Primo VE Summit Report

ELUNA/IGeLU Primo Product Working Group

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Executive Summary

Pr**of**imo and Primo VE are separate deployment models of Primo, and are not considered by Ex Libris to be separate **2**3ךproducts. Primo custo32קmers using Alma can benefit from a tighter integration the two services (Prioכmo, Alma) through Primo VE, for which management functionality is handled through Alma, instead of through the452 Primo Back Office interface.

- Primo VE enables: ק
    - simplified and streamlin2ךed administration because it shares Alma's Management Interface, instead of having a separate and more complex administration tool, namely the Primo Back Office used for Primo administration.
    - near-immediate indexing of new/changed records in Alma, supported by a search architecture different than Primo's.
    - use of the same Open Discovery Framework (ODF) customization package as Primo, and the same Primo Central Index.
- There are a number of functional differences in what Primo VE offers when compared to Primo. Not all these differences may be relevant to all customers.
- The Primo VE Summit Team has made a number of recommendations that, if implemented, will make Primo VE viable for the most number of Alma customers, even those institutions who currently do a large amount of Back Office customization in Primo.
- These recommendations include a number of follow-up activities that are crucial for ensuring the best outcome in certain areas of desired development.
- We trust that Ex Libris will work with working groups and the Primo community to determine the relative priorities of these recommendations.

Recommendations for Future Action

Recommendations for individual features are made within each functional area outlined in this report. Below are broader areas of collaboration - for the Primo WGs, ELUNA and IGeLU and Ex Libris.

- ELUNA/IGELU Steering Committees and Ex Libris need to negotiate a sensible process for cross-product enhancements in order to support the development of Alma integrated products like Leganto, Primo VE, etc. The lack of classification rules to assign enhancements to products and ability to “share” development points between products means that important interface design issues (like resource-sharing and consortium functionality) cannot be appropriately addressed within the product-based enhancement process because a feature may share dependencies on functionality from another product.
- A MARC advisory group should be established for the creation of drools normalization rules
    a. Goal: to advise Ex Libris on the ideal OTB handling of standard MARC fields

    b. Why: many customers do extensive normalization customization on standard MARC fields to account for inadequacies in OTB rules. Leads to redundant work across customers.
    c. When: as soon as possible, before mass migration to Primo VE starts.
    d. Example: configuration for MARC field 382 (Medium of Performance) is not included in OTB at all (important field of music)

- There is a need for a Dedup & FRBR short-term task group (refer to the FRBR and Dedup recommendations for details)
- Drools normalization works very different in Primo VE from Primo normalization rules - which requires an effort to identify functional gaps
- Synonyms, character sets and other multilingual features are areas where possible problems and gaps still need to be identified
- Search results: Blending / Boosting / Relevancy - more use cases are needed to identify possible gaps and make recommendations to Ex Libris for development
- Primo working groups and Ex Libris should discuss how to collaborate on building a more comprehensive checklist for the user community to review and consider their local customizations
- Ex Libris should publish their development plan for VE longer than 6 months out to help institutions assess readiness to move to the VE platform. Some institutions take longer than 6 months to make a decision and schedule implementation.
- Primo VE Documentation needs to be improved. An important improvement would be separating VE documentation from Primo documentation, since presenting both processes in a single knowledge article can be confusing. Another suggestion is to start building documentation based on what the user is trying to do (i.e., providing workflow documentation rather than functional documentation) rather than functional areas.

Thanks and Appreciation

The Primo VE Summit team extends thanks and appreciation to Shlomi Kringel, Guy Ben-Porat, Yisrael Kuchar, Nili Natan, and Chani Yehuda, and Noam Amit from Ex Libris for their openness and responsiveness to questions throughout the report writing process as well as their hospitality while in Jerusalem. We want to call special attention of the high degree of collaboration and discussion this product working group has with Ex Libris in the development of the Primo product over the past few years. We look forward to future collaboration through the action items in this report.

Introduction

Over the past year, there has been significant interest within the user community about Primo VE and its integration with Alma. This report summarizes the Primo VE Summit, 3.5 days of meetings between members of the IGeLU/ELUNA Primo Working Groups and Ex Libris product management regarding Primo VE. It is intended for dissemination to other members of the Working Groups, to ELUNA/IGeLU Steering Committees, Ex Libris and the Alma / Primo user community at large.

Primo VE is optimized to take advantage of a simplified discovery platform and institutional configurations through its use of Alma for data source management, query-time indexing, real-time publishing, and consolidated administration within the Alma platform as a unified back office. The change in underlying architecture means that it is important to inventory the array of institutional customizations and requirements, assist the user community in their individual decision making process, and develop a set of recommendations to Primo product management to support a smooth transition experience. In summary, Primo VE was designed to allow for real-time updates between Alma and Primo VE and to make it so that the majority of customers could use as many configuration options out of the box to minimize the need for customization and high learning curve required for Primo's Back Office.

For locally hosted Primo customers, it should be noted that Primo VE is only available within the multi-tenant SaaS architecture, as it is part of the Alma platform. All of the issues raised within the SaaS discussion from July 2015 are applicable within Primo VE.

What Happens to Back Office?

While the Summit attendees spent a considerable amount of time focusing on the Primo VE application, there was discussion about the future of the standalone Primo application. Shlomi Kringel, Corporate Vice President of Learning and Research Solutions, openly stated Ex Libris' ongoing commitment to developing the standalone Primo application in tandem with Primo VE. New customers would be offered the Primo VE model as part of new Alma implementations. Ex Libris continues to offer Primo to non-Alma customers and will continue to develop it. As much as possible, functional parity will exist between Primo VE and Primo, but it was acknowledged that there may be some functionality only available within VE -- uniquely possible due to its shared architecture with Alma.

A noted point of difference between the two models is the release schedule. As Primo VE is aligned with the Alma monthly release cycle and Primo is on a quarterly release schedule, features may be introduced within the Primo VE environment earlier in the development cycle than the Primo environments. In order to reinforce the sharing of a single codebase, it was decided that features would be communicated as being for the overall Primo product (Primo and Primo VE), with Primo VE having monthly release schedules in line with the Alma platform, and non-VE being a quarterly release cycle. This would mean that VE customers might see certain features sooner than installations of Primo still tied to the quarterly release schedule.

There will be a single enhancement process for the Primo/Primo VE models, coordinated by the Primo Product Working Group, and not a separate, or even Alma, related м cycle. This is somewhat problematic for Primo VE customers, since so much of their patron-facing functionality is governed by Alma dependencies. When asked about this tight integration, Asaf Kline stated that the development points for each product (Primo or Alma) were fixed. As of this writing, there is no enhancement process to “move” development points from one product to another for a highly desired feature from the VE community (personal communication, Dave Allen/Betsy Friesen, 12/18/2018). So if the enhancement is viewed as an “Alma” enhancement, the enhancement pointing could not be “borrowed” from Primo or Alma enhancement allocations to facilitate a particular “joint” enhancement to developed.

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8Out of Scope Statement

The following areas are not addressed in this report. They are primarily unchanged or not relevant solely to Primo VE:

- Primo Central Index (PCI) or PCI Administration,
- The New UI customization package,
- Existing Alma-based functionality,
- SaaS issues

Some of the user stories offered by the community were deemed ‘out of scope’ because these issues were not relevant to Primo VE, such as filesystem access or SQL access to the server, or do not гщ080currently exist in the existing Primo product suite. These issues were handled within the SaaS Summit from 2014 and the resulting Memorandum of Understanding, so they were not addressed with this Summit team.

The Primo VE Summit Team’s Charge

The group consisted of five members from the Ex Libris User Groups of North America (ELUNA) and five members from the International Group of Ex Libris Users (IGeLU).

ELUNA	IGeLU
Allen Jones, ELUNA Chair, The New School, (Primo/Aleph - locally hosted)	Knut Anton Bøckman, IGeLU Acting Primo WG Coordinator, Royal Danish Library, (Primo/Aleph - locally hosted)
Corinna Baksik, ELUNA Incoming Chair, Harvard University, (Primo/Alma - hosted)	Bettina Kaldenberg, IGeLU Primo WG Deputy Coordinator, Mannheim University, (Primo/Alma - direct)
Dale Poulter, ELUNA Steering Committee, Vanderbilt University, (Primo VE/Alma)	Stacey van Groll, IGeLU Primo WG member, University of Queensland, (Primo/Alma - hosted)

Jeff Peterson, University of Minnesota, (Primo/Alma - hosted)	Ulrich Leodolter, IGeLU Primo WG member, Austrian Library Network and Service (OBVSG), (Primo/Alma) (Primo/Aleph) - locally hosted
Joscelyn Leventhal, George Washington University, WRLC Consortium, (Primo VE/Alma)	Amin Hussain, Manchester University, (Primo V E/Alma)

The group was commissioned by both Steering Committees to discuss the following questions with Ex Libris Primo product teams and report their findings to both steering committees in the form of this report:

- What is the Primo VE product and how does it differ from the existing Primo Architecture?
- What customer advantages does a merged Alma / Primo product bring?
- Are there functional gaps between the two types of Primo?
- What is the migration process and are there any identified issues?
- Communication issues with existing Primo VE customers
    - State of documentation
    - Discussion of release schedules and feature roadmaps
    - Is Primo VE part of the Primo enhancement process, the Alma enhancement process, both, a new enhancement process?

This report is also meant to aid ELUNA and IGeLU members in their deliberations on when/whether to migrate to the VE platform. As was stated previously, new Alma/Primo implementations would be strongly encouraged to implement Primo VE, while existing hosted Primo customers would be given the choice to move to Primo VE as part of their Alma implementations. Existing Primo/Alma customers would have the option to migrate to Primo VE through the simple submission of a Primo Salesforce ticket. The migration process will be handled later in this report.

Terminology

Because the majority of the report will be comparisons between the two Primo platforms (standalone Primo with its own Back Office, and Primo VE), a number of key definitions are provided below to describe how each product is referred to throughout this report.

- Primo - refers to Primo with Back Office, not Primo VE
- Primo VE - refers to both the Primo VE front-end discovery layer, as well as management of Primo VE through Alma
- User Interface (UI) - refers to the front-end UI (New UI only)
- PNX - Primo Normalized XML, a derivative XML format used to create the search index for Primo. This exchange format is still used by the Primo UI, but not for the Primo VE search engine

- Drools - refer to the language and syntax of the normalization rules in Alma. They are seen in the Alma MD editor for Alma records and also for the Discovery External resource. In addition they are used in the Discovery menu for normalizing display elements (in real time)
- Real-time indexing - refers to indexing of new records that occurs within 15 minutes
- OTB - out of the box
- PCI - refers to Primo Central Index, records and general functionality

Report Format

This report is structured around functional areas of Primo VE, drawing specific attention to the four questions where necessary. If recommendations were made, those activities will be located in the relevant section of the report. It should be noted that recommendations are from the working team to Ex Libris. The report is not collaboratively written with Ex Libris, but presented as a response from a group of working group members with differing levels of expertise in Primo and Primo VE. If particular follow-up activities were agreed upon by the working groups and Ex Libris collectively, those will be in a “Follow-up Activities” section as action items that do not require further discussion.

