MetaLib v.4.0 customer testing, Ex Libris offices, Jerusalem, December 2006

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Upgrade methodology: MetaLib 3.13 to MetaLib 4.0

Illustrations

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1. Introduction and context

In early December 2006, it was announced that Ex Libris had agreed to allow a small number of libraries around the world to take part in last-phase customer testing of MetaLib 4.0 prior to its commercial release early in 2007.

The agreement came out of discussions with representatives from the two largest user groups of Ex Libris products – ELUNA (Ex Libris Users of North America) and IGeLU (the International Group of Ex Libris Users). It was decided that two groups of two librarians would each spend a week in Jerusalem working side-by-side with Ex Libris' own development staff trying out the new functionality of MetaLib version 4.0; reporting on any 'bugs' and glitches they found; and testing out the new streamlined upgrade implementation software.

For the 10-14 December testing period (the second of the two), Lori Jargo, Web Services Librarian from Duke University in the United States (representing ELUNA) and Richard Cross, eServices Development Officer from Nottingham Trent University in the United Kingdom (representing IGeLU) were selected for the task. Both Lori and Richard have application management responsibilities for MetaLib in their respective institutions, with the support of server DBAs, and work in an English-language, non-consortia, single MetaLib institution context. Their customer testing work was undertaken in parallel with continuing internal testing procedures, and for the week they were joined by Jeff Kosokoff, MetaLib Implementation Librarian from the United States Ex Libris' offices.

2. Test procedures

The limited preparation time available to both Ex Libris and the customer testers meant that the nature of the testing procedures could only properly be outlined once the testers had arrived in Jerusalem. The process began with a detailed briefing meeting, designed to clarify the particular skill set or each customer participant and identify most productive areas for testing. Areas that would be excluded from the testing procedure were also identified. As they had no relevance to the work of either Lori or Richard, testing work on the X-Server; meta-indexing; and multiple institution maintenance were all set aside.

The Ex Libris MetaLib team then outlined the structure of the week's activities, which were to involve a combination of the following:

- Presentations from Ex Libris MetaLib team members on different aspects of the changed functionality of version 4.0
- Script-driven and open-ended scenario customer testing sessions, focusing on different modules and elements of the application
- Catch-up and update meetings throughout the week to monitor and report back on the testing procedure
- An opportunity for the customer testers to present to the development group a report on their existing local implementation of MetaLib.

Ex Libris then introduced the mechanisms by which the testing process would be carried out; explaining both the methodology and confirming that customer testing would follow the same testing and reporting procedures as used internally by the company.

Customer testers would work through detailed Excel spreadsheets of script-driven and scenario-driven behaviours. Where necessary these would be supported by additional linked documentation. The activity tested would then be marked as either 'Passed' (successfully carried out; results as indicated) or 'Failed' (unsuccessful; results not as expected). Where individual test failures or problems were discovered, the results were to be entered into the fault management application **Test Director –** a commercially third-party application, which enables auditable team management of fault reporting procedures.

Defects (faults, flaws or other 'bugs') entered into Test Director would then be processed according to Ex Libris' **Defects status life cycle** (see illustration below). Each new defect, reported by a tester, would be assigned to a development team member, according to their area of responsibility. Assigned a defect ID and given an initial 'Open' status, the defect would be assessed and awarded one following next-stage statuses:

- **Fixed**: the defect has been confirmed; its cause identified; and a resolution found
- **More info**: the defect report is incomplete or insufficient, and the tester is required to provide more information before the process can proceed
- **Rejected**: the defect is rejected, either because the defect report is incorrect (the application is behaving correctly); or because this is an enhancement request rather than a defect report
- **Deferred**: the defect is either sufficiently minor to be temporarily held over by the development team, or, alternatively, requires such substantial work to fully address that it is not immediately actionable

- **Duplicate**: the defect has already been reported, and the development team have already recorded the original submission an appropriate status

