Kuali Open Library Environment



Kuali Days 2011: OLE 0.3 Milestone Release Package Preliminary Acquisitions Workflow with Demonstration of Document Store & Kuali Technology Stack

Jira Tasks	https://jira.kuali.org/secure/IssueNavigator.jspa?mode=hide&requestId=15978 (Filter= November Release – All Tasks & Stories)
Jira Priority Stories/Tasks (28)	https://jira.kuali.org/secure/IssueNavigator.jspa?mode=hide&requestId=16025 (Filter= November Release-Priority) • These task will have attached functional requirements and spec documentation
OLE Demo	http://demo.ole.kuali.org/ole-demo/portal.jsp (new site to be launched 15-Nov-11)
Functional Summary	The November milestone-release (0.3) should support straight-line Acquisitions processes, including limited but fully-functioning workflows for ingesting orders from vendor websites (firm, fixed), creating requisitions and purchase orders (manually, automated, monograph or single journal), receiving library materials, and invoicing, as well as minimal editing or creating of linked Bibliographic or Item documents in the OLE Document Store (Docstore). (Full financial integrations with University enterprise/financial systems will be post-0.3 release). Some of the related roles, workflows, and maintenance documents will also be completed utilizing Rice, KEW, KIM, and KNS. The Docstore, using Apache Jackrabbit and Apache SOLR, will also provide general bibliographic search capability and illustrate flexibility in descriptive metadata search interface, faceted searches response, and search performance. Licensing and management of electronic materials will not be a part of OLE 0.3 acquisitions workflow, but continuing orders of single serials/journals/database will be.

Overview of User Stories and Functional Translation of KFS (OLE-FS)

OLE development has focused on a 4-part track:

- 1. **Document Store**: proof of concept, architecture, load-testing for this content-store where library metadata is stored as XML documents according to multiple existing library standards rather than relationally according to only a single data structure standard (Proof of Concept Document Types: bibliographic and linked item documents, with future linking for holdings and authority) with SOLR, JCR technology framework for cleaner, faster faceted search and indexing.
- 2. **KFS, Kuali Financial systems & Kuali technology stack**: translations, training, and adaptations to existing KFS, KEW, Rice, KNS, KIM for supporting library business and financial processes. Contrasted to the OLE Document Store architecture, OLE-FS stores financial, transactional data relationally but displays the data as virtual e-documents via user interface screens.
- 3. **Library Functional Requirements**: working with SME teams to compile functional requirements and data elements for basic acquisitions, ingest, and minimal editing functionality of cataloging metadata.

4. **Future:** UX-User testing, experience, user-focused design: UX expertise is being brought in to assist in designing entry points, menus, My OLE, to be determined in Roadmap for 1.0 effort versus future upgrades. UX will be scoped in future to integrate the above 3 functional areas into a cohesive open-source library management system interface.

OLE 0.3, Kuali Days Pre-Release = Acquisitions Straight-Line

The Acquisitions process may begin from one of 3 starting points: 1) ingest of vendor firm, fixed orders from vendor websites (plus, continuing order or single journal title examples for illustration, pending serials handling decisions), 2) ingest of webform/manual requests for library materials/resources, or 3) library staff requests. In release 0.3, OLE will demonstrate how these initial Requisitions are created and travel through KEW/Rice workflow through the rest of acquisitions activities, and act as triggers/notifications for additional or future cataloging or other library notifications and processes.

Requisitions and Purchase Orders will link to a preliminary/placeholder Library Item document at the transactional line item level, and will be associated to a related <u>Bibliographic document</u>. Ingested vendor orders and ingested webform data will automatically create these linked Bibliographic and Item documents. Creating a Requisition manually through data entry will require the user to use a separate cataloging editor UI to create the initial Bibliographic document (with a preliminary Item document or localized record automatically created in the background).

Library staff may create firm, fixed orders on vendor websites (YBP, Coutts, Harrassowitz, and Serial Solutions). Once this is done, the vendor will load orders and possibly invoices to an FTP site where a library staffer may pick up. OLE will provide a simple Ingest/staff pickup UI to load Order Records, creating load reports, Requisitions\Purchase Orders and linked Bibliographic and Item documents from the ingested orders. Funds will also be encumbered through the ingest process, with simple duplicate check of Bibliographic documents. A duplicate disposition interface or OLE-FS Action Lists will be utilized with future OLE for Bibliographic documents that fail initial match point tolerances (post-OLE 0.3)

Patrons, other faculty or staff, other Requestors may also go through a library's website in order to submit a request for a desired resource, print or electronic. While OLE will not provide the webform, we have drafted a simple sample form to illustrate how OLE will ingest and parse webform 1) text data, 2) a citation, or an 3) OpenURL (not fully functioning for OLE 0.3), along with Requestor contact information, and pull it into a-Requisition assigned to or routed to a library Selector, and create a Requestor (contact) virtual e-document. At this point, or like the Library Staff Request option above, a partially-completed Requisition is saved into a Selector's Action List for some additional activities and review. Per the Requisition virtual e-document and business rules, a Selector can/should complete a review of the requested resource (see Search options), and as necessary, fill in required Vendor, shipping and ordering information. Numerous OLE-FS Maintenance Documents (e-document screen UI's) will provide the means for adding additional controlled value sets (ship to's, order types, etc.), or to edit or create a Vendor record.