Features that were part of the presented Primo VE roadmap are also not being included as working group recommendations since those features were already under development. Where possible, we have noted in the functional area section when a new feature/enhancement was discussed, but we did not include release dates unless they were offered by Ex Libris.

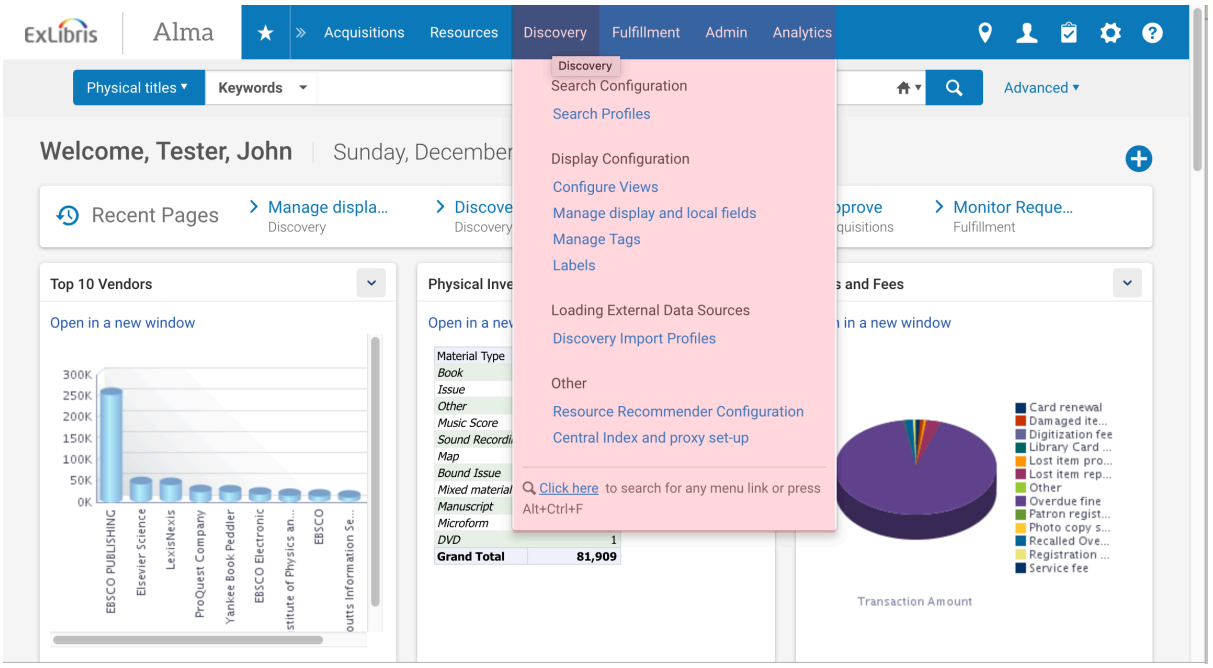
Primo and Primo VE Administration and Architecture

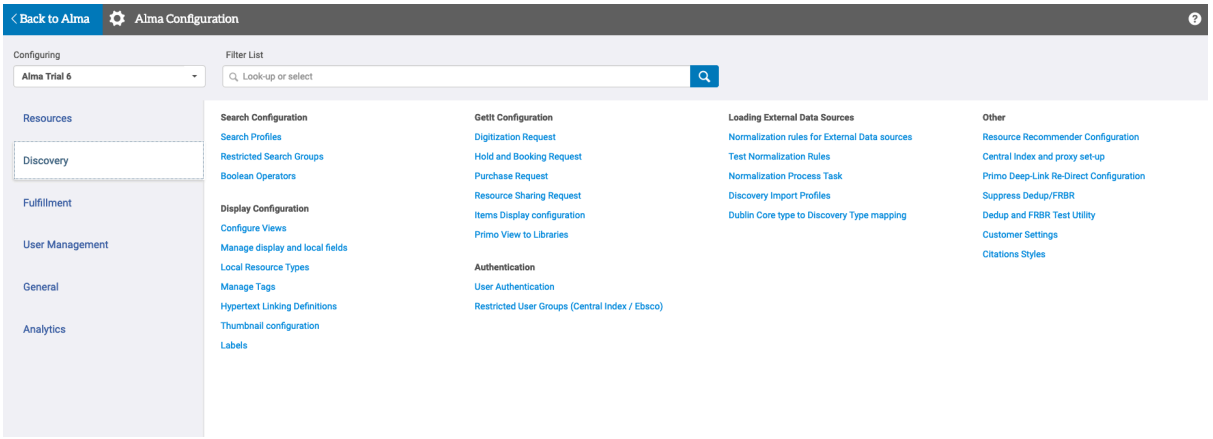
Architecture and Infrastructure

The classic Primo Architecture has been well documented. In the Primo application, functionality for the discovery interface and search index is configured within seven main administration areas of the Back Office application:

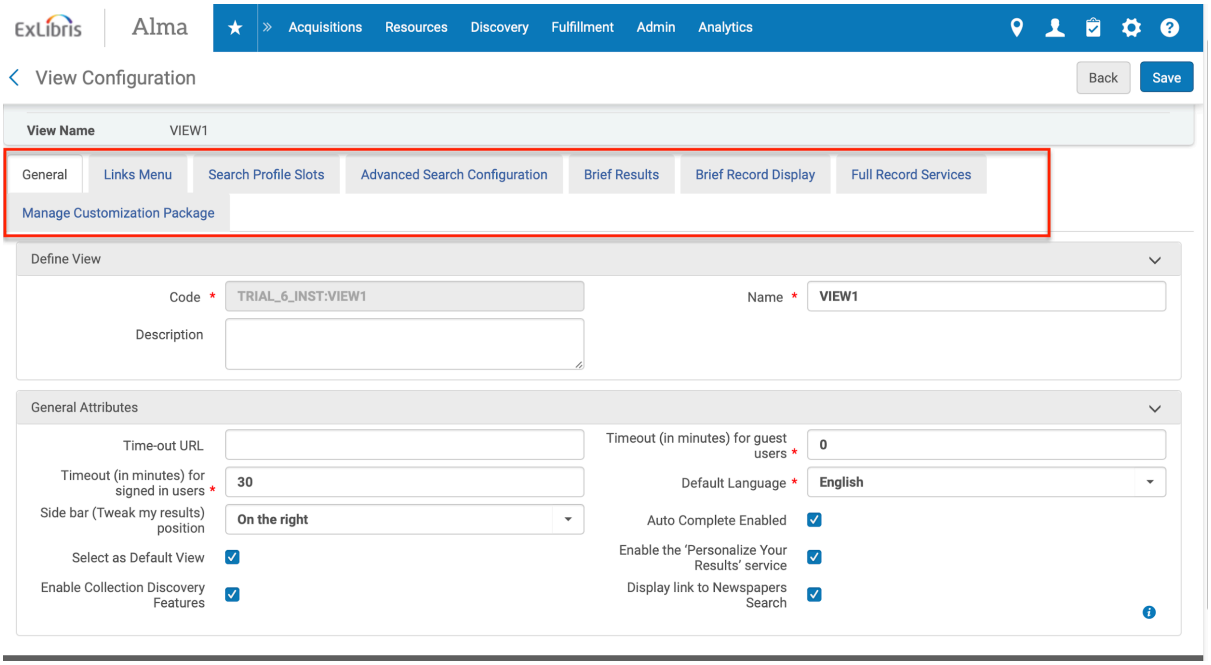
1. Data Sources and Normalization - Display, Links, Search, Facets, FRBR, Dedup, Addata, Delivery
2. Institution Configuration - IP ranges, libraries, Primo Central keys, etc.
3. Application Configuration
4. View Configuration - FE Code/Mapping Tables for labels, translations, etc.
5. Delivery / Link Templates
6. Search Engine Configuration - Boost, De-Boost, Blending
7. OvP Configuration - My Account / My Library Card services, including Hold, Photocopy, Scan, Request, etc.

Within Primo VE, several of these administrative functions have been consolidated under the Discovery Administrator role within Alma.



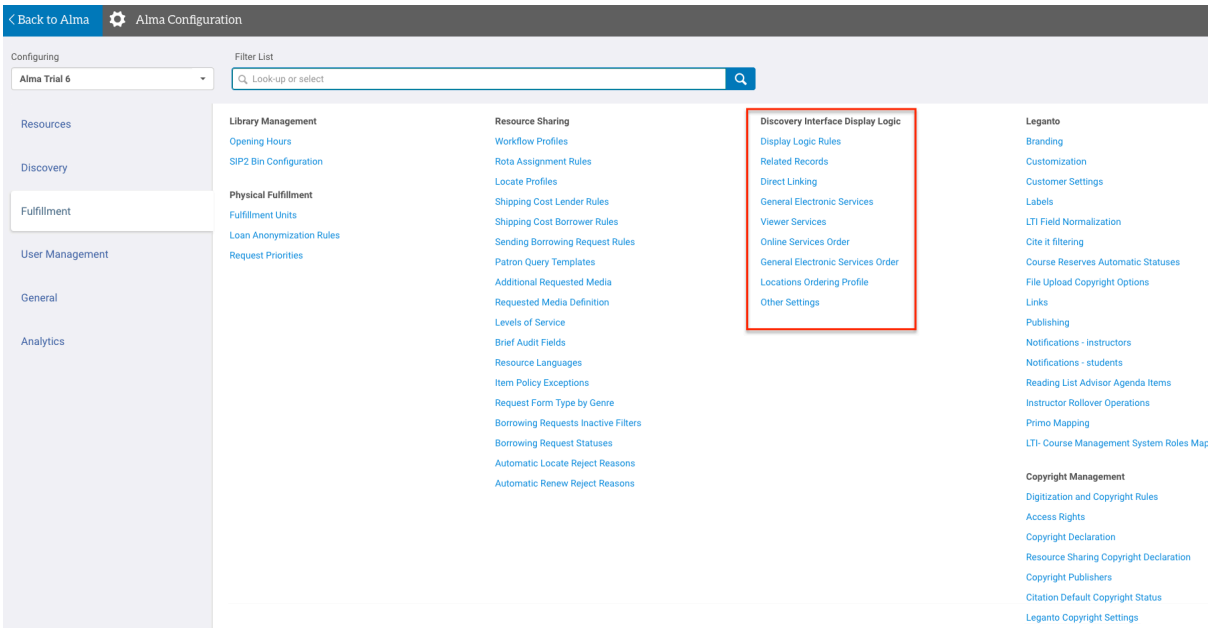


One of the core opportunities offered by Primo VE is the simplified administration of the public interface through shared configurations with Alma.. The view wizard is more streamlined than in Primo, highlighting a number of options that used to reside in code tables or normalization rules:



At the same time, other traditional Primo functionality, such as OPAC via Primo (OvP), has been distributed to other functional areas within Alma, including delivery, resource-sharing, requesting, course reserves, acquisition and digitization services. This makes sense, given the tight integration between Alma-based requesting services and Primo VE.