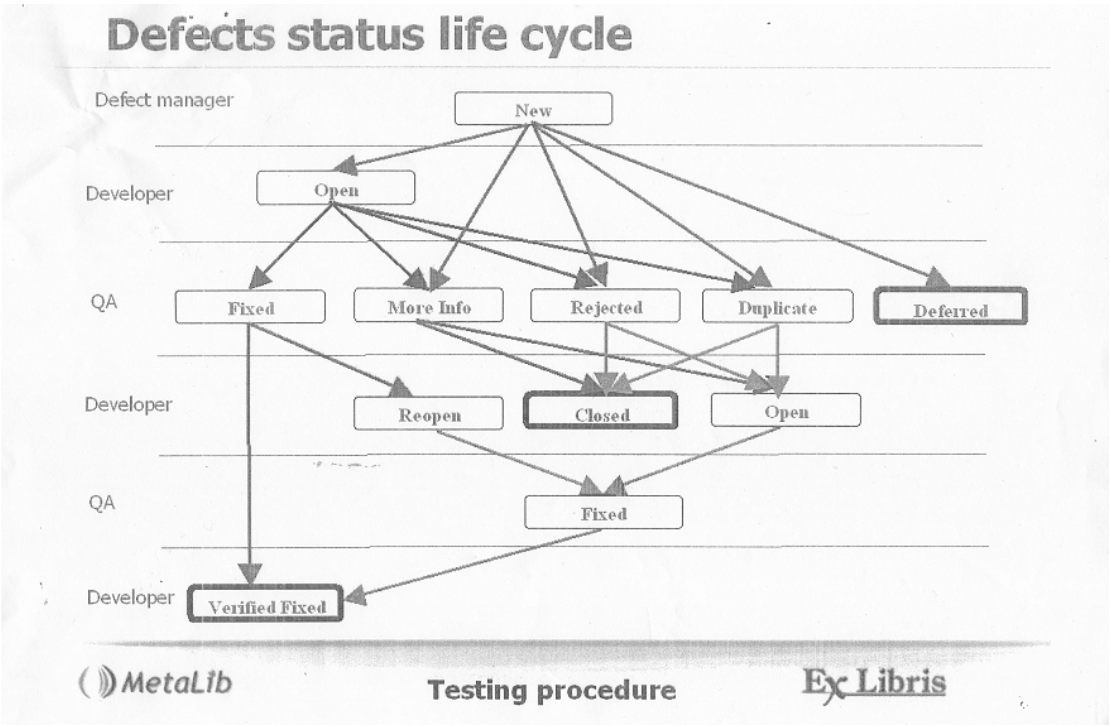

Figure 1: The Defects status life cycle used by Ex Libris for MetaLib 4.0 testing

Depending on the status the defect was awarded, it would resolve into one of three 'final' status:

- **Verified fixed** (QA confirms that the defect has been corrected)
- **Closed** (work on the defect has concluded without a verified fix, because the defect was either **Rejected** or a **Duplicate** of an existing or previous defect)
- **Deferred** (the defect has been recognised, but work on a resolution suspended)

Throughout the intensive testing process that followed, the entire Ex Libris team with whom we two customer testers were involved remained extremely professional, and were at all times attentive, responsive and interested in our participation. It seems abundantly clear that – despite the shortness of preparation time; their own workloads at this critical juncture; the novelty of having customers present in the building with a product not yet complete – the MetaLib development team shared a belief in utility of customer participation in the last-phase testing process.

Karen Groves, MetaLib Product Manager; Hedva Scop, of the MetaLib development team; and their colleagues remained supportive and extremely hospitable throughout. There was never any sense that our contributions were not welcomed; no indication whatsoever that any

areas were prescribed or off-limits to us; and no suggestion that any criticisms we might voice were being in any way filtered. For these and other related reasons, the testing process appeared genuine and transparent.

On the last day of the customer testing process, a closing meeting was held to allow us to provide feedback on both general and specific elements of the process, and for Ex Libris to ask both testers their views about how this new version would be received by the wider customer community; and the extent to which customers would be able to manage the upgrade process independently.

3. New functionality in MetaLib 4.0

An important part of the customer testing process was to confirm that those elements of the existing functionality of MetaLib 3.13 that were unchanged in the new release continue to function in MetaLib 4.0. However, testing the new functionality available in version 4.0 was a key attraction of involvement in the customer testing process.

The key elements of new functionality in MetaLib 4.0 can be summarised as follows:

In the user interface /V:

- Web accessibility compliance to new standards
- Cleaner, smaller, simplified html – Cascading Style Sheet (CSS) driven customisation of the interface made more straightforward
- Moves towards ‘keyword’ rather than ‘phrase’ search defaults (where possible)
- ‘Clustered’ and ‘faceted’ organisation and presentation of search results
- Revised integration of ejournals with SFX
- New ordering options in Quick Sets

In the management interface /M:

- Migration of several key parameter settings from command line to /M GUI
- Enhanced Category management functionality
- Integration of KB implementation notes within the IRD

System management

- Improved application performance secured through upgrade to Oracle 10

- Enhanced proxy support
- Improved back-up utilities
- Improved clear_vir01 / statistics data management
- New options in log reporting

Upgrade process

- New MetaLib Implementation Kit (MIK)
- New Upgrade Express utilities
- Ability to install v.4.0 alongside v.3.13 on same server, prior to switchover

These changes in functionality were tested – as far as was possible within the time constraints – using the /V and /M GUIs as appropriate, and by UNIX and Telnet connections as necessary.

