The Voyager® 6.1 Release Handbook

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Quick Overview

Voyager 6.1 offers significant changes to search capabilities in both WebVoyáge and staff-side searching. New features include the ability to modify the default Boolean operator in WebVoyáge keyword searches, as well as the creation of a new combined keyword search of bibliographic and holdings records.

In addition, this release incorporates one of the most universal of all enhancements, support for ISBN-13. Because this is a critical issue for all Voyager libraries, more information than usual is being included in the release notes.

Several enhancements specific to Universal Borrowing are also included, as is the ability for public users to access appropriate information held in Meridian from within the OPAC.

Technical Items

WebVoyáge Patron Authentication Adapter Feature

This feature is commonly referred to as LDAP authentication as many sites use it to tie in to a LDAP database. Currently in Voyager 5.0 WebVoyáge, the patron authentication adapter inserts a numerical PID into the Voyager database in the WOPAC_PID_PATRON_KEYS table. Starting with Voyager 6.1 this value is a string as PID is now defined as VARCHAR2(80) in place of NUMBER. Any sites using this feature will need to update their patron authentication adapter from inserting a numerical value to inserting a string value in this table for the PID.

Supported Operating Systems

Solaris and Windows customers have a change, while AIX customers do not have a change in their supported operating systems for Voyager 6.1 (if upgrading from Voyager 5.0).

Voyager 6.1 is supported on

- Solaris 9 or 10
- AIX 5.2 or 5.3
- Windows 2003

Third Party Software Changes

With Voyager 6.1 the following third party software is updated and moved to a central location (/m1/shared)

- Apache to version 2.0.55
- Perl to version 5.8.8

New Search Options

Enhanced Options for Boolean Keyword Searches

Currently in WebVoyáge, keyword searches are performed as phrases. For example, if a patron is trying to locate the title “Gone with the Wind” by selecting the Title Keyword index on the Simple Search tab, they must enter every single word in order to find the title; entering the search terms ***Gone Wind*** does not find the title.

Overview
New functionality allows your choice of a default Boolean operator to be used for keyword searches; this is indicated in the search.ini configuration file with the addition of two new symbol combinations.

- A circumflex (^) symbol placed after the appropriate index code means that an AND operator (all of these) will be inserted between the terms in the search string.
- A pipe (|) symbol placed after the appropriate index code means that an OR operator (any of these) will be inserted between the terms in the search string.

In addition, relevance can be added to either symbol by placing an asterisk (*) after the above symbols.

Current search functionality remains in place and can be indicated in the configuration file by the presence of an index code without a symbol present. The presence of quotation marks around groups of words indicates that the words are to be searched as a phrase for a Boolean Keyword search just as any other search (Figure 1).

Figure 1: Keyword Anywhere search defined with default AND operator in WebVoyáge

100 1_ |a Branagh, Kenneth.
245 10 |a ***Hamlet*** / |c by ***William Shakespeare*** ; screenplay and introduction by Kenneth Branagh ; Konow and Peter Mountain.
250 __ |a 1st ed.
260 __ |a New York : |b W.W. Norton & Co., |c c1996.
300 __ |a xv, 208 p. : |b col. ill. ; |c 24 cm.
500 __ |a Includes screenplay based on the play by ***William Shakespeare***.
630 00 |a ***Hamlet*** (Motion picture : 1996)
650 _0 |a ***Hamlet*** (Legendary character) |v Drama.
700 1_ |a ***Shakespeare, William,*** |d 1564-1616. |t ***Hamlet***.

Figure 2: Resulting record view for Keyword Anywhere AND operator search

Existing Functionality
Keyword indexes are defined in System Administration > Search > Indexes - Keyword Definitions, which includes the TKEY, JKEY, SKEY and GKEY indexes, among others.

This functionality currently exists in the Builder Search option WebVoyáge by selecting indexes and operators along with a drop-down selection of “all of these,” “any of these,” or “as a phrase.”

WebVoyáge Configuration
The search.ini file controls the searches that display on the Simple Search tab in WebVoyáge. To enable a default Boolean operator keyword search, two new values can be added to any keyword search.

To define a default AND keyword search, add the circumflex (^) symbol to the applicable keyword index code in the search.ini file. Selecting this search in WebVoyáge inserts an AND operator between each search term to retrieve bibliographic records where ***all*** of the search terms appear. The search terms can appear in any order in the record. The result set is listed in the order specified for the index on the Sort Order tab in System Administration > Search > Indexes – Keyword Definitions.

Search.ini example: TKEY^ Title Keyword AND

You can also choose to define a default AND keyword search with relevance. To do so, add the asterisk (*) symbol after the circumflex symbol in the search.ini file. The results of this search are displayed in order by relevance.

Search.ini example: GKEY^* Keyword Anywhere AND with Relevance

To define a default OR keyword search, add the pipe (|) symbol to the applicable keyword index code in the search.ini file. Selecting this search in WebVoyáge inserts an OR operator between each search term to retrieve bibliographic records where ***any*** of the search terms appear. At least one of the terms must appear in order for a record to be returned. The result set is listed in the order specified for the index on the Sort Order tab in System Administration > Search > Indexes – Keyword Definitions.

Search.ini example: SKEY| Subject Keyword OR

To define an OR keyword search with relevance, add the asterisk (*) symbol after the pipe symbol in the search.ini file. Search.ini example: GKEY^* Keyword Anywhere AND with Relevance

Search.ini example: GKEY|* Keyword Anywhere OR with Relevance

Below is an example of a search.ini configuration file that contains samples of the new search options.

Table 1: Sample search.ini file with new Boolean operator defaults for keyword searches

[Valid Tabs]
Simple
Boolean Search
Course Reserve
[Simple_Search_Codes]
Counter=12
1=GKEY^* Keyword Anywhere AND with Relevance
2=GKEY|* Keyword Anywhere OR with Relevance
3=TKEY^ Title Keyword AND
4=SKEY^ Subject Keyword AND
5=JKEY^ Journal Title Keyword AND
6=FT* Keyword Relevance Search
7=NAME+ Author Browse
8=TALL Left Anchored Title
9=CALL+ Call Number Browse

10=SUBJ+ Subject Browse
11=CMD* Command Search with Relevance
12=008D Date Search (Left Anchored)
13=AUTH+ Name Title Browse

Table 1, above, shows several searches defined as Boolean keyword searches. Any index code, for example, GKEY, entered after the equal sign without any modification is searched as a phrase. The circumflex symbol modifies the index code so that the system inserts the Boolean operator AND between each search term along with the search code. For example, the search terms ***new england journal medicine*** for a journal title keyword AND search are interpreted by the system as the following search string:

JKEY new AND JKEY england AND JKEY journal AND JKEY medicine

The same is true for a search code modified by the pipe symbol. For example, the search terms ***cats dogs monkeys*** for a subject keyword OR search are interpreted by the system to the following search string:

SKEY cats OR SKEY dogs OR SKEY monkeys

Further modifying the search codes with an asterisk indicates the terms should be connected by the specified operator and then sorted in order by relevance.

Search terms enclosed in quotation marks are searched as a phrase. In this case, the system treats those terms as if the search code was not modified by a circumflex or a pipe symbol. However, if the search string includes terms in quotation marks and other words, then the search code is applied to the terms not in quotation marks.

For example, the search terms ***"Civil War" Vicksburg Grant*** for a Keyword Anywhere AND search are interpreted as the following search string:

"Civil War" AND GKEY Vicksburg AND GKEY Grant

This new functionality cannot be used with the types of searches listed below.

- Free Text (FT) searches
- Command (CMD) searches
- Left anchored searches
- Browsing searches

Note that Command line searching behavior does not change as a result of this functionality as that particular search type has always required Boolean operators.

Rules for the NOISEWORDFILTER

Dynamic noise word reduction improves the performance of keyword searches, particularly in very large databases. It eliminates common words from a user's query for the purposes of searching but retains them for the purpose of relevance ranking.

The noise word filter is set in the server-side voyager.ini file. The default setting for the variable NOISEWORDFILTER= is No; you can change the setting to Yes (NOISEWORDFILTER=Y) to turn the feature on.

The following list of stop words is used with this feature.

- AND
- OR
- NOT

- OF
- IN
- THE
- WITH
- TO
- FOR

If NOISEWORDFILTER= is set to NO, then the default behavior applies as noted in the WebVoyáge Configuration section, above. If the NOISEWORDFILTER= variable in the server voyager.ini file is set to YES, then the behavior for Boolean keyword searching changes depending on which operator is used.

For example, if a patron enters the search string ***mice and men*** (without quotes) and the search code is set to the default OR option, the system interprets the search string as:

(*X*KEY mice) OR (*X*KEY and) OR (*X*KEY men) (where *X*KEY represents the keyword search code)

However, because the NOISEWORDFILTER= variable is set to YES, the system strips out the ***'and'*** search term resulting in a search string of:

(*X*KEY mice) OR (*X*KEY men).

If the keyword search code is set to the default AND option, the search string is interpreted as:

(*X*KEY mice) AND (*X*KEY and) AND (*X*KEY men)

In this case, the NOISEWORDFILTER does not apply and the search string remains the same.

Note: The NOISEWORDFILTER is ignored if the search string is enclosed in quotation marks.

Combined MFHD-Bib Record Keyword Search

Expanding the MFHD keyword searching feature added in Voyager 5, this update allows users to combine keyword searches of the bibliographic and holdings records in both Voyager public and staff searches.

In Acquisitions, Cataloging, Circulation, these same types of searches can be executed using the Boolean search option on the Keyword tab (Figure 3), or by combining indexes on the Builder tab (Figure 4).

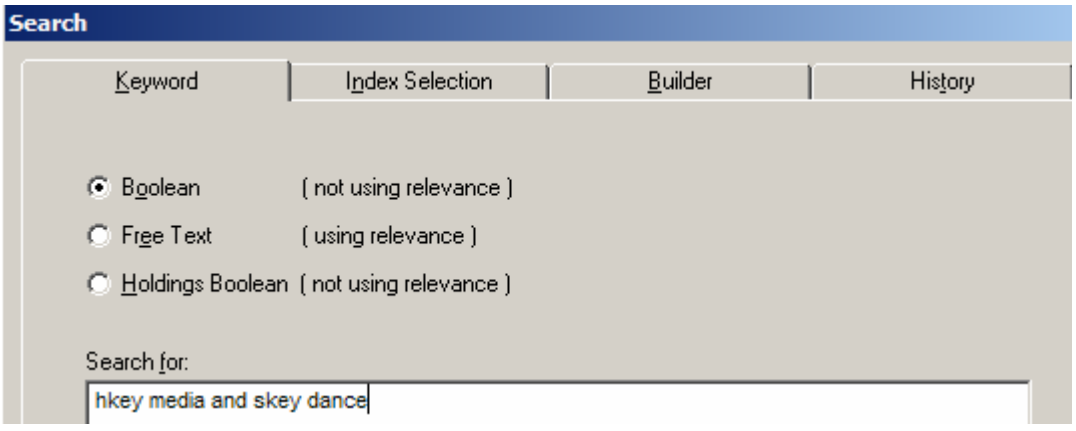


Figure 3: Combined holdings/bibliographic index search from Keyword tab in Cataloging client

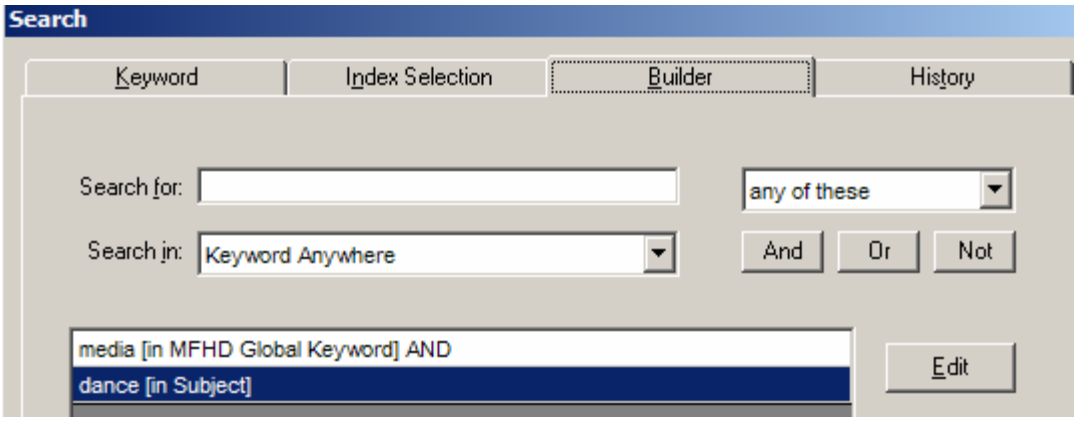


Figure 4: Combined holdings/bibliographic index search from Builder tab in Cataloging client

Any results list from this type of search is returned according to the search order defined in System Administration for the first index defined in the string.