Since many of these Viewit/Getit functions are controlled by other functional areas within Alma, sites should consider undertaking role-based risk assessments, as impact on the Primo UI is not limited to the new Discovery Administrator role. For example, the above request display functionality is configured within the Configuration Menu > Discovery > Getit Configuration options (to configure request forms, etc), but the options for these services are configured under the Fulfillment tab (see image below).

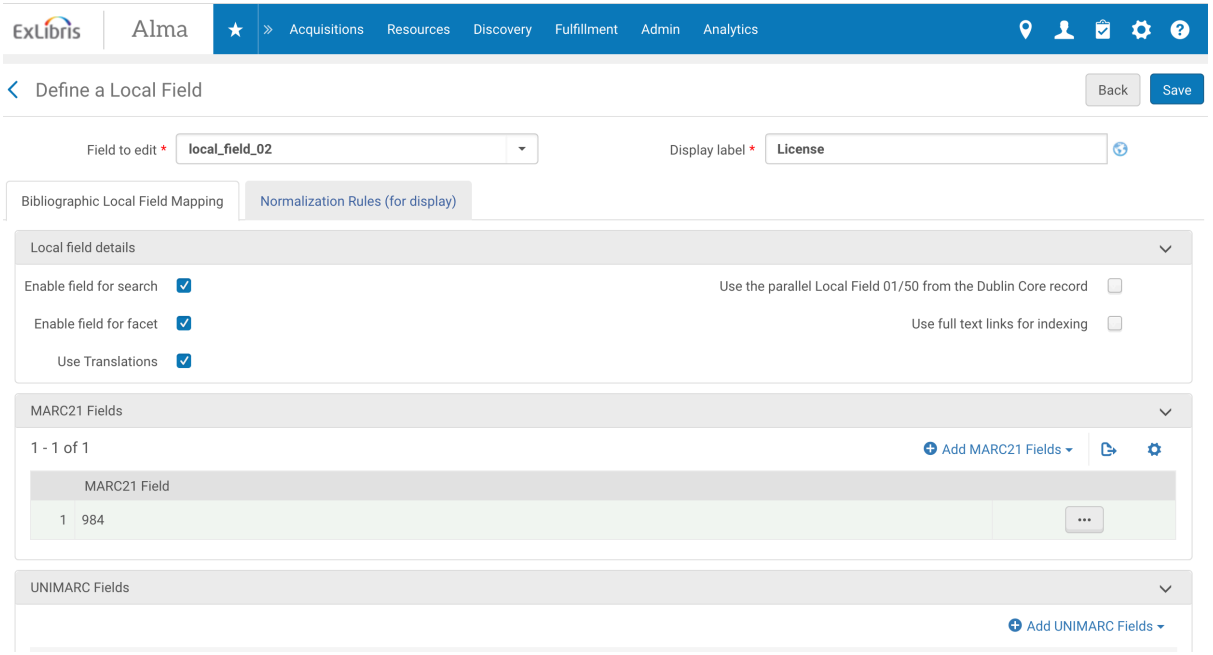


Similar issues include the ability of staff with Cataloger roles to adjust external data source normalization rules for import profiles. It is noted that this is an extension of existing Alma functionality, but that impact is potentially heightened by having an immediate effect on end-users. Administrators of the Primo Back Office might be at odds with Catalogers in Primo VE when it comes to transformations of data from external source systems. These multiple roles only highlight the need for change tracking or version management tools within the environment (see recommendations below).

Engine Configuration

The toolkits that connect Primo and Primo VE to their search indexes are significantly different. In the Primo model, both Alma data and external source data are imported, converted into the common PNX record format, and then periodically indexed for searching by the user. Changes appear to users when a hotswap of newly rendered index files is completed. Within Primo VE, users search the Primo VE index (which includes Alma records and external data source records) and results are “rendered” through normalization rules optimized for display. Thus, the SOLR interface used in Primo VE enables more query-time transformation, whereas Primo relies on episodic jobs of normalization, FRBR, Dedup, indexing and hotswap to display changes. Relying on query-time display as Primo VE makes real-time publishing possible.

For Admins used to writing or customizing normalization rules for all functional aspects of the Primo user experience, administration in Primo VE has been streamlined considerably. As the below graphic illustrates, local fields can be displayed, searched and faceted all within the same administration screen instead of navigating to three separately defined PNX sections in the Back Office. Other functional areas will be covered in detail below.



Record Publishing Workflow

For records in Alma, changes are available for searching almost immediately (< 15 min) within Primo VE. External data source records are imported into Alma via harvesting processes, added to the Primo VE Index via Alma import profiles (the external records themselves are not editable within Alma). Changes in metadata content for records from external sources must be edited first in the source system and re-imported. Alma Import profiles then harvest records and map external source record fields to fields in Alma-based operational records (OPR). (This is in contrast to mapping to PNX records in Primo). Records matching existing records are updated or deleted, and new records are created as new Alma OPR records. In this way, external data source records can take advantage of real-time publishing workflows. From a licensing perspective, records from external data sources are still billed as Primo records and not as Alma records.

PNX was the record format for the search engine in the traditional Primo application. Within Primo VE, the OPR record is the record format for the Primo VE index. OPR is an expanded version of the PNX record, including source metadata, full-text (if provided) as well as Alma-specific technical and administrative metadata. PNX is not completely discarded in the VE model - it is rendered on the fly for front-end functionality as well as compatibility with the customization package. Most interface customizations using PNX can be translated between Primo and Primo VE. Testing may be required for specific functionality - as with any migration testing of local customizations should be part of any migration project.

In sandbox environments, Alma sandboxs are directly tied to Primo VE sandboxes. Policy changes within the Alma environment have direct impacts on Primo VE.

To understand where different functionality has moved from traditional Primo normalization rules to Alma-based functionality for Primo VE, please see the chart below. Discussions of various functional sections will be discussed in detail after this section.

Primo PNX	Primo VE PNX	Notes
Control	Control	Hardcoded
Display	Display / Normalization	Customization of local in-system and OTB fields planned in Dec 2018 Release
Links		Generated via GES and Display Interface Logic, see Physical Service
Search	Search	Generated from Search rules, with the option to index OTB and local display fields as well. Roadmap for Q2 includes plans to allow additional search/facet normalization.
Sort	Sort	Hardcoded
Facets		Generated dynamically from Display / Search
Dedup/FRBR		Data set at index time and then grouped dynamically at query time. No F20 single dedup candidate. / FRBR Data set at index time and then grouped dynamically at query time
Ranking		Not currently available for customization
Delivery	Delivery	See also Holding, Electronic Services, Physical Service
Addata	Addata	Hardcoded
Browse		Generated dynamically from Alma headings
	Holding	See Delivery ie AVA
	Electronic Services	See Delivery
	Physical Service	Equivalent of Links

The distribution of functions across Alma modules has streamlined the administration experience. However, in some ways, this distribution of functions has complicated troubleshooting since certain functionality is not as “exposed” as it previously was within Primo’s normalization rulesets. Unfortunately, there is no easy way for staff to see some elements of underlying data without writing some type of interface customization. Ideally, as many functional areas as possible should be exposed out of the box for troubleshooting, system configuration, link template editing and customization using the familiar showPnx=true tool.

Recommendation: Ensure that library staff can troubleshoot problems for individual search results by viewing all elements via showPnx=true used not only in display, but in browsing, linking, faceting, dedup, and FRBR, to achieve parity with Primo.

Detailed areas of discussion

Below, the Summit team discusses each functional area of PNX and notes differences between the Primo and Primo VE platforms.

Dedup and FRBR

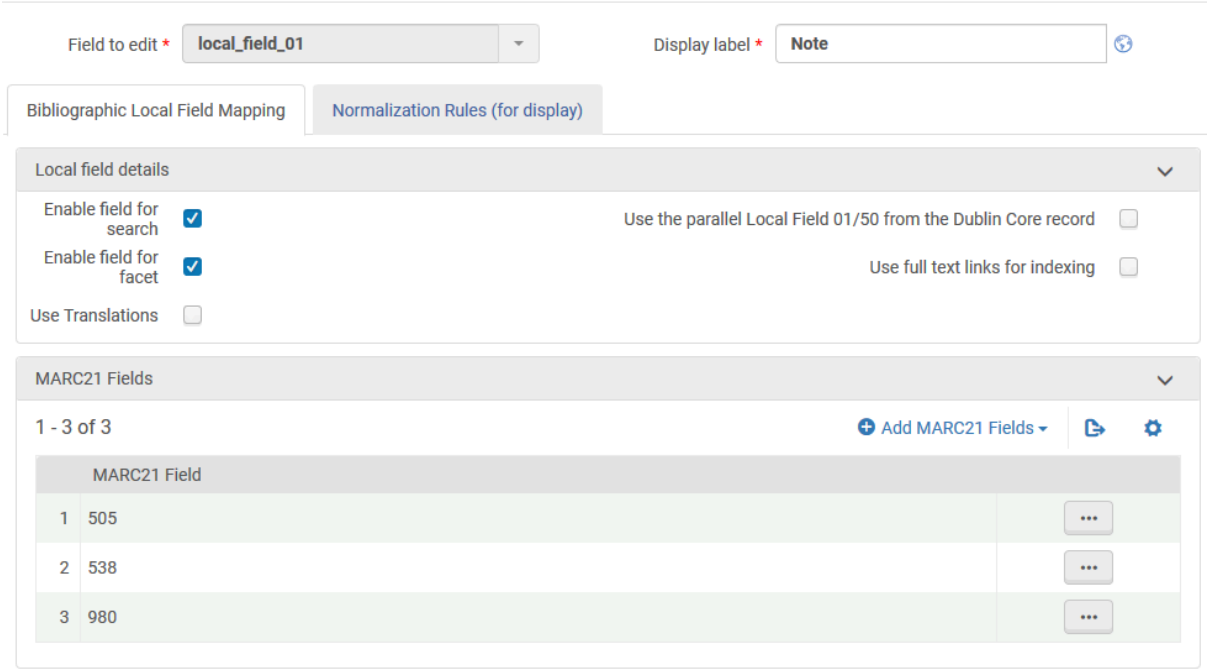
- Dedup has a different method of calculation in Primo VE. It relies on key field matching rather than a weighted scoring algorithm.
- Dedup and FRBR memberships are calculated at the time of indexing, but the groups themselves are only created in query time. This means:
    - There is no separate dedupmrg record created in the database.
    - The preferred record in a dedup group, which will display with holdings and specific fields from other group members merged in, is dynamically selected as the most relevant to the query. This preferred record is also used for display and therefore which record displays may vary depending on query.
    - Dedup and FRBR can be enabled or disabled instantly via a single checkbox, and it is possible to decide this option per view.
    - The option to select Generic or Preferred FRBR records remains the same, as well as sort order within the group.
- Some institutions have forced Primo to FRBRize works by resource type using custom normalization rules. Currently, this is not possible in Primo VE.
- Primo VE support the possibility to exclude specific resource types / collections from dedup / FRBR

Recommendations:

- ELUNA / IGeLU should establish a short-term targeted task group to define the optimal default OTB configuration for Dedup and FRBR (see Follow-Up activities). This group will also discuss needs for additional opt-in options, including strict / loose dedup, or additional match points that can be enabled or disabled.
- To improve consistency in user experience, the preferred record should not change dynamically. Consider selection and display of a VSR i.e. "Virtual Super Record", as for Primo Central Index
- Allow deduplication with external data sources, to achieve feature parity with Primo
    - Example: if external data source has an Alma MMS ID, you should be able to dedup it with an Alma institutional record.