/V (User interface)

4. Web accessibility compliance

Ex Libris indicate that MetaLib 4.0 is complaint with Section 508 of the US Federal Rehabilitation Act, which "requires that Federal agencies' electronic and information technology is accessible to people with disabilities."[1] The company also indicates that it is fully compliant with the 'Priority 1' recommendations of the Web Content Accessibility Guidelines 1.0, and 'mostly' compliant with the recommendations of 'Priority 2'.[2] The W3C recommendations are the single most obvious international standards with which to seek compliance, but MetaLib customers outside the US will have a concern with accessibility standards applicable elsewhere in the world. In the case of the UK, Ex Libris have not yet made a similar statement with regard to Chapter 50 of the Disability Discrimination Act 1995; nor indicated a guarantee that the changes will, for instance, meet recommendations of the UK *PAS 78 Guide to Good Practice in Commissioning Accessible Websites* co-produced by the BSI (British Standards Institute) and the DRC (Disability Rights Commission).[3]

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[1] Section 508: The Road to Accessibility. http://www.section508.gov/ [accessed 14 January 2007].

[2] W3c. 1999. Web Content Accessibility Guidelines 1.0: W3C Recommendation 5-May-1999. http://www.w3.org/TR/WAI-WEBCONTENT/ 5 May [accessed 14 January 2007].

[3] Disability Discrimination Act 1995. Chapter 50: 'Discrimination in relation to goods, facilities and services'. http://www.opsi.gov.uk/acts/acts1995/95050--c.htm. *PAS 78 Guide to Good Practice in Commissioning Accessible Websites*. http://www.bsi-global.com/ICT/PAS78/index.xalter; Geoff Adams-

In MetaLib 3.13, page rendition is, for certain functionality, heavily reliant on JavaScript, and the html of many MetaLib pages is lengthy and has been extensively criticised for being both "overblown" and difficult to customise. In MetaLib 4.0, the page code is much smaller; far less reliant on JavaScript; and much easier to customise safely. For example, pop-up windows, which were previously reliant on JavaScript elements now function as 'proper' pop-up windows and are resizable. The MetaLib 4.0 User Interface offers an option that allows the user "Turn off Auto Refresh" on the page (and to toggle it back on). This enables individual user control of this feature, in those cases where auto-refresh could cause problems for screen-reading software. (No testing of JAWS or other screen-reading applications was attempted during the testing process.)

Comprehensively testing web accessibility compliance is difficult within the limitations of a busy four-day testing schedule. However, initial analysis of the code confirms that troublesome JavaScript elements have been removed and the html significantly simplified. Ex Libris are confident about Section 508 compliance, and customer sites are likely to strongly welcome the moves to adopt accessibility standards. One area of potential irritation for some users or customers is the 'you are now leaving MetaLib' accessibility prompt and click-through which displays when following external links from the MetaLib /M GUI.

5. /V GUI customisation options

In MetaLib 4.0, control of the main elements of the html is through a single **metalib.css** file (which unifies the previous multiple browser-specific .css files). This .css file allows control of colour and other presentational elements, in particular (through the use of elements) provides the ability to remove or add links to any particular MetaLib module (such as QuickSearch) in all page menus, and to reorder the relative positioning of many components of various MetaLib pages.

Basic customisation options in the MetaLib 4.0 User Interface include:

- Changing the environment colour scheme
- Replacing images
- Removing module options from the main banner menu
- Controlling the appearance of page 'elements'

Spink. 2006. 'New standards for website access'. http://news.bbc.co.uk/1/hi/technology/4783686.stm. 8 March [all accessed 14 January 2007].

- Toggling between text and image display
- Translation options for key text elements

A significant presentational change is that width settings for page elements are, in MetaLib 4.0, dynamic and *relative* rather than fixed and *absolute* – meaning that the application makes far fuller use of the available browser space, while repositioning robustly when the browser window is resized.

The mechanism for textual translation has been refined. Operating, as in 3.13 under **www_const.lng**, there is now a new maximum of 200 characters; one table for each language; and one set of tables for each institution.

Amongst a number of enhancements, there is now the option to display a small graphic next to each item in a refreshed MetaSearch results list (when more items are requested beyond the original results set). The default for this indicator is a graphic displaying the word 'new'. There were discussions about whether this was the most appropriate of designations, but sites will be able to replace this graphic through local customisation. There is also the new option to suppress the appearance of multiple Metasearch results [Compress_dedupe]

New amongst global parameter settings in MetaLib 4.0 is the option to suppress the appearance of file paths in the page source code – in the interests of greater application security [Show_comments_in_html Y/N].

The complex code, heavily script-driven elements and fragmented organisation of page structure in MetaLib 3.13 has made local customisation of the /V GUI frequently problematic. MetaLib 4.0 introduces a new simplified and streamlined html environment, making customisation a great deal more manageable, in ways which appear robust and intuitive to those familiar with Cascading Style Sheets.