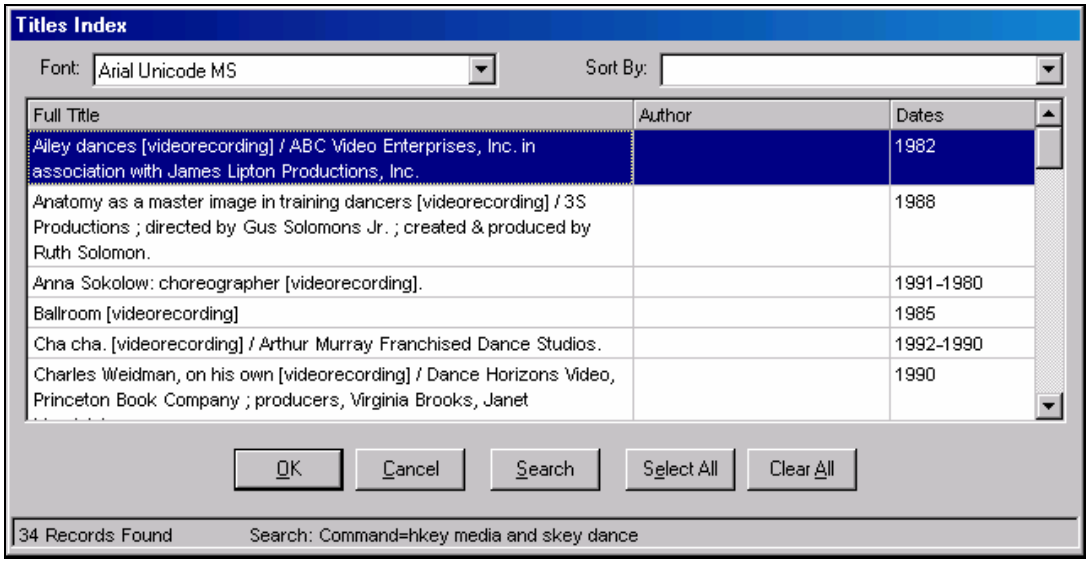


Figure 5: Search results from combined holdings/bibliographic search in Cataloging client

In WebVoyáge, combined searches can be executed using the Command search from the Simple Search screen (Figure 6), or by combining MHFD indexes with other keyword indexes on the Builder screen (Figure 7). In Figure 6 and Figure 7, below, “media” is a location code and indexed with the HKEY (MFHD Global Keyword) index.

Figure 6: Combined holdings/bibliographic index search from the Simple Search tab in WebVoyáge

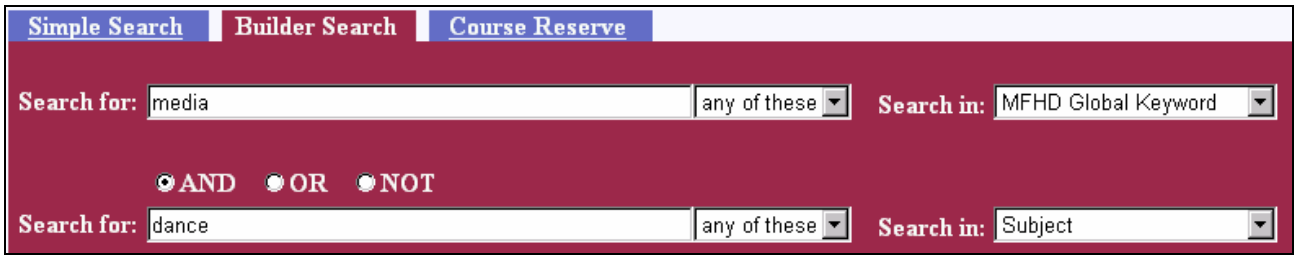
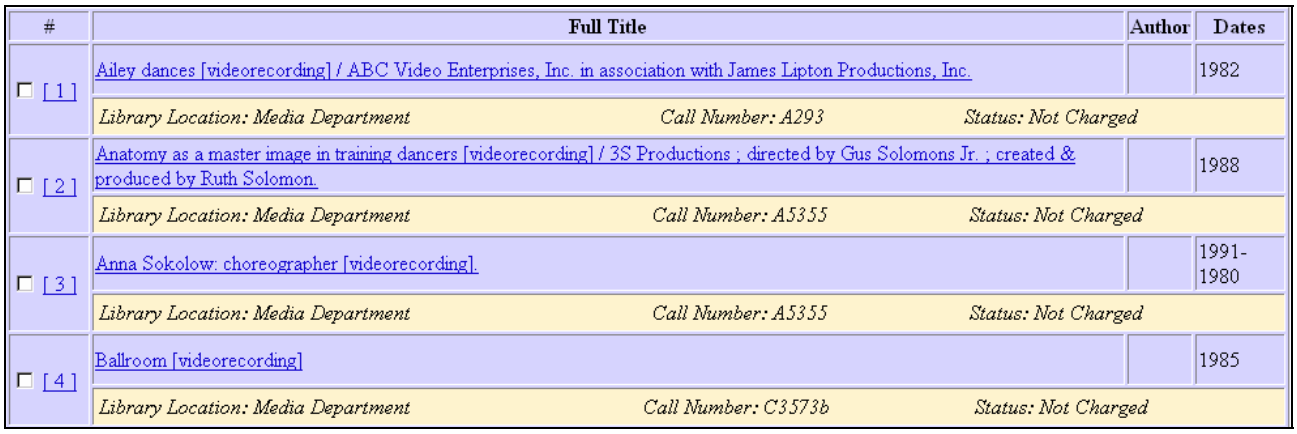


Figure 7: Combined holdings/bibliographic index search from the Builder Search tab in WebVoyáge

Similar to searching in a staff client, any results list from this type of search is returned according to the search order defined in System Administration for the first index defined in the string.



#	Full Title	Author	Dates
[1]	Ailey dances [videorecording] / ABC Video Enterprises, Inc. in association with James Lipton Productions, Inc.		1982
	Library Location: Media Department *Call Number: A293* *Status: Not Charged*		
[2]	Anatomy as a master image in training dancers [videorecording] / 3S Productions ; directed by Gus Solomons Jr. ; created & produced by Ruth Solomon.		1988
	Library Location: Media Department *Call Number: A5355* *Status: Not Charged*		
[3]	Anna Sokolow: choreographer [videorecording].		1991-1980
	Library Location: Media Department *Call Number: A5355* *Status: Not Charged*		
[4]	Ballroom [videorecording]		1985
	Library Location: Media Department *Call Number: C3573b* *Status: Not Charged*		

Figure 8: Search results from combined holdings/bibliographic search in WebVoyáge

Existing Functionality
In Voyager before release 5.0, public and staff searches included both a command and a builder search, which optionally could be relevance-ranked in the OPAC. This search only searched terms in bibliographic records using one or more indexes derived from bibliographic record fields.

In Voyager 5.0, an optional MFHD keyword search feature was added, which allowed libraries to choose to generate a keyword index of terms from the MFHDs in the database. This feature was a command-style search and was only available in staff searches. It was not possible to combine results from the bibliographic and the holdings keyword indexes in a single search in 5.0.

Starting in Voyager 6.1 the MFHD keyword search feature will be enabled for all sites. At the time of upgrade, the Engineer needs to know if your site does NOT want to include a search that uses the MARC data of the holdings record. You will receive this index by default, unless otherwise specified.

Server Configuration
This feature is only available if GLOBAL_PARM contains 'PACKAGE' 'MFHD Keyword Search'. Note that simply adding this package is not sufficient; the MFHD keyword indexes must also be generated and placed in the mfhd.data folder, as in Voyager 5.0.

Rules for Combined MFHD-Bib Record Keyword Search

Search Type

- When staff or patrons use the "Command" search in the OPAC or the equivalent "Boolean" search in staff clients, they are now able to use MFHD keyword indexes by entering their search codes.

- They may use any combination of Holdings and Bibliographic searches in the Command field, including: all holdings indexes, all bibliographic keyword indexes, or both.
- If the searcher indicates a holding index in the search field, without an accompanying bibliographic index, the search results behave like a bibliographic keyword search. That is, bibliographic records display in the results list rather than holdings record.
- Holdings keyword searches are not available as part of the staff or OPAC "Free-Text" search.

Note: The "Staff Suppress" and "OPAC suppress" flags in System Administration determine which indexes appear in the respective staff and OPAC builder searches.

Builder Search

- Holdings keyword searches are visible and available for Builder searches in WebVoyáge and the staff clients according to the "OPAC Suppress" or "Staff Suppress" settings from System Administration.
- If the searcher creates a Builder search of holdings keyword indexes without an accompanying bibliographic index, the search results behave like a bibliographic keyword search. That is, bibliographic records display in the results list rather than holdings record.

Command/Boolean Search Syntax

- Combined bibliographic/holdings keyword searches support quotation marks to indicate a phrase search for both bibliographic and holdings records. This functionality is available for holdings-only searches and is part of the keyword indexing system.
- Each index and term/phrase combination in the command search can be separated by "and", "or", or "not".
- Searchers can surround parts of the search with parentheses, regardless of whether the individual parts of the search reference bibliographic or holdings keyword indexes.
- The free-text search syntax, using the plus-sign (+) and (*) is not available for Command/Boolean searches. This is consistent with previous releases, in which the free-text and command searches have different syntaxes.

Builder Search Syntax

- The builder search translates the contents of the builder form into command syntax. The command syntax supports arbitrary parenthesis of bibliographic and holdings indexes together, phrase searching, and all of the "and", "or" and "not" operators, so the existing builder-to-command translation works accordingly.

Search Results Columns in the OPAC

- The search results of any Builder or Command search display in a titles list as in previous releases.
- The three BIB_TEXT columns chosen for the first index entered in the command search or chosen in the builder form determines which columns to display.
- The MFHD_ID or BIB_ID does not appear in the titles list.
- Data from the holdings associated with the bibliographic record displays in the WebVoyáge titles list, with "Multiple Holdings Found" appearing as the message if multiple holdings are associated with the bibliographic record.

Search Results Columns in the Staff Search

- The search results of any Builder or Command search displays in a titles list as in previous releases.
- The three BIB_TEXT columns chosen for the first index entered in the command search or chosen in the builder form determines which columns to display.
- The staff clients do not display a column to the left of these columns indicating the MFHD_ID or BIB_ID of the record matching the search.
- The search results take the searcher to a bibliographic record, as in the Builder/Command search results in previous releases, not the associated holdings record, as in the special MFHD keyword search.

Direct MFHD Access

- When staff members execute a “Holdings Keyword” search in a staff client, they have direct access to the MFHD that the search returned.
- When staff members make a combined bibliographic/holdings keyword search using the Command or Builder interface, they do not have direct access to the MFHD. Instead, the titles list takes them to the matching bibliographic record.

De-duplication

- Search results are de-duplicated by bibliographic record id. In both the OPAC and staff clients, a bibliographic record appears in the results only once. If the search results contain a bibliographic record more than once, the record’s metadata appears once, in the earliest position in the titles list. This is consistent with most other bibliographic titles list displays in Voyager.

Result Set Count Limits

- Voyager result sets are limited to 10,000 results in total. The queue used to merge the result sets of each sub query must contain enough room to hold at least 10,000 results.

Merging

- When a search uses a single keyword server, the whole search string, including Boolean operators and parentheses, is sent to the keyword server at once. The keyword server is responsible for evaluating the query and returning the results in a single set.
- When more than one keyword server is involved, any Boolean combination of indexes and search terms that uses an index in more than one keyword server must be merged in memory.
- Each individual search term in the list of searches is searched separately in the appropriate keyword index (either MFHD or bibliographic.) The results of each search are then merged.
- An individual search in a combined MFHD-bibliographic keyword search is a single search term, optionally including an index specified.

  So in the search:

  HKEY “PR 6019” and GKEY people or (“james” and “jim”)

  The search terms are:

  HKEY “PR 6019”
  GKEY people
  james
  jim

  The merge system takes into account the “and,” “or,” and “not” operators, quotation marks, and parentheses.

Simultaneous Searching

- Z39.50 Server: the MFHD keyword indexes are not available to the Z39.50 server. The System Administration client prevents administrators from assigning use attributes to MFHD keyword searches. This restriction continues, so there is no way to make a Z39.50 search that combines MFHD and bibliographic indexes.
- Z39.50 Client: when the operator sets up a simultaneous search, only searches with search attributes compatible with the various selected databases appear in the list of available searches. (This is pre-existing functionality.) When a Z39.50 server is one of the selected searches, no MFHD keyword indexes will be available in the builder list or index drop-down, because there are no Z39.50 attributes assigned to MFHD keyword searches.
- If the searcher searches using a MFHD keyword index anyway (by typing the search code into a command search, for instance) then searching a Z39.50 server fails with the message “Search Incompatible.”