Normalization (for bib records managed in Alma)

- Normalization of Alma data is available in Primo VE via dedicated Alma pages and menus
- Primo VE allows for customization of local fields and the customization of standard MARC fields for the display section only



- For each display element, specific MARC fields/subfields from the bib record may be included, with a checkbox option to also index the data for search
    - Currently in Primo VE all local elements configured are displayed, with a checkbox allowing for inclusion in search as well. Individual local fields may be effectively hidden from display within Views configuration. Any search field may be utilised by the UI as a facet, due to the search engine used by Primo VE, but there are no additional configuration options for Administrators (the facet value will match the string in the field/subfield value instead of add a count to different facets - such as library location = offsite availability).
    - Planned feature will allow Administrators to decide, for each element, whether it is displayed, searched, or faceted. Right now Primo VE takes all subfields, and the planned feature will support subfield specification.

    - Data transformation can be achieved through the drools scripting language (similar to that already in use in Alma for normalizing in metadata).

```
rule "Primo VE Display - Creator 100"
priority 10
    when
        MARC."100" has any "a,b,c"
    then
        set TEMP"1" to MARC."100" excluding num subfields without sort
        set TEMP"2" to MARC."100" sub without sort "a"
        remove substring using regex (TEMP"2","(/|:|;|=|,)+$")
    add prefix (TEMP"2","$$Q")
    remove substring using regex (TEMP"2","^$$Q$")
    concatenate with delimiter (TEMP"1",TEMP"2","")
        set pnx."display"."creator" to TEMP"1"
end

rule "Primo VE - Creator 110"
priority 20
    when
        MARC."110" has any "a,b,c"
    then
        set TEMP"1" to MARC."110" excluding num subfields without sort
        set TEMP"2" to MARC."110" sub without sort "a,b"
```

    - Elements can be used for full-text indexing.
    - Data can be translated using code tables.
- Changes to configuration and rules are applied to the data immediately and will be reflected in the UI. No renormalization job is required.
- Customers can create resource types and map data to resource types
- There are currently 50 local fields available for Primo VE, as opposed to 200 for Primo
- Local thumbnails are supported through templates in Primo VE (in Primo they are handled via NRs)
- Other sections of the PNX record will not be subject to changes via drools normalization, but will be created automatically based on the data from the bib record (addata section, browse section, etc.)
- Technical documentation will be available as part of November release 2018 with an explanation of the syntax and conditions
- Lateral linking definitions (e.g. $Q) continue to be supported. In Primo only lds30-lds39 can be used for lateral links, while in Primo VE all 50 local fields can be used.

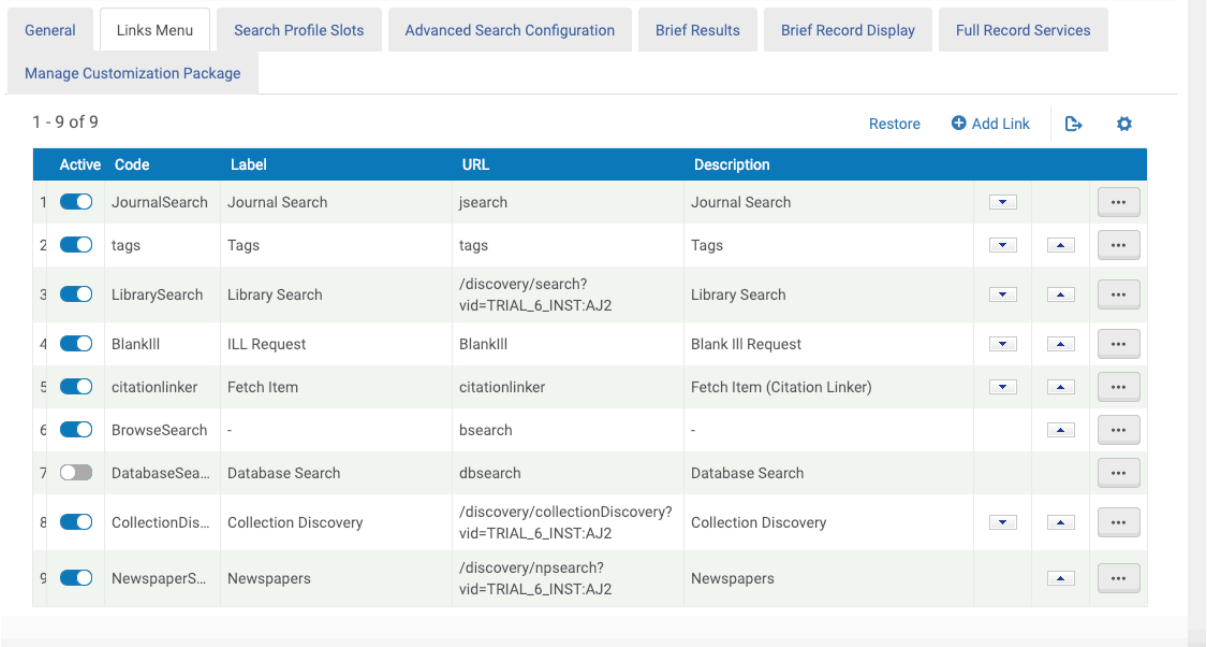
Recommendations:

- There is an outstanding need for version control of normalization rules (drools). This is even more important in an Alma environment where typos in drools are introduced more easily and all staff members with Cataloging roles have managing rights for the normalization rules of external data sources. (Only Primo administrators can see the display normalization rules (Alma staff cannot see or change it).
- More examples for drools normalization in a VE environment should be added to the documentation, showcasing what can be done in this area
- Increase the number of local fields to 200 (or make it an option per customer) so that libraries can accommodate external data sources that need dedicated fields.
- Develop a Norm Rule testing tool.

Links and Delivery: Links, GetIt, ViewIt, How to Get It, General Electronic Services

Main menu links (top banner)

Top-level UI links are simple to configure via the “Links” Menu within the view configuration, similar to Primo.

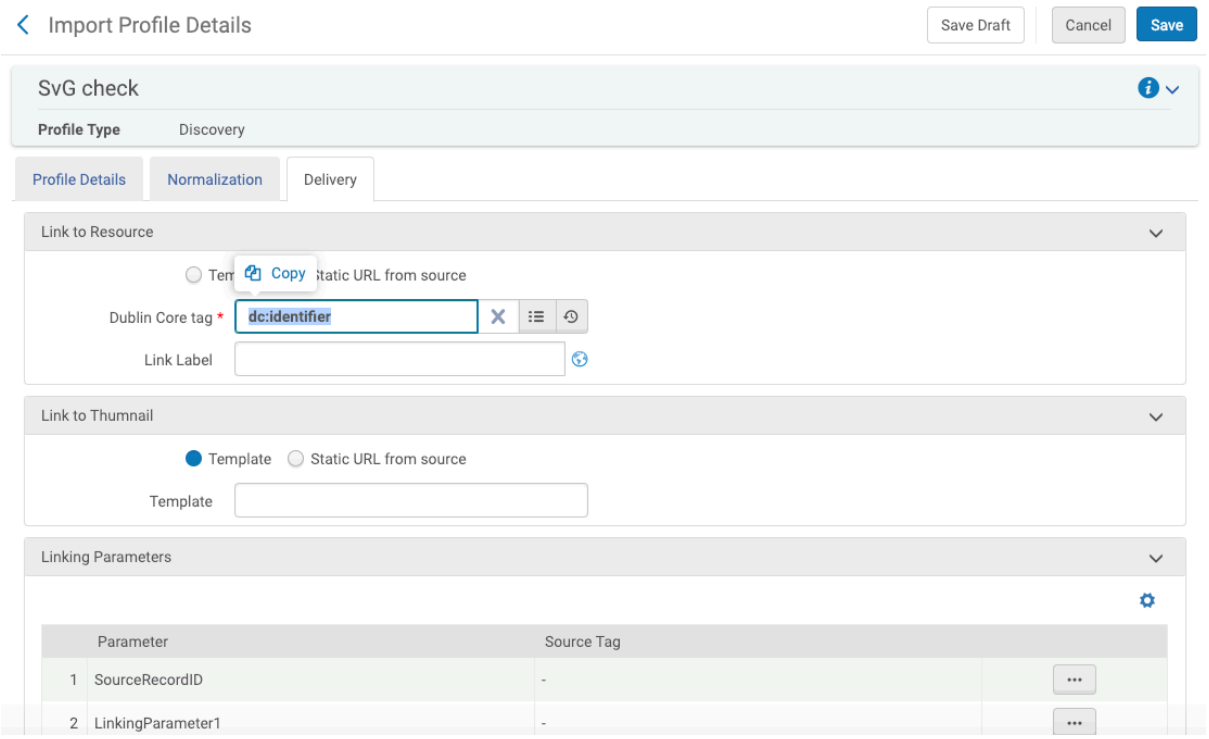


	Active	Code	Label	URL	Description
1		JournalSearch	Journal Search	jsearch	Journal Search
2		tags	Tags	tags	Tags
3		LibrarySearch	Library Search	/discovery/search?vid=TRIAL_6_INST:AJ2	Library Search
4		BlankIll	ILL Request	BlankIll	Blank Ill Request
5		citationlinker	Fetch Item	citationlinker	Fetch Item (Citation Linker)
6		BrowseSearch	-	bsearch	-
7		DatabaseSea...	Database Search	dbsearch	Database Search
8		CollectionDis...	Collection Discovery	/discovery/collectionDiscovery?vid=TRIAL_6_INST:AJ2	Collection Discovery
9		NewspaperS...	Newspapers	/discovery/npsearch?vid=TRIAL_6_INST:AJ2	Newspapers