6. Keyword search replacing phrase search default

Testing against different sets of resources in the MetaLib test environment demonstrated that the change of default search parameter from 'phrase' (as it is in version 3.13) to 'keyword' (in version 4.0) appeared to work very effectively in returning results sets. The MetaLib KB team are continuing to work on resource compliance with this new search syntax default – this new functionality ultimately remains resource dependent.

Whilst resource compliance will remain a major limitation, this shift in default parameter setting is likely to reduce search frustration on the part of users and appears as an appropriate adaptation to the Google-driven information literacy assumptions of users.

7. Cluster and Facets

The incorporation of the Vivisimo Clustering Engine[4] within version 4.0 of MetaLib enables the introduction of 'clustered' or 'faceted' search results sets. Within MetaSearching in MetaLib 4.0: "search results are grouped together by 'clusters', which are search results organized into categories. These clusters are created dynamically at the time of the search query". This enables the user to: "see the entire range of search results organized for easy drill-down and navigation. They can quickly weed out irrelevant information and perhaps uncover relationships that they would never have found by using a traditional search engine."[5]

As well as results organisation by dynamically-generated **topic** clusters (effectively categories and sub-categories within the search results), clusters are created around **year**, **author** and **journal title** variables where these elements of metadata are available. MetaLib's existing 'ranking' mechanism will continue to run ahead of the 'clustering' (awarding each item a relative numeric ranking), and will not need to be re-run as users navigate the clustered results sets.

As with algorithms of the ranking mechanism in MetaLib, there will be questions about the operation: in the case of 'clustering' these inconsistencies could include unpredictability and anomalies in grouping logic; illogical hierarchy structures and misleading labelling. However, for the majority of users this is likely to be heralded as an immediate and welcome plus; a huge enhancement for the functionality of metasearching (which will highlight again the importance of full cross-searchability in resource inclusion).

8. Quickset ordering

A new mechanism in the pop-window of resource sets allows resources to be resorted.

This provides simple and straightforward functionality for ordering of Quicksets, replacing previous tedious workarounds and removing the need to build sets in display order.

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[4] Vivisimo partners. http://vivisimo.com/html/oem [accessed 10 January 2007].

[5] Vivisimo Clustering Engine. http://vivisimo.com/html/clustering [accessed 10 January 2007].

9. Ejournal A-Z list and ejournals in My Space

In MetaLib 4.0, the internal 3.13 ejournal list is withdrawn in favour of an external connection to the SFX v3 A-Z ejournal list. The key reason for this is to reduce the TCO (total cost of ownership) of both applications by ending the requirement to export the SFX ejournal list to MetaLib, in favour or making use of the existing SFX A-Z. This will also make available the **Category** / **Sub-Category** and **Locate** search and filtering options already present in the SFX A-Z. The link to **Find ejournals** will now open the SFX A-Z in an new window external to the current MetaLib session.

The related mechanism for adding ejournals to the saved ejournal list in My Space has changed. In MetaLib 4.0, ejournals need to be selected one-by-one from the SFX A-Z and the 'Add to My Space in MetaLib' option then selected from the SFX menu.[6] The (i) **information** icon in the ejournals display in My Space has also been withdrawn, with the information on holdings available through the SFX menu.

While the switch from an additional internal MetaLib ejournals list to the pre-existing external SFX A-Z does provide some efficiency gains, it does come at the cost of 'externalising' the ejournal list – which now launch in an external window, adding to the number of browsers opened when navigating from MetaLib 4.0 to full-text content. The change also makes the process of adding ejournals to My Space less straightforward (although the degree to which users makes use of this functionality is questionable). One significant 'bug' with this functionality was reported during this testing phase: when selecting ejournal titles for export an additional new MetaLib window opened (with the same session ID) with the new ejournal added to My Space. It was proving necessary to refresh the original window to force the display of the added title. Developers were working to ensure that the source MetaLib window would act as the target for the SFX service. This is also an example of where the distinction between 'bug' and 'enhancement' request becomes blurred – the new MetaLib-SFX functionality works as expected, but both testers considered that browser window management represented a retrograde step.

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[6] In an email to the author dated 16 January 2007 Karen Groves indicated that, based on the feedback received, Ex Libris have indicated that the 'Add to My Space in MetaLib' will not now be incorporated into the SFX menu at the object level: "We decided not to release this item as developed when you tested it; rather, the SFX Team is now developing a new 'push to e-Journals' service that will appear next to each e-Journal in the A-Z list. This much more closely resembles our previous e-Journal functionality in MetaLib 3.13. The SFX Team will release this development in an upcoming revision of SFX; when it is available customers will be able to use it with MetaLib 4.00." Clarification is now need on the interim arrangements proposed while this new development is in process.