- Voyager-to-Voyager: when connecting to a Voyager database using the Voyager-to-Voyager connection method, if the remote database does not have MFHD Keyword searching installed, any search using a MFHD keyword code fails with the message "Search Incompatible."
- Note that the Voyager-to-Voyager client must explicitly check whether the MFHD keyword package is installed on the remote server. It is not sufficient to check for the existence of the supplied search codes, because the HKEY and other MFHD keyword search codes may be available on the remote server for non- MFHD searches. For databases earlier than Voyager 5.0, the search fails with the "Search Incompatible" message without checking.
- If the MFHD Keyword package is installed on the remote server, then parallel combined MFHD /bibliographic keyword searches are available, as long as the search codes in the two databases are compatible, using the pre-existing rules.

Additional Features for Staff Clients

Two additional features for the staff clients provide staff with better display capabilities and the ability to re-sort results lists, similar to existing functionality in WebVoyáge.

Headings Subdivision Separators

In Voyager 6.1, you can choose to display headings subdivision separators in the staff clients and in WebVoyáge.

Existing Functionality
Currently, headings lists displayed in WebVoyáge and staff clients do not provide any visual markers between a subject heading and its subdivisions. As a result, the display may be somewhat confusing.

	Titles	Headings
[1]	4	Agriculture United States History.
[2]	2	Agriculture United States History Encyclopedias.
[3]	1	Agriculture United States Literary collections.
[4]	3	Agriculture United States Periodicals.
[5]	1	Agriculture United States Pictorial works.

Figure 9: Subject headings list in WebVoyáge prior to Voyager 6.1

Bibs	Staff Subject Headings Search Heading
6	Agriculture United States
4	Agriculture United States History.
1	Agriculture United States Literary collections.
3	Agriculture United States Periodicals.
1	Agriculture United States Pictorial works.

Figure 10: Subject headings list in Cataloging prior to Voyager 6.1

The MARC Standard allows for the display of two dashes (--) for a heading with subdivisions, even though the dashes are not visible in the MARC record. (This is also, of course, how subject headings have "always" displayed on catalog cards…)

For example, a MARC bibliographic record with the following 650:

‡a Agriculture ‡z United States ‡v Periodicals

May display as:

Agriculture--United States--Periodicals

Version 6.1 provides the ability to display these dashes between your existing headings and subdivisions as a part of your upgrade; any new headings added following the upgrade will also reflect the dashes.

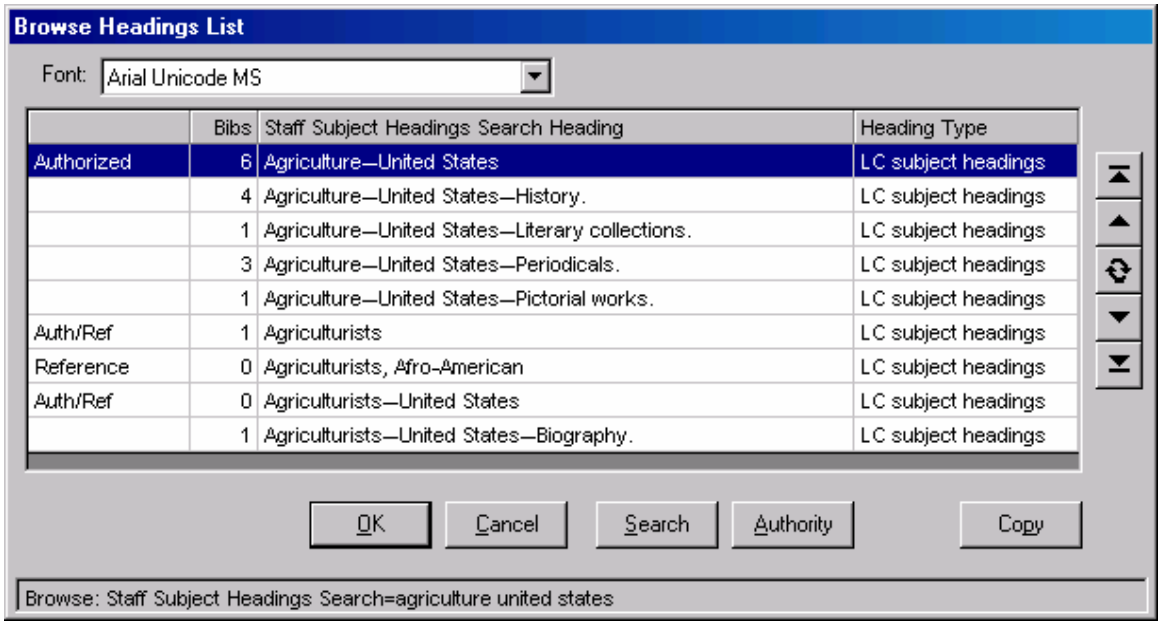


Figure 11: Headings subdivision separators in the Cataloging client

The dashes display not only in staff clients (Figure 11), but in WebVoyáge as well (Figure 12), increasing the visual effectiveness of any headings lists a patron may display.

Titles	Headings
6	Agriculture--United States
4	Agriculture--United States--History.
1	Agriculture--United States--Literary collections.
3	Agriculture--United States--Periodicals.
1	Agriculture--United States--Pictorial works.
1	Agriculturists
1	Agriculturists--United States--Biography.
1	Agriculturists--United States--Correspondence.
0	Agrochemicals
0	Agroclimatology

Figure 12: Headings subdivision separators in WebVoyáge

Implementation Notes
Please note that in order to insert dashes between headings and subdivisions as shown above, an index regen is required. At the time of upgrade, the Engineer needs to know if your site does NOT want to display headings subdivision separators in the staff clients and in WebVoyáge. You will receive this index by default, unless otherwise specified.

Unless you choose not to have this feature implemented at the time of upgrade, any headings added to the database *after* the upgrade automatically display the separators. Alternately, you can choose to remove this feature at some time after the upgrade to Voyager 6.1, but in order to change the existing headings in the database, libraries must call Support for a headings regen.

The dashes are for display only; they do not precipitate any change in sorting. Headings continue to sort per current functionality. If operators desire subdivision separators on other pages in WebVoyáge, such as the record view pages, you can edit the display*N*.cfg file(s) to include the desired punctuation. Also, the dashes do not actually appear in the MARC record.

Dashes are inserted in between the root heading and a subdivision and between subdivisions. For this feature, subdivisions are defined as heading (6XX) subfields v, x, y, and z.

System Administration Settings

Unless you choose not to include this functionality at the time upgrade, the upgrade engineer will set the flag in the GLOBAL_PARM table to indicate the display change.

In Voyager 6.1 there is a new checkbox in System Administration > Miscellaneous, labeled “Display Headings Subfield Separators.”

- Unless you choose not to include the new feature at the time of upgrade, the new checkbox is checked.
- If you chose **not** to include the new feature at the time of upgrade, the new checkbox is blank, or unchecked.
- If you choose to implement the new feature at some time after the upgrade, check the checkbox to set the flag to Yes, and then contact Customer Support to schedule a headings regen.
- If you choose to deactivate the new feature at some time after the upgrade, un-check the checkbox to set the flag to No, and then contact Customer Support to schedule a headings regen.

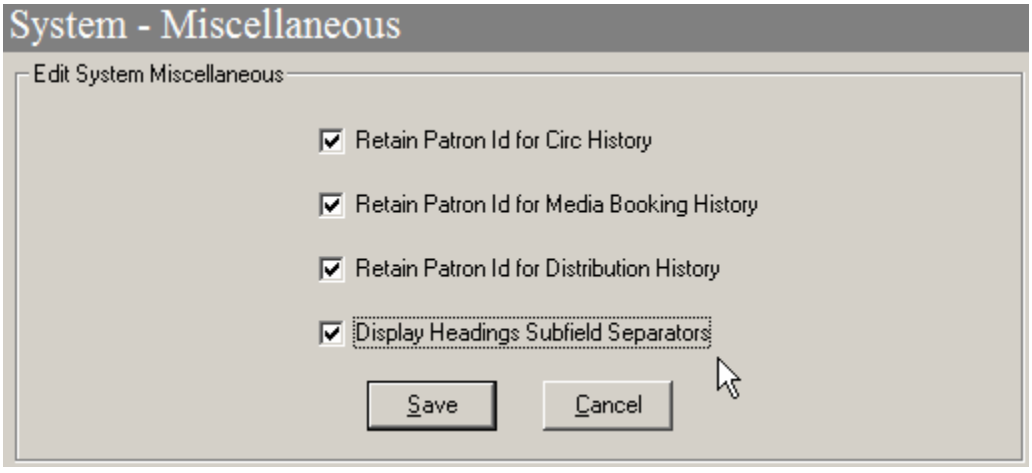


Figure 13: New “Display Headings Subfield Separators” check box in System Administration > Miscellaneous

When the regen is run, the job looks at the new Global Parm to determine whether or not to create the HEADING.display_heading column. If the GLOBAL_PARM.DisplaySubfieldSeparator is set to “Yes,” the

system attaches two dashes to each 6XX subdivision with subfields v, x, y, or z. No spaces are added between the root heading and the subdivisions or between the subdivisions. Once the regen is complete, the separators display in the staff clients and in WebVoyáge.

NOTE: No changes are made to the MARC records; the dashes only exist in the display_heading column of the HEADING table. No other changes apply to the creation of entries in the HEADING table.

Staff Client Re-sort

Similar to sorting the results of a search in WebVoyáge, customers can now apply the same type of sorting plus two additional options, to search results in the staff clients.

Overview
Three new options are now available to re-sort data in bibliographic result sets in all Voyager 6.1 Staff Clients.

1. A drop-down list of sort options is displayed above the result set, including options to re-sort by Title, Author, Publish Date Descending, Publish Date Ascending, and Relevance when a relevance search is executed.

2. The columns that display in the result list also appear in a drop-down list above the result set, identified as a Quick Sort. Selecting one of the options re-sorts the values in the list in ASCII ascending order. Selecting the same value a second time will re-sort the values in ASCII descending order.

3. The column headers in the result list can be made clickable to perform an ASCII sort in ascending order on the values in the result list. Clicking the same column header a second time will re-sort the values in ASCII descending order.

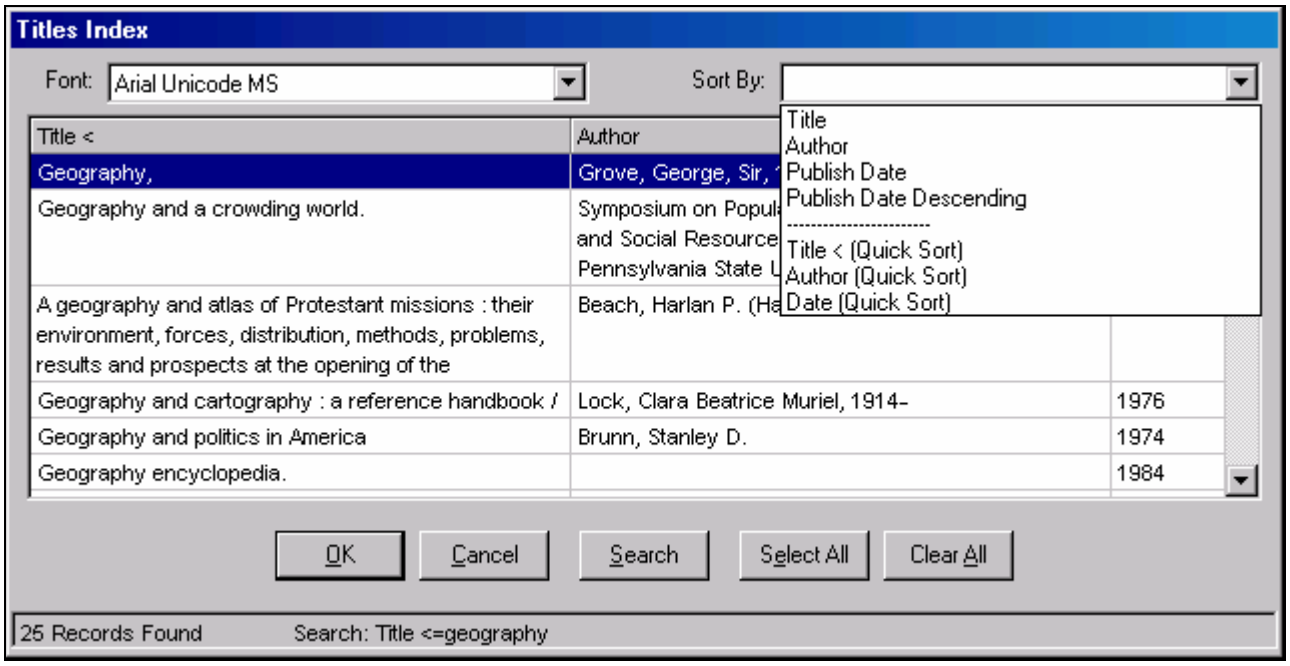


Figure 14: Re-sorting options in the Cataloging client

Existing Functionality
Currently, WebVoyáge displays the Sort By drop down list after a successful search returns a list of titles. If the search does not use relevance, then four options are displayed in the drop down list: Title, Author, Publish Date, and Publish Date Descending. If the search uses relevance, then relevance is one of the options displayed in the list for sorting. This enables the operator to re-sort the result set in its original form.