"More" links and Links to Resources

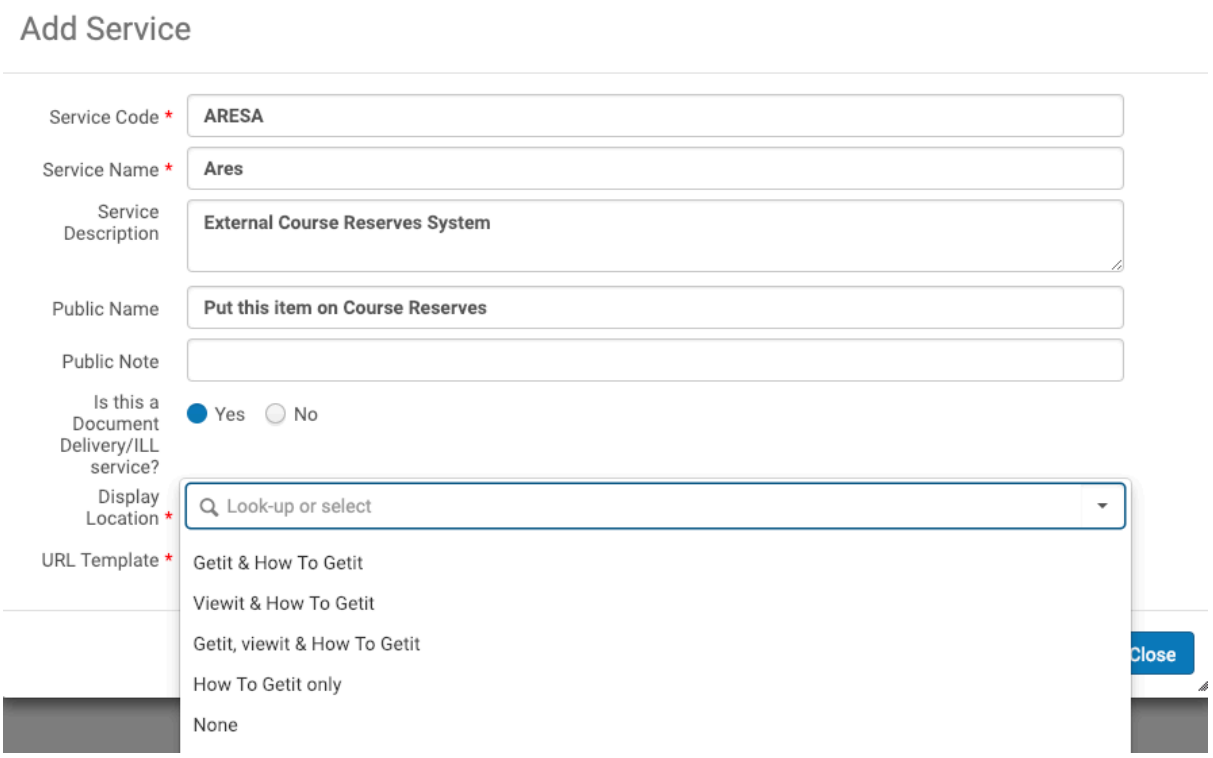
In Primo, an application administrator would configure different links relevant to a data source within each data source’s normalization rule setup. In Primo VE, certain links are set within import profiles and others are set within General Electronic Services. For MARC and Dublin Core sets, links can either be rendered through link templates or they can be retrieved through a source tag on ingest. Link template syntax for Primo VE is similar to Primo:

```
http://hdl.handle.net/$$LinkingParameter1
```



Links - Get It / View It / General Electronic Services (GES)

In Primo Back Office, GetIt template and mapping tables are customizable (thought not advisable by Ex Libris). In Primo VE, these linking customization tables are not exposed. At some Primo institutions, there is heavy link customization within the GetIt templates area of Primo. Within Primo VE, links of this type are handled at the *view level* through General Electronic Services within the Fulfillment area instead of the links section of the normalization rules. GES links/link templates are not currently sensitive to data source, though they are sensitive to metadata based conditions to control when the links are seen or not.



If a Primo institution does work in this area, they may consider performing an audit of their customizations to see if the General Electronic Services solution can meet their needs. It may also make sense for Ex Libris to consider display logic to be sensitive to external data source info (or resource type) to accommodate institutions that perform a high degree of link customization.

Scenarios where additional service links might make sense to add to the record of an external data source:

- Series/Sub-Series, Relation
- Collection
- Provenance
- Physical/Digital Repository
- License
- Table Of Contents

While a larger number of these scenarios are covered in MARC import profiles, they are not covered for a variety of Dublin Core elements. Links should be available within the full display for these bibliographic elements in the same manner they are available for Primo.

Direct Linking

The November 2018 Primo VE release brings direct linking customization options for the Alma Link Resolver, although it is noted that there may be accessibility issues with the absence of an icon for the outlink in the Availability Statement. Rather than being directed to

the full display of the item where providers are listed in a “Get It” Menu box, with direct linking enabled, users would be taken to a full-text provider of the resource.

Direct linking is currently customizable in the following ways:

- If the record is a journal, digital resource, or electronic collection, direct linking can be suppressed
- If a public/authentication notice exists, direct linking can be suppressed.

Direct Linking for PCI records are currently not customizable. If direct linking is turned on, the behavior forwards the user to the PCI-based link to resource.

Recommendations:

- Add link customization options to achieve parity with Primo for DC and XML-based data sources. All resources and data sources should have the same link types available to them.
- Allow for display logic of General Electronic Services to factor external data source name/resource type and not just availability of delivery/request services to allow for broader use of additional link templates in discovery interface

Facets

Primo VE comes with the same facets that are part of the OTB setup of Primo, with additional facets OTB such as place (subject), MESH, course information etc. The display and end user functionality is the same in Primo VE as in Primo.

- The customer enables/disables, reorders, and selects display of the facets in the Admin interface
- It is currently not possible to create local facets based on standard MARC data, though it is possible to create local facets based on local MARC fields (9XX). The roadmap for Q2 is to allow the use of other standard MARC fields in local facets.
- It is not possible to create custom entries to OTB static facets, such as the Top-Level Facet
- Top-level facets do not have counts for each value, as they do in Primo (except for the Open Access value)
- Facets counts are based on all the records in the results list, not only a representative subset like in Primo. This is due to moving to Solr.
- Currently being planned is a facet for Place of Publication (as OTB facet)

Recommendations:

- As refining by facets is a major tool for end-users, adding the flexibility for customers to define local facets is essential to provide a good search experience. Local configuration of facets should be available based on any BIB metadata, plus other elements, such as holdings. For a start, we suggest allowing the same schema as for customizing search scopes.
- We also recommend allowing for creation of custom entries to static facets, such as the Top-Level Facet.
- Enable use of AVA-field equivalent for facet configuration, to achieve parity with Primo. A number of institutions add top-level or other facet values for delineated statuses, more specific than the OTB "available" option (such as “Offsite Copy Available” or “Affiliate Copy Available”)

Browse Search and Virtual Browse

- Like Primo, the VE Browse Search does not include Primo Central Index records.
- In VE, Browse is based on Alma's browse functionality and includes only Alma data; external data sources are not included.
- Call number schemas can be enabled for browsing (LCC, UDC, NLM, Dewey, etc.).
- Browse can be enabled per view, as well as per thesauri (e.g. LCSH, etc.). For example, a given view can have browse by LCSH, browse by MeSh, and no other browse options.
- Neither "see" nor "see also" references are supported, whereas Primo supports “see” references.
- How each Browse option is defined is OTB and not configurable (e.g. cannot alter field/subfield definitions).
- Virtual browse utilizes the Alma shelf (holdings) call number browse. (This is built on MARC holdings 852 fields). For this reason, Alma portfolios for e-inventory are not included.

Recommendations:

- Include See references to achieve parity with Primo
- Add ability to include External data sources in Browse searches
- Improve OTB Browse definitions. See Follow-Up activities (Metadata advisory group).
- Enable support for inclusion of e-inventory in call number browse and virtual browse.

My Account

This area is not currently customizable. Planned for 2019 is the configuration of display fields in the loans/request + links from sections. Notable items which have no current configuration options include:

- Recently added silent login; available with SAML, CAS, and PDS.
- No outlinks from each section
- Cannot add or remove bibliographic and inventory information from Loans and Requests
- Cannot individually enable or disable areas, such as Personal Settings

Recommendations:

- Add customization options to achieve parity with Primo

APIs and External Integrations

X-Services and SOAP web services are deprecated and not supported by Primo VE. Much legacy functionality has not been included in Primo VE, including support for MetaLib. As stated previously, any applications that scraped showPnx=true will not work in Primo VE because that application is now using JSON instead of XML.

- Primo VE supports the REST API Suite, which provides access to search capabilities and results
- MetaLib search integration is not supported.
- Deep-Link syntax is different but Primo Deep-Link redirect Configuration provides backward compatibility.
- External applications making currently use of the PNX record will have to be checked and adjusted
- Zotero is supported
- Planned: sitemaps for search engine harvesting (Google)

Recommendations:

- Expose at least the same PNX data already available in Primo

Migration / Implementation (Primo to Primo VE)

At the time of writing, 30 customers with an existing Primo environments have moved to Primo VE. Ex Libris has advised a capacity to move 30-40 existing customers to Primo VE in 2019. A full discussion of the growth trajectory for PrimoVE can be found in the Appendix of this report.

The current pathway for registering interest in moving to Primo VE is customer driven is via Salesforce ticket.

- The customer initiates contact with the Primo Delivery Team
- Ex Libris undertakes some preparatory checks and internal tests to ascertain if the environment is suitable for Primo VE
- If your current Primo environment is deemed suitable, Ex Libris will commence discussions on the project flow and set project timelines, which are also driven by the customer, particularly for a “One month intensive test period”
    - This period is a minimum mandatory one month, with customers strongly encouraged to extend this as needed

    - Support is described as “high level” and is targeted and hands on, with a minimum of 2 calls during the intensive test period
- If, during the test period, customers determine that VE will not meet their needs, they may elect to forgo the VE migration and remain with their existing Primo environment.

The project is managed through a dedicated space on Basecamp, allowing customers to communicate with both the Ex Libris project team and colleagues you wish to include on the implementation project. After Go Live with Primo VE, there will be a Switch to Support process, with support returning to Salesforce. Customers initiate this handover only when they are ready.

The move from Primo to Primo VE will include migration of data sources, and configuration settings where there is an in-system VE equivalent, but as the architecture for Primo VE is notably different, it is important to note that this is not a direct copy of your current environment to Primo VE and not all areas will be like for like. Any normalization rules you may have created in Primo Back Office will not be copied across automatically when moving to Primo VE. Some functionality such as search scopes and local fields may be easily achieved in a new way, while other metadata intensive rules may be achieved by writing normalization rules in Primo VE.

When migrating from Primo, Primo permalinks will continue to work when customers move to VE. The Primo VE permalink syntax is slightly different than the Primo syntax, but the system will redirect the links via configuration. OpenURL links will also continue to work because of redirects. Both permalinks and openURL links will be more efficiently resolved when customers start using the new VE syntax prospectively.