/M (Management interface)

In MetaLib 4.0 changes to the /M management interface have retained the separation between the MetaLib Knowledgebase menu tree and the MetaLib Administration tree, although new elements have been added to both and at least one element (the z39 Gate restart option) has been migrated from one tree (Admin) to the other (KB).

10. Institute_tab and other config settings

Configuration settings in the institute_tab file have been moved from the command line to the management GUI, alongside a number other similar configuration settings (including institution, portal and proxy). Transferring control to the management GUI is a welcome development which aids and simplifies the work of application management.

11. Statistics

During the second week of customer testing there was minimal opportunity to explore the improved statistical reporting functionality indicated as available in MetaLib 4.0.

12. New licence

Ex Libris indicate that a new form of application licence will be required by all institutions running MetaLib 4.0, which will need to be requested prior to migration to the version. There was no scenario testing for the new format licence during the second week of customer testing, but Ex Libris suggest that the licence will include the facility to integrate permissions for new cost-added options; and a new renewal notification alert mechanism for systems librarians.

13. Category management

MetaLib 4.0 introduces the ability to submit a resource to Categories and Sub-Categories direct from a single IRD, as well as assign resources *en masse* within the Categories management menu. A reported defect with this functionality appears to have been the result of temporary server issues rather than an inherent flaw in the software.

This new resource level push functionality is an interesting development, but it remains an incomplete mechanism. It is still necessary to use the Categories and Sub-Categories management tool elsewhere in the /M GUI to order the resources alphabetically and the run the 'All' Sub-Categories creation routine. In addition, it is still not possible to see from the IRD which Categories and Sub-Categories it is assigned to. However, this is an enhancement request rather than a software 'bug'.

14. Hints screen – new KB update data

The hints screen within the IRD has been significantly enhanced by the inclusion of a trail of the configuration and local implementation notes included in the CKB update report. These are now accessible directly from the resource IRD itself – a notable improvement in behind-the-scenes functionality.

15. Oracle 10

New version of MetaLib requires an upgrade to Oracle 10 – Ex Libris indicate that this has been a key element in securing improved performances times in the application. No testing of load capacity was undertaken during the customer testing phase. Response times on the Ex Libris test servers were consistently good for all aspects of functionality of the new version, but this remains unavoidably unlike 'real world' conditions

16. Proxy support

MetaLib 4.0's new support for enhanced use of proxies (including for remote search capabilities) was observed but not tested (another difficult functionality to properly test inside the Ex Libris network).

17. IP Loader utility

MetaLib 4.0 introduces a new mechanism for the upload of complex IP ranges in a single CSV file, removing the need for command-line entry. This was not prioritised for testing, as Nottingham Trent University has a single IP range which covers all the sites within the institution's network.

18. Back-up utility

The range of back-up utility options has been extended in MetaLib 4.0. Alongside the existing data export and source back-up options, two new alternatives support a full Oracle cold backup (application offline) and Oracle hot backup (application remains online). It was, again, difficult to test these and outside my area of responsibility. Oracle DBAs at local sites would need to advise on whether the new in-application back-up options were superior to the standardised institutional arrangements for back-up and recovery likely to be in place.

20. Clear vir01 utility

The new streamlined clear vir01 utility is said by Ex Libris to offer much improved performance and response times, and introduces a number of additional stages which make for a more logical and managed shutdown-start-up cycle and reduce the amount of downtime required: for instance, a '90 seconds timeout for pending transactions' following the shutdown instruction should preventing many of the transactions already in queue from simply being rejected as the system powers-down.

Under MetaLib 3.13, the procedure for moving data from the tables Z715 (search); z705 (searches db); z754 (session) is as follows

1. MetaLib shutdown
2. For each table – export to disc; import to vir00
3. Rebuild statistics indexes
4. Restart MetaLib

Under MetaLib 4.0, process has been revised:

1. MetaLib shutdown – a 90-second sleep routine is run; enabling apache to deliver requests already in queue and underway (100 seconds total approx)
2. Oracle copy and export (z705; Z754; et al) (60 seconds)
3. Restart of MetaLib (4 minutes); application now live
4. Update of stats: 1-by-1; appended to existing; no requirement to rebuild indexes
5. Clear of Z705, et al

Statistics are held in vir00 for as long as is indicated by the institution; the default is 12-month retention.

21. New log reporting control

There are a range of new options in log management introduced with MetaLib 4.0, with three new command-line aliases introduced: plog (view pds log); wlog (view www server log) and slog (search server log). Additionally, there is the option to select the degree of detail seen in the log view (the full log is written to; the option is for the purposes of display control – enabling the switch from the least to the most information displayed).

