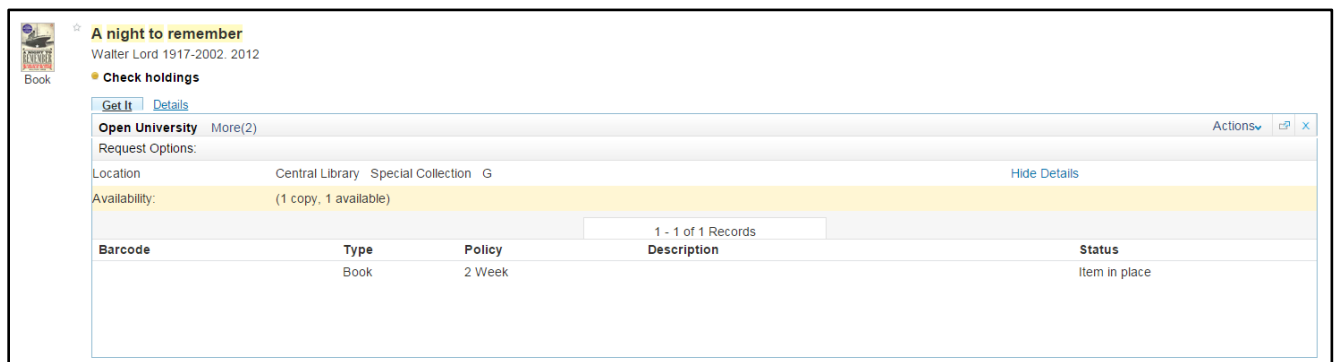
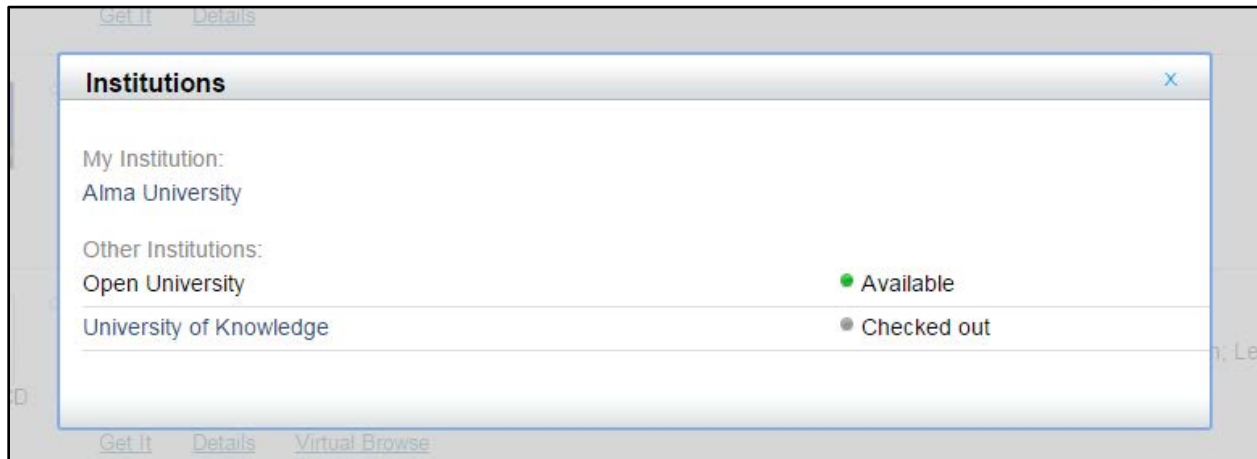
C.3.7. How does your system allow for consortial or individual campus information to be displayed on a campus-by-campus basis? (For example, if a single campus wanted to provide the loan information or number of concurrent users for an e-book, how does your system handle this?)

Ex Libris: Physical holdings of every institution, and every campus within each institution, can be displayed with detailed information, including the loan status. In the example below, the item is checked out, and the user can see (after pressing on the “more” button) that the Open University has an available copy:



The screenshot shows the search results for the book "A night to remember" by Walter Lord. The main record shows it is checked out from Alma University. A modal window titled "University of Knowledge" is open, showing that the book is available at The Yoel Academy of Library and Information Science. The status is "In transit until 15/03/2014".

Barcode	Type	Policy	Description	Status
YLK-2203	Book	4 Days		In transit until 15/03/2014



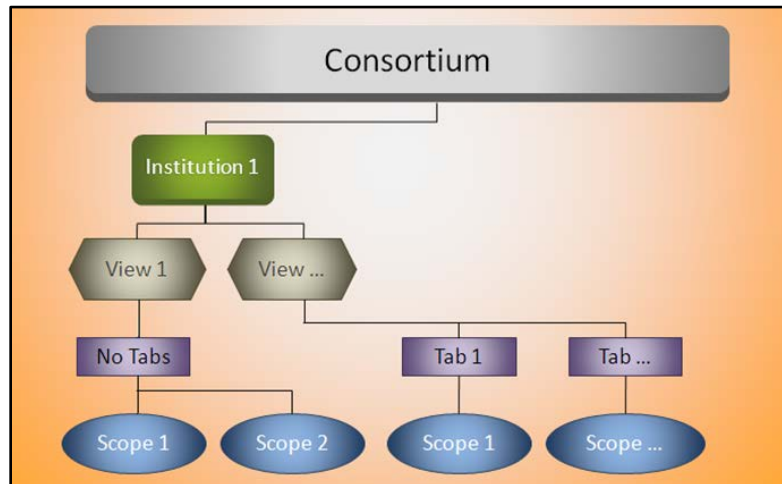
For e-resources, the system displays the e-resources available to the institution and this can also be limited to campus.

The number of concurrent users are usually stored as part of the license – the library can choose to display any fields they wish to the end users.

C.3.8. How individual libraries can customize searches with custom scopes such as searching journal titles, reference books, or new books.

Ex Libris: Through Primo’s strong consortium support, each CSU member can leverage its relationship with its users to deliver the most appropriate and relevant information. CSU members can not only each have their own Primo user interface (“view”) with institutional branding, but also specify other site-specific parameters such as field order, labels, facet locations and much more. In addition to the consortium-wide view (a CSU-wide view of all resources), each member view can have its own CSS and interface element layout set. This structure enables Primo to present de-duplicated holdings and collections from Alma and also ranked holdings in the results by owning location (per view) and availability.

Integration with Alma, links to local systems and user interfaces, and configuration preferences are defined for each CSU member. Similarly, each member can define the collections (shared or institutional) which will be exposed to their campus community. The diagram below illustrates these concepts:



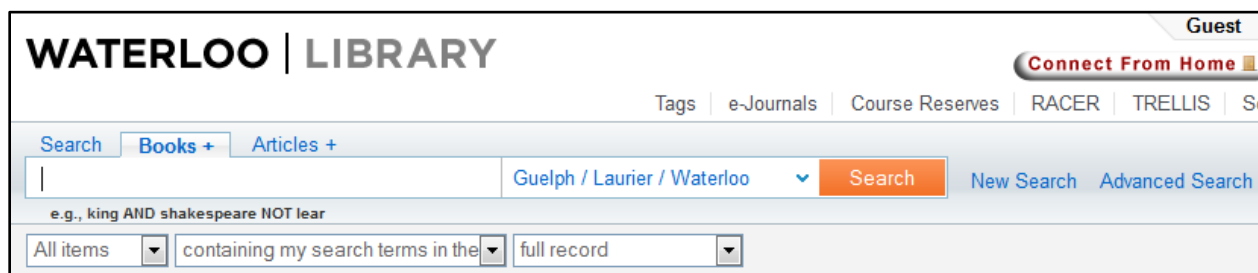
CSU can also define the following high-level types of configuration profiles for each member:

- Users
- Views
 - Facets (type, order, sorting)
 - Fields
 - Labels
 - Pre-search limits
 - Scopes
 - Sort options
- Delivery policy
- IP ranges

For each member, multiple libraries can be represented, including physical locations and resources (books, CDs, maps, etc.), and more.

