Alma Migration Considerations for Consortia

Overview

This document describes the process for providing and processing records into a shared consortial environment in Alma from various legacy ILS systems.

There are two zones within Alma:

- Network Zone (NZ) – combined database of shared bibliographic records
- Institution Zone (IZ) – local institutions that contribute records to the NZ and share records previously contributed by other members

Typically, the Institution Zone institutions have a political / organizational connection to each other, such as statewide universities under a shared economic umbrella.

Catalog records are bibliographic in nature and are often shared across members in the network zone. In some cases, there may be a need for localized only records that are not shared across members, but are maintained privately at the institutional zone level.

Catalog Records

There are two main types of central network zone catalog migration processes:

- New Shared Catalog: The site did not work with a central catalog before implementing Alma. The site may have contributed records to a shared discovery tool, but the actual cataloging maintenance was done separately. In this case, individual IZs are loaded to the IZ first, and then the Alma IZ-NZ linking process is run to populate the NZ.

  In this scenario, the site ensures that there is a single standard shared identifier (such as OCLC ID or other standard ID) across the records in order to allow the Network Zone to be populated and de-duplicated based on this defined identifier. Typically, the largest members’ relevant records are contributed to the Network Zone first, and smaller sites either link to already contributed records or contribute their unique records. Only records with relevant matching criteria are considered for contribution and linking.

- Previous Shared Catalog: The site worked with a central shared cataloging environment before implementing Alma. Here, the shared catalog is provided at the beginning of the migration process, and it is loaded to the NZ first. The IZ cataloging records + administrative data (inventory, fulfillment, and acquisitions) are loaded and linked subsequently. The IZ-NZ link is generated without using the Alma IZ-NZ linking process as described above: the linking is done outside of Alma. While this linking closely resembles the Alma IZ-NZ linking process, it is not exactly the same. Instead of using 035 fields, the migration programs instead rely on a single shared identifier, usually in the incoming 001 field.

Inventory

Inventory consists of holdings and item records from your source ILS as well as electronic resources from your electronic link and resource management systems, such as SFX and Verde.
Print inventory is managed at the institutional level. Initially, all records (bibliographic, holdings, items, patrons, orders, etc.) are loaded into the individual IZ.

The methods used for the New Shared Catalog and the Previous Shared Catalog types are explained in different sections, since they are not exactly the same.

New Shared Catalog

This section describes the print inventory process for sites which previously had separate cataloging environments.

The contribution process for a new shared catalog used in migration is similar to the regular ongoing Alma contribution process, however it has many fewer options. The primary goal of the migration NZ contribution process is to build the NZ catalog quickly and efficiently outside of Alma using file processing, based on matched identifiers. This section describes the migration process.

The migration programs build a deduplicated bibliographic file using the individual bib files from each institution: The institutional bib files are processed in the order that is specified by the customer. The process order is important since the first record into the NZ is used as the Master record.

- If an identifier exists and a matched record is not found in the NZ, the IZ record is contributed to the NZ and becomes the master NZ record.
- If a match is found in the NZ, the IZ record is linked to the master NZ record.
- See the section below about Local Extensions for information on how subsequent institutions may retain local information in locally defined tags.

The deduplicated bib file is then loaded to the NZ. At the same time, the individual institutions are processed using the normal migration process and loaded to their IZ.

After the NZ and IZ are loaded, a process is run to link the IZ records to the NZ records. The IZ maintains the Alma bibliographic record identifier (MMS ID) of the original IZ record in order to provide a base to which all other administrative data linkages (holdings, items, orders, loans) can attach.

Once a bibliographic record from the IZ is linked to an NZ master catalog record, changes to the master are automatically reflected in all linked bibliographic records and all members linking to it. Localization of each linked IZ record is optionally supported via a defined set of supported local extension fields.

Post production, the Alma contribution method is used. More information on working with a Network Zone in Alma can be found in the guide Network-Managed Records in a Network Zone.

Local Extensions (MARC)

Consortia members who share bibliographic records may still want to maintain some local information in their IZ record. This can be accomplished through the use of local tags.