The five sorting options in WebVoyáge are static; customers cannot change the values, re-order them, or add values to the list.

The WebVoyáge Sort By drop-down list appears when a non-headings search is performed against the local database or a single remote Voyager database. The list does not appear for headings searches as headings do not contain bibliographic data and cannot be sorted by the options in the list. In addition, the drop-down list does not appear for Z39.50 connections, remote connections to non-Voyager databases, or simultaneous searches of multiple Voyager databases.

The initial sort order for searches is specified on the Sort Order tab in System Administration > Search > Indexes – Keyword Definitions. After selecting a Sort By option from the drop down list, the search query is re-executed and the results are displayed in order by the selected value. The original sort order is lost and cannot be recreated except in the situation of relevance searches as the Sort By option only allows for one sort criterion instead of three.

Client Configuration
The options for setting client re-sort are configured locally on each PC running Voyager clients using the voyager.ini file. Because the sort options apply to all result sets in the Voyager staff clients, the values are set under the [GlobalLog] stanza as noted below.

```
[GlobalLog]
ServerSortList=Y
ASCIISortList=N
ASCIISortColumn=N
```

IMPORTANT: To use this feature you must add the [GlobalLog] stanza and the SortList variables to the voyager.ini file on each PC with staff clients. However, the [GlobalLog] stanza does not need to be present for the default values to be effective, as they are programmed into the voyager.dll. The default values are indicated in the sample [GlobalLog] stanza, above. You can, however, overwrite the default values by specifying exact values in the [GlobalLog] stanza.

- ServerSortList applies to the Voyager-aware sorting via a drop-down menu (default is Yes)
- ASCIISortList applies to the ASCII sorting via a drop-down menu (default is No)
- ASCIISortColumn applies to the ASCII sorting via clicking the column headers (default is No)

If ServerSortList and ASCIISortList are both set to No, then the Sort By drop-down menu does not display on Search Results screens. If ServerSortList and ASCIISortList are both set to Yes, then a dividing line appears in the list separating the two sets of sort options. The separator does not appear if only one sort option is set to Yes.

NOTE: There are additional variables that can be defined in the [GlobalLog] stanza, specifically, and the voyager.ini file, in general. For more information, the *Voyage 6.1 Technical User's Guide*.

ServerSortList=
This parameter enables the Sort By drop-down menu on the search results screens in the Cataloging, Circulation, and Acquisitions modules. The default value for this parameter is "Yes."

This feature is modeled after the WebVoyáge Sort By feature. The Sort By drop-down list appears at the top of bibliographic result sets on the right side of the header next to the Font Selection drop-down list. According to WebVoyáge functionality, four values always appear in the drop-down list.

1. Title
2. Author
3. Publish Date
4. Publish Date Descending

A fifth option, Relevance, only appears in the drop-down list when a relevance search is performed.

When you select one of these options, the search is automatically re-executed against the server using the selected re-sort option to order the result set. If the user selects another option, the search is performed again, re-sorting the results by the newly selected option. Unless indicated by the menu item, the results are sorted in ascending order, recognizing non-filing characters.

If a search result set is truncated to a maximum of 10,000 results, then the re-sort option retrieves different results than the original result set since the order by parameter is different. Note that there is not an option to reduce the size of the sorted result set to less than 10,000 records in this situation as there is for WebVoyáge functionality.

ASCIISortList=

This parameter enables the Sort By drop-down menu on the search results screens in the Cataloging, Circulation, and Acquisitions modules. From this menu, Quick Sort items, which are user-defined in the System Administration module, are made available.

Each entry in the drop-down list is noted as a Quick Sort option, for example “Title (Quick Sort).” The Quick Sort options are exactly the same as the three columns that display in the results set. The three columns of data that display are the fields defined on the Search Results tab in System Administration for the particular index used in the initial search.

When you select one of the Quick Sort options, the existing result set will be re-sorted by using the Windows sort utility (ASCII sort) in ascending order. An operator may select the same entry a second time to re-sort the result set by this column in descending order.

NOTE: Relevance is not available in this list even if it is displayed in the results list.

ASCIISortColumn=

This parameter allows you to click the column headers on search results screens to re-sort the search results in the Cataloging, Circulation, and Acquisitions modules. As with the Quick Sort option, the result set is re-sorted using the Microsoft Windows ASCII sort utility.

When the column header is clicked, the results are re-sorted in ascending order. A second click of the same column heading re-sorts the results in descending order. For example, if the initial sort, as specified in System Administration, is in alphanumeric order by Title, clicking the Author column (if applicable) re-sorts the list in ascending alphanumeric order by the Author. Clicking the Author column a second time re-sorts the list in descending alphanumeric order by Author.

Searches Available for Sorting

The Sort By drop-down list only appears at the top of Voyager bibliographic result sets that display a list of titles. The following list of searches by display the Sort-By drop-down list in the result set display.

- Keyword, Index Selection or Builder searches
- Keyword searches with relevance and without relevance
- MFHD keyword searches
- Command line searches with relevance and without relevance
- Date searches
- Find searches
- Left anchored non-headings searches
- Selections on headings lists of headings with multiple titles

The Sort By drop-down list also appears for Remote Connections to a single Voyager catalog.

Searches Not Available for Sorting

The Sort By drop-down list does not appear at the top of Voyager bibliographic result sets meeting any of the following criteria.

- Headings list
- Browse searches
- Remote Z39.50 connections
- Remote connections to non-Voyager catalogs
- Remote connections to multiple Voyager catalogs

OCLC ocn9 Support in Voyager

OCLC expects that on or after November 1, 2006 they will introduce a nine digit OCLC Control Number. Currently the format for OCLC Control Numbers is a three character prefix (ocm), followed by an eight digit number and a trailing space (e.g., ocm99999999). Starting with record number 100000000, the prefix will be ocn, the number will be nine digits in length and have no trailing space (e.g., ocn100000000).

Voyager 6.1 is programmed to be able to handle both the ocm and ocn prefixed numbers. To accommodate this change the normalization rules have been updated for the following indexes. No new indexes have been created.

- System Number for de-duping (035a) where the index code is 0350
- System Number (035a) where the index code is 035A

ISBN-13 Support in Voyager

Effective January 1, 2007, the International Standard Book Number (ISBN) will be expanded from a 10-digit to a 13-digit number. The new ISBN the same as the European Article Number (EAN) which is represented as a barcode printed on most trade and paperback book. The Voyager 6.1 release provides ISBN-13 support, including new indexes and modifications to EDI messages necessary for 13-digit ISBN numbers.

EDItEUR, the group responsible for standardizing EDI messages, published a series of recommendations for libraries and vendors as the library community moves to the 13-digit ISBN. Voyager has been modified in several ways to address this transition.

ISBN-13 Implementation in Voyager

The Voyager implementation of ISBN-13 support includes changes that affect following.

- Indexes
- EDI/Acquistions

The new 13-digit ISBN, as mentioned above, is the same as the EAN, which is currently stored in the MARC 024 ‡a field with a first indicator 3. The book industry uses 978 or 979 as prefixes for the EAN, as does the new 13-digit ISBNs.

Indexes
To ensure appropriate indexing, Voyager has been modified to contain a composite index containing both the 020 ‡a (home of the 10-digit ISBN) and the 024 ‡a (with first indicator 3), if the EAN begins with 978 or 979. This change updates the existing "ISBL" index.

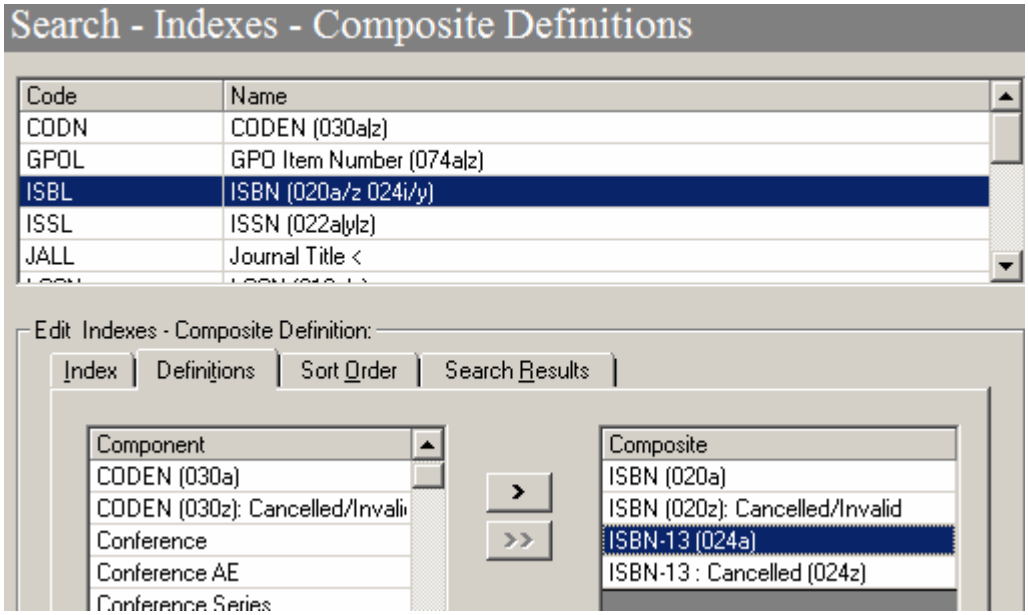


Figure 15: ISBL index definitions in System Administration

In addition, to support the composite index, three single-field indexes have been created; an "ISBN-13 (024a)" index (index code 024I), an "ISBN-13: Cancelled (024z)" index (index code 024Y) and an "ISBN (ISBN-13s will match ISBN-10s)" index (index code ISB3). The first two indexes use a new normalization rule that only indexes subfields with 13 digits and begin with 978 or 979. The last index uses a new normalization rule that indexes 10-digit ISBNs as 13-digit ISBNs in addition to indexing 13-digit ISBNs. If parenthetical indicators appear after the ISBN-13 for the 024 indexes or after the ISBN-10 for the ISBN3 index, they are ignored.

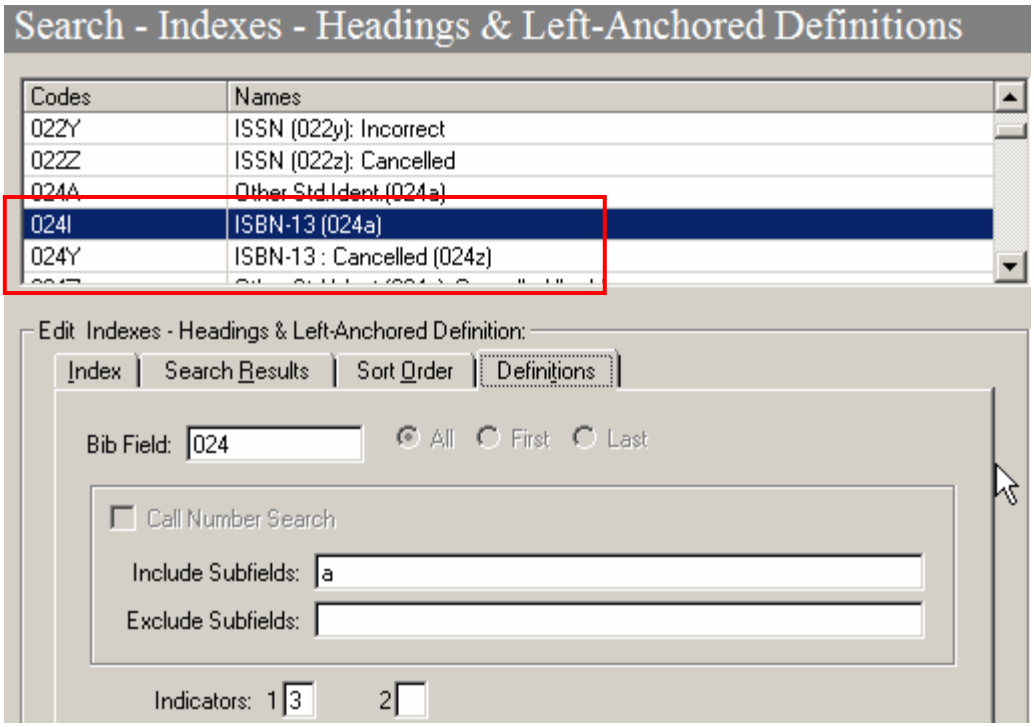


Figure 16: New ISBN-13indexes in System Administration (024)

