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Denise M. Branch
Virginia Commonwealth University, dbranch@vcu.edu

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Head in the Clouds: Will a Next-Generation Library Management System Bring Clear Vision?

Denise M. Branch, Head, Continuing Resources, Virginia Commonwealth University

Who are we, and what are we seeking?

Virginia Commonwealth University is a large urban research institution located in Richmond, VA, whose library collections include almost 3 million volumes, 61,000 serials, over 1 million e-books, and nationally prominent collections in the health and biological sciences, social work, the arts, the history of medicine, and comic and book arts.

VCU Libraries was looking for a management system that would allow integration, flexibility, and interoperability, especially in the handling of e-resources. It wanted to break away from the stringent functionality of the traditional integrated library system (ILS) and be transported into a dynamic new system that would support the university's mission of advancing knowledge and ensuring student success. It desired increased efficiencies, streamlined workflows, automated processes, and engaged users.

The libraries' legacy ILS, Aleph, was 10 years old and needed to be replaced. Aleph was nearing the end of its life as a system under continuing enhancement, and expensive investments were anticipated if it were to remain viable. After researching the ILS marketplace and finding a next-generation management system that was a good fit, the libraries moved forward with implementation. A number of Ex Libris products had already been purchased, including the discovery tool Primo, and the library felt Alma would complement its existing systems.

VCU Libraries became an Alma "early adopter" and completed a fast-track implementation in six months from April 2012 up until "go live" in October 2012. On October 24, 2016, the libraries celebrated four years with Alma.

Cloud Climate

The implementation journey involved some hiccups but was mostly successful. Alma was a brand new system that was actively being developed when VCU

Libraries decided to implement. Since Alma was a new system, it wasn't exactly clear as to what information would migrate from Aleph and how it would be presented in Alma.

Overall, the migration from Aleph to Alma went as planned. Some migration issues were resolved quickly, and others have continued to haunt the libraries for years. For example, e-serials order records migrated to Alma as print order records. Ex Libris worked collaboratively with the library to identify those records and was able to switch them to electronic orders. Unfortunately, some records were not identified at the time and had to be manually corrected over the years as discovered.

Course reserves migrated with lots of duplicates. Cataloging had to suppress everything that was a course reserve and then identify the active course reserves so they could be unsuppressed. The library was plagued with course reserves cleanup for several years after migration.

When first going live, a lot of the staff felt fearful and somewhat disoriented but also excited. Here was a powerful new cloud-based system that could consolidate disparate systems, simplify user interactions, optimize workflows, and push out analytics. Staff were still in the throes of learning new workflows, becoming acquainted with Alma language and completing the processing of materials that had been put on hold before migration. Training sessions were held, functionality was tested, and documentation was created. The new system facilitated collaboration as staff worked together to develop workflow solutions.

Circulation

There is always the possibility of losing data with any migration, and Circulation was wary of losing item histories. Since there was uncertainty about some of the data migration, a decision was made to save item histories in a spreadsheet before migration. It was good that this data was captured because it did not migrate to Alma. Ex Libris has now resolved item

history migration, and libraries coming on board today will not encounter this problem.

Course reserves have been a problem ever since migration. Circulation was hoping Alma would have this functionality. The functionality was there, but it wasn't performing as expected. This was a big disappointment. To address the functionality issue, the libraries created a homegrown online form that interacts with the discovery tool, Primo. Course reserves seemed to be an afterthought on Ex Libris' part, but they did eventually develop a cloud-based service for managing course reading lists in 2015 called Leganto. However, the libraries decided to keep the methodology that it had developed since it seems to work.

Alma works seamlessly to simplify user interactions, enabling users to locate resources and place loan requests anytime and anywhere. They can check their accounts and view requests through the integrated discovery system Primo with their mobile devices. User interaction is simplified, and Alma is a single source for users to find resources.

Circulation staff are comfortable with fulfillment functionalities and have witnessed many efficiencies. Alma has retained many traditional circulation functions that staff are comfortable using. There was a learning curve, but once accustomed to the new environment, it became easy to maneuver. Staff can take a mobile device into the stacks and work. Downtime is rare. They are happy with Alma and report that fewer things go wrong.

Resource Sharing and Delivery

Implementation of the new system brought high expectations after hearing that Alma could automate routine interlibrary functions and integrate with the interlibrary loan (ILL) system, ILLiad. Staff were excited in discovering that some manual functions could be eliminated, and there are points of integration in ILL borrowing and lending, but not as much as expected. Our Resource Sharing and Delivery Department (RSD) has been mostly disappointed in Alma as a resource sharing tool.

The resource sharing functionality of Alma was available when going live but was not fully developed. The libraries decided not to implement at the time. Two years after implementation and

developments, the libraries were able to take advantage of the integration between Alma and ILLiad. However, it discovered the two systems did not work well together. Alma was not always successful in filling requests. For example, if a distance user lived in Kalamazoo and submitted a request through Alma, there was no way for staff to know that the requested item needed to be shipped to Kalamazoo. This lack in functionality caused frustration in both staff and users. Because of this, staff have decided to continue to process requests through ILLiad.