Global parameter setting within www_server.conf to set level of reporting

1. Fatal
2. Error
3. Warning [default]
4. Info

0. Stats

A **Fatal** setting would report when Oracle is down; an **Error** setting would report on instance where there was a disc file problem; a **Warning** setting would report where an expired user attempted to login. It is likely that Ex Libris will recommended that the report level be set to **Info** during test phase and **Warning** once in production. The new log format in MetaLib 4.0 would report:

- Date / time
- Log level =
- Message
- PID
- Session

X-Server

Nottingham Trent University does not have a licence to make use of X-Server functionality, so did not participate in any testing of the new X-Server functionality.

Upgrade methodology: MetaLib 3.13 to MetaLib 4.0

22. MetaLib Installation Kit (MIK)

MetaLib 4.0 is being introduced in parallel with the new MetaLib Installation Kit (MIK), which is intended to simply (and automate many aspects of) the download and installation of the new release of the software. In a departure from previous releases, the MIK will install the version 4.0 software *in parallel* with the existing live installation of version 3.13 (assuming that the new version is being installed on the same server).

For the MIK, the key elements of the process are:

- Carry out pre-installation checks to verify local architecture – verify disc space; check OS, et al; download zipped .tar file via FTP
- Run the installation
- Run post installation checks (a combination of both manual and automatic)
- Execute necessary back-up procedures

Neither Lori nor myself were asked to run the MIK: something which would have been something of an 'artificial' test in any case inside the Ex Libris network, unlike 'real' local conditions on a customer site. Both of us did, however, run the Upgrade Express utility.

23. Upgrade Express

The Upgrade Express manages the transfer of data from the source instance (the current production instance of MetaLib 3.13) to the target instance (the new installation of MetaLib 4.0). Both local-customer and global-application data is migrated through the transfer.

Customer data transferred:

- Local KB (dat01)
- Configuration settings ($metalib_conf)
- Html, icons, local customisation (ins00)
- Institutional settings (vir00)
- Patron data (vir00)

Global application data transferred:

- Central KB (data01)
- MetaLib templates (ins00)
- Application software

The new 'express' procedure is intended to provide a simpler, more user-friendly and menu-driven mechanism for managing the upgrade process. The Upgrade Express is reliant on a mixture of largely automatic processes though does requires a smaller number of manual interventions and action. It is intended to enable customers to manage the version 4.0 upgrade process independently of Ex Libris support where this is possible.

The upgrade can involve data transfer within a single server or between servers. Subject to sufficient disk space and processing power, MetaLib 4.0 can be installed on the same server in parallel with the live 3.13 version for testing and training purposes, prior to the switch over. Where migrating between instances on the same server, the source instance will be m3_1 and the target m4_2. Where migrating between instances on different servers, the source will still be m3_1 but the target will be m4_1. When installing version on the same server, the procedure would be:

- Copy installation different parallel instance
- When ready to move to production with 4.0 switch application ports
- Remove 3.13 when ready

The Upgrade Express utility can be re-run several times before a final switchover to a live service is activated.

The MIK contains the current version 4.0 CKB for new installations; the KB conversion process for existing institutions in handled by the upgrade process.

The procedure involves the following key stages:

1. Installing the new version of MetaLib 4.0 on the local server
2. Copying customer data from source to target instance
3. Merging customized values from 3.13 to 4.00 (www_server.conf, et al)
4. Running conversion processes
5. Implementing manual changes to customer data (html, www_const.lng, et al)

The initial definition of upgrade parameters for the source instance includes:

- List of institutions
- List of html instances (insxx)
- Languages
- MetaIndexes

During the Upgrade Express process, log files, screen prompts and email messages together provide:

- Information on progress of the process
- Confirmation of successfully completed tasks
- 'Warnings' prompts (confirming action choices)
- Alerts in the events of errors

```
+-----------------------------------------------------+
Upgrade Express Utility 3.13->4.00 Version 1.02 Source
+-----------------------------------------------------+

0. Exit
1. Define upgrade parameters
2. Create customer data
3. Transfer customer data
4. View logfiles

Please select [0]:
```

Figure 2: Upgrade Express Utility MetaLib 3.13 to 4.00 Source menu

```
+-----------------------------------------------------+
Upgrade Express Utility 3.13->4.00 Version l .01 Target
+-----------------------------------------------------+

0. Exit
1. Check environment
2. Install customer data
3. Update configuration files with user data
4. Run upgrade express
5. View logfiles
6. View/Update upgrade parameters
7. Store/Restore configuration files
8. Perform Post Upgrade Express Actions
9. Uninstall customer data (back to MIK)

Please select [0]:
```

Figure 3: Upgrade Express Utility MetaLib 3.13 to 4.00 Target menu

I was able to successfully run the Upgrade Express, creating a new installation of MetaLib 4.0 on a new server and transferring the existing customer parameters and data from the (test) source installation. The process worked well, but I was able to suggest several enhancements to the reporting mechanism in the workflow: indicating distinctions between mandatory and optional steps (which was not immediately clear); clarifying that some log reports dropped the user into vi mode (when this was not apparent); and so on.