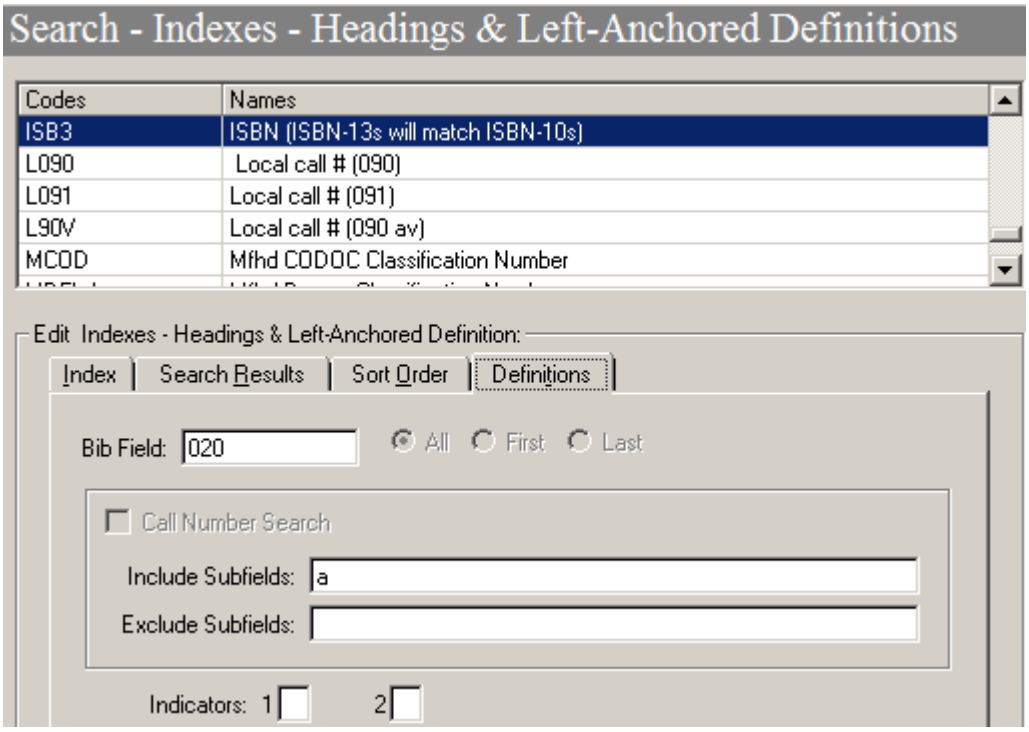


Figure 17: New ISBN-13 indexes in System Administration (ISB3)

NOTE: The creation of the ISB3 index may cause errors to appear in log.indexgen produced during your upgrade. They appear as: `"Failed to add ISBN-13 to Bib Record #####".` This error means that the 020‡a did not contain a valid 10-digit ISBN for the bibliographic record specified. A similar message will

appear when saving a record in cataloging without a valid 10-digit ISBN in the 020‡a, but that is a warning and not an error.

ISB3 Left-Anchored Searching
Search text entered to search the ISB3 index is converted/normalized using the same rules followed to create the ISB3 index. As a result, the enduser may enter either ISBN-10 or ISBN-13 formatted data in searches utilizing the ISB3 index to find matching data.

Deduplication
The ISB3 index may be used in deduplication profiles. When the ISB3 index is used in a deduplication profile, incoming records with ISBN-13 formatted data in the 020 fields match existing records with the equivalent ISBN-10 formatted data. The ISB3 index is built to handle these occurrences.

Keyword Indexing/Searching
When building the keyword index, the bibliographic record's 020‡a is examined for ISBN-10 formatted data. Prior to building the index, a process is sued to duplicate and convert data in a manner that generates indexed data that enables the enduser to complete a keyword search for either the ISBN-10 or ISBN-13 form of the data.

Table 2 summarizes the index changes for ISBN-13.

Table 2: ISBN-13 Support Indexes Added

Index Name	Index Code	Description
ISBN-13 (024a)	024I	Single-field, left-anchored index for 024 3_‡a with a search code of 024I. NOTE: Only subfields that contain 13 digits and begin with 978 or 979 are indexed; and only the 13 digits are indexed. Any parenthetical qualifiers are ignored.
ISBN-13 : Cancelled (024z)	024Y	Single-field, left-anchored index for 024 3_‡z with a search code of 024Y. NOTE: Only subfields that contain 13 digits and begin with 978 or 979 are indexed; and only the 13 digits are indexed. Any parenthetical qualifiers are ignored.
ISBN (ISBN-13s will match ISBN-10s)	ISB3	Single-field, left anchored index for 020‡a with a search code of ISB3.

EDI/Acquisitions
The 10-digit ISBN is transmitted in the EDI message's PIA segment, while the 13-digit ISBN is expected to appear in the LIN segment. Since 13-digit ISBNs are ordinary EAN numbers, they are coded as EANs in EDI messages and not as ISBNs.

During 2006, libraries and vendors anticipate using a combination of 10- and 13-digit ISBNs; even after January 1, 2007, it's unlikely that only 13-digit ISBNs will be used for every publication represented in an EDI message.

ISBN–13 in Invoices
Voyager recognizes the ISBN-13 in the LIN element, qualified as an EAN (978 or 979 prefix), which looks like:

LIN+5+9781234567890:EN.

Invoices may have contained these LIN values in the past, since they are valid EANs at present.

When incoming EDI invoices are loaded, Voyager attempts to match invoice line items against existing PO line items using a variety of criteria. Voyager continues to match the 10-digit ISBN in the PIA segment against the 020 ‡a index (at least until 2007). In addition, if there is no PIA value, then Voyager has been modified to attempt a match between the EAN found in the LIN segment of the EDI invoice and the 024A index for a 13-digit ISBN. If there is no match with the 024A index, the 020A index is search for a matching 13-digit ISBN.

ISBN–13 in Purchase Orders

Through 2007, when Voyager generates purchase orders, the ISBN from the first 020 ‡a in the MARC record is placed in the EDI PIA segment with an "IB" suffix. This is how previous versions of Voyager populated the PIA segment. After the library community fully shifts to ISBN-13, Endeavor may consider eliminating this procedure in favor of storing the 13-digit ISBN in the LIN segment as described below.

Note that only 10-digit ISBNs are placed in the PIA segment to avoid possible confusion for vendors; if the 020 ‡a does not contain an ISBN with 10 digits, it is not placed in the PIA segment. Instead, if the 020 ‡a contains a 13-digit ISBN that begins with either "978" or "979", Voyager stores that information in the LIN element as an EAN.

If no 020 ‡a is found in the MARC record, Voyager looks for and uses data in the 024 ‡a (first indicator 3), provided that the EAN begins with "978" or "979". This data is placed in the LIN segment, qualified as an EAN. Only the first 024 ‡a found is placed in the LIN segment at this time.

ISBN–13 in Serial Claims and Claim Responses

No changes have been made to the EDI processing for serials claims and claim responses, as these types of messages should not contain ISBN data.

- Editeur guidelines: these guidelines are likely what most trading partners will use. The basic rule for EDI is that the ISBN-13 will be encoded in the LIN segment as an EAN, and a PIA will contain the 10-digit ISBN as an ISBN (with an IB suffix). After January 1, 2007, the PIA segment should no longer be used, although we will not enforce this in this release.
- ISBN 13: OCLC interim support: this document covers OCLC's interim plan for supporting ISBN-13. OCLC will maintain ISBN-13's in the EAN field of bibliographic records indefinitely.

Acquisitions

Updating Foreign Currencies for Outstanding Commitments

With Voyager 6.1, *any* line item copy which has not been invoiced or is not a prepay is eligible for currency updating. The goal of this feature is an accurate rendering of outstanding budget commitments.

Overview

Currently, the adjustment of foreign currencies to reflect the most current exchange rates is limited to approved purchase orders and purchase orders for which all of its line items are adjustable. This new functionality refers specifically to items with a status of "Received Partial" and, tangentially, to subscription line item types. Acqjob -5 has been update to adjust all outstanding commitments.

An entire purchase order should not be omitted from adjustment simply because one of its line items is ineligible for adjustment. Even though the currency rate lives at the purchase order level, it is acceptable to

have a prepaid line item or an already invoiced copy that has a different exchange rate than the one reflected in the purchase order header.

Existing Functionality
Acqjob –j5 modifies orders that are:

1. not in the base currency
2. have a PO type other than exchange, gift, or depository
3. have PO status of Approved
4. have no line items with prepaid amounts
5. have no line items that have been invoiced
6. have some commitments
7. have line items whose ledgers are in the current open fiscal period

If the exchange rate on the PO differs from the currently stored exchange rate, the line item commitments are recalculated when Acqjob -5 is run. The results are logged to a file on the server.

Purchase Orders Updated with Acqjob 5
When the batch job is run, the system considers the following criteria when determining which POs are adjusted by this job:

- The Purchase Orders must be in a currency other than the base currency.
- The Purchase Orders must have a status of Received Partial or Approved/Sent.

For each PO that meets the above criteria, the system adjusts all outstanding commitments, omitting line-item copies that are covered by prepays or have already been invoiced.

A currency rate fluctuation may cause funds to be over committed. If this occurs, the details are reported in the log file. Also, this information is available in the various fund workspaces of the Acquisitions module.

Note: Purchase Orders with a status of Pending, Received Complete, Complete, and Canceled are not considered for adjustment by this job. If a PO has a status of Pending, the system automatically adjusts currency rates when the PO is opened in the Acquisitions client.

Additional Considerations for Acqjob 5
The user can limit the POs considered for adjustment by specifying any of the following criteria on the command line: Currency Codes, Ledger Names, Order Types, and Vendor Codes.

Table 3 lists the optional parameters that the user can specify individually or in tandem with the Pacqjob –j5 batch job. Note that all the parameters listed in Table 3 have been added to WebAdmin. For more information about running the batch job, please see the *Voyager 6.1 Technical User's Guide*.

Table 3: Acqjob 5 Batch Job Parameters

Parameter	Required?	Description	Example
-c	No; if the parameter is absent, all currency rates will be considered.	Invoking the –c parameter means that the user only wants to update commitments using particular currency rates. The parameter should be followed by one or	-c "EUR, CND"

		more currency codes, comma delimited if there are multiples.	
-p	No; if absent, all vendors will be considered.	Invoking the –p parameter means that the user only wants to update commitments that are linked to specific vendors. The parameter should be followed by one or more vendor codes, comma delimited if there are multiples.	-p “EBSCO, B&T”
-m	No; if absent, all funds will be considered.	Invoking the –m parameter means that the user only wants to update commitments that are linked to specific ledgers. The parameter should be followed by one or more ledger names, comma delimited if there are multiples.	-m “FY05, Fiscal 2004”
-t	No; if absent, all order types will be considered.	Invoking the –t parameter means that the user only wants to update commitments that are linked to specific purchase order types. The parameter should be followed by one or more purchase order type names, comma delimited if there are multiples.	-t “Firm, Continuation”

Note: some of the parameter value examples contain double quotes. This is a UNIX rule to force the shell to interpret the spaces and any other punctuation as part of the argument. If only one code or name is listed, the quotes are not strictly necessary (provided there’s no punctuation or spaces in the value).

Rules for Acqjob –j5

When acqjob –j5 is executed without any of the above parameters, the system uses the following logic:

1. POs with foreign currencies are eligible for adjustment.
2. PO status check
3. Any purchase order with a status of Approved/Sent, or Received Partial (new) is eligible for adjustment.
4. Any PO with a status of Pending, Received Complete, Complete, or Canceled is not eligible.
5. Pending is ineligible because its currency rate is updated automatically when the PO is opened in to the client.
6. PO type
7. Any purchase order type is eligible for adjustment. Gift, exchange, and depository purchase order types are note eliminated. (new)

If any parameters are included when the job is run, the system makes the following checks.

1. If –c (currency codes) is specified, only those POs that are linked to the listed currency code(s) are considered for adjustment; all others are ignored.
2. If –p (vendor code) is invoked, only those POs that are linked to the listed vendor code(s) are considered for adjustment; all others are ignored.
3. If –m (ledger name) is invoked, only those POs that are linked to the listed ledger name are considered for adjustment. Note that all line items on the PO will be adjusted because in practice, operators don’t generally use more than one ledger per PO.
4. If –t (order type) is invoked, only those POs that are linked to the listed order type(s) are considered for adjustment; all others are ignored.

Once the system has executed the purchase order checks outlined above, line items are examined on a case-by-case basis. An entire PO is not eliminated simply because one of its line items cannot be adjusted.

1. For any selected purchase order, all outstanding commitments are updated to use the new currency exchange rate. Line item copies that are covered by prepays or are invoiced will not be touched.
2. The log currently reports the following information.
    a. PO number
    b. PO type
    c. PO status
    d. Vendor
    e. Currency
    f. Line item fund
    g. Price in the foreign currency
    h. Conversion rate prior to adjustment
    i. Conversion rate after adjustment
    j. Commitment amount in base currency after adjustment. If the new commitment causes the fund's total commitments to exceed the limit, this amount is annotated with "(Overcommit)".