Alma manages resource sharing in a variety of ways, including e-mail, ISO ILL, British Library ARTEMail, and NISO Circulation Interchange Protocol (NCIP). VCU Libraries uses the NCIP add-on, which covers borrowing and lending. This add-on supports the integration between Alma and ILLiad. When an item is borrowed, the add-on creates an NCIP request with the user's ID and a brief bib record. When an item is lent, the add-on verifies the barcode match and moves the item from the home location to the resource sharing location in Alma. The add-on also updates Primo to show the item is unavailable. When the item is returned, the add-on will send a message to Alma where the status becomes "in transit." It will have to be scanned in Alma to return to its home location.

Users are comfortable with the information that is presented to them in the integration. When an item is checked out, it displays as a loan in the user's account with a due date. The user can quickly check his or her account to see these checkouts.

RSD is satisfied with borrowing and lending functions for now with the support of the add-on, but workflows are convoluted. It is hoping to see more efficiencies as Alma continues to be developed.

Cataloging

Cataloging staff were anticipating two major areas of efficiencies in Alma. The first one was in e-book management. Titles in e-book collections are constantly being added and dropped. Before Alma, staff had to constantly check for new records, delete titles that had left the collection, and load new records. This process was time consuming and tedious. Alma allows staff to activate collections in the community zone (CZ) and work on other tasks,

while Ex Libris manages titles that are added or deleted from subscribed collections. Providers don't always provide the timeliest and best quality data. There are still things that fall through the cracks, and staff still feel obligated to spot check collections. However, Ex Libris has been very responsive in working with providers to keep the knowledge base up-to-date.

The other area of anticipated efficiencies was in the centralized authority records and processes. Alma is more efficient in this area than Aleph. The process was all manual and very time consuming in Aleph. A lot of searching, loading, and correcting was necessary. With Alma, the staff no longer have to maintain local authority records. CZ authority records are maintained centrally by Ex Libris and are updated frequently. Alma connects authority records to bibliographic headings automatically and corrects bibliographic headings to match the authority preferred headings. There were some minor glitches when we first implemented this heading correction functionality, but after Ex Libris refined the preferred term correction processes, these corrections have become much more accurate and reliable.

Inefficiencies are encountered in the workflow of new print books. After new books are received by the Acquisitions staff and sent to Cataloging, they don't get processed in one sequence. There is a sorting process in Cataloging. Students sort the books in two ways: Books requiring easy processing and those requiring complex cataloging. The students made these determinations by viewing the machine-readable cataloging (MARC) record for each book and looking for several distinguishing characteristics. With the availability of locally customized brief levels in Alma, the student sorting process has become much simpler and quicker. The student simply looks for the value of the brief level and acts accordingly, but the fact remains that someone still has to touch every book after receipt and look at every bib record to determine which ones can get processed the fastest. It would be even more efficient if, at the point of receipt, staff could easily see the brief level of each book and determine which stream the book should go in.

Alma has functionality for making global changes to records, but some areas are more labor intensive than Aleph. Staff can identify the records that need a change, save them as a set, create a norm rule, and run a job to apply the change to all the records in the

set. However, if it's a one-time correction, this approach may be more trouble than it's worth. In this case, we have found it just as effective to identify the records, save them as a set, export the set out of Alma, open the file, and correct the records using a third-party application such as MARCEdit, and then re-import them back into Alma.

Serials

Workflow analyses performed over the years had identified e-serial workflow inefficiencies. E-serial management involved managing data in multiple systems before Alma producing information silos and ineffective communication. It required two systems, Aleph and SFX, to maintain e-serials. Someone had to remember to update data in both systems. Sometimes this happened, and sometimes it didn't. When it didn't happen, users were exposed to outdated information. Staff were excited to learn about the Alma task-oriented workflows that would deliver a unified management environment.

Manual processing has been reduced by Alma's capability for "pushing" tasks. When an e-resource is ordered, it is automatically pushed to an unassigned task list where it awaits activation. The library can define its rules for workflows. Once set, tasks are automated, and staff only have to handle workflows that are exceptions. For example, when an e-resource is ordered, it will automatically be pushed to an unassigned task list where it awaits activation. There is no need to worry about determining which titles have been ordered or if they need to be activated. It's all clearly displayed in the task list. Upon activation, it can be deleted from the task list.

Tasks can be easily assigned electronically for completion of processing instead of manually filling out paper routing forms, which had formerly been the routine. When a task is assigned, it appears in the individual's personal task list, allowing quick access to the assigned task and determination of the work that needs to be performed. Every screen in Alma has a persistent link to the task list, ensuring that workflows are focused on the task at hand. Once the task has been completed, it can be deleted from the task list or assigned to another staff member for further processing.

Serials patterns were not available in Alma when VCU first went live but became available about a

year ago. However, the Serials Unit made the decision not to create patterns. The staff figured out how to manipulate Alma to correctly expect issues by using dates and felt that it would be a waste of time to create patterns for print serials in response to the libraries' policy to switch to electronic subscriptions whenever available. Staff can focus on other priorities that warrant their attention.