Users may limit their searches to library-defined scopes such as books only, articles and databases only, course reserves, or library-defined subject categories.

An example of this is the pre-search filter “Books+” at the University of Waterloo, shown in the screenshot below:



C.3.9. Please describe how the patron account offers the following features:

- Status of patron’s account and borrowing privileges;
- Items checked out;
- Status of recall/hold requests;

- Patron fine status and fines/fees paid;
- ILL request status;
- Saved records;
- Saved databases;
- Saved searches;
- Search history and borrowing history;
- Favorite databases;
- Links to reserve items synchronized with patron course enrollment.

Ex Libris: Primo allows for all of the above, although we believe that the “saved databases” and “favorite databases” refer to a federated search and are therefore not relevant to Primo. Embedding OPAC functionality in Primo allows Primo to serve as a one-stop shop for end users. End users can place holds on books, change their password, edit their user details, place photocopy requests, review their current loans (and renew if necessary), track the status of their current requests, and view their fines. The status of a patron’s ILL request also appears under “My Account” in Primo. Please see our responses to C.3.2 and C.3.4 for further detail on patron capabilities with Alma-Primo integration.

Note that while it is possible to search in Primo by course information, Alma does not store course enrollment information. Because Alma does not store this information, it would not be possible to search this particular aspect of course information in Primo.

C.3.10. Options for print and/or electronic reserves. Can a static link be made for reserve lists? Can reserve items be suppressed from the general search but display in a reserve specific search?

Ex Libris: Course reserves may be defined as a search scope and searched separately from other library materials. Primo does not have or enable the creation of a static link. See the example below from Virginia Commonwealth University. Note that this particular institution has chosen to include a link to more course reserves information, and instructs the end user to search by course name/number or item title:



A search for the term “art” results in a faceted list of the course and number of items available in each. When the user clicks on the course name/number, the items display:

Virginia Commonwealth University Guest e-Shelf My Account Sign in

VCU Libraries

New Search Databases E-Journals What am I searching? Help

Everything Course Reserves

Search Advanced Search

Course reserves info »

Suggested New Searches

by this author/creator:
Henderson, H
University of California, Los Angeles
Fowler Museum of Cultural History
Vogel, S
Center for African Art (New York, N.Y.)
Harrison, J

on this subject:
African American art
African American artists
Art, American
Outsider art
Painting, Modern

rss
Add page to e-Shelf

Results 1 - 10 of 14 for Course Reserves Sorted by: Relevance 1 2 »

Refined by: local field1: POLI310 - 901 : Public Policy x

- ☆ **Africa and the Renaissance : art in ivory**
Ezio Bassani; William Buller Fagg; Susan Mullin Vogel; Carol Thompson 1954-; Center for African Art (New York, N.Y.); Museum of Fine Arts, Houston
New York City : Center for African Art ; Distributed in the U.S.A. and Canada by Neues Pub. Co., 1988
● Available at Cabell Library Oversize Books - Shelved upright (NK5989 B37 1988)

[Find or Request](#) [Details](#) [Reviews & Tags](#)
- ☆ **Black art ancestral legacy : the African impulse in African- American art.**
Dallas Museum of Art
Dallas, Tex. : Dallas Museum of Art ; New York : Distributed by H.N. Abrams, 1989
● Available at Cabell Library Oversize Books - Shelved upright (N6538 N5 B525 1989) and other locations

[Find or Request](#) [Details](#) [Reviews & Tags](#)
- ☆ **Coming home! : self-taught artists, the Bible, and the American South**
Carol Crown; Erika Lee Doss; University of Memphis. Art Museum; Florida State University Museum of Fine Arts; American Bible Society. Gallery
Memphis : Art Museum of the University of Memphis ; Jackson : University Press of Mississippi, 2004
● Available at Cabell Library General Collection (N6520 C66 2004)

[Find or Request](#) [Details](#) [Reviews & Tags](#)
- ☆ **African-American art**
Sharon F. Patton
Oxford ; New York : Oxford University Press, 1998
● Available at Cabell Library General Collection (N6538 N5 P38 1998)

[Find or Request](#) [Details](#) [Reviews & Tags](#)
- ☆ **Souls grown deep : African American vernacular art of the South**
Paul Amett; William Amett
Atlanta, Ga. : Timwood Books ; New York, N.Y. : In association with the Schomburg Center for Research in Black Culture, the New York Public Library, 2000
● Available at Cabell Library Oversize Books - Shelved upright (N6538 N5 S58 2000)

[Find or Request](#) [Details](#) [Reviews & Tags](#)

Electronic items in the course lists will automatically include links using Alma's link resolver. These items will display for the user in Primo. See the example below from the University of Utah:

University Libraries THE UNIVERSITY OF UTAH Marriott

Books, Articles & More Course Reserves

philosophy Search ADVANCED SEARCH

anywhere in the record

Show Only

Full Text Online (0)
Available in the Library (33)

Refine My Results

COURSE SECTION NUMBER

1000-090 (2)
2004-001 (2)
2004-002 (2)
2004-003 (2)
2004-004 (2)
2100-001 (2)
[Show 28 more](#)

INSTRUCTOR NAME

Bliss, Carolyn; Love, April; Mowdood, Alfred; Webb, Jeff (2)
Castle, Marjorie (1)
Dobozy, Maria (1)
Ehrbar, Hans (17)
Farr, J.G. (3)
[Show 11 more](#)

COURSE NAME

Artist's Book II, Non Major Artist Book (1)
Comp Intern Readings I (4)
Ethical Issues In Health (2)
Fem Mult Psychotherapy (1)
Forgiveness & Anger Reduction (1)
[Show 12 more](#)

AUTHOR/CREATOR

Bhaskar, R (3)

39 Results for course reserves

- ☆ **Writing philosophy : a student's guide to writing philosophy essays**
Lewis Vaughn
New York : Oxford University Press
Available

[Locations & Request](#) [Details](#) [Reviews & Tags](#) [Additional services](#)
- ☆ **A Source book in Chinese philosophy**
Wing-tsit Chan 1901-1994.
Princeton, N.J. : Princeton University Press
Online Access

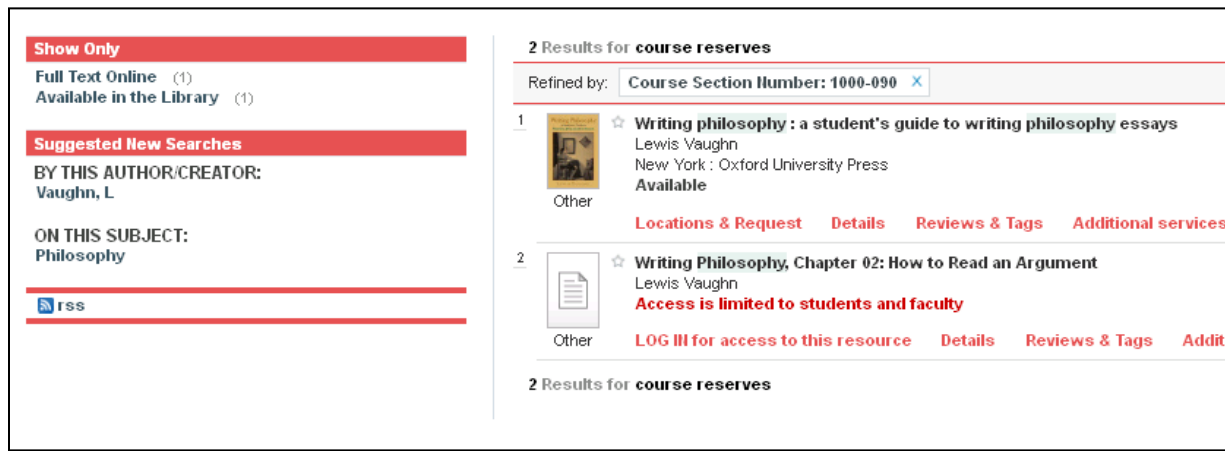
[View Resource](#) [Details](#) [Reviews & Tags](#) [Additional services](#)
- ☆ **Reclaiming reality : a critical introduction to contemporary philosophy**
Roy Bhaskar 1944.
London ; New York : Verso
Available (view Locations for all options)

