

European BIBFRAME Workshop
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Firenze

SHARE-VDE

How the project meets the BIBFRAME model

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Introduction and overall project goals



What is SHARE-VDE?

SHARE-VDE is an initiative driven by the library community to establish processes to move the LAM traditional data to the new linked data frontier.

SHARE-VDE aims to establish an **effective working environment** for the use of linked data in the library context and beyond.

The project **enriches library data** with additional information and relationships, previously unexpressed under MARC, and it converts bibliographic and authority data in linked data.

It also creates a **virtual discovery platform** with the three-layered structure of the **BIBFRAME** data model, to simplify the way in which that data is consumed.



Who is responsible for it?

SHARE-VDE is a collaborative initiative based on the requirements and perceptions of libraries, developed by:

- **Casalini Libri**, provider of bibliographic and authority data as member of the Program for Cooperative Cataloguing
- **@Cult**, provider of ILS, Discovery tools and Semantic web solutions for the cultural heritage sector

with initial input and active participation from **16 North American Research Libraries**.

The initiative is particularly driven by the vision of the **LD4P** community.



SHARE-VDE overall goals

The main areas of the SHARE-VDE project:

- **Enrichment** of MARC record with URIs
- **Conversion from MARC to RDF** using the BIBFRAME vocabulary (and other additional ontologies as needed)
- **Data publication** according to the **BIBFRAME** data model
- Batch/automated **data updating** procedures
- Batch/automated **data dissemination** to libraries
- Progressive implementation of further **use cases** in the priority order defined by the community

The SHARE-VDE portal (www.share-vde.org)

Browse

SHARE

Discovery

Virtual

Environment

Person/Work

Italiano

Info | Contacts

Go to Publications

Person

Work

Publishers

Subject

Search Person/Family/Corporate body

EXPAND ALL CLOSE ALL

▼ This person in

WIKIDATA

LIBRARY OF CONGRESS

WorldCat: Identities

data.bnf.fr

VI AF

Wikipedia



Vivaldi, Antonio, 1678-1741
ID: 20355

Works

▼ Other name forms

- Vivaldi, Antonio, 1678-1741
- Вивальди, А. 1678-1741 Антонио
- Vivaldi, Antonio, 1680-1741
- 1678-1741, ויולד, אנטוניו, ויולד
- Vivaldi, Antonio, sac., 1678-1741
- Vivaldi, Antonio

...[other forms]

SELECT ALL UNCHECKED ALL EXPAND ALL CLOSE ALL

▼ A-C

Alla caccia, alla caccia

Amadeus

Biondina in gondoleta

Chamber music

Cimento dell'armonia e dell'invenzione

Classical music library

Concertos

Concertos pour mandoline

▼ D-E

SHARE-VDE phases

Phase 1: October 2016 – January 2017

1985 and 2015 imprint titles;
2,249,397 bib-records and 3,601,327 auth-records.

Phase 2: March 2017 – May 2018

The entire catalogues for all resource types;
94,378,728 bib-records and 24,150,238 auth-records.

Production environment (Phase 3): January 2019-

In progress.

SHARE-VDE phase 2 deliverables



Phase 2 deliverables overview



BIB1



BIB2



BIB...

Deliverable 1: The datasets in BIBFRAME 2.0 of the entire catalogue of each institution with the "tuples" derived directly from the MARC records, delivered both as triples and as quadruples with the addition of the provenance and with Share-VDE URIs



Clusters Knowledge base

Deliverable 2: The knowledge base of clusters accessible in RDF



BIB1



BIB2



BIB...

Deliverable 3: The datasets in BIBFRAME 2.0 for each institution with the triples that include the URIs from the external sources