Alma eliminates silos so that updates made in Alma are automatically updated in Primo. The two systems work well together most of the time. E-resources are activated in Alma and can display in Primo on the same day. However, there are occasions when resources activated in Alma do not show up in Primo. This is when staff have to call on Ex Libris support to get resources to display in Primo.

Acquisitions

Fiscal year rollovers have been a dreadful task for Acquisitions for many years. Lots of time-consuming steps were wrapped up in the rollover process in Aleph. Processes could be put on hold for a week while a rollover took place. Funds had to be checked and updated, and a multitude of cleanup was involved. Now annual rollovers take approximately 15 minutes in Alma. A test rollover is performed to catch errors. Once the errors are corrected, the live rollover is performed. Processing holds have been eliminated, and staff are elated that it's so easy.

Alma is changing the way staff interact with data. Analytics could not be easily extracted and compared in Aleph. The analytics tool in Alma is very useful and plays an important role in the libraries' decision making as it attempts to bring together appropriate data. Out-of-the-box reports are provided, and staff can create their own reports. A dashboard is available for displaying customized reports, and this robust tool allows reports to be run on library activities and graphs to be added to the analysis. Analytics can be compiled that are as simple as showing a comparison or as complex as revealing a trend.

The order staff enjoy the simplicity of initiating orders for print and e-resources within or outside of Alma. Orders within Alma can be created in the institution zone or the community zone. Staff can go to the metadata editor to import records from an external vendor and quickly place an order, and once

an order is placed, the order workflow will commence in Alma.

Staff don't have to concentrate heavily on data entry but can focus on decision-making issues that require more thoughtful consideration. The library can define how it wants the order workflow to progress and the degree of automation. For example, staff can choose to have invoices that come through the electronic data interchange (EDI) process to be automatically approved without staff intervention or have staff review and approve at specific points along the way.

Digital Technologies/Systems

The Digital Technologies Department (DigTech) was anticipating two major efficiencies in the cloud. One was the release from server upkeep. Before implementing Alma, the applications administrators had to manage three different points of upgrades: (1) The OS. Running SunOS updates is complicated, and at the time, the libraries were contemplating a migration to Linux (a different operating system) before deciding to move to Alma; (2) The database. There was a database administrator in addition to the OS administrator because of the complexities of Oracle; (3) The application Aleph. The last Aleph upgrade involved changes to all three components. Managing the upgrade was a full-time job for the better part of three months. After Alma implementation, fewer administrators were needed to monitor servers, and Ex Libris takes care of the upgrades in the cloud. The applications administrators can focus on developing other applications to enhance user experience and not be bogged down by server maintenance.

Clients had to be constantly managed in Aleph with every upgrade. Back office customizations in Aleph required five different client versions to be installed and maintained with every upgrade. DigTech had to determine which version each staff member should have installed on his or her computer. The burden of installing clients has now been removed in the cloud. Alma doesn't have all these different versions, and all libraries are on the same version and are upgraded at the same time.

DigTech encountered difficulties when it had to assist the Circulation Department in setting up policies in Alma. Aleph was relatively flexible in

allowing a broader base of policies. The policies had been configured for material type, such as book, DVD and journal. Alma's policies are not as flexible and are based on location. It was hard to conceptualize a policy shift from material type to location during implementation. If Alma's location policies were used, the library would have to determine what location to use. However, there was an option to take a carbon copy of the Aleph policies and make them fit into Alma. After discussion, the library decided to create a hybrid between the two different sets of policies. This seemed to work well since we did not copy the items where the locations had several material types and circulated differently.

DigTech found it difficult to let go of control over some things. Staff liked the idea of knowing that data was within their control. However, they realized they must relinquish this control to Ex Libris and trust that our success is built in with Ex Libris' success. Neither party wants to fail but wants to have the best cloud system possible.

Moving Forward

The VCU Libraries is committed to broadening research capabilities in the cloud. It is looking for ways to facilitate collaboration among faculty, staff, and departments and partner with other institutions to enhance research and discovery.

Here are some ways in which the VCU Libraries plans to move forward in the cloud:

- Seek further points of integration, such as ILL, bursar, and altmetrics.
- Explore collaborative collection management with other libraries.
- Push Ex Libris to develop better integration with ILLiad and DOCLINE.
- Review internal policies to determine barriers of integration.
- Determine methods to expose rich level of data that brings different paths for information gathering.
- Get a better understanding of how data can be used to support university's scholarship and learning.
- Investigate opportunities for new formats such as linked data and BIBFRAME.
- Investigate collaborative opportunities with other departments within the library.

Conclusion

A number of the VCU Libraries' objectives have been fulfilled in the cloud. Alma was the right decision, and staff have adapted well to the new workflows. The chains of maintaining servers and clients have been broken. It's not a perfect system, but there is potential for creating efficiencies. It has saved money and time on hardware and software, and we have witnessed a net decrease in operating costs. There wasn't as much change in the way of organizational structure as expected, but Alma is still being actively developed, and there will be more opportunities for transformation.