[Locations & Request](#) [Details](#) [Reviews & Tags](#) [Additional services](#)
- ☆ **A realist philosophy of social science : explanation and understanding**
Peter T. Manicas
Cambridge, UK ; New York : Cambridge University Press
Available

[Locations & Request](#) [Details](#) [Reviews & Tags](#) [Additional services](#)
- ☆ **Socialist reasoning : an inquiry in the political philosophy of scientific socialism**
Andrew Collier 1944.
London : Pluto Press ; Savage, Maryland : Barnes & Noble Books
Available (view Locations for all options)

[Locations & Request](#) [Details](#) [Reviews & Tags](#) [Additional services](#)

A search for the term “philosophy” results in a faceted list of the course section numbers, instructor name, and course name, along with the number of items available in each. When the user clicks on the course name/number, the items display:



The screenshot shows a search interface with a left sidebar and a main results area. The sidebar includes sections for 'Show Only' (Full Text Online (1), Available in the Library (1)), 'Suggested New Searches' (BY THIS AUTHOR/CREATOR: Vaughn, L; ON THIS SUBJECT: Philosophy), and an RSS feed icon. The main results area shows '2 Results for course reserves' refined by 'Course Section Number: 1000-090'. Two results are listed: 1. 'Writing philosophy : a student's guide to writing philosophy essays' by Lewis Vaughn, New York : Oxford University Press, Available. 2. 'Writing Philosophy, Chapter 02: How to Read an Argument' by Lewis Vaughn, with a note 'Access is limited to students and faculty'. Both results have links for 'Locations & Request', 'Details', 'Reviews & Tags', and 'Additional services'.

C.3.11. How patrons can text message relevant information to themselves.

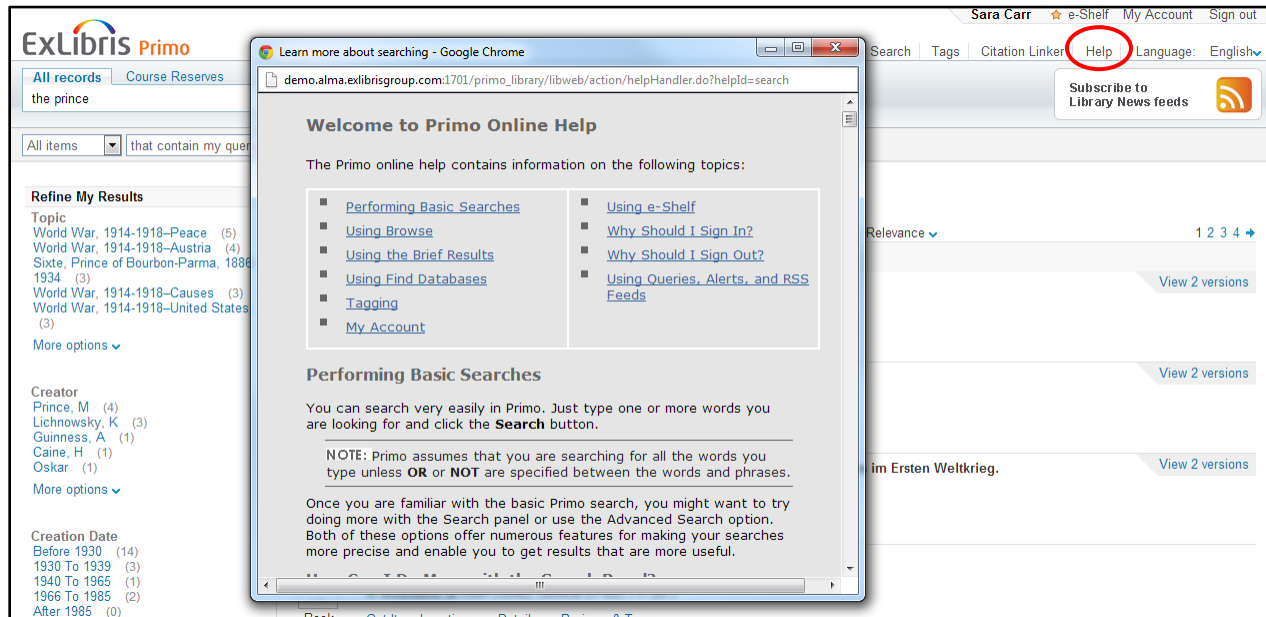
Ex Libris: Patrons can have results sent to their cell phone (by SMS) so that items can be easily located on the library shelf. Primo uses the standard Ex Libris SMS, which currently interfaces with the Clickatell SMS Gateway at <http://www.clickatell.com> and the OpenMarket SMS gateway at <http://www.openmarket.com>.

C.3.12. Integration with citation management and productivity software.

Ex Libris: Users can export citations to citation or reference management tools such as RefWorks, EndNote Web, del.icio.us, RefMan, Mendeley, Citavie, Zotero, etc. Primo also enables users to export using RIS format.

C.3.13. Help options available to users. Can individual libraries customize the interface to link to a campus specific Ask-a-Librarian service, a local knowledge base, or other local library information?

Ex Libris: Primo is delivered with customizable Help files that end users may access online, directly from the search interface:



Each CSU campus has the ability to customize their Primo interface to include links to chat services and other local library information.

- C.3.14.** Alerts and notifications to users about new items, checked out items, overdue items, etc. across a variety of platforms and devices.

Ex Libris: Alma automatically sends patrons courtesy notices and due date reminders via email, in addition to lost loan notices, and notifications of items waiting on the hold shelf, etc. Notices can be customized at the institution level and inherited by all libraries, or any sub-library can customize their own rules and notices. The delivery schedule of notices can also be configured. Notifications may be sent by email or printed, and some may be sent via text message.

Additionally, Alma has an “Interested Users” feature for titles that are currently on-order; it allows for patrons interested in that specific title to be added as an “Interested User”. The library can choose to either put the item on hold or notify the patron when it is ready for circulation.

- C.3.15.** Creation of custom notifications (e.g. email, RSS feeds) for journal alerts and new results of saved searches?

Ex Libris: Patrons can define alerts for new results of saved searches to be delivered either via email or RSS. The feed is based on newly indexed records in Primo Central and indexed locally from CSU materials. The library can determine the scheduling of the email and feed update as part of the advanced system configurations. The library can also use the Primo search API to retrieve the latest indexed materials (by searching for books and sorting by date newest) and embed the results in book lists and other library web pages.

- C.3.16.** Custom list creation by individual libraries of resources (such as new books, popular reading suggestions etc.)? How are these lists displayed in the interface? Can these lists be shared on social media or linked?

Ex Libris: Alma has the capability to generate a list of all new titles, and the URL of the lists can be exposed to the public and be shared.

- C.3.17.** Functionality for specific needs of distance education students, e.g. request items via ILL, which are held in print at their home institution, or access to e-resources at an affiliated CSU campus.

Ex Libris: Primo delivers availability status for print, electronic and digital items in both the brief and detailed views. Primo offers unique integration with Alma, leveraging Alma's advanced Smart Fulfillment capabilities to present real-time availability information and advising end users about the best method to access resources, taking into account user entitlements, library preferences and time to delivery. Availability elements (such as the call number, item status, location) are library-defined.