Tags in the MARC 09x, 59x, 69x, 77x/78x, and 950-999 ranges that are marked with subfield 9 LOCAL are saved in the IZ as local extensions to the master bibliographic record. Tags that are not in these ranges, as well as tags in these ranges that are not marked with subfield 9 LOCAL are not saved in the IZ. Sites can identify any tags in 09x, 59x, 69x, 77x/78x, and 950-999 ranges that they want to keep locally, make sure they are in the specified ranges, and then mark them with a subfield 9 with only the word LOCAL (no spaces, punctuation, or any other characters) when providing the institutional IZ level records.

If the above specified fields do NOT include a subfield 9 LOCAL ($9 LOCAL) in the field, then the fields are subject to the
NZ first-in routine. If the record is the first to be contributed to the NZ, then the tags will be saved to the NZ part of the master NZ record. If the record is not the first record contributed to the NZ, then no tags in this record are saved locally and the master (first-in) record is what is used in the NZ for this consortium.

For local fields in NZ or IZ: if local fields are used, Ex Libris recommends that the NZ use fields 900-949 and the IZ uses 950-999. This way the local NZ fields (900-949) are those that are local to the entire consortium where every institutional member uses them, and the local IZ fields (950-999) are those that are local only to the single institution. This is recommended because it is important to be able to retrieve groups of records based on data in specific local fields, and having the same local field used for two different data elements may cause problems in retrieval. During migration, if a 900-949 tag has $9 LOCAL subfield, it is removed and the tag is kept in the NZ.

**Local Extensions (Unimarc)**

For bibliographic records using Unimarc, the local extensions operate the same way as MARC local extensions, except that the ranges are defined as XX9, X9X, and 950-999.

**Contents of the NZ Record**

During the migration process, the contents of the NZ record are the contents of the first record of the group. When a record is added to the NZ and no match is found, the record (without local extensions) is added to the NZ and the local extensions are added to the linked IZ record.

When a subsequent record is matched to the NZ record, the subsequent record’s local extensions are saved to the linked IZ record, and all other tags from the subsequent record are discarded in favor of the first-in NZ record.

**Matching**

The NZ linking programs use values in the MARC/UNIMARC/KORMARC 035 $a and 035 $z fields to determine a match by default - 035$a is preferred.

**Extraneous Identifiers**

Customers must ensure that there are no extraneous identifiers in their bib records which may interfere with proper matching. If using non-OCLC matching, Ex Libris recommends to use a unique prefix for the unique identifier which cannot be confused with other identifiers. If using OCLC matching, there may be extraneous OCLC numbers in the bibliographic record for one reason or other.

In particular, the migration programs automatically copy the contents of the 001 (identifier) and the 003 (prefix) into an 035 during migration. Some former systems such as Symphony and Millennium/Sierra keep an OCLC number in the 001; during migration this copied to the 035.

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**Note**

Sometimes the 001’s OCLC number is good, but sometimes it is bad/incorrect.

Since this number may interfere with matching, Ex Libris recommends to remove these numbers from the 001 prior to migration if there is any chance its movement to 035 may interfere with NZ matching.
Numbers in 035: Non-OCoLC

Customers should specify a prefix to be used for the NZ contribution process. It is possible to request to use partial string matching. For example, it is possible to request that the prefix be "**_Z", so that the following two numbers match.

AB_Z(12345)
CD_Z(12345)

The partial string matching may also be at the end of the number, for example using "01cust" may be used to specify a match between the following two numbers:

12345-01cust_abc
01234-01cust_def

The above matching cannot be used in combination with the OCoLC matching as described in the next section. You can either use a specified prefix, or you can use OCLC matching, but you cannot use both.

Customers who wish to not use the 035 $z (cancelled control number) may make a special request of the Ex Libris migration team. The two options for matching are:

- 035 $a and 035 $z
- 035 $a only (by special request)

Numbers in 035: OCoLC

The OCLC numbers are often inconsistent.