Note that this data is repeated for every line item that is adjusted.

Acquisitions Client
When the operator selects the "Show in base currency" button for a PO that has a line item with both two different rates, the system displays the message "This purchase order contains line items with prepaid copies that were expended at a different currency conversion rate than the current conversion rate."

Universal Borrowing

UB Barcode Lookup in Circulation

In the Circulation Client in Voyager 6.1, the UB Barcode Lookup feature automatically determines the Circulation cluster of patrons and items in Universal Borrowing (UB) or multi-cluster environments during charges, discharges, and patron searches, reducing the effort required by circulation clerks to determine the Circulation cluster of the patron or item.

Configuration files are used to enable the feature and to define the barcode patterns that the system uses to determine which patron/item barcodes are associated with a particular cluster or database within a UB or multi-cluster environment.

Overview
There are three dialog boxes in the circulation client where users are prompted to enter patron or item barcodes and select the location to which the barcode is associated.

1. The "Charge" dialog box that is access by clicking the "Charge" icon on the toolbar.
2. The "Discharge" dialog box that is access by clicking the "Discharge" icon on the toolbar.
3. The "Patron Search" dialog box that is accessed by clicking the "Patron" icon on the toolbar.

To facilitate the barcode lookup functionality, a consortium-wide system administrator must create a configuration file containing barcode patterns, which are copied to every Voyager server in the consortium. Local system administrators may choose to edit the configuration file to suit their own preferences for behavior of the Circulation client.

Configuration Files
The following files are used to configure the UB Barcode Lookup feature.

- voyager.env file
- UB Barcode Lookup configuration file

Voyager.env File

The UB_BARCODE_CONFIG environment variable enables the auto-selection of local clusters for patron and item barcodes during charges, discharges, and patron searches. By default, the UB_BARCODE_CONFIG environment variable appears as follows in the **/m1/voyager/xxxdb/ini/voyager.env** file:

```
#export UB_BARCODE_CONFIG="$VOYAGER/$DATABASE/ini/ub_barcode_config.xml"
```

To enable auto-selection of barcodes, uncomment the line and modify the path and file name if different from the default. If the configuration file has not been created, the feature does not become active until the configuration file is created and the Circulation module is restarted.

UB Barcode Lookup Configuration File

The UB Barcode Lookup Configuration file contains the cluster, database, and barcode patterns that the system uses to determine the local cluster of a patron or item barcode during charges, discharges, and patron searches from the Circulation client.

Creating the UB Barcode Lookup Configuration File
It is recommended that a single configuration file be created and maintained by the consortium administrator. A copy of this file must be installed and enabled via the voyager.env file for each database in the consortium.

Before creating the configuration file, verify that all UB and cluster data is configured properly in the database tables (Voyager_Databases and Remote_Circ_Cluster_Cache) since they are used to create a skeleton configuration file.

To create the UB Barcode Lookup Configuration file, perform the following steps:

1. Enter the following command from the /m1/voyager/xxxdb/sbin directory:
   ./PgenUBBarcodeConfig

   Result: If the ub_barcode_config.xml file already exists in the /m1/voyager/xxxdb/ini directory, you will be asked to create a new file. Otherwise, a skeleton configuration file is created.

2. Open the file you created in Step 1.

3. For each <Patron></Patron> block and <Item></Item> block, enter a list of barcode patterns (regular expressions) that the system will use to distinguish the Circulation cluster of patron or item barcode.

Note: If the same pattern is used for more than one cluster, the system returns multiple matches while using this feature in the Circulation module.

Figure 18 shows a sample configuration file that has been created using the PgenBarcodeConfig command. Note that the <Patron></Patron> and <Item></Item> blocks are empty and must be filled in manually.

```
<?xml version="1.0" encoding="UTF-8"?>
<Consortium>
   <Flag>
      <TryLocalClusterFirst>false</TryLocalClusterFirst>
      <UseFirstMatchingPatronCluster>false</UseFirstMatchingPatronCluster>
      <UseFirstMatchingItemCluster>false</UseFirstMatchingItemCluster>
   </Flag>
   <Cluster>
      <DatabaseName>Endeavor University</DatabaseName>
      <DatabaseKey>DEMODB20010103090647</DatabaseKey>
      <ClusterName>Endeavor Training Database</ClusterName>
      <ClusterId>1</ClusterId>
      <Patron>
      </Patron>
      <Item>
      </Item>
   </Cluster>
   <Cluster>
      <DatabaseName>Aimer University</DatabaseName>
      <DatabaseKey>AIMERDB20010402131039</DatabaseKey>
      <ClusterName>Aimer University</ClusterName>
      <ClusterId>1</ClusterId>
      <Patron>
      </Patron>
      <Item>
      </Item>
   </Cluster>
   <Cluster>
      <DatabaseName>Blake College</DatabaseName>
      <DatabaseKey>BLAKEDB20010402160646</DatabaseKey>
      <ClusterName>Blake College</ClusterName>
      <ClusterId>1</ClusterId>
      <Patron>
      </Patron>
      <Item>
      </Item>
   </Cluster>
   <Cluster>
      <DatabaseName>Cooper Community College</DatabaseName>
      <DatabaseKey>COOPERDB20020910104124</DatabaseKey>
      <ClusterName>Cooper Community College</ClusterName>
      <ClusterId>1</ClusterId>
      <Patron>
      </Patron>
      <Item>
      </Item>
   </Cluster>
   <Cluster>
      <DatabaseName>Dyer State University</DatabaseName>
      <DatabaseKey>SYERDB20010103091142</DatabaseKey>
      <ClusterName>Dyer State University</ClusterName>
      <ClusterId>1</ClusterId>
      <Patron>
      </Patron>
      <Item>
      </Item>
   </Cluster>
</Consortium>
```

Figure 18: Sample UB configuration file

Table 4 describes the fields used in the UB Barcode Lookup Configuration file.

Table 4: Fields used in the UB Barcode Lookup Configuration file

Tag Name	Description
<Flag>	This field is used to define initial criteria considered by the system to determine the local cluster of a patron or item. It contains the following subfields: • <TryLocalClusterFirst> • <UseFirstMatchingPatronCluster> • <UseFirstMatchingItemCluster> XPath: Consortium/Flag
<TryLocalClusterFirst>	If set to true, this flag indicates that the system will search the local cluster for a match first. If no match is found, the system compares the patron or item barcode to the barcode patterns specified in the configuration file to determine the cluster. If a matching pattern is found, the system uses the cluster that contains the matching pattern; otherwise, the system prompts the user to select a cluster from a drop-down menu. If set to false, the system uses the <UseFirstMatchingPatronCluster> or <UseFirstMatchingItemCluster> flags to find the local cluster of the patron/item. Note: This flag has precedence over the other flags. Default: true XPath: Consortium/Flag/TryLocalClusterFirst
<UseFirstMatchingPatronCluster>	If set to true, this flag indicates that the system compares the patron barcode with the patron barcode patterns in the configuration file. If a match is found, the system tries the first matching cluster. If set to false, the system compares the patron barcode with the patron barcode patterns in the configuration file. If multiple matches are found, the system prompts the user to select a cluster from a drop-down menu. Note: The <TryLocalClusterFirst> flag has precedence over this flag. Default: false XPath: Consortium/Flag/UseFirstMatchingPatronCluster

<UseFirstMatchingItemCluster>	If set to true, this flag indicates that the system compares the item barcode with the item barcode patterns in the configuration file. If a match is found, the system tries the first matching cluster. If set to false, the system compares the item barcode with the item barcode patterns in the configuration file. If multiple matches are found, the system prompts the user to select a cluster from a drop-down menu. Note: The <TryLocalClusterFirst> flag has precedence over this flag. Default: false XPath: Consortium/Flag/UseFirstMatchingItemCluster
<Cluster>	This field is used to define the barcode patterns for each cluster in the UB or multi-cluster environment. It contains the following subfields: • <DatabaseName> • <DatabaseKey> • <ClusterName> • <ClusterID> • <Patron> • <Item> NOTE: The system automatically populates the cluster field for each cluster defined in the UB or multi-cluster environment. The consortium administrator will need to add the barcode patterns manually. XPath: Consortium/Cluster
<DatabaseName>	For each cluster, the system automatically populates the database name during creation of the configuration file. Data Source: VOYAGER_DATABASES.db_name XPath: Consortium/Cluster/DatabaseName
<DatabaseKey>	For each cluster, the system automatically populates the database key during creation of the configuration file. Data Source: VOYAGER_DATABASES.db_key XPath: Consortium/Cluster/DatabaseKey
<ClusterName>	For each cluster, the system automatically populates the cluster name during creation of the configuration file. Data Source: REMOTE_CIRC_CLUSTER_CACHE.cluster_name XPath: Consortium/Cluster/ClusterName

<ClusterID>	For each cluster, the system automatically populates the cluster ID during creation of the configuration file. Data Source: REMOTE_CIRC_CLUSTER_CACHE.remote_circ_cluster_id XPath: Consortium/Cluster/ClusterID
<Patron>	For each cluster, the system automatically populates an empty <Patron> </Patron> block, which is used to manually define the barcode patterns that the system uses to determine the local cluster of the patron barcode. XPath: Consortium/Cluster/Patron
<BarcodePattern> (patron)	A list of regular expressions that represent the barcode patterns for each database/cluster. Important Note: in order to truncate the barcode pattern, the prefix must be followed by a ".*" (period asterisk) as shown in the example below. <Patron> <BarcodePattern>66.*</BarcodePattern> <BarcodePattern>10301.*</BarcodePattern> </Patron> XPath: Consortium/Cluster/Patron/BarcodePattern
<Item>	For each cluster, the system automatically populates an empty <Item> </Item> block, which is used to manually define the barcode patterns that the system uses to determine the local cluster of the item barcode. XPath: Consortium/Cluster/Item
<BarcodePattern> (item)	A list of regular expressions that represent the barcode patterns for each database/cluster. Important Note: in order to truncate the barcode pattern, the prefix must be followed by a ".*" (period asterisk) as shown in the example below. <Item> <BarcodePattern>CL.*</BarcodePattern> </Item> XPath: Consortium/Cluster/Item/BarcodePattern

Maintaining the Configuration File

After the skeleton file is created by the utility, the system-wide consortium administrator must edit the file and add barcode patterns for every cluster within the consortium, which has a uniquely identified barcode pattern.

The file must be updated when any of the following events occur:

1. Cluster is added.

2. Cluster is deleted.
3. UB database is added.
4. UB database is deleted.
5. Changes to any patron or item barcode pattern.

The file does not need to be updated in response to changes in database names, database codes, cluster names, or cluster codes.

Configuration File Validation
The format and consistency of the configuration file (ub_barcode_config.xml) is validated each time the Circulation module starts up and attempts to read the barcode patterns from the UB Barcode Lookup configuration file.

If the configuration file contains format errors, an entry is placed in the `/m1/voyager/xxxdb/log/log.circsvr` file. For example, Figure 19 shows a log entry which indicates that an invalid value, "`flase`" instead of "false," has been entered for a field on Line 6 of the configuration file.

```
circsvr[4694] - ERROR - Thu Oct 27 14:16:28 2005
- LoadBarcodeTables - BarcodePatternTable.cpp[454]
- ReqCirculationDefaults
- vSession::route_request
- vSession::Run
SAXParseException: Expecting true or false; got flase
System ID: /m1/voyager/xxxdb/ini/
ub_barcode_config.xml
Public ID:
Line: 6
Column: 39
```

Figure 19: UB Configuration Schema File

New Functions for Circulation Client
An additional default value of "<Auto-select from barcode>" is present in the "Library" drop-down list boxes. This value appears in both the patron and item library drop-downs for charges (see Figure 20), for the item for discharges (see Figure 21) and for patron searches (see Figure 22). This list choice is always presented as the default value, regardless of how the flags are set in the configuration file.