The process of making Alma inventory available to end user discovery comprises two stages:

1. Publishing, which is done by Alma; and
2. Harvesting, which is performed by Primo.

The process of publishing is based on publishing profiles, depending on the publishing target. Alma supports two types of publishing processes:

- Full Publishing—publishing of complete inventory according to publishing profile configuration
- Incremental Publishing—publishing subsets of records that were added, deleted or changed since the previous publishing, based on a log which tracks the Alma Metadata Management System (MMS) and inventory changes.

Data may be enriched during publishing:

- To include non-preferred terms (in addition to the preferred) in the published record in order to broaden the discovery options
- To add a title linked to a course reading list that will also be published with course information
- Where relationships between records exists, the relationships are also published

The published information includes:

- BIB record
- Enrichments
- Linked course information
- Non-preferred terms
- Relationships
- Physical inventory availability:
- Each library/location is reported separately
- Availability indicator:
 - Available
 - Not Available
 - Check Holdings - this is relevant when it is an issue or multi-volume monograph (some may be available and some not, or when No items exist)

Delivery is achieved in Primo using the “View It” and “Get It” tabs.

View It Tab

The View It Tab provides access to electronic resources or digital resources. Where a single resource exists, access is supplied directly to the resource itself (e.g. full text). Where multiple resources exist, they are listed for the user to select one:



Get It Tab

The Get It Tab provides access to library-mediated services:

- Available on the shelf
- Available for request
- Currently out

Available on the shelf

Primo provides the end user with a list of holdings that are on open shelves. If the user is signed in, the exact terms of use are displayed. If the user is not signed in, a general indication of whether the items are for circulation is displayed as an option – library can integrate map applications to show locations of the material in the library.

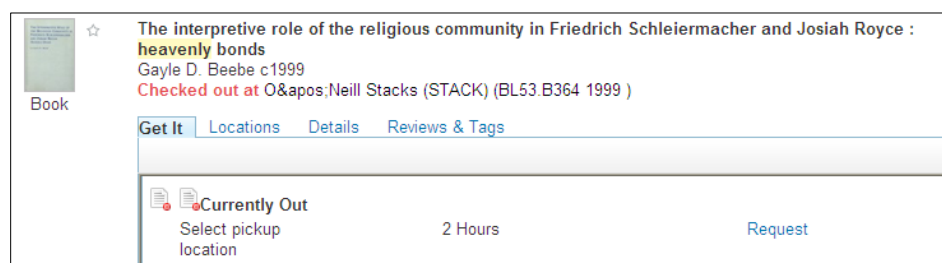


Available for request

Primo provides end-users with a list of holdings that are available but which are in a closed area of the library, or items on open shelves which are able to be requested by authenticated users based on the library's fulfillment policies.



Currently Checked Out – Primo provides the authenticated end user with a list of items that are not available (on loan, hold shelf, etc.).



- Primo provides access to other library-mediated services, for authenticated users:
 - Digitization
 - Resource Sharing – Will directly link to resource sharing system where system supplies integration points



To put this into the context of how Alma and Primo handle resource sharing: “Resource Sharing Requests” is the general Alma term for all forms of inventory sharing among institutions, including sharing formats also known as InterLibrary Loan, (Direct) Consortial Borrowing, and Reciprocal Borrowing, all of which involve a patron of one institution receiving fulfillment services from another institution. Alma’s support for resource sharing comes in two basic modes:

- Via external systems as a direct or mediated service. This includes systems such as INNReach, WorldCat Navigator, ILLiad and Relais D2D. When applicable, NCIP messages are used to automate the integration as much as possible.

In this mode, the external system manages the request for its full cycle, at both lender and borrower sides of the lifecycle. Alma manages the internal library processes that support the ILL workflow, including:

- Moving physical items from lender to borrower side;
- Digitizing material at lender side;
- Receiving material at the borrower side and placing it on the hold shelf for the patron to collect and loaning out to the patron; and
- Checking the item back in from the patron, and shipping the item back to the original lending institution.
- Alma manages all aspects of the resource sharing request-related transactions between the resource sharing partners, and the internal library process that support the resource sharing lifecycle (i.e., “Native” management).

In this mode, Alma manages both the resource sharing request-related transactions between the resource sharing partners, and the internal library process that supports the resource sharing lifecycle. Communications with resource sharing systems is based on library standards such as IPIG ISO communications, NCIP messages, BL ARTEMail formats, etc. Searching for potential suppliers is based on Z39.50 metadata and holdings searches.

In both modes, staff users responsible for Resource Sharing Request management interact with the system to provide the requested resource to the requesting patron. As with other areas of the system, authorized staff can manage borrowing requests using a dedicated task list.

“All Holdings”

Primo provides the end-user with a list of all holdings from all types of locations (open and closed). It displays summary holdings information where relevant. This service is supplied regardless of whether the user is signed in or not.

Alma-Primo integration also supports the ability to request serials or multi-volume monographs. The end user is requested to select the relevant information (enumeration/chronology). The end user can filter the list of issues by selecting year/volume.

Alma-Primo integration also supports display logic rules, which are rules used to set the relationships among services, including:

- Ability to control the order the services
- Ability to hide certain services based on the existence of others (e.g. do not display ILL service if there is local availability on shelf).
- Ability to customize labels

Finally, Alma-Primo integration allows for contextual holdings and services in a consortial environment. The Get It tab displays holdings and services from the institution from which the user is accessing Primo. If the record belongs to a different institution, the user will be able to view a list of institutions and the availability information. Additionally, the user will be able to select another institution to see its holdings and services in the Alma Get It tab.

C.3.18. That an item is not available and must be requested through ILL?

Ex Libris: Please see the response to C.3.17 directly above.

C.4. INTERFACE DESIGN AND INTEGRATION

We envision a system whose end-user interface must be fully Section 508 compliant and accessible from multiple devices and platforms.

Describe or Demonstrate:

C.4.1. The discovery system's performance across platforms and devices.

Ex Libris: Supported Browsers for Primo's Front End user interface include:

- Internet Explorer 8, 9 and 10
- Firefox, latest version
- Chrome, latest version
- Safari 5, latest version

Supported Browsers for the Back Office user interface:

- Internet Explorer, latest version
- Firefox, latest version

Because Primo is built in accordance with industry standards, it is likely Primo will function well in browsers that are absent from this list. Quality assurance and bug fixes are performed only on those listed above.

Primo is delivered with a customizable browser-based mobile device interface that can be used with a variety of providers and hardware. Because the mobile interface is browser based, end users can employ a wide range of mobile device platforms (iOSx, Android, BB, Symbian-based phones with Java browsers) to interact with the Primo environment. Primo enables customers to utilize a single view for both desktop and mobile use by leveraging a single CSS to resize the display and present different display options based upon the form factor of the device used. This reduces the cost to maintain the system and interfaces for a range of disparate mobile platforms. The library can fully customize this standard view as well as create other custom views as necessary.

The use of mobile platforms is expected to grow rapidly over the next few years and we plan to enhance support as it evolves. The newest player in the knowledge and reading arena are wireless reading devices. These devices offer to change the way readers relate to written content in general and electronic content in particular. It is clear that the number of e-books will grow dramatically in the coming years. As these devices evolve, some versions will most likely support technologies enabling them to access discovery systems, delivering the content directly to the device. We will keep following developments of this new platform and seek ways to help libraries expose their collections on this new type of media.

Primo enables users to login and perform the core OPAC operations such as request, renew, saving items for later use, and so forth. The mobile version of Primo also supports these abilities.

Our roadmap plans for this year include providing a skeleton mobile app so that libraries can deploy their own mobile app to app stores. Our intention is to provide the app as a configurable open source so that the library can perform basic configurations (such as adding logo, colors, etc.) and can also further develop the source code and adapt it to a specific need.

- C.4.2.** Any web technologies in use (e.g. Java) that cause the interface to function differently or in a reduced capacity in certain browsers.

Ex Libris: All Primo functionality is supported in the browsers listed below, and all features are tested on each of these browsers before release.