An improvement for Total Care customers is that they can now do the discovery configuration themselves on the simplified Alma platform, if they choose so (as they will have the Discovery Administrator role available), or they can still (as per their contract) ask Ex Libris to make changes on their behalf, but with the added benefit of much more information of their existing configuration to assist in decision making and troubleshooting.

Data copied across includes e-shelf data for all users, but does not include saved searches, reviews, and tags. Primo Analytics data is also migrated, and development plans include integrating the two data sources so customers will not have to merge two data sources outside of the Primo system for reporting.

Recommendations:

- Ex Libris to make the 'Primo VE Checklist' and the 'Alma-Primo VE for Existing Customer Implementation Guide' available on the Knowledge Base, so customers can review before commencing the project
- Ex Libris to identify any trends or common issues raised by customers who have already migrated to Primo VE, and either proactively point out these areas to the prospective customer or add them to the Checklist documentation as areas for the customer to scope out before moving across

External Data Sources

Primo VE provides the ability to ingest records from external data sources, manually and on a configurable schedule, utilizing the methods utilized by Primo (OAI-PMH, FTP, SFTP, and file upload).

Changes from Primo to Primo VE:

- Indexing occurs instantly (within 15 minutes)
- Alma Import Profiles are used instead of pipes. Primo VE advantage over Primo: Alma can send success/failure notifications.
- XSLTs cannot be utilized in Primo VE, xpath is required
- Primo normalization rules are replaced by Alma drools normalization
- Currently only external online resources can be loaded into Primo VE.
- Currently planned: DC, XML, MARC
- Alma sets can be used to renormalize groups of external records
- Planned:
    - support full-text searching (released October 2018)
    - ability to view detailed logs for ingestion and any errors incurred.
    - faceting by external data source
    - custom tables for mapping variables in an external data records
    - load physical material records
    - Dedup and FRBR available for external resources and across data sources
    - ability to view external source records in Alma
    - UI display of snippets for full-text
    - Ability to view PNX record via Alma for troubleshooting and testing

Recommendations:

- Deliver OTB drools for additional schemas including MODS and MARC
- Support for handling nested XML through additional drool routines
- Allow the use of both the tag and and qualifiers (dcterms) to be used as labels (http://www.dublincore.org/documents/2000/07/11/dcmes-qualifiers/).
- Address gap related to Syndetics ICE enrichment (searchable tables of contents)
- Define the list of qualified DC fields that are being used and add any missing fields when compared to Primo PNX

Search Scopes

Local configuration of search scopes is an area that is not only easier in Primo VE compared to Primo, but also more powerful in terms of what the customer can do. While in Primo it is a feature in the background infrastructure of setting up a view, in Primo VE it is so to speak moved to the forefront in the admin interface, inviting for more frequent revisits. The search scope affiliation is not defined in the normalization rules. Instead, the search scopes are defined by combining data elements that have already been indexed.

- Custom search scopes can be created by the customer using any elements from the metadata or inventory (e.g., “only dissertations from library X”)
- Custom search scopes are invoked immediately after configuration (this is an advantage of Primo VE over Primo)

A note on the AZ-list
The e-Journal A-Z list does not exists in Primo VE. Instead, Primo VE has a (print and electronic) journal search with autocomplete, with the additional feature of searching for articles within a journal.

- The Summit team endorses the exclusion of the A-Z functionality as not worth pursuing.

Additional background: Primo VE offers an accurate auto-complete based on the journal titles held or subscribed by the university. A user can start typing rather than choosing a letter of the alphabet and seeing a long list. The Primo VE Journal Search goes beyond the traditional link resolver journal search interfaces, by offering both electronic and print journals. Primo VE also offers a 'search within' feature that allows the user to search for articles in that are part of the journal they are interested in.

Search Engine Configuration (Ranking/Boosting and De-boost)

We had an animated discussion about boosting, blending, and relevancy. Many customers make customizations to Primo NRs and search engine configuration in order to improve relevance overall or to account for a local need. In some cases, there are redundant efforts among customers. We would like to work with Ex Libris on identifying OTB relevancy improvements, and we would like to collect more use cases from the community to determine whether ExL can provide a set of configuration options to help customers solve local issues, rather than opening boosting/blending/relevancy for full customization which may lead to unintended consequences. For example, an institution who boosts local holdings over consortial holdings may adversely affect exact title match/relevancy. The Follow-Up section includes a call for more use cases, to be coordinated by the PWGs.

Other information:

Blending between local data and Primo Central data (and/or third node search data)

- Available in both Primo and Primo VE

Configuration of rank weights for specific fields

- This is currently not available in Primo VE, and the needs and pitfalls related to this was discussed extensively.
- In general, ExLibris found that this feature was more requested than actually used, but it was also considered a reasonable tool
- It was decided to keep collecting use cases for this functionality, and to see if other solutions were better suited to solve them

Boosting

- Boosting of records based on specific elements (e.g. resource type) is currently not available, but ExLibris is exploring this
- Institution boost, as is currently used by some libraries in consortia, is currently not available

Exact title matches

- ExL will continue to work on exact title-level matching, including one-word titles and journal titles. (Examples: Science, Nature)

Recommendations:

- Collect more use cases for boosting/blending/relevancy needs

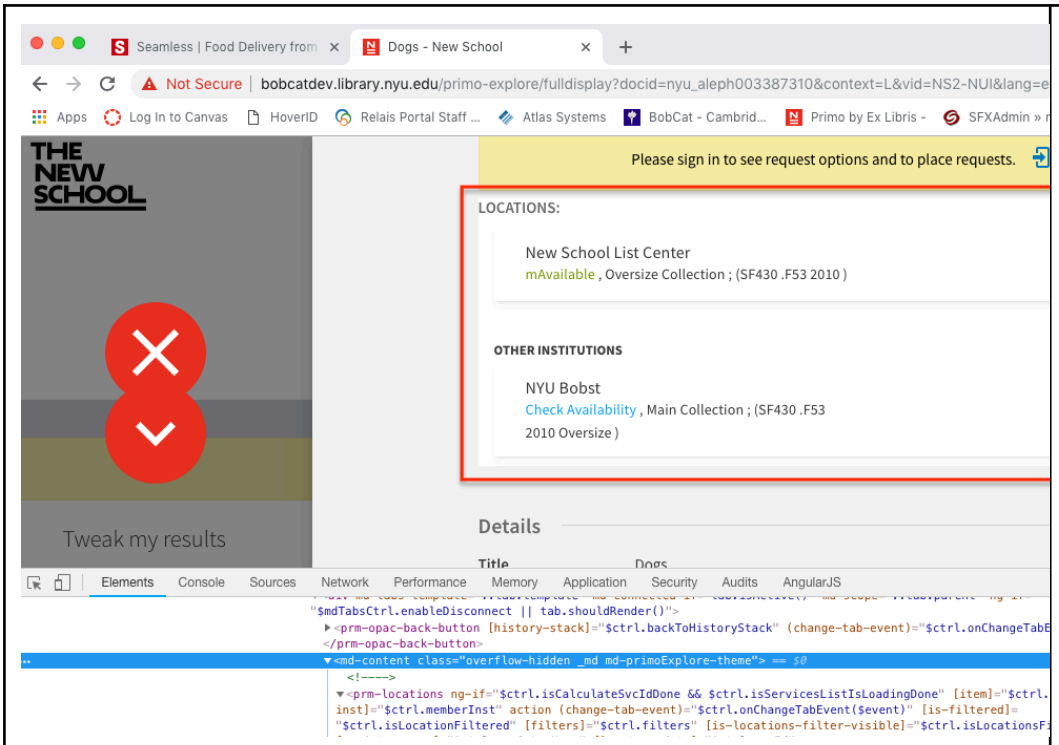
Views and various UI elements

The Primo VE customization package is the same customization package used in Primo, with some noted exceptions. Regarding search behaviors, Primo VE has interface parity with Primo, including customer configuration of display fields in Brief Results per View, customization of search fields in Advanced Search, Resource Recommender, Featured Results, newspaper search, database search, collection discovery and analytics. Furthermore, for the Resource Recommender, you can "add from existing Alma e-collections" (with ability to tweak display), to minimize redundant data entry.

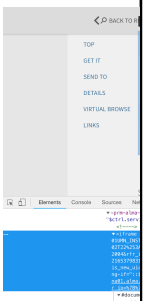
There are some noticeable differences. As previously mentioned, Primo VE view lacks the journal A-Z function. This is not an oversight, but an intentional omission of a feature that was not heavily used across Primo instances. Whereas the database A-Z browse was quite heavily used, journal search was not.

A significant difference between Primo and Primo VE is the presentation of the View It / Get It sections. In Primo with Alma, these areas are rendered within an iframe embedded in the UI (the "mash-up"). In Primo VE, these are now part of the page itself (i.e. no more "mash-up"), similar to the Aleph-based OPAC via Primo user experience (UX). This improved interface allows for tighter integration within the single-page application, better accessibility (because text to screen readers may scroll iframe content at large text magnification levels), and more effective resizing in mobile views.

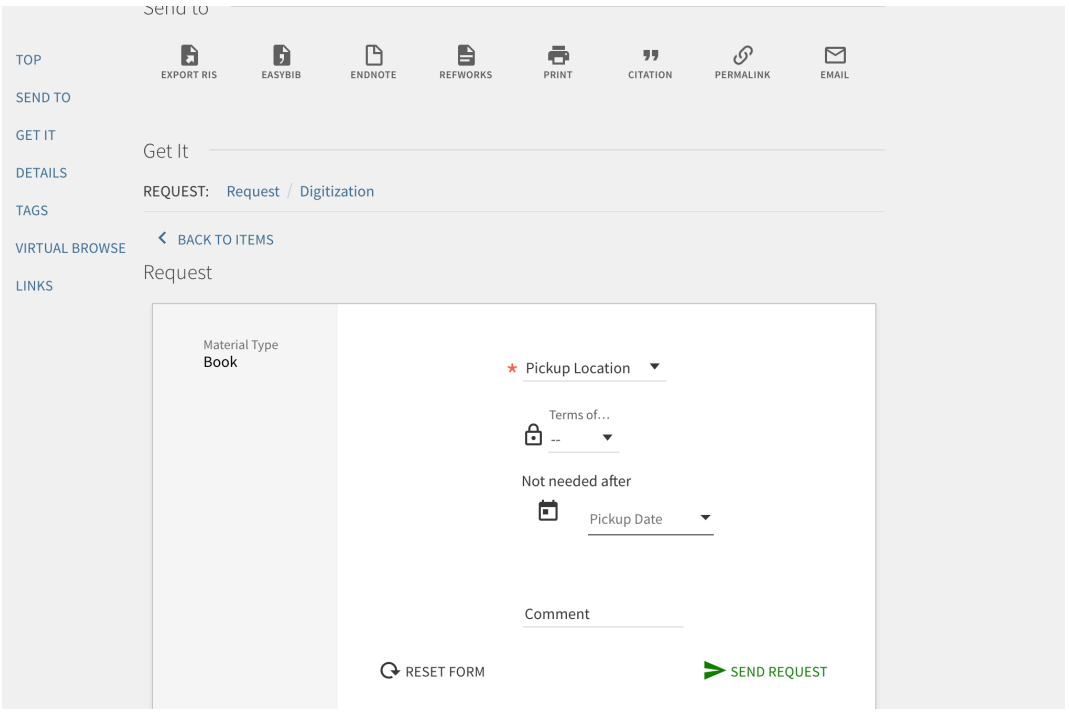
For images of each user experience, please see below:



Primo / Alma



Primo / Aleph



Primo VE

Under the hood, the customization framework still utilizes the same PNX notation for customization compatibility, so customizations written for the Primo environment should work

seamlessly for the Primo VE environment on functionality that the environments have in common. View ID naming conventions are different, utilizing a colon in the viewID (01USCIPH_INST:01).