Whether a Requisition (with one or more Requisition transactional line items) is initially created from manual data entry or via the <u>Load of Vendor Order</u> Records, a finalized Requisition is submitted into OLE workflows. Based on varied business rules, the Requisition will either become an automatically-approved and submitted <u>Purchase Order</u>, or pass through workflows and approvals for other actions. A series of checks will take place on a Requisition or ingested vendor order for duplication of Bibliographic documents, or against the user/library staffer's permissions/roles saved in OLE for Acquisitions. Depending on the outcome of these checks, additional actions and notifications may be sent back to the

Selector, out to a Fund/Account manager, or to other acquisitions/approvals staff. OLE will use the Action List tool to forward FYI-notifications, as well as required approvals or data/e-document edit requests (see: annotated workflows for Requisitions and PO).

OLE will create a final, approved Purchase Order (with one or more PO line items). All related purchasing e-documents will be retrievable from the "Related Documents" tab (i.e., modifications, requisitions, receiving, invoicing). The Purchase Order itself will commit/encumber funds on the accounts at each transactional line item of the PO, also allowing multiple funds within single line item, and ideally check for sufficient funds in accounts being used (limited in OLE 0.3 with full checks in future releases. Simple balance inquiries will be present) If the PO is a result of a vendor order ingest, and then no further actions are required. If the "source" of the PO is a manual or staff request with no associated orders, then the Submission of a final PO will transmit the order/place order to vendor FTP site via its vendor profile/instructions (hard coded for OLE 0.3). For any future edits to the order or desired cancellations, they must be submitted to the vendors via a PO Amendment.

As indicated above, single Library Item documents (corresponding to the ingested or manually created Bibliographic document) will also be created behind-the-scenes of any submitted Purchase Order. This will be the first piece of the full cataloging workflow, so that each library resource purchased will have an associated Bibliographic document and Library Item document, as well as its purchasing/audit history.

OLE 0.3, November 2011 will **not** provide full editor and overlay logic for Bibliographic, Library Item, Holdings or Authority documents within the OLE Document Store, but instead, will only provide the initial framework of linking purchasing/transactional line items to only the preliminary Bibliographic and Item documents created/updated during the course of purchasing, receiving, and invoicing - with a limited Bibliographic editors. Other work continues to be done to provide links to existing legacy data or new cataloging documents (across all these document-types in the Docstore test environment.) OLE 0.3 will **not** include full UIs to allow users to interact with full cataloging documents or to initiate full cataloging (**Describe**) activities at this time (OLE 0.3: limited Bib editor; Item as XML only).

OLE 0.3 will provide user interfaces for <u>Receiving non-serial</u> library resources –without complete Holdings documents editing, nor a complete serials control module. Users will be able to search for library materials (via a basic search: Title, Author, etc.) or via Purchasing e-documents, receive the library materials, view any instructions, and add any receiving or purchasing notes or exceptions (eventually tying into workflow notifications).

Invoicing will provide authorized staff the ability to <u>Create an Invoice</u>, and <u>Create additional line items on the invoice</u>. The interface will support both manual data entry/creation of new and edits of invoices. OLE will use the existing Payment Request virtual e-document to process vendor invoices into OLE and out to university systems (future financial integrations). For OLE 0.3, the OLE-FS Payment Request virtual e-document will only support one PO for each Payment Request and Invoice.

OLE Document Store Search:

<u>Check-out</u>: OLE 0.3 will provide the ability to "checkout" Bibliographic documents one at a time for editing in a local client.

Global Changes: Technical Council will have evaluated available "Macro" tools for locally providing bulk-editing of a set of documents from the Docstore. Docstore Search will provide an interface for check-out, but local edits (singularly via Marc Edit or some other editing tool, or across large sets via macros) will not be a part of OLE 0.3, and will only be supported by localized development efforts.