- IE - 8,9,10 on Windows
- FF – latest version on Windows
- Chrome – latest version on Windows
- Safari – latest version on MAC

- C.4.3.** Accommodation to non-English languages.

Ex Libris: Primo supports ISO-8859-1 and it is fully Unicode-compliant (UTF-8), supporting many languages as well as right-to-left scripts and a variety of diacritics. Where needed, Primo uses specific linguistic mechanisms. For example, for Chinese, Primo uses a linguistic package from BASIS (the leading provider of linguistic packages for search engines); similarly, Primo uses dictionaries or linguistic algorithms for other languages as needed (e.g. for German, Spanish, Italian, French and others).

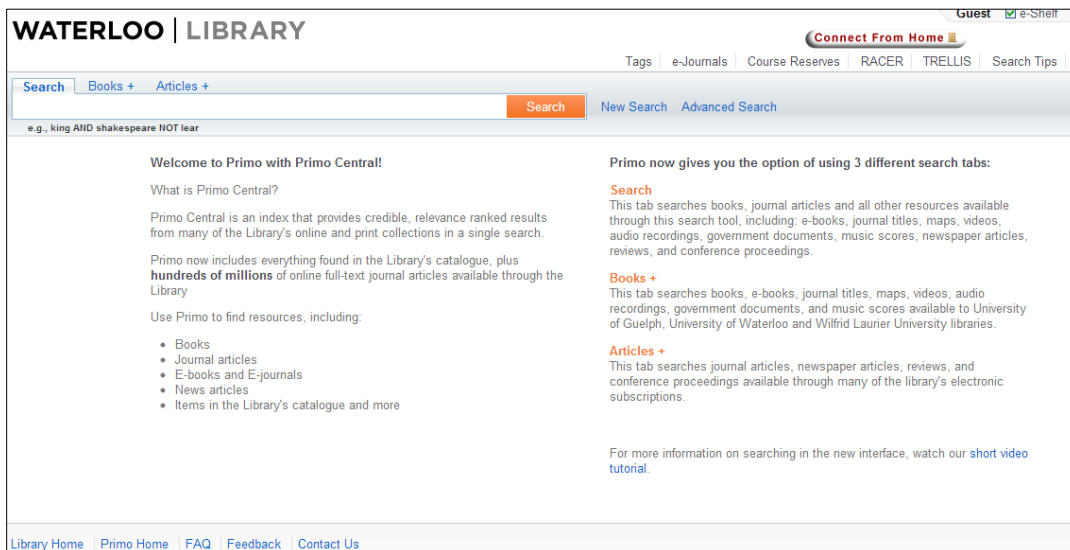
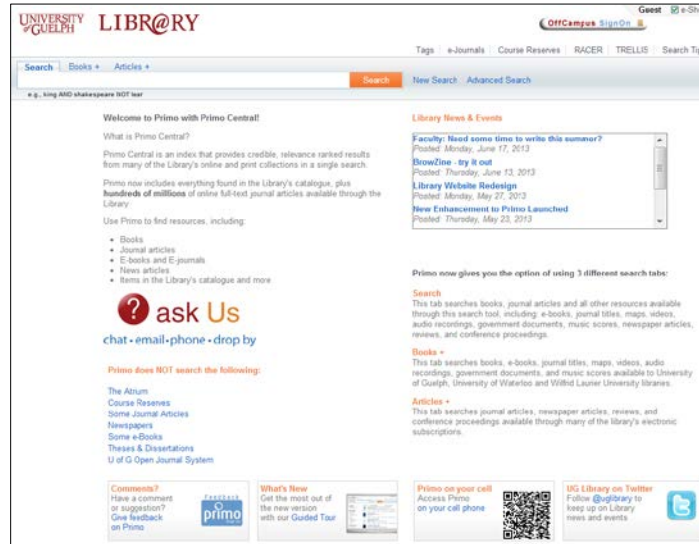
- C.4.4.** The input and retrieval of records with special characters.

Ex Libris: The system can normalize special characters, and the mechanism is configurable. Primo comes with out-of-the-box configurations for the normalization of two Unicode characters, or a single Unicode character into a single Unicode character. This mechanism can then be adjusted by the library. The same normalization process is run on the search section of the Primo Normalized XML (a part of the record that is indexed and searched) and on the user queries.

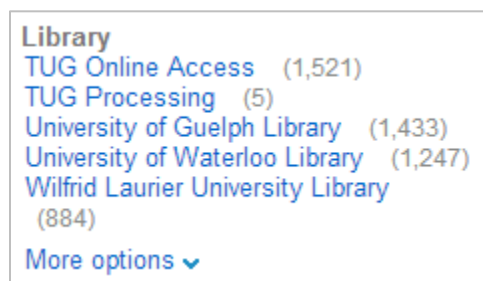
- C.4.5.** Label and display options available to individual libraries to customize display of results, individual records, and user-created lists.

Ex Libris: Through Primo's strong consortium support, each institution within a consortium can leverage its trusted relationship with its users to deliver to them the most appropriate and relevant information. Consortium members can not only each have their own Primo view with local branding, but also other site-specific parameters such as field order, labels, facet locations and much more. Each view can have its own CSS and interface element layout set. And, a central view can be defined for the entire consortium, allowing for easy administration and maintenance. The ILS and link resolver holdings from multiple locations can be de-duplicated and presented with holdings lists ranked by owning location (per view) and availability.

For example, the Tri-University Group (TUG) consortium is a group of three institutions using a single Primo installation, while each institution has their own custom user interface. They also share the same ILS, allowing them to display locations and holdings of one library in the other's interface. See the very different initial search screens configured by two of the libraries:



The consortium was also able to create a custom facet to allow their users to filter by library:



C.4.6. Branding and customization options available to libraries at the local level, including ability to set default options.

Ex Libris: Primo provides flexible options for libraries to reflect local institutional branding, user interface layout and customization as well as a range of local preferences—all within a shared environment. Each CSU member can define one or more views, each with unique settings for look-and-feel, search/result defaults, and facets. In addition, specific departments or programs in an institution can also deliver a branded user interface and customized functionality. A consortium-wide unified discovery view is also provided.

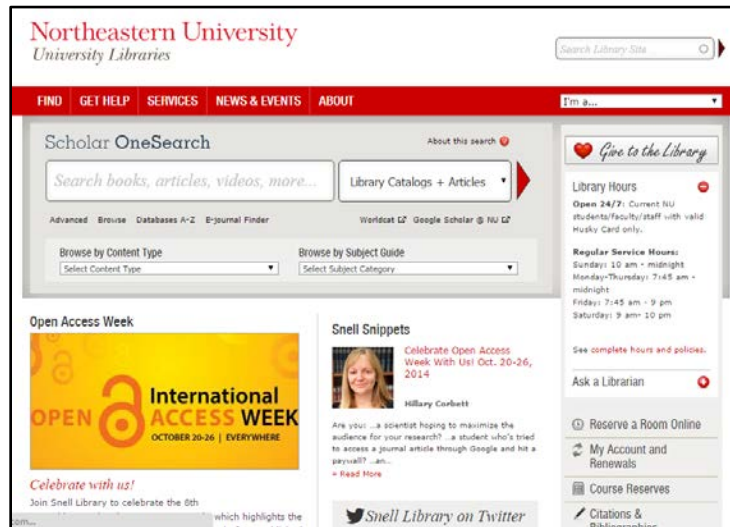
Other customization options include:

- The ability to manipulate Primo’s relevancy ranking algorithm by defining field-level boosting factors.
- The ability to determine how results from local collections are blended with results from Primo’s central index.
- The ability to boost results by institution.
- The ability to customize facet types, order, and the order of the facet values within a facet group.
- The ability to customize record normalization and mapping rules
- The ability to define sort options based on any field in the Primo Normalized XML record (PNX) including, by default, sorting on Author and Title, as well as library-customized local fields.
- The ability to add code to the user interface (i.e., jquery).