If integrations rely on the ‘showPnx=true’ view of source records, then a significant change will be noticed. Within Primo over Alma (or other ILS), XML-based output results. Within Primo VE, the interface outputs JSON. While this does not change the data exposed from the search API that both Primo VE and Primo environments use to render data for the interface, legacy external integrations that scrape the rendering of this data may have to be re-written (preferably to use the Primo REST Search API) for customers migrating to Primo VE from Primo.


```
<?xml version="1.0" encoding="UTF-8"?>
<record xmlns="http://www.exlibrisgroup.com/xsd/primo/primo_nm_bib" xmlns:sear="http://www.exlibrisgroup.com/xsd/jaguar/search">
 <control>
  <sourcerecordid>21174340614000394l</sourcerecordid>
  <sourceid>01HVD_ALMA</sourceid>
  <recordid>01HVD_ALMA21174340614000394l</recordid>
  <originalsourceid>01HVD</originalsourceid>
  <addsrcrecordid>HVD_ALEPH000129453</addsrcrecordid>
  <sourceformat>MARC21</sourceformat>
  <sourcesystem>Alma</sourcesystem>
  <almaid>01HVD_INST:21174340614000394l</almaid>
 </control>
 <display>
  <type>journal</type>
  <title>Diabetes</title>
  <contributor>American Diabetes Association.$$QAmerican Diabetes Association.</contributor>
  <publisher>[New York, American Diabetes Association]</publisher>
  <publisher>v. 1- Jan./Feb. 1952-</publisher>
  <creationdate>1952-</creationdate>
  <format>v. ill., ports., diags. 29 cm.</format>
  <format>&lt;i&gt;Frequency note: &lt;i&gt;Monthly &lt; July 1972-></format>
  <format>&lt;i&gt;Frequency note: &lt;i&gt;Bimonthly, 1952-</format>
  <identifier>$$CISSN$$V0012-1797</identifier>
  <subject>Diabetes – Periodicals.</subject>
  <description>Includes abstracts.</description>
  <language>eng</language>
  <relation>Formed by the union of: Proceedings of the American Diabetes Association, and: Diabetes abstracts.</relation>
  <source>01HVD_ALMA</source>
  <availlibrary>$$I01HVD$$LMED$$1Offsite Storage$$2(Serial )$$Savailable$$X01HVD_INST$$YMED$$ZHD$$P1</availlibrary>
  <lds01>9900012945302039 41</lds01>
  <lds02>1566563</lds02>
  <lds03>&lt;a href="http://id.lib.harvard.edu/alma/9900012945302039 41/catalog">http://id.lib.harvard.edu/alma/9900012945302039 41/catalog&lt;/a></lds03>
  <lds05>American Diabetes Association]</lds05>
  <lds11>[New York, American Diabetes Association]</lds11>
  <lds13>One or more supplements accompany each vol., 1963-</lds13>
  <lds13>Also available in an electronic version.</lds13>
```

```
{
  "display" : {
    "source" : [ "Alma" ],
    "type" : [ "journal" ],
    "language" : [ "eng" ],
    "title" : [ "Diabetes." ],
    "subject" : [ "Diabetes" ],
    "format" : [ "v. ill., ports., diags. 29 cm." ],
    "identifier" : [ "$$CLCSSV  55058482;$$CISSN$$V0012-1797" ],
    "creationdate" : [ "1952" ],
    "lds02" : [ "270 520-257 RB4782900/01 TEM-EBSCO" ],
    "lds01" : [ "01566563", "1295146000", "(PPPCPh)21351-usipdb" ],
    "publisher" : [ "New York, American Diabetes Association", "v. 1-  Jan./Feb. 1952-" ],
    "description" : [ "Includes abstracts." ],
    "mms" : [ "9921351350391 6" ],
    "contributor" : [ "Armerican Diabetes Association.$$QAmerican Diabetes Association." ],
    "frequency" : [ " Monthly <, July 1972-<" ],
    "genre" : [ "Periodicals." ],
    "relation" : [ "$$Cearlier_title$$VProceedings \n of the American Diabetes Association$$QProceedings \n of the American Diabetes Association", "$$Cearlier_title$$VDiabetes abstracts$$QDiabetes abstracts" ],
    "version" : [ "1" ]
  },
  "control" : {
    "sourcerecordid" : [ "9921351350391 6" ],
    "recordid" : [ "alma9921351350391 6" ],
    "sourceid" : "alma",
    "originalsourceid" : [ "21351-usipdb" ],
    "sourcesystem" : [ "ILS" ],
    "sourceformat" : [ "MARC21" ],
    "score" : [ "1.0" ]
  },
  "sort" : {
    "title" : [ "Diabetes." ],
    "author" : [ "American Diabetes Association." ],
    "creationdate" : [ "1952" ]
  }
```


Additional Issues/Functionality

Administration

The Discovery administration role is required to manage most aspects of the Primo VE interface. Notable exceptions are drool normalization rules, Alma OpenURL resolver, and display logic for the GET IT services.

Recommendations:

- Roles should be more granular to prevent unintended consequences. This is extremely important when reviewing drools for external data sources.
  - View-only role, especially for local norm rules and PCI activations
  - Norm (drools) role (see also Alma Ideas Exchange norm rule security issue, 100+ votes)
  - Views role, including view-specific role (e.g. ability to limit edits to a specific view)
  - Full discovery admin role (all permissions)
  - Equivalent permissions in Primo roles should also be reviewed to consider opening read only level access to other roles, such as Test Utility, FRBR, Dedup testing for Catalog roles

Consortia

New consortial migrations to Alma and Primo will be given Primo VE for their discovery layer. Additionally, consortia may adopt a new “union catalog view” to search local and affiliate

holdings within the same view. Consortia functionality for Primo VE focuses on three general areas:

1. Metadata management per Alma setup (linked/local records)
2. Each institution may configure search scopes to search its local holdings or itself and/or other network members
3. A simple, seamless publishing process for institutional and consortial holdings. In this publishing process, institutions may configure their own display normalization.

The consortial environment allows for both central and local configurations. Central offices, referred to as Network Zones (NZ's), can push out configurations to Institution Zones (IZ's), but IZ's can customize their configurations to account for the idiosyncrasies of their local needs, location, and culture. Consortially purchased e-resources can be centrally managed via the NZ.

- In general, inheritance follows Alma inheritance process
- Code tables can be managed centrally and pushed/inherited

As in Primo over Alma, local holdings are listed within the detailed records, while consortial partner's holdings' status can be viewed by clicking the institution name within the GetIt area. Local holdings status comes directly from that IZ's Alma, but other institutions' holdings take longer to retrieve as that information comes from the owning institution's Alma IZ.

Tracking of borrowing and lending materials is item-based, as opposed to user-based. The impact for users is that borrowed items are listed in the Primo VE Library Card under each separate institution that loaned the patron the item. This issue was discussed at length at the summit.

New features to make the consortial features more robust are forthcoming, but the problem of associating items with consortium partners remains a significant source of confusion for users who might not have a relationship with consortial partners, particularly if they picked the book up at their local circulation desk (i.e. Why do I have to look at my entry for Temple University to see that I have an overdue book?).

As more consortia and borrowing networks adopt Primo and Primo VE with Alma, the working group is concerned this will create a bigger UX issue. At the very least, "My Account Overview" should list all borrowed material by the patron for all institutions that have loaned the patrons items, since "overview" indicates a global view of one's account, instead of a pre-scoped view.

New features for Primo VE include the ability to create search scopes for select consortial institutions. This allows Primo VE customers to scope locally branded Primo VE views, but search selected affiliates holdings (i.e. I am a New School Patron, but I want to see what NYU has).

Central indexing

- CZ/NZ/IZ records are indexed, with institution indication to be used for later slicing.
- Specific metadata elements, including local fields and local extensions will be viewable only to owning institution; in other words, a Special Collections item viewed in a different IZ will not display local fields, but will display the bibliographic data available within the IZ.

Holdings information

- In the detailed record, the home institution holdings information is listed first, while other IZs are listed, the details about the holdings are not retrieved until the user clicks on the IZ name they are interested in.

Upcoming features:

- Auto-complete. For titles and subjects in the institution's holdings
- New records facet
- Control dedup/frbr
- Change resource types

Union Catalogue view

- is planned for Q3, 2019
- Users can search a central view for the whole consortium
- When asked to log in, this happens through the user's institution
- All services (requests, access, etc.) are provided by the user's institution in the central (NZ) view, following that institution's service policy.

Multi-campus and Group functionality

Creating multiple Primo institutions per Alma institution is not an option in Primo VE, rather Alma's institution configurations must be used. Instead, an institution can have multiple campuses, and affiliate these with "Electronic Group Setting" for groups of libraries that have access to particular electronic portfolios, that are not available to the full institution.

- Each group will have a separate Link Resolver URL, and a separate holdings file is published to PCI.
- Unique Primo Central profiles per campus are supported. Each view can be associated with a distinct Primo Central profile.
- Campus-specific scopes and views can be created. If your institution is multi-campus, your scopes configuration includes an option to restrict to campus-relevant e-resources.

  Currently, a central customization package can only be created in a network zone.

- Campus-specific availability for online resources: currently restricted delivery scopes are not available in Primo VE. There are situations where this would be a serious loss of functionality:
    - When a user searches her IZs Primo VE, she can see other IZs ebook titles but no holdings data is listed. The UX concern is that the consortial borrowing option is still listed even though it cannot be fulfilled. It was designed this way to increase discoverability, but the practical impact is that it causes users to mistakenly believe that they can request the eresource. While this can be mitigated through search scopes (only allowing users to view items that a particular campus has electronic access to), configuring this blending within a view could be easier for new users of the Primo VE system. New or migrating Primo VE institutions should be clear about their access scenarios for print and electronic for consortium partners during their implementation project, as "showing another institution's holdings" may not produce the desired effect in a local Primo VE view.