If an OCLC number has the prefix (OCoLC), remove the prefix ocn, ocm, or on from the number portion of the OCLC number, and use only the value in parentheses to compare. This means that the following are considered equivalent:

- (OCoLC)12341234 is the same as (OCoLC)ocm12341234
- (OCoLC)567856789 is the same as (OCoLC)ocn567856789
- (OCoLC)23456789 is the same as (OCoLC)on23456789

This is accomplished by a normalization routine as described below.

The OCLC match method always uses both 035 $a and 035 $z for matching. It is not possible to limit to 035 $a only the way it is possible with the non-OCLC match method.

Normalization Flow

035a and 035z = 'OCLC Identifier' Normalization Flow:

for each

MARC "035"|"a" AND MARC "035"|"z" value as '(Prefix)||'ID'

normalize lower_case '(Prefix)||'ID'

normalize OCLC prefix ('Prefix') for (ocolc)' OR '(ocolc)' AS '(ocolc)'
remove initial zero padding ('ID')

remove OCLC padding ('ID') for 'ocm' OR 'ocn' OR 'on'

end

For example:

- 035 |a (OCoLC)41319586 is normalized to: (oclc)41319586
- 035 |z (OCoLC)ocn41319586 is normalized to: (oclc)41319586
- 035 |a (OCoLC)ocm00041319586 is normalized to: (oclc)41319586
- 035 |a ocm00041319586 is normalized to: (oclc)41319586

**Note**

If a number has an (OCoLC) prefix and another prefix too, like (OCoLC)abc12345, then the number abc12345 is included in the OCLC match process, and will match other numbers like (OCoLC)abc12345.

**Multiple Matches**

Matches and linking are only executed when there is a single match in the NZ. If there are multiple bibliographic records found in the NZ that match the record attempting to link based on the chosen single shared identifier, the record is not considered a match. The case here is if a single 035 in a single incoming IZ record matches multiple records in the NZ. This usually happens when one or more bib records have multiple OCLC numbers in the record, either already in the NZ or in the incoming IZ record.

The results of this multiple matching is that the record IZ is reported as a multi-match and is not linked to the NZ. Using Alma tools, this type of outlier duplication in NZ central catalog generation can be rectified and re-linked in smaller batch sets post-migration.

**Multiple Incoming Identifiers**

If the incoming IZ record has multiple chosen identifiers, the linking program looks for matches from all identifiers. If only one match is found in the NZ from all of the possible identifiers, the record is a match. However, if multiple identifiers from the incoming records each find a match in the NZ, the record is not considered a match. See Multiple Matches, above.

**Multiple Matches Within the Same Institution**

There may be multiple records with the same match identifier within the source file of a single institution. Both/all of these records find a match in the NZ, but the NZ does not show both/all matches for a single IZ. This also affects searching in Discovery - it appears that the institution has only one version of this title. Patrons cannot see the second and subsequent matched records.

For example, if there are two or more bibliographic records with the same OCLC number in the same institution/source system, these records are each loaded to the IZ independently. Migration does not merge holdings/items/portfolios to a single bibliographic record when loading to the IZ. During the NZ linking process, these two/multiple records are linked to the same master NZ record. Note that this can also result in loss of bib information, for records that are not chosen as the master.
When multiple records from the same IZ are linked to a single master NZ record, the duplicate (second and subsequent) matches will not show in the local IZ holdings list ("Held by" list) when you are searching the NZ - only the first matched record will show up. In other words, all of the duplicated records in the IZ are linked up to the NZ record, but only one of the duplicate records show holdings ("Held by") in the NZ.

IZ -> NZ: all of the duplicate records in IZ link up to the NZ appropriately – that is, you can search for a record in the IZ and click up to the correct NZ record.

NZ -> IZ: if you search in the NZ for this title, the inventory from the first duplicate IZ record shows only as being held by that institution. The only way that all of the inventory for the institution to be shown from the NZ is if all IZ inventory is on a single bibliographic record.

Additionally, in Discovery, only the inventory from the first duplicate IZ record shows as available. The only way that all of the inventory for the institution to be shown from the Discovery result is if all IZ inventory is on a single bibliographic record

Consequently, you may consider combining these records in your source ILS prior to migration. Multiple bibliographic records for the same OCLC number may be a holdover from previous cataloging practices in an isolated ILS, but in Alma with a Network Zone topology, multiple IZ bib records linked to the same NZ master cannot be searched and retrieved.