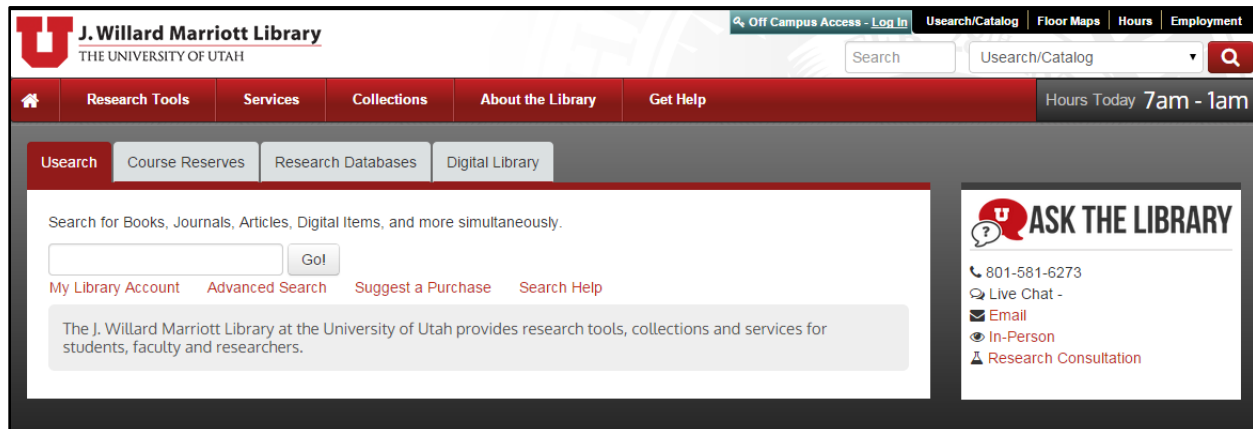
Some of our customers have made very few customizations, while others have truly taken advantage of Primo’s many options to brand the interfaces as their own. See the differences below:



The Boston College library homepage; here, they have re-named Primo to be “Holmes” search



Northeastern University's library page; here, they've renamed Primo to "Scholar OneSearch"



University of Utah's library page, displaying four search scopes

Within a consortium, member institutions can take advantage of Primo's View capabilities, each with unique settings for look-and-feel, layouts, defaults, scopes, tabs and facets. These Views can be used by different member institutions in a consortium or within shared systems, or by specific departments in an institution to deliver branded user interface and customized functionality.

- Each Primo institution can have one or more views
- Each view can have its own layout and CSS
- Views are composed of tiles
- Search tile has one or more tabs
 - Tabs offer users a way to focus on specific materials
 - Each tab has one or more search scopes.

C.4.7. How user feedback is obtained and used to inform system/interface changes?

Ex Libris: Ex Libris gathers feedback from our customers primarily through our user groups. ELUNA, the Ex Libris Users of North America, is the group for users of all Ex Libris' products. ELUNA facilitates communication between product users and Ex Libris, and represents user

needs to Ex Libris. ELUNA meets once a year at or near a customer site, and it maintains a number of product-specific listservs as well as a web site.

ELUNA's stated goals are to:

- Serve as an educational group for users of Ex Libris' products.
- Facilitate communication between product users and Ex Libris; especially, represent user needs to Ex Libris by:
 - Providing feedback on general company directions.
 - Assisting the company in identifying needed major enhancements to existing products and new products.
 - Setting priorities for the company's product enhancements.
 - Assisting the company in setting general priorities for meeting other user needs.
 - Working with the company on the development of functional and technical specifications for both small and large-scale development; reviewing, testing, and providing feedback on development work.
- Facilitate communication among users of Ex Libris' products and provide educational opportunities for users of Ex Libris' products by:
 - Organizing user conferences.
 - Maintaining e-mail discussion lists for the entire membership and appropriate subsets of the membership.
 - Maintaining a Web site for the organization.
 - Providing a means for sharing locally developed documentation and reports.
 - Providing forums for sharing best practices, e.g., workshops presented by users.
 - Facilitating formation of interest groups for users that share similar concerns.

C.4.8. Your company's approach to evaluate and improve the usability and accessibility of the system.

Ex Libris: As the end user interface, allowing for the discovery and delivery of the full breadth of resources the library has to offer, Primo was designed from day one around the end user. Primo was developed in collaboration with customers (a small number of early adopters and a broader charter group) from the field, who helped us to evaluate every change in the user interface. We have continued to hone and improve the usability during the years in which Primo has been in production and in use at some of the most distinguished and heavily used research libraries around the globe.

Our customers, many of whom utilize sophisticated usability labs including eye tracking and mouse movement recording equipment, have performed rounds of tests, either independently or in collaboration with us, and have shared their findings. We also get specific input through the customers' product working group (both the North American user group and the worldwide one) with whom we have monthly calls, as well as through our CRM. We encourage customers to contact our product management and support teams with further suggestions for improvement. We have used input from usability studies, feedback from the customer community and our own testing to continuously improve the usability of our solution.

Some aspects of Primo's usability features are straightforward, such as the efficient location of different buttons. Others evolve from industry standards, such as making sure that Primo is usable not only to people who have slight difficulty in operating the mouse accurately, and not just to those using screen readers. Another, and perhaps more important, aspect of accessibility concerns the user's natural workflows. For example, we have discovered that

users do not like to log in if they can avoid it, so we have single sign on with a variety of systems. We also offer the user as many tasks as possible that do not require sign in. Additionally, users can make a request without leaving the Primo results page because we found that users do not like opening new windows or switching to a different user interface.

Another layer of the feedback cycle is the usage of the interface itself. We research usage patterns and draw conclusions from big data collected in our usage logs regarding the way users use our software. For privacy reasons, we do not save data associated with a specific user, not even one-way encrypted, unless explicitly requested by the library.

We continue to improve the Primo user interface based on feedback from customers, and to run usability studies from time to time. We see this as an ongoing effort.

Additional information from customers on usability testing is available on EL Commons, the web site used by Ex Libris staff and customers to share code and extensions.

- C.4.9.** Integration with local online reference services, social media, external web resources, and other electronic services for communication between library patrons, librarians and staff.

Ex Libris: Primo allows for the integration of third party social network systems such as Facebook. Leveraging Primo's open architecture, clients have also embedded additional social media integration as well as other site-specific customizations, including integration with Twitter and more. Primo also supports harvesting of web content via the web-archive (WARC) schema, generated by most crawlers.

Primo is an open system that allows libraries to extend its use with a number of third-party systems such as virtual reference, course management software, and more. Also, Primo is an XML-based application with a fully documented API to enable those institutions with the expertise to create completely custom interfaces.

This API facilitates the customization of Primo and enables customers to develop code extensions that can be shared with other members of the Primo community. The APIs include XML services, SOAP and REST web services, our Software Development Kit, and more. Additional development tools are released in tandem with the functionality included in each new version of Primo.

The Primo Software Development Kit (SDK) includes:

- Interfaces ranging from UI configuration with programmatic logic for non-technical users to performance-oriented programmatic interfaces for seasoned programmers;
- Extensive documentation, including examples for using the interfaces;
- The Ex Libris Developer Network, a collaboration platform on which users can share their code extensions with the community;
- Code re-use policies.

In addition, Ex Libris offers the Developer Network, a collaborative web-based platform that allows community members to upload software components that they have written and that they wish to share. These software components are available to all other community members in a well-defined, unified format; library developers can select a component, download it, and adapt it to their needs.

- C.4.10.** How data and tools from such services can be pulled into your system's interface, and how data, records, custom searches, etc. are fed out for display in other systems.

Ex Libris: Primo supports harvesting from diverse library-selected data sources (such as the ILS, digital repositories, etc.). Library data can be harvested using FTP, file copy or OAI. The end results of the publishing process are Primo normalized XML (PNX) records, which are stored in the Primo database.