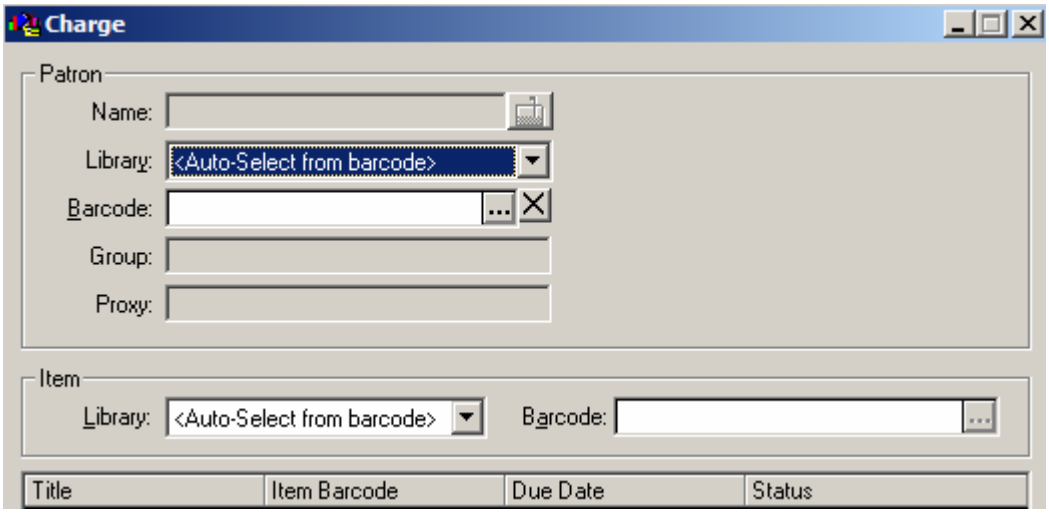


Figure 20: Charge Dialog Box with Auto-Select Enabled

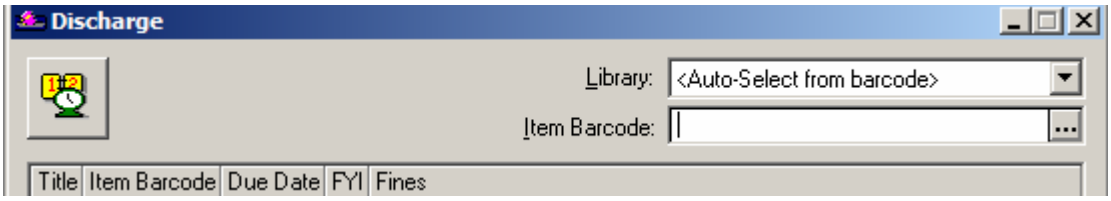


Figure 21: Discharge Dialog Box with Auto-Select Enabled

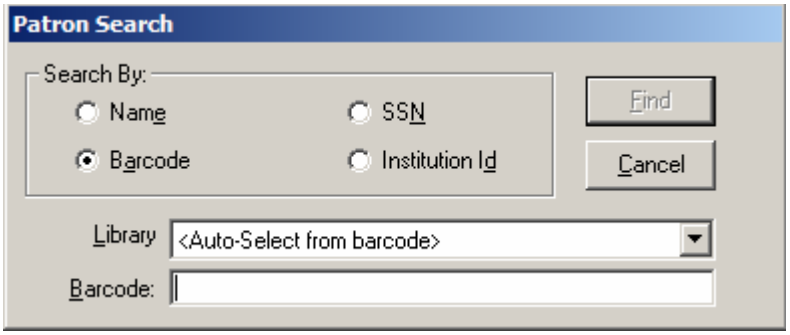


Figure 22: Patron Search Dialog Box with Auto-Select Enabled

When "<Auto-select from barcode>" ***is*** selected, Voyager uses the rules from the configuration file to determine the circulation cluster with which a barcode is affiliated.

Error Processing

- When no matching clusters are found, Voyager presents a dialog box to the user, as illustrated below.

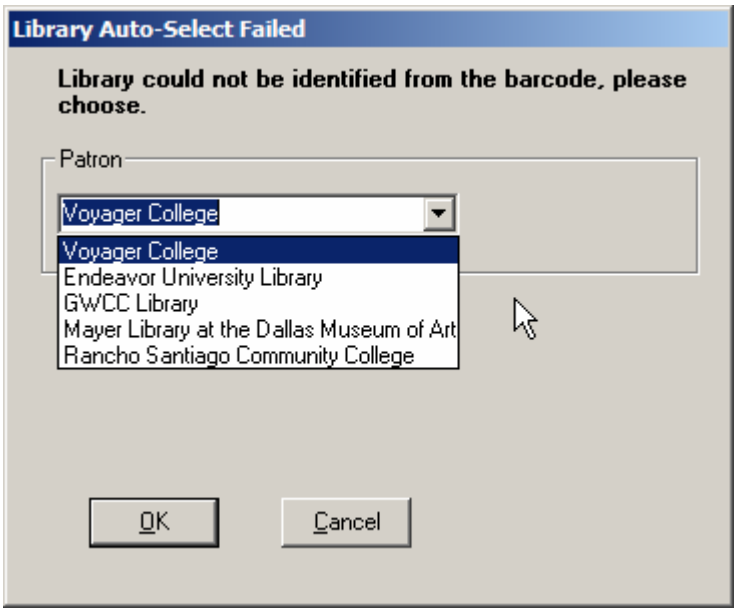


Figure 23: No Matching Cluster Dialog Box

The list box is populated with the entire set of clusters in the consortium.

When “OK” is clicked by the user, the dialog box closes and the transaction is performed using the selected cluster.

NOTE: If the transaction fails, the dialog box is redisplayed.

When “Cancel” is clicked by the user, the window is closed and the focus is returned to the previous dialog box.

- When multiple matching clusters are found and cluster ranking is turned off, Voyager presents a dialog box to the user, as illustrated below.

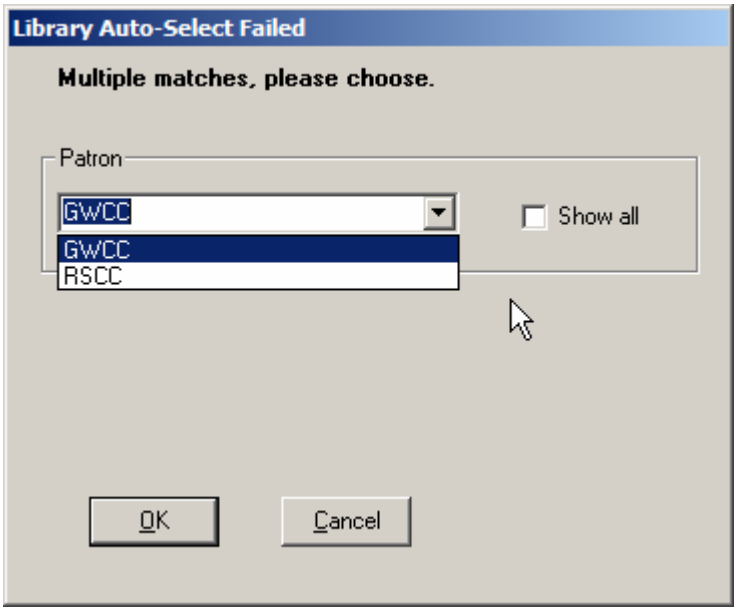


Figure 24: Multiple Matching Cluster Dialog Box

The list box is populated with the matching clusters in the consortium.

When the user checks “Show all”, the list box is populated with the names of all clusters in the consortium.

When “OK” is clicked by the user, the dialog box closes and the transaction is performed using the selected cluster.

NOTE: If the transaction fails, the dialog box is redisplayed.

When “Cancel” is clicked by the user, the window is closed and the focus is returned to the previous dialog box.

- When “<Auto-select from barcode>” ***is not*** selected, Voyager behaves as it has in prior product releases.

UB Barcode Lookup in WebVoyáge

This feature adds support for UB barcode lookup tables in WebVoyáge and builds on the patron barcode lookup tables created for use with the Circulation client. This feature allows patrons to log in to WebVoyáge without first selecting an institution.

A new “Brief Logon” page appears if the brief logon option is selected in the opac.ini file. The brief logon page includes only ID, last name, and an optional PIN field. If this is not enough information to attempt a logon, then the “classic” patron logon form displays.

Configuration Files
A new key has been added to the opac.ini file [Options] stanza that turns the feature on or off.

```
BriefLogon=N    (N is the default value)
```

A new stanza has been added to the opac.ini file, located in alphabetical order among the other page definitions, named the [Brief_Logon_Page].

```
[Brief_Logon_Page]
Background=
Text=
BGCOLOR=
LINK=
VLINK=
ALINK=
LastName=Last Name:
SubmitButton=Login
ResetButton=Reset
PIN=PIN:
ID=ID Number:
```

A new .html fragment file has been added named *patronbriefnomatch.htm*. This message displays if the system is unable to identify the patron and provides the “classic” login page, allowing the patron to select their home library.

```
<B><FONT SIZE=+1 COLOR="PURPLE">
The system could not identify you from your ID number alone. Please choose your home library and ID number type on this form and try again.
<BR>
Retry your request or ask for help at the Circulation or Reference Desk.
</FONT></B>
```

Rules for UB Barcode Lookup in WebVoyáge
If the BriefLogon= variable in the [Options] stanza of the opac.ini file is set to No, then UB barcode lookups precede as in previous releases, that is, patrons are required to select their home library from the drop-down list of participating UB libraries on the logon page. If the BriefLogon= entry is set to Yes, the following rules apply.

If Universal Borrowing is enabled for the database:
The new Brief Patron Logon page appears when patrons try to log on. The Brief Patron Logon page is configured using a new [Brief_Logon_Page] stanza in the opac.ini file. The Brief Patron Logon page contains an html form with the following elements:

1. An “ID Number” field.
2. A “Last Name” field.
3. An optional “Patron PIN” field. The patron PIN field displays only if the patron PIN feature is turned on in the [Options] stanza of the opac.ini file. Patron PIN is pre-existing functionality.
4. “Submit” and “Cancel” buttons.

The text that displays for each element is configured using the [Brief_Patron_Login] stanza in the opac.ini file.

When the patron submits the form on the Brief Patron Logon form, Voyager uses the barcode lookup table to attempt to map the patron to a cluster. Barcode lookup resolution takes place using the ID number field and takes place exactly as it does in Circulation when the "<Auto-select from patron barcode>" option is chosen.

If the patron's ID Number matches a barcode pattern that identifies a single cluster, then Voyager tries to log in to that cluster using the full barcode number, patron's last name, and PIN, if applicable.

If the patron barcode does not match a barcode in the target cluster, then the login fails, as in previous releases when the cluster does not contain a matching barcode. In this case, the patron.htm error message displays, as in previous releases.

If the patron's ID Number matches more than one cluster or the barcode lookup does not match any cluster, then the regular patron barcode form displays with the message from the *patronbriefnomatch.htm* file, asking the patron to select their home library from the drop-down list.

If Universal Borrowing is not enabled for the database:
WebVoyáge treats the brief login page as a local login page and attempts to make a barcode login to the local database. If this login fails, then the *patronbriefnomatch.htm* message displays on the "classic" patron login page. Note that the default text in the *patronbriefnomatch.htm* file is UB-specific; customers who are not UB enabled will have to change the message it in this case.

Block local patrons for UB Aggregate Block Limits

In current Universal Borrowing functionality, a patron performing a circulation transaction (charge, request) at their local cluster is blocked from finishing the transaction only if they have incurred blocks within their local cluster. The system does not check to see if the user has incurred blocks in the rest of the UB universe—either at an aggregate level or at individual holding clusters.

In Version 6.1, functionality has been added that prevents a patron from performing a circulation transaction at their local cluster when they have reached one or more of the UB aggregate blocks as defined in their local cluster.

Rules for UB Aggregate Block Limits
To accommodate this feature, a new check box has been added to System Administration > Circulation > Cluster Maintenance form labeled "Block local transactions for reaching UB aggregate limits." The check box populates CIRC_CLUSTER.UBBlockLocalPatrons with "Y" if checked, with "N" if not checked. The checkbox is active only if the UB or the clusters package is turned on for the database.

When the system checks the new CIRC_CLUSTER entry, if 'UBBlockLocalPatrons' = N, current functionality remains in place. If 'UBBlockLocalPatrons' = Y, the system follows new rules for validating and blocking patrons.

The system compares the UB aggregate limits to the patron's current transaction information. Table 5 describes the UB limits and the corresponding block response.

Table 5: UB Aggregate Limits and block responses

UB Aggregate Limit	Aggregate Block Response
Maximum number of UB fines	If PATRON.total_fees_due_ub exceeds UB_PG_HOME_POLICY.max_outstanding_balance, a block condition exists.