    - While restricted search groups are fully supported (where results are hidden if a patron does not meet certain criteria like IP range, patron group membership, etc.), restricted delivery scopes for electronic materials (where results can be viewed but not clicked-through if patrons do not meet certain requirements like IP address, patron group, etc.) are managed through Discovery Interface Display Logic. This means that links to specific services and targets can be suppressed, but not the way that Primo admins are used to. For those reasons, institutions should audit access and availability practices (such as specific resources only being available to certain patron groups, buildings, campuses, etc.) before considering Primo VE.

Recommendations:

- Single institutions should be able to create central customization packages that can be shared between multiple views.
- "My Account" should have a general account view of loans and requests to avoid the UX problem currently described by WRLC where users "miss" overdue items from other institutions. It should be noted that this feature does not exist in Primo either, but the summit team hopes that consortia will advocate for its development within the VE product, given its ability to expose affiliates holdings in the union catalog view.
- Institutions considering Primo VE should audit their access and delivery scenarios, particularly when considering scenarios involving patron groups, IP ranges, and registered users.

Enrichment of authority and physical inventory

Authority enrichment for non-preferred terms:

- Non-preferred terms are indexed, but cross-references are not included in Primo VE browse, which is based on Alma browse.
- Authorities will only be created for Alma records and will not be created for external data sources.

Physical inventory enrichment:

- In the Alma to Primo publishing process, bib records can be enriched with data from holdings (e.g. 561, 562, etc.) which can then be indexed in Primo. This feature does not exist for Primo VE.

Recommendations:

- For Primo VE, incorporate ability to use holdings fields in norm rules such that they can be used for indexing and faceting.
- Add non-preferred term cross-references to Primo VE browse for subject and author, to achieve parity with Primo

Multi-lingual / Multi-Script concerns

Some local customers have made server level customizations for synonyms, characters, etc. This is not an easy task in traditional Primo installations, so when customers have performed it, it is because these improvements are absolutely essential to provide a reasonable search experience in their local context.

On the drawing board is an option to allow for multilingual support of select metadata content - typically subject authority content displayed in different languages pending on the selected interface language setting. The functionality provided would be similar to the one in Primo that uses the $$8lng PNX subfields to support multilingual interface display of metadata. (See the “Is Multilingual Interface” parameter in Back Office Documentation.). The Summit team encourages the development of this functionality for Primo VE as well.

Recommendations:

- The OTB Primo VE architecture should be optimized so that institutions do not have to make local customizations to synonyms, characters, etc. Example: proper handling of umlaut, ayn, alif, romanian s/t, hyphens, etc.

Additional recommendations

- Silent login - planned

Documentation

- Documentation should be separated for Primo and Primo VE within the Ex Libris Support Documentation Center. There is a fair amount of confusion when trying to navigate the Primo documentation regarding which instructions apply to VE, classic Primo and both. Perhaps a focus group of Primo VE users would be helpful in

organizing the documentation, particularly for consortium users who may have different roles related to Network and Institution Zone functionality.
- Not complete, hard for users to determine if they need Primo VE or Alma documentation, and often unclear if Primo documentation also applies to VE or not.
- Need full information on DC qualified record elements that are used in lieu of PNX elements
- It would be useful to have a 1-page tearsheet comparing Primo and Primo VE. An example can be found here

Follow-up activities

- ELUNA/IGELU Steering Committees and Ex Libris need to negotiate a sensible process for cross-product enhancements in order to support the development of Alma integrated products like Leganto, Primo VE, etc. The lack of classification rules to assign enhancements to products and ability to "share" development points between products means that important interface design issues (like resource-sharing and consortium functionality) cannot be appropriately addressed within the product-based enhancement process because a feature may share dependencies on functionality from another product.
- A MARC advisory group should be established for the creation of drools normalization rules
    - Goal: to advise Ex Libris on the ideal OTB handling of standard MARC fields
    - Why: many customers do extensive normalization customization on standard MARC fields to account for inadequacies in OTB rules. Leads to redundant work across customers.
    - When: as soon as possible, before mass migration to Primo VE starts.
    - Example: configuration for MARC field 382 (Medium of Performance) is not included in OTB at all (important field of music)

- There is a need for a Dedup & FRBR short-term task group (refer to the FRBR and Dedup recommendations for details)
- Drools normalization works very different in Primo VE from Primo normalization rules - which requires an effort to identify functional gaps
- Synonyms, character sets and other multilingual features are areas where possible problems and gaps still need to be identified
- Search results: Blending / Boosting / Relevancy - more use cases are needed to identify possible gaps and make recommendations to Ex Libris for development
- Primo working groups and Ex Libris should discuss how to collaborate on building a more comprehensive checklist for the user community to review and consider their local customizations
- Ex Libris should publish their development plan for VE longer than 6 months out to help institutions assess readiness to move to the VE platform. Some institutions take longer than 6 months to make a decision and schedule implementation.
- Primo VE Documentation needs to be improved. An important improvement would be separating VE documentation from Primo documentation, since presenting both processes in a single knowledge article can be confusing. Another suggestion is to

start building documentation based on what the user is trying to do (i.e., providing workflow documentation rather than functional documentation) rather than functional areas.

Summary and Conclusion

Primo VE represents an evolution of the Primo flagship discovery product for Ex Libris. Many of the features discussed and displayed to the working group team during the Summit excited team members to think about the fit of Primo VE within their respective institutions. For institutions who have not had the level of control of Primo Back Office, Primo VE is an appropriate candidate for a discovery interface - giving real-time availability of local holdings, almost instantaneous indexing of records, and Alma-integrated administration of the discovery experience.

For users of the Primo platform with Back-Office, there may be Primo features that institutions use - such as custom availability faceting, use of holdings library info from expanded ILS records, custom dedup/frbr vectors, boosting, de-boosting, etc. where institutions will have to weigh the importance of those choices/integrations. We hope by implementing recommendations made in this report, that larger and more complex institutions/consortia will see Primo VE as a compelling alternative to their current back office-based Primo.

We look forward to working closely with Ex Libris on the development of these recommendations, since their development could potentially have benefits to all Primo customers. We would like to thank Ex Libris for their hospitality during our visit.

Should you have any questions about the content of this report, feel free to reach out to the working group chairs or other members of the Primo VE Summit team.

Appendices

1. Methodology

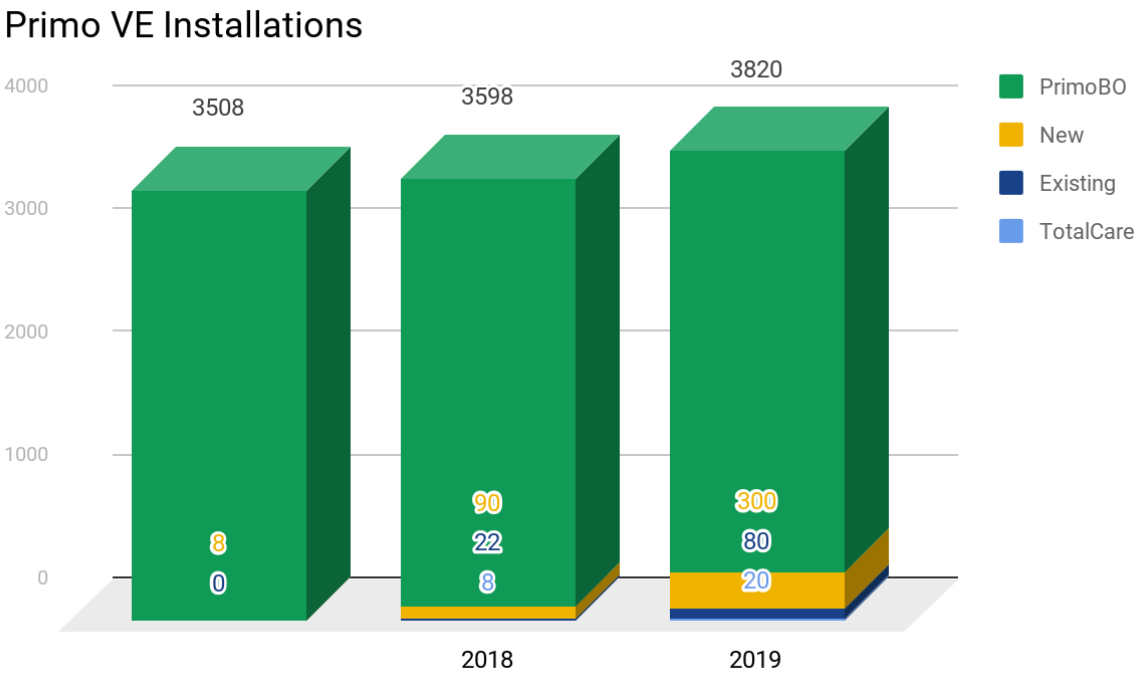
   The working group team solicited feedback from the user community in the form of a user survey posted to the Primo discussion email list (Subject line: *REQUEST FOR INPUT: Primo VE Summit*). The survey was conducted from October 2 until October 20. Seventy-two existing Primo institutions submitted 259 user stories covering features they required in order to migrate to the Primo VE platform. The targeted focus was application features between the Primo and Primo VE platforms, and did not include functionality that was specific to hosting architecture (access to redirects.jsp, SSH access, server access, etc.), as those issues had been addressed by a previous working group summit in July 2015. The in-scope user stories formed

the basis of discussion between Ex Libris product development and the working group team.

2. Growth / Roadmap

The Primo community is very interested in the Primo VE platform and is looking for guidance on whether to migrate to the platform from their existing Primo environments. At a recent ELUNA meeting, over 100 attendees convened their own meeting outside of formal program scheduling to discuss the product. Up to June 2018, early adopters had been singular institutions with minimal local customizations and little network-based complexity.

In July 2018, the Washington Research Library Consortium (WRLC) was the first consortium to go live with Primo VE for each of their institutions, taking advantage of Alma's peer-to-peer based resource-sharing within the Primo VE interface. As of the writing of this report, the second consortium MnPALS, is migrating to VE. There are also other consortia in the process of migrating to Primo VE - SUNY, the State University of New York (64 libraries), and CARLI, the Consortium of Academic and Research Libraries in Illinois (96 libraries). Similar to WRLC, these consortia have committed to implementing Primo VE with peer to peer resource sharing turned on. Due to the rapid growth in Primo VE complexity - shared bib discovery, network-zone lending and shared 'My Account' features, resource-sharing and consortial issues were included as a focus of the Summit.



TotalCare customers have specifically expressed interest in the Primo VE offering as it allows them an increased amount of control over their interface without the complexity of the Back Office application. As a result, Ex Libris sees a significant

advantage to offering Primo VE to TotalCare customers. It is significant to note that out of the current install base for Primo VE (30 institutions have migrated in 2018), only one customer reverted to their previous Primo environment because of problems with a local integration of another vendor's software.

3. Ex Libris documentation links
    a. Alma and Primo VE
    b. Primo VE Overview
    c. Frequently Asked Questions for Primo VE
    d. Primo VE Training

4. E-mail inviting feedback, preamble, and survey

5. Use cases and raw data