Primo includes pre-configured templates for harvesting and normalizing many common data sources, and provides the library with the ability to modify, extend or add new templates as necessary. The library can utilize default rules or customize the metadata mapping and normalization rules for each data source.

Primo provides the option for harvesting institutions to use its search API for inclusion on content in alternative portals subject to the Primo Central terms and conditions. In addition, Primo includes a sitemap option allowing search engines to index Primo results.

- C.4.11.** Integration with common learning management systems by patron-operated tools. Is any functionality specialized by patron type? Which Learning Management Systems (LMSs) does your system currently integrate with? Be sure to disclose any difference in functionality across different LMSs.

Ex Libris: Primo provides sufficient APIs and points of integration for the library to create such integrations. For example, Northwestern University has already undertaken this and shared it with the rest of the community on the Developers Network: (https://developers.exlibrisgroup.com/blog/Primo_BlackboardAdaptor).

- C.4.12.** The ability of the system to display content from providers of enriched content such as covers, sample chapters, reviews and digital shelf browsing from vendors such as Syndetics and LibraryThing for Libraries, and stack-mapping services, including custom stack-mapping applications.

Ex Libris: Primo local records can be enriched with additional data. During the enrichment stage, data can be added to enhance the discovery and delivery functions. Some examples of this include:

- Library of Congress: classification numbers translated to description
- Amazon: thumbnails, book covers, reviews (link-to)
- Syndetics: table of contents, abstracts, reviews, book covers
- Customer-defined enrichments: "plug-in" enrichments
- Google Books

Snippets can be taken from abstracts, full text, and tables of contents and displayed in the brief results. The library can define which of these is used for the snippet. Alma can link to map applications using a URL template that includes call number, location and library. There are some commercial applications, as well as some homegrown ones. The example below is for a homegrown map application used by Boston College:

Book
Mrs. Dalloway
Virginia Woolf 1862-1941. Bonnie Kime Scott 1944.; annotated and with an Bonnie Kime Scott
Orlando, Fla. : Harcourt c2005.
Currently unavailable (click Find It in Library for more information)

Find It in Library | Details | Tags

Boston College Libraries

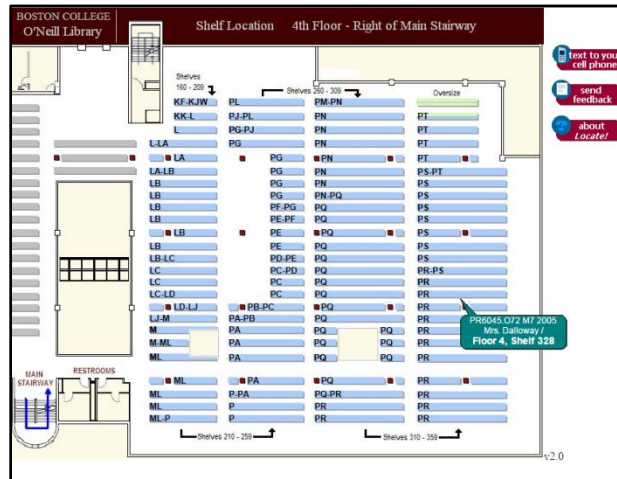
Request: Interlibrary Loan: | Scanned Book Chapter: | Sign in for additional request options

Location: O'Neill Stacks (STACK) PR6045.O72 M7 2005 **Locate** Hide Details

Availability: (1 copy, 0 available)

1 - 1 of 1 Records

Barcode	Type	Policy	Description	Status
39031032038564	Book			On loan until 11/15/2014 10:00:00 PM EST



This is an example of a commercial application:

Book
War and Peace
Tolstoy L.N. 1000
Available at Main Library General

Get It | Details

Alma University

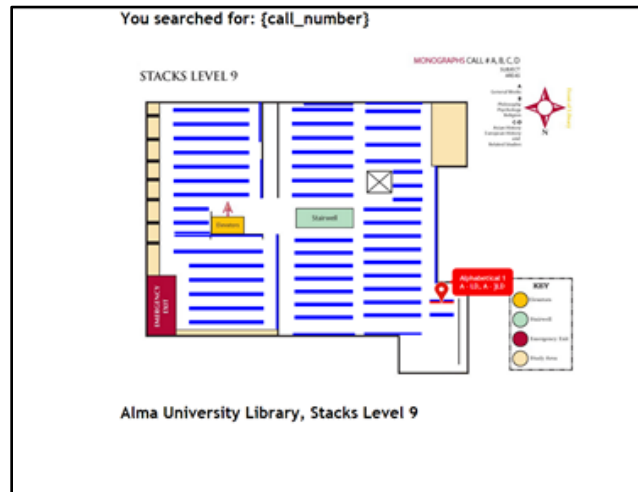
Request Options | Request | Digitization | Actions

Location: Main Library General **Locate** Hide Details

Availability: (1 copy, 1 available)

1 - 1 of 1 Records

Barcode	Type	Policy	Description	Status
100015-000010	Book	4 Week		Item in place

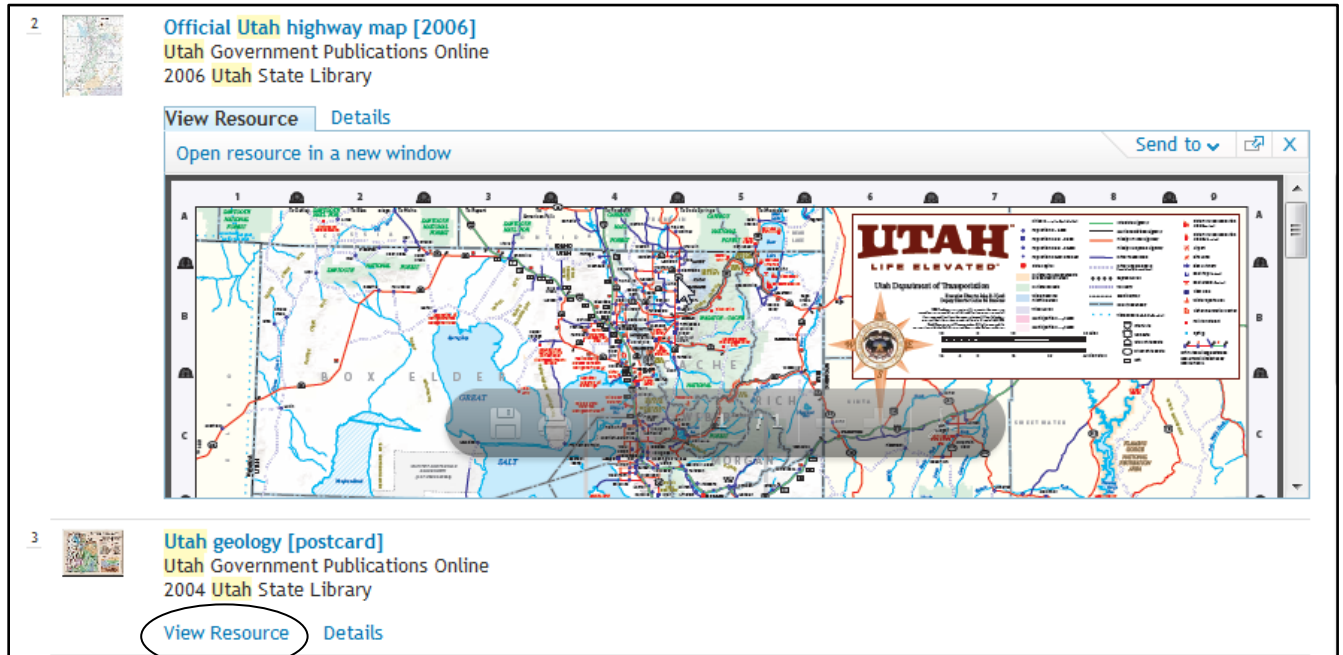


C.4.13. Functionality with records and finding aids created by systems such as Archivists' Toolkit and ArchivesSpace, and Archon. Can these records be imported or harvested into the system?