I then carried out some indicative customisation to the new installation, making the following changes: **metalib.css** (changed body background colour; altered background colour for the banner; switched right-to-left presentation of clustered search results); **www_const.eng** (altered text of three user prompts); **www_heading.eng** (changed text for failed search prompt); **www_server.conf** (changed three settings from default: switching on the compress deduplication option; setting search default to 'advanced'; selecting automatic results combination and display in metasearching).

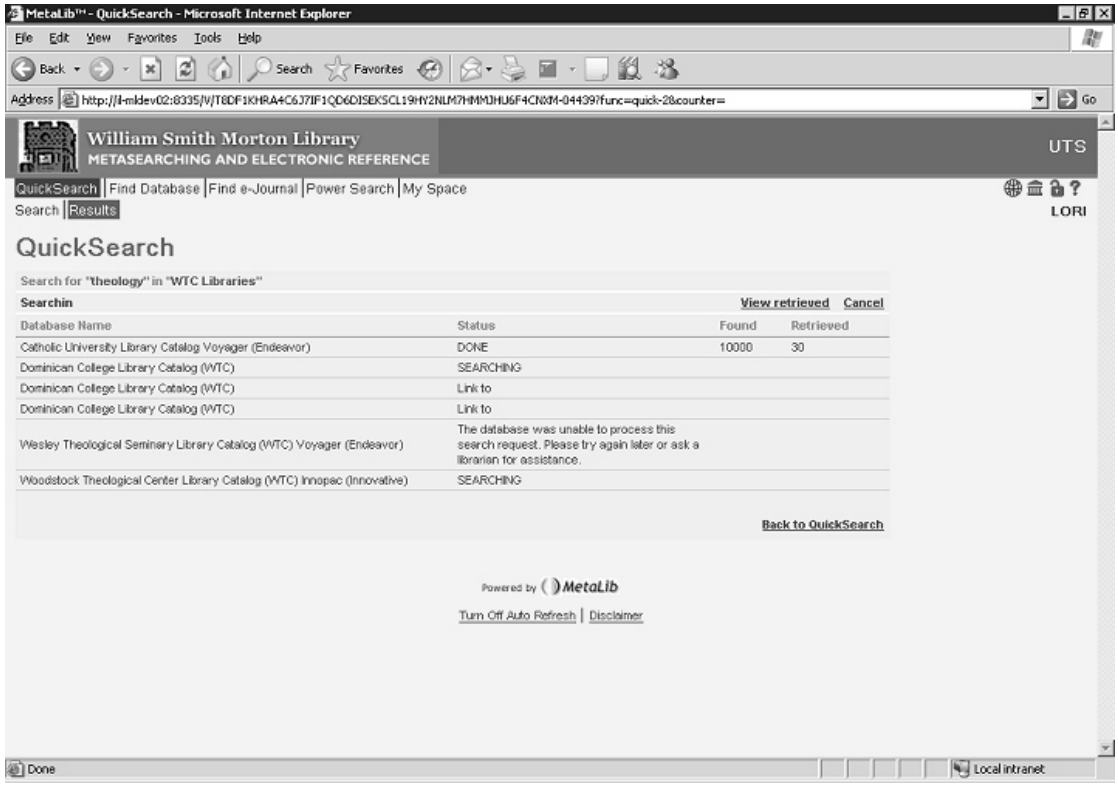

Figure 4: Customised /V GUI in MetaLib 4.0, post-Upgrade Express installation

Using the 'Store/Restore configuration' files options in the Upgrade Express utility, these altered files were then stored elsewhere on the server. My colleague Lori then ran the 'Uninstall customer data (back to MIK)' option, and subsequently re-ran Upgrade Express, restoring the saved customisation files.

Ex Libris are aware that sites running MetaLib rely on staff with a hugely different range of skills and competences. The company is eager for confirmation that large numbers of sites are able to self-manage the process – and asked for opinions about this. For myself, I would feel very happy to run the Upgrade Express process, although Lori and myself encouraged Ex Libris to prepare Webinars and other electronic presentations to prepare sites in advance for the nature of the work to come, despite the uncertainty of knowing how widespread the take-up would be. For myself, what complicates the process is that the upgrade includes a migration to a new version of Oracle – something which for many sites will cross areas of responsibility from a system librarian to a DBA- which would certainly be the case at my site. The upgrade process may need to be managed at many sites in a collaborative process between library and IT teams, rather than be carried out independently by the MetaLib application manager.