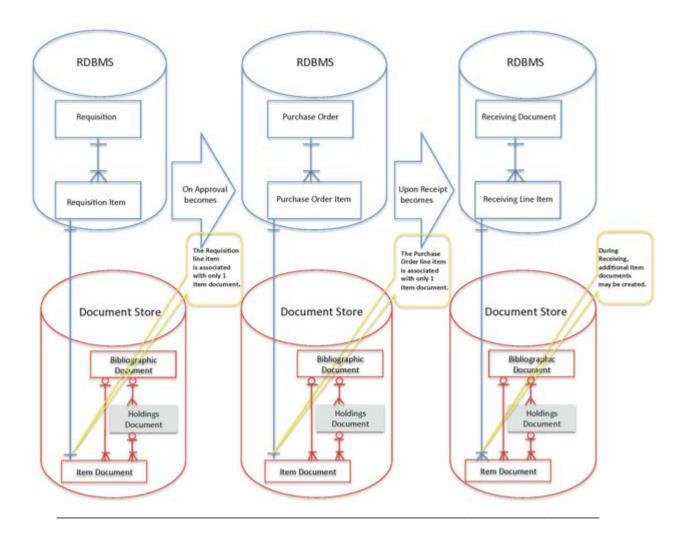
<u>Faceted Search</u>: Faceted search will be available for searching the Document Store, but it will not yet include OLE-FS indexes. Instead, it will only include indexed or faceted searches on stored Docstore documents to speed up searching and simplify results views (bib documents only at this time, resulting in limited facet definitions). Searches will be conducted across Docstore document types only to illustrate technology, search options, and demonstrate how future faceted searches may be developed across new document types (future: full federated search across all document types as well as linked OLE-FS transactional data). Federated search will be designed iteratively across the development cycle of OLE, as new functional specifications are created, the data model is finalized, and new document types or transactions are identified and coded.

OLE-FS E-Document Search:

OLE is expanding existing e-document searches to include a few bibliographic fields to support basic workflow searches, as indicated in User Story specifications, and per below:

- Search Requests/Pre-Orders/Requisitions: Order Holding Queue, Search Requisitions, Pre-Order Searching:
- PO Workflow Search: Searches by limited bibliographic information or PO # to retrieve PO edocuments for edit/review
- Receiving Workflow Search: specialized UI to search via limited bibliographic information (e.g., ISxN, Title) as well as purchasing data (e.g. PO #, Vendor) to expedite selections for Receiving
- Payment/Invoicing Workflow Search: search by transactional data (e.g., Vendor, PO #, Invoice #; minimal bib search TBD with spec team if needed) to expedite invoicing or payment activities (invoicing screens will not allow for editing bibliographic or library item information, as those would require potential PO amendment- TBD)

The above separation of the OLE-FS transactional, virtual e-document searches from the Docstore search allows for the completion of the overall OLE Document Store architecture and data model that is awaiting further **Describe** specifications, detailed document type descriptions, and usage requirements (e.g., relating to circulation (Deliver), export to external systems) of the various library cataloging documents (Bibliographic, Holdings, Item, Authority, etc.)



Not in OLE 0.3, but in future releases (please refer to detailed specifications): ILL/requisition, search from Requisition UI, one-click orders, additional order types for ingest & resulting workflows, full ingest/pattern builder UI with complex match-n-merge overlay, full vendor CRM requirements, ingest of bibliographic only selections, ingest of vendor acknowledgements/updates, EDIFACT ingest, full fund checks on ingest, full fund setup/budget setup, credit memos, returns, claims, multiple vendor POs to single invoice/payment request, applying funds or discounts globally across e-document transactional line items, university financial integrations, Bib Overlay, Authority documents (or links to external Authorities), Holdings; full Editors for all types of cataloging documents; Full Federated Searches across the transactional database and the Docstore.



KFS Translations: Goals



Leverage KFS & Rice to support library business processes, making use of pre- and post-processing routines, related-document links, route logs, workflows, action lists, saved search functions, and batch processes.



Maintain KFS e-docs in initial Acquisitions and financial-funds-budgeting design and coding, with extensions for library attributes and processes, and links to descriptive metadata documents -bib, until all financial and business processes native to KFS are evaluated or leveraged (general ledger, budget, university financial integrations).



Define and link bibliographic, holdings, authority, licensing and related document-types in the Docstore, with full-indexing, utilizing Rice workflows, KNS, and Action Lists to support library processes across multiple document types and user transactions (Docstore –to- relational OLE-DB/transactional), and "linked data".



Utilize Kuali workflows and future KRMS to facilitate workflows and communications/notifications across library processes (acquisitions-to-cataloging-to-circulation), leveraging native e-doc approach to "capture" histories, document-linkages, and eventual patron histories. Reuse the inherent KNS features to improve library process throughout the lifecycle of staff-interactions on a title/bib/holding, license, knowledge-base, fund, or patron.



SLICK

Improve library interactions with vendors, 3rd party websites, university financial, and university IdM through use of enhanced APIs that work <u>with</u> KNS workflows, audit trails, action lists, and notification schemes, in support of batch or real-time communications, imports and exports.

Enhance OLE-FS interfaces with UXD and future KRAD (Rice 2.0) to create gateways to common library processes and workflows, predicated upon the completed functionality of federated Search across all document-types (i.e., "Search Executive"), and the to-be-developed ERMS and linked knowledge-bases like SLICK. Acquisitions and Describe requirements also need to be completed to identify intra-process, and common workflows.

Kuali Open Library Environment Design Drafts for Specifications & On-boarding