Maximum number of UB demerits	If PATRON.total_demerits_due_ub exceeds UB_PG_HOME_POLICY.demerits_limit, a block condition exists.
Maximum UB charges	If PATRON.current_charges_ub exceeds UB_PG_HOME_POLICY.max_item_limit, a block condition exists.
Maximum overdue UB items	If the number of records in UB_CHARGE with a passed (prior to SYSDATE) due_date exceeds UB_PG_HOME_POLICY.overdue_limit, a block condition exists.
Maximum overdue recalled UB items	If the number of records in UB_CHARGE with a past due_date AND a recall_date exceeds UB_PG_HOME_POLICY.overdue_recall_limit, a block condition exists.
Maximum self-shelved UB items	If PATRON.self_shelved_ub exceeds UB_PG_HOME_POLICY.max_self_shelve_limit [sic], a block condition exists.
Maximum claimed returned UB items	If PATRON.claims_return_ub exceeds UB_PG_HOME_POLICY.claim_return_limit, a block condition exists.
Maximum number of lost UB items	If PATRON.lost_items_ub exceeds UB_PG_HOME_POLICY.lost_limit, a block condition exists.
Maximum number of UB requests.	If PATRON.requests_ub exceeds UB_PG_HOME_POLICY.ub_request_limit, a block condition exists

Patron validation in the Circulation client

1. When validating a patron for the charge or request forms, Circulation must look at the new CIRC_CLUSTER.UBBlockLocalPatrons value.
2. If it exists, the checks listed above in step 1 are performed.
3. If one or more of the block conditions are met, the appropriate error message displays to the operator.
    a. All applicable block messages are displayed at the same time to the operator.
    b. The UB error messages already exist in the code; they are applied correctly in this new local transaction scenario.
    c. The operator may have the ability to override the block(s) depending on their security. The security is stored in CIRC_BLOCK_OVERRIDE. Again, this is pre-existing functionality that applies to the local transaction scenario.
        i. If the operator has override privileges, an override button is presented. If the transaction is overridden it is written to the CIRC_TRANS_EXCEPTION table for further reporting.
        ii. If the operator doesn't have override privileges, a Supervisor button is presented, per current functionality.

Clearing blocks in circulation

1. Circulation operators may only clear the following UB aggregate blocks for a local patron. The others must be addressed at the holding cluster(s), where the block(s) originated.
    a. Maximum UB charges.
    b. Maximum self-shelved items.
    c. Maximum claims returned items.
    d. Maximum lost items.

    e. Maximum requests.
2. These blocks must be addressed at the holding cluster(s), where the block(s) originated.
    a. Maximum fines or demerits.
    b. Maximum overdue.
    c. Maximum overdue recalled.

OPAC patron validation

1. When validating a patron at login time, OPAC must look at the new CIRC_CLUSTER.UBBlockLocalPatrons value.
2. If it equals Y, the checks listed in step 1 are performed.
3. If one or more of the block conditions are met, the appropriate block message displays beneath the home cluster's heading on the patron information page.
4. The block messages already display when the patron has hit a block limit. The OAPC does not display the message twice when the patron hits a block limit and 'UBBlockLocalPatrons' = Y.
5. If the user attempts to make a request, he is blocked with the existing error message (norequests.htm).
6. If the user attempts to renew items, the transaction will fail.

Version compatibility

1. There should be no issues with version compatibility because all the new checks are performed within a single cluster. The system doesn't have to make any API calls out to remote clusters/databases.
2. Clusters running versions 5.0 and older will not have the option to block local transactions based on UB aggregate blocks, but that won't interfere with 6.1 clusters using the new functionality.

UB Request Option in Circulation Matrix

Overview

Currently, if a remote patron is mapped into a local patron group, and through WebVoyáge (local or UC) tries to request an item that, based on that patron group/item type matrix cannot have a call slip placed on it, the remote patron *can* place a UB request on this item. The same is true of promoted requests.

This is correct behavior and has, in fact, been the specified behavior of the system since the inception of UB.

This new feature creates a separate UB request checkbox on the Circulation Matrix form. This makes the UB request a standalone option; the ability of a patron to place a request for an item outside of their home cluster depends on this box. The ability to place a UB request will not be tied to the ability to Charge/Renew, place a Call Slip, et al.

The ability to charge the item, either during a walk-in scenario or when the request is filled and available for pickup, still depends on the Charge/Renew flag being turned on in the Circulation matrix for that particular patron/item type combination.

NOTE: The default option after upgrade is to have the UB value take on the same value as Charge/Renew. All sites with Universal Borrowing will need to review all circulation policy matrix settings to ensure that the UB checkbox has the appropriate value (checked or unchecked) for each patron group and item type matrix.

Rules for UB Request in the Circulation Matrix

In System Administration, a new check box as been added to the Circulation > Policy Definitions > Matrix > Settings tab labeled "UB" and follows the "Charge/Renew," "Hold," "Recall," and "Call Slip check boxes.

The checkbox is editable only if the Charge/Renew flag is turned on first. If the Charge/Renew flag is not checked, the UB box and label are grayed out; if the Charge/Renew flag is checked, the UB box is editable.

If you decide to implement this feature, checking the UB check box populates CIRC_POLICY_MATRIX.place_ub_request with "Y." If you decide to discontinue the feature, unchecking the box populates CIRC_POLICY_MATRIX.place_ub_request with "N."

NOTE: If the Charge/Renew check box is not selected, the UB check box is also unavailable. If a user unchecks the Charge/Renew flag and saves the change, the UB check box automatically resets to a blank check box.

Requesting Rules
To determine that an item is eligible for UB requesting by a particular patron group, the system currently checks the CIRC_POLICY_MATRIX.charge_renew value. The matrix is the item type and the patron group into which the remote patron has been mapped.

Existing business rules:
If CIRC_POLICY_MATRIX.charge_renew = Y, the item may be requested using the UB form.
If CIRC_POLICY_MATRIX.charge_renew = N, the item cannot be UB requested by this patron group.

New functionality:
First, the system checks the CIRC_POLICY_MATRIX.place_ub_request to ensure the item is available for requesting by the patron group.
If CIRC_POLICY_MATRIX.place_ub_request = Y, the item may be requested using the UB form.
If CIRC_POLICY_MATRIX.place_ub_request = N, the item may not be requested using the UB form.

Error handling in WebVoyáge remains the same as a typical UB transaction as do other checks for request validity/eligibility. For example, if a patron has incurred blocks at the item's holding library, he will be blocked from placing the request. Once a UB request is processed, all functionality remains the same as it does today.

UB Request Promotion: Circjob –j32
As with the request process, the current circjob –j32 determines the patron's ability to request an item from a cluster by CIRC_POLICY_MATRIX.charge_renew value. 'Y' indicates the patron group can request the item, 'N' indicates he is blocked from doing so.

In Voyager 6.1, request promotion functionality mirrors the rules described in "Requesting Rules," above. The ability for a request to be promoted to a different cluster depends on the value stored in CIRC_POLICY_MATRIX.place_ub_request. "Y" indicates the UB request may be promoted to the new cluster on behalf of the patron; "N" means the item is not eligible for requesting by that patron.

All other checks for request promotion validity/eligibility remain the same. When a UB request is processed, all functionality remains the same as it does today.

WebServices for Meridian

With this upgrade, a patron using WebVoyáge can retrieve and display license, interface, and general product information about an item. This will save a tremendous amount of time for reference staff in not having to field questions about why a particular database isn't currently available, etc.

(Please note that this functionality is available only when both Voyager 6.1 and Meridian 1.5 upgrades have been completed.)

Existing Functionality
Currently in WebVoyáge, display information is controlled by routines in the display*N*.cfg files. The order, format, labels, types of data, etc. are determined by codes like 9000 and 9500. Because of functionality

included in the Voyager 5.0 release, WebVoyáge can also display serials data from XML records using XSL stylesheets and a transformer, so the infrastructure exists for handling Meridian XML records.

WebVoyáge Configuration files

Two new routines may be added to any of the display*N*.cfg files in order to send requests to the Meridian public interface web service. These routines determine the method by which the system invokes Meridian and then displays the resulting information.

- 6000: The page displays a hyperlink that, when clicked, sends the request to a Voyager server to call the web service. The results display in a new browser window.
- 6010: The page is rendered with the Meridian data already embedded in it (the request is sent to the web service when the page is loaded).

```
Database: +No information available
  5000
Main Author:
…

Holdings Information: +No Data Available
  9000
Electronic Resource Information:
  6000 Click for electronic resource policies.
```

Figure 25: Example of the 6000 routine in a displayN.cfg file

When the 6000 routine is used, the text after the routine number contains a hyperlink. In the example shown in Figure 25, “Click for electronic resource policies” would display on the item page as a link. WebVoyáge attempts to retrieve the Meridian product information only if the user clicks the hyperlink.

```
Database: +No information available
  5000
Main Author:
…

Holdings Information: +No Data Available
  9000
Electronic Resource Information:
  6010
```

Figure 26: Example of the 6010 routine in a displayN.cfg file

When the 6010 routine is used (Figure 26), WebVoyáge must make the web service request prior to rendering the page and without any patron mediation.

There are three ways in which the web service can return the results of a request: raw XML, an HTML fragment, or an entire HTML document. Either the raw XML or the HTML fragment response type must be selected for the WebVoyáge instance, and the appropriate server and wrapper sent to the web service.

The response type is defined in the [Meridian] stanza of the opac.ini file and the key is named MeridianWrapper=. The two options are:

- getProductInfo
- getProductInfoAsHTMLFragment

These options correspond to the web service WSDL file. The file also must contain system number code mappings. System numbers in the 035 are preceded by codes in parentheses. The code must be sent in conjunction with the system number or the web service cannot search for the bibliographic utility number in Meridian. Because the bibliographic utility type in Meridian is free text, there's no reliable way to match the string in the 035 $a to the bibliographic utility type. Therefore, a mapping must be established.

In a stanza in the opac.ini file named [Bib Utility Types] lists any system codes. After each code the corresponding Meridian bibliographic utility type will be listed. For example, OCoLC=OCLC.

You can specify as many system codes as necessary, and multiple system codes can map to the same bib utility type.

There are four additional keys in the [Meridian] stanza. One of these determines the text of the error message when no Meridian information comes back for the request. This displays only when the 6000 routine is used and the user clicks the link to open the Meridian info in a new window. For example, NoInformation=No electronic resource information was found for this title.

The Meridian web service address is specified in a key named WebServiceAddress= .

The text of a print and close button is configured with the PrintButtonLabel= and CloseButtonLabel= keys.

Another key determines the text of the message that displays while the Meridian data is being retrieved: WaitMsg=Please wait while we retrieve policies...

An example of the [Meridian] and [Bib Utility Types] stanzas and keys and is shown in Figure 27 below.

```
[Meridian]
MeridianWrapper=getProductInfoAsHTMLFragment
WebServiceAddress=http://145.36.100.80:22080/MWS/services/MeridianInfoSvc
PrintButtonLabel=Push to Print
CloseButtonLabel=Done
NoInformation=This title has no electronic resource information associated with it.
WaitMsg=Please wait while we retrieve policies...


[Bib Utility Types]
OCoLC=OCLC
RLIN=RLIN
```

Figure 27: New stanzas and keys to Web Services

Rules for WebServices

When WebVoyáge sends request to Meridian, the public interface web service expects to look up product information from one or more of eight access points. The MARC record as data source limits those potential access points, however.

In order to limit configuration options, WebVoyáge, by default, sends as many match points as exist in the record. Bib id is the best identifier, but not all Meridian customers link in their bib records.

In addition, the request to the web service must comply with the Meridian MeridianImportExportXMLSchema.xsd. The request sends bib information within one of the two wrapper elements allowed.

1. The wrapper element is determined by the MeridianWrapper= key in opac.ini.
2. Bib id
    a. <ns:attribute type="string" name="resource.ilsRecordId">
    b. Bib id will always be sent.
3. ISSN (if present)
    a. <ns:attribute type="string" name="resource.issn">
    b. This value is in the 022 $a.
    c. If multiple 022 $a's exist, send each one.
    d. The entire text of the subfield a is sent.
4. ISBN (if present)
    a. <ns:attribute type="string" name="resource.isbn">
    b. This value is in the 020 $a.
    c. If multiple 020 $a's exist, send each one.
    d. The entire text of the subfield a is sent.
5. System number (if present.)
    a. <ns:attribute type="string" name=**"resource.bibUtilId"**>
    b. <ns:attribute type="Record Reference" name=**"resource.bibUtilType"**>
    c. This involves parsing out the 035 $a for system code and system number.
        i. The opac.ini file contains the mapping that must be sent for the bib utility type.
        ii. If no system code exists, neither element is sent to the web service. System code is a required part of the subfield.

Note that e-ISSN is not sent, since there is no real difference between an e-ISSN and an ISSN. The MARC standard does not differentiate the two numbers.

If the 6000 routine is specified in the display*N*.cfg, then the web service is called only when the user clicks the link specified in the file. Note that the hyperlink doesn't itself call the web service. Something like a servlet talks to the Voyager server that then calls the web service. The information displays in a new window, including a Close Window link to close the window.

If Meridian doesn't return any product data for the bib, the "NoInformation" message displays in the new window.

Results Display
If the getProductInfoAsHTMLFragmentInput wrapper element is used, the web service returns HTML formatted using the default Meridian style sheet. The information is informational only; it doesn't apply to any WebVoyáge processing and cannot be edited.

If the getProductInfoInput wrapper element is used, the web service returns raw XML. A stylesheet (meridian.xsl, located in /m1/voyager/xxxdb/etc/Webvoyage/local) renders the display in a table cell on the page.