**Records not Contributed to the NZ (for New Central Catalogs)**

Some records do not contain the type of ID key relevant for contribution to the NZ during migration of new central catalogs. These records are usually:

- Migration-generated boundwiths (where the linkages are built based on IZ specific inventory)
- Other local institutional records that have no relevant ID

**Suppressed Records**

When building the NZ, it is typically recommended that all shared catalog records are not suppressed so that each IZ can decide on its own to suppress behavior. That is, each IZ linked to a central catalog record can decide to suppress it for its own purposes. Suppression in Alma can also be done at the holdings administrative level as well, when needed. In this case, when records are exported to Primo, the bibliographic record is exported, but no services (holdings) are listed as being available. Only when a shared catalog record is definitely to be suppressed for all members equally should Bib-level suppression be used in the central catalog.

During the building of the NZ, the first record into the NZ determines the suppression of the entire NZ record. Records from the IZ will link to the NZ with no regard for suppression, and the subsequent records will automatically have the suppression level of the first in NZ record.

The functionality of an NZ suppressed record in Primo is determined by other factors. See the powerpoint: [The suppression of records in the Network Zone and Member Institution and how it Influences Primo Discovery.pptx](#) for more information.

**Ignore CZ records**

By default the parameter `ignore_cz_records` is set to false. If you do not want to include CZ-linked records in the linking process, inform your migration analyst so they can change it to true.

**Links Between Records**

There are three methods for providing links between two records in a consortial environment in Alma.
• Relationships are built based on the standard MARC/UNIMARC/KORMARC linking fields between bibliographic records. One direction of linking is sufficient to create the bi-directional linkage, meaning that only one of the bibliographic records needs a tag.

In order to see More Info related records in Alma, the bibliographic record and its target linked bibliographic record must exist in the active institution in which you are working in Alma. That is, if both bibliographic records linked together are in the NZ, a "More Info" link is displayed. If only one of the two bibliographic records is in the institution in which you are working, the More Info link is not displayed in Alma.

• Alma’s end-user services menu (GetIt and ViewIt) do bring in relationships across the consortium, however. That is, if the Alma resolver does not find a related record match in the Institution Zone, it searches for matches in the NZ as well. If it finds a match in the NZ and that match has related records, the Alma resolver searches the IZ for the record that links to the related record found in the NZ.

The services menu approach is intended to be used via Primo only where all services are offered.

• It is possible to enrich the standard Bib-level link with an additional pointer on the Bib linkage to the level of an item in the target record by putting issue information into the $g subfield with the following prefixes:
  ◦ No – provide the specific chronology A OR barcode of the linked item
  ◦ yr – provide the YYYY year of the linked issue
  ◦ iss – provide the issue # of the linked issue
  ◦ p – provide the specific page of the linked issue

For example:

• Linking to journal issue to specific item via barcode:

  773 18 $$tJournal of Neuroradiology.$$w(MaFC)003379300 $$gno:34990398830

• Linking to journal issue to specific item chronology in specific year and issue on specific page. This requires the appropriate fields (like CHRON_I) in the item record to be filled in:

  773 18 $$tJournal of physics.$$w(MaFC)002274900 $$gyr: 1975 $$gno:22 $$giss:3
  $$gp:35-49

Previously Shared Catalog

This section describes the print inventory process for sites loading the NZ first, where the sites previously had a single shared cataloging environment. This method is typically used when the number of shared bibliographic records is large and there is a time savings by pre-loading bibliographic records into the NZ.

When using the Previously Shared Catalog method, each record must be delivered at least twice: once in the large consortia file destined for the NZ, and once in the local IZ file along with the administrative data for the local record (items, orders, etc). There must be a link between the records using a unique key, usually an identifier from the system that managed the previously shared catalog, but any unique key may be used.