While Ex Libris' concern to enable as 'autonomous' an upgrade process as is possible for sites to manage is understandable, an announcement in the New Year by Ex Libris in the UK that sites requiring support for the upgrade process may be charged for providing such a service is unlikely to be welcomed by the user community.[7]

24. Conclusions

It is clear to me that customer site involvement in last phase pre-release testing of MetaLib 4.0 is an extremely valuable and worthwhile process; something which could productively be repeated in future, and extended to other applications in the Ex Libris suite. My observations are that:

- Ex Libris' mechanisms for last phase testing of MetaLib 4.0 appear (to this visiting customer) methodically planned; appropriately detailed and well audited
- Ex Libris appeared open not only to the idea of customer participation in the testing procedure, but with facilitating it in practice
- The mechanisms of the testing process were clearly explained and our progress well monitored throughout – there was clarity about the job in hand
- The working atmosphere remained consistently professional and accommodating throughout; with customer input valued and acknowledged

[7] In an email to MetaLib customers in the UK dated 17 January 2007, Christine Stohn (MetaLib and SFX Project Manager [in the UK]) indicates that the upgrade process should: "only be run by System Administrators. If you'd prefer this to be run by Ex Libris we can schedule a time to do it for you. Please note that this is a cost added service."

- Face-to-face access to a wide number of staff involved in different aspects of the MetaLib development process was provided; indicative of efforts to be as inclusive and transparent
- The customer testers were able to provide feedback and report bugs of genuine value to Ex Libris

25. Recommendations

Alongside my contention that the customer testing process represents an overwhelmingly positive development, there are some issues which I think need to be taken into account when preparing similar exercises in future:

Greater preparation time: It would be preferable for all involved if there could be a longer run-in period to the customer testing process; so that Ex Libris could additional time to prepare and have a clearer sense of the skills and experience of the testers; and the testers could understand more in advance about the nature of the work that would be expected of them.

Realistic workloads: In the case of MetaLib 4.0, the level of detail in the testing scripts (and the range of possible scenarios that could be tested) was such that it would be simply impossible to comprehensively cover them all in the time available: particularly when combined with the numbers of meetings; meet-and-greet introductions; catch-up and feedback sessions. That sense of incompleteness could, without a more specific ‘steer’, result in frustration. Agreeing, in advance if possible, the limitations of the testing to be attempted would help with limiting a potentially limitless workload.

Developer and tester server instances: While Ex Libris were quick in responding to customer tester requests about this on a day-to-day basis, it is worth emphasising the complications which ensue when developers are implementing fixes to reported ‘bugs’ on the same servers on which the testers are working. Customer testers need a stable test environment that is subject to scheduled updates rather than in a continual flux of updates and server restarts.

Documentation not finalised: It is inevitable that User Guide and System Administrator documentation for any new release in final stage testing will not be ready for customer review. For this reason, customer tester understanding of new functionality and implementation mechanisms have to be limited to description by Ex Libris staff and tester experimentation. It would be helpful to consider a mechanism whereby customer testers became involved in

reviewing such documentation as appropriate. This process may well be in hand, for UK customers at least.[8]

Status of the customer testers: There is, for ELUNA, IGeLU and for Ex Libris, an issue over the 'status' of the customer testers – are they in some sense 'delegates'; or 'representatives' of the customer community or simply 'samples' from customer sites. Is it clear what the status of the report back given by the customer testers has in their respective user communities; or are the testers understood to be speaking only for themselves and their home institutions?

Clarity over reporting back: Linked to the above, it would be useful for the customer testers to know in advance the nature of the reporting back that they will be expected to provide; how it will be reported to Ex Libris and refracted back through the user community.

Remote testing: Thought could usefully be given to the idea of enabling remote testing of some system utilities, in parallel with (or subsequent to) on-site testing in Jerusalem. Many of the utilities involving back-ups and recovery; ftp utilities; statistics management; performance monitoring and the like are difficult to usefully assess in the test environment of the Ex Libris server network. This should only be considered as an extension and supplement to the face-to-face on-site process rather than as an alternative.

Bug reporting and enhancement requests: It is important to the success of the testing process that the distinction between 'bug' reporting and enhancement requests is maintained, although the distinctions between sometimes appear to collapse. The role of the customer tester is to report 'flaws' in the new version of the application where MetaLib does not function as intended. However, in those cases where changes to the application introduce what to the customer tester is an unwelcome development (or a missed enhancement opportunity) these surely need to be routed through the appropriate national and international user group processes, rather than the tester circumventing them by a direct request to the development team? An illustration of this occurred with regard to the new functionality of the ejournal list in MetaLib 4.0: this opens in a new window *as intended*, and cannot therefore be reported by the customer testers as a 'bug'.

[8] In an email to MetaLib customers in the UK dated 17 January 2007, Christine Stohn (MetaLib and SFX Project Manager [in the UK]) indicates that the UK Ex Libris office: "will start upgrades in March with only 3 customers to gain more local experience in the UK office and to gain their feedback on the documentation. Final versions of the documentation will be made in close cooperation with those customers."