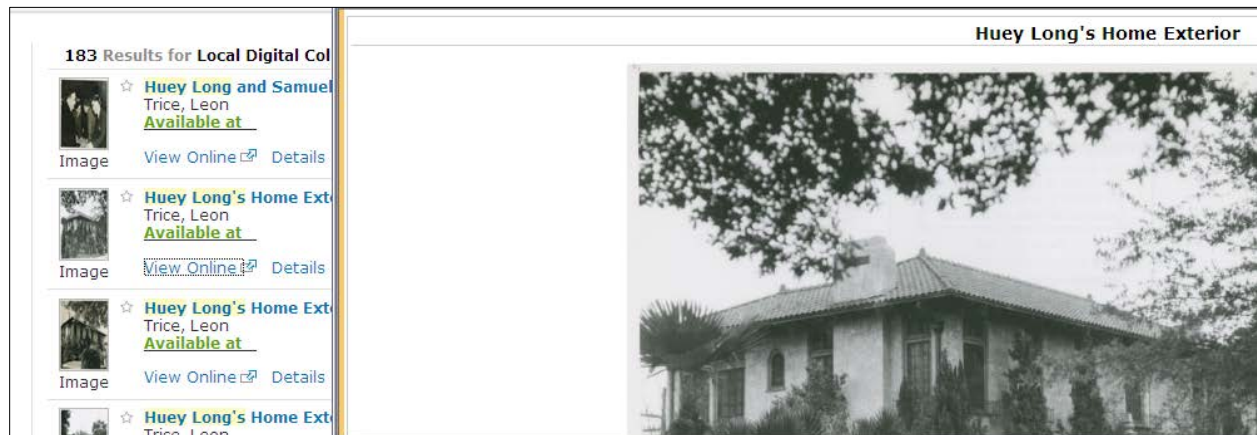
Ex Libris: Primo searches in parallel in the Primo Central Index (PCI), which includes hundreds of millions of materials of global or regional significance, and in the local Primo index, which includes any material that the library deems relevant. This can include finding aids, images, materials from institutional repositories, and datasets. Primo can search any object type that can be normalized to XML including audio, video, and digital files of all types.

C.4.14. Ability to integrate with or enable the archiving and/or discovery of dataset archives (e.g., big data archives); to integrate with or enable the archiving and/or discovery of online portfolios and mixed-media materials; and to work with institutional repository software (DSpace, Hydra, Islandora, ContentDM, ILL ContentPro).

Ex Libris: Digital objects may be retrieved and delivered just like any other type of result in Primo. For example, the screenshot below, from the Mountain West Digital Library shows how the user retrieves the object, after clicking on the “View Resource” link from either the brief or the full record. Note that the object opens directly in the Primo interface (with an option to view the object in a new window), and the user does not have to navigate to a new screen:



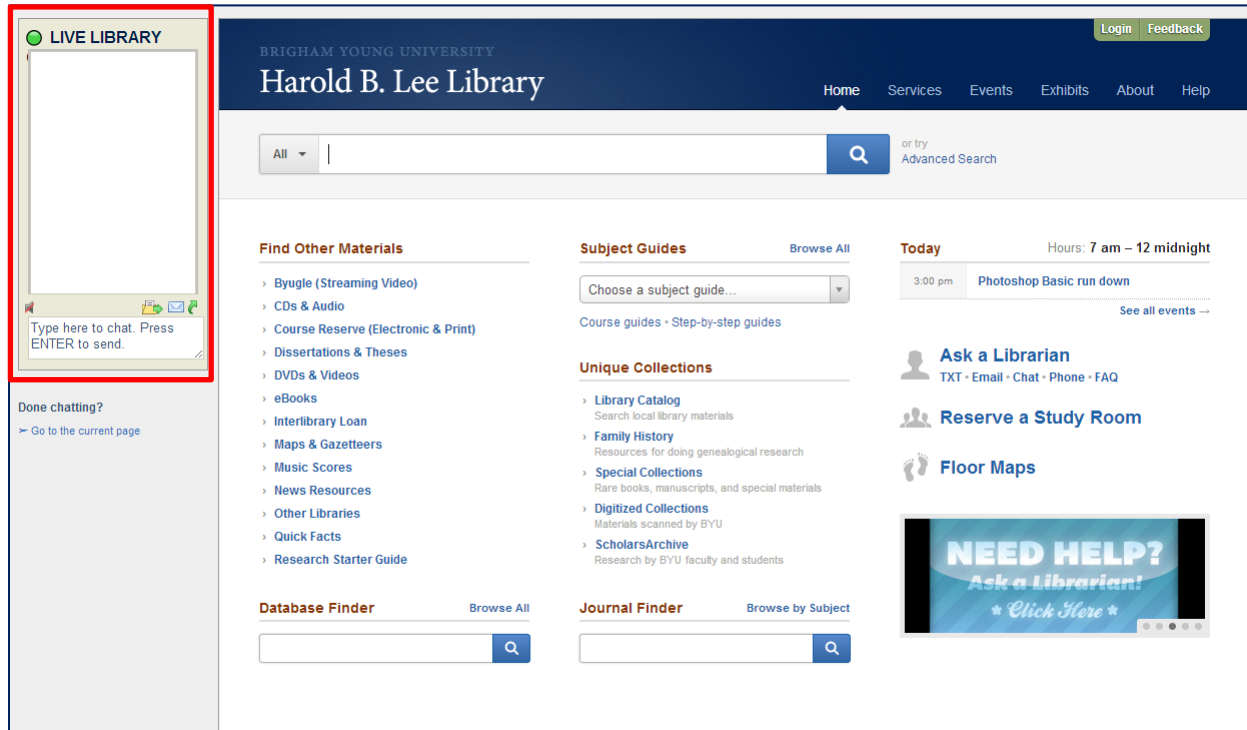
Here is another example, from Tulane University:



Essentially, Primo can harvest any record standard industry metaschema (MARC Exchange, Dublin Core , etc.) as well as in raw XML, meaning that any XML-compliant source is supported.

C.4.15. Incorporation of external JavaScript widgets for news feeds and chat functions.

Ex Libris: Libraries can offer custom widgets such as virtual reference or others through Primo. See the example below from Brigham Young University:



The screenshot shows the Harold B. Lee Library website. On the left, a chat window titled "LIVE LIBRARY" is open, with a text input field and a "Type here to chat. Press ENTER to send." prompt. The main content area includes a search bar, navigation links (Home, Services, Events, Exhibits, About, Help), and several service sections: "Find Other Materials" (listing Byugle, CDs & Audio, Course Reserve, etc.), "Subject Guides" (with a dropdown menu), "Unique Collections" (Library Catalog, Family History, etc.), "Database Finder", and "Journal Finder". A "Today" section shows an event: "3:00 pm Photoshop Basic run down". There are also links for "Ask a Librarian", "Reserve a Study Room", and "Floor Maps". A "NEED HELP? Ask a Librarian! Click Here" banner is visible at the bottom right.

C.4.16. Integration of e-book discovery and access.

Ex Libris: The Primo Central Index has a growing collection eBooks. Some of the major e-book vendors include: Accessible Archives, Brill, CRC Press, Dawson Books Limited, Ebook Library (Ebooks Corporation), Ebrary, Emerald, Gale, HathiTrust, Hindawi, IGI Global, Knovel Corporation, MyiLibrary (Ingram Digital), OECD iLibrary, ScienceDirect (Elsevier), Sage, SpringerLink, VLeBooks, and Wiley. And, all e-book content hosted on the EBSCOhost platform is also available through Primo, subject to the library's subscription.