If the different IZs are coming from different library systems, and a central office wishes to provide a similar master bib file, it is possible to use another shared bibliographic identifier as the unique match key. For example, the shared unique bibliographic identifier may be the number from a national bibliographic agency such as OCLC, SUDOC, or SBN. In this case, the master bib file contains a set of bib records with the unique bibliographic identifier, and each IZ contributes a set of bibliographic records where each bib contains both the unique bibliographic identifier (used for matching to the master
file) AND ALSO the local bibliographic number of the local system (used for matching to the local item, order, and other administrative data).

The migration team loads the entire shared deduplicated set of bibliographic records to the NZ before any other IZs are migrated. The bibliographic records in the IZ are matched against the NZ bibliographic records, using the single shared bibliographic identifier of the previous system or other unique key.

- If a match is found in the NZ, the migration programs create a local IZ record with just the local extensions and load that to the NZ.
- If no match is found in the NZ, the migration programs load the entire record to the local IZ. This is unlikely but possible depending on the functionality of the previous system.

There should not be any multiple matches in this case, since there is only one identifier and it should be unique per master record.

Local extensions are defined here the same way they are defined in the New Shared Catalog section above.

**Extraneous Identifiers**

As with the New Shared Catalog, customers must ensure that there are no extraneous identifiers in their bib records which may interfere with proper matching. It is recommended to use a unique prefix for the unique identifier which cannot be confused with other identifiers. In particular, if a number from a national bibliographic agency such as OCLC is used, there may be extraneous numbers for one reason or another, using the same prefix.

In particular, the migration programs automatically copy the contents of the 001 (identifier) and the 003 (prefix) into an 035 during migration. Some former systems such as Symphony and Millennium/Sierra keep the OCLC number in the 001; during migration this copied to the 035.

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**Note**

Sometimes these numbers are good, and sometimes these numbers are bad/incorrect.

Since this number may interfere with matching, Ex Libris recommends to remove these numbers from the 001 prior to migration if there is any chance its movement to 035 may interfere with NZ matching.

**Links Between Records**

With the Previous Shared Catalog method of creating the NZ by loading the NZ first, links between records continue to work the same as described above in the New Shared Catalog section. However, keep in mind that when loading the NZ first, there is a possibility for bibliographic records without inventory to NOT be represented in a local IZ.

When using the New Shared Catalog method where the IZs are loaded first, if there is a bibliographic record without inventory in the local IZ, it gets merged to the NZ. The local IZ maintains the representation of that bibliographic record in the IZ.

When using the Previously Shared Catalog method where the NZ is loaded first, if there is a bibliographic record without inventory that was provided in the local IZ file, a representation of the bibliographic record will NOT be made in the local IZ if there is no inventory or no local extensions.

Therefore, if there are bibliographic records without inventory that need to link to other bibliographic records in the local IZ, the bibliographic records should either have inventory or have a local extension tag. This local extension might be very small and insignificant such as the institution code in a single subfield.
Local Authorities

Alma stores the Library of Congress name and subject authority records as well as the Medical Subject Headings (MeSH) in the Community Zone among additional authority types that are consistently being added and enriched as part of Alma’s commitment to data services.

Local authority record conversion is not part of the migration scope of Alma. If you have locally created or modified authority records to load into your local institution, use the standard Alma loader tools post-migration. In a consortial setup, they likely reside in the Network Zone for sharing across members. Contact your local Ex Libris project team for consultation if this is relevant for your institution.

Electronic Inventory

In some cases, consortial sites share electronic inventory in their source systems. When this is the case, migration allows customers to provide the specific e-activation data relevant for the shared network and can define the relevant “available for” institutional availability for these shared resources. In other words, the migration team loads electronic inventory into the NZ and then the customer sets the permissions for each local IZ that should have access to the resource.

When the above is not yet relevant or cannot be determined prior to implementation, the default migration path is for each institution to provide its specific activations to the local IZ to ensure that all institutionally available electronic resources stay available to its users immediately. In such cases, adopting a shared electronic availability workflow can be setup after moving to Alma by activating these shared resources in the NZ, indicating the relevant IZs with which to share it and de-activating the previously local activations in the relevant IZs.

Fulfillment

The goal of the fulfillment migration process is to allow new Alma customers to keep track of items immediately post-migration. The migration programs do not attempt to migrate fulfillment data into the Alma Resource Sharing workflow.

After migration, as customers begin to work in Alma, new transactions are created using the Alma Resource Sharing workflow and old transactions are closed out as items with previous workflows are returned.

Patrons

It is very common for patrons to have duplicate patron records at various institutions in a consortium. If the legacy ILS has linking information that allows for the migration processes to create a link between records, the migration program attempts to link the records when loading into Alma. There are two kinds of patron records:

- Master patron – the patron record of the patron at their home institution
- Stub patron – a copy of the patron record for use at visited institutions

Alma expects to have linked patron information when the same patron is represented in multiple institutions. There are three types of relationships between master patron and stub patron records: those with a clear link, those without a clear link but with a common identifier, and those with no link or common identifiers. The type of relationship that the master patron and stub patron records have determines how the records are migrated.
Clear Link

If there is a clearly defined link between the master patron and stub patrons, Ex Libris recommends:

- Migrate all master patrons
- Migrate only those stub patrons that are necessary for maintaining a link to active loans, requests, and fines/fees. The extracts delivered should provide only the stub patrons that are in use.

Post-migration, Alma customers are able to generate new stub patrons in visited intuitions when the workflow requires it. The migrated stub patron records can continue to be used in Alma, depending on customer desires.

Common Identifiers

If there is not a clearly defined link between the master patron and stub patrons, but there is a common identifier that is used by patrons across institutions, the migration process attempts to link the patrons using a common identifier. In this case, it is likely that all stub patrons are migrated. Post-migration, Alma customers can identify linked patrons that are not in use and purge them using Alma patron management tools.

No Link or Common Identifiers

If there is no link or common identifier for multiple patron records, the only option is to load records individually into Alma. The new flow can be adopted for new shared patron transactions after moving to Alma.

Loans, Requests, and Fines Linked to Patrons

Active Loans

For migration, active loans are loaded into the same institution as the item. Post-migration, if an item is returned at a different institution, circulation desk staff needs to direct the item back to the item’s home institution in order to discharge the loan.

Requests/Holds on the Hold Shelf

For all migrations, only those requests that are on the hold shelf waiting for pickup are migrated.
There are two options for migrating requests on the hold shelf:

- Make a copy of the bib/item in the pickup DB. In this case, the copy of the bib/item needs to be cleaned up in Alma after the transaction is complete.

- Migrate the request record to the item’s DB. In this case, if the pickup DB is different than the item’s DB, when the customer comes into the library to pick up the item, the hold/recall record may not be accessible to staff members in the pickup DB (depending on permissions).

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**Active Fines and Fees**

For migration, active fines and fees are loaded into the same institution as the item, which is where the loan transaction took place.

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**Courses**

There is no consortial aspect to courses. They are all loaded into the individual institutions (IZ).
Acquisitions

Generally, all purchase orders, invoices, and funds/transactions are brought into individual institutions in Alma. Purchase orders are linked to local inventory records, which can be linked to the NZ inventory records, but the purchase orders are not directly linked to records in the Network Zone.

Migration can load vendors and licenses to the Network Zone, but does not make any attempt to build shared license/ordering workflows during migration. Post migration, customers should use the migrated data as a starting point to build joint acquisition workflows for licenses and vendors.

For information on joint acquisition workflows involving central negotiated licenses on behalf of consortial members and their related electronic ordering of negotiated licensed material, see the guide Central License Negotiation. More information on vendors is below.

Vendors

Vendor record information can be shared across institutions in Alma, or they can be maintained locally.

There are two options for loading vendor records into Alma:

- Provide a global vendor file and corresponding local vendor files. Alma migration does the following:
  - loads the global vendor file in the NZ
  - loads the local vendor files into the IZ
  - After, the 'Distribute network acquisition changes to members' job can be run according to information on this page: Sharing Vendor Information in a Network Zone.

- Provide vendor files for each institution, with no link to other vendors. Vendors are loaded into each institution individually, as illustrated in the Non-shared vendors section in the diagram above.