External (VIAF) URIs

SHARE-VDE URIs

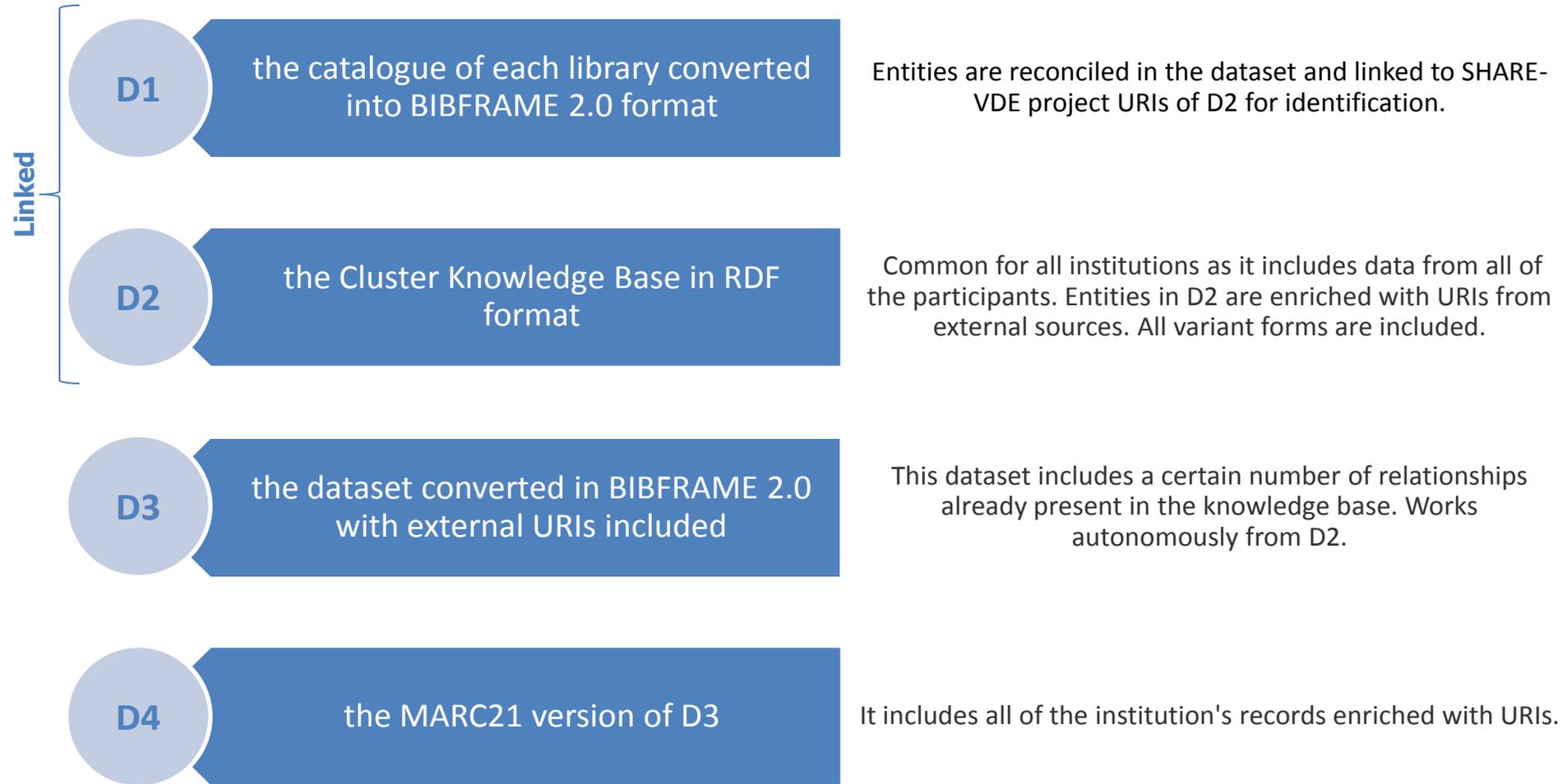


Marc enriched
(Binary)
(one for LIB)

Deliverable 4: The MARC21 records for each institution enriched with URIs



Phase 2 deliverables overview



BF LC vocabulary extensions: the current situation

Class List

<u>AppliesTo</u>	<u>DemographicGroup</u>	<u>Relation</u>
<u>CreatorCharacteristic</u>	<u>EncodingLevel</u>	<u>Relationship</u>

Property List

<u>applicableInstitution</u>	<u>name10MatchKey</u>	<u>title00MarcKey</u>
<u>appliesTo</u>	<u>name11MarcKey</u>	<u>title00MatchKey</u>
<u>creatorCharacteristic</u>	<u>name11MatchKey</u>	<u>title10MarcKey</u>
<u>demographicGroup</u>	<u>primaryContributorName00MatchKey</u>	<u>title10MatchKey</u>
<u>encodingLevel</u>	<u>primaryContributorName10MatchKey</u>	<u>title11MarcKey</u>
<u>metadataLicensor</u>	<u>primaryContributorName11MatchKey</u>	<u>title11MatchKey</u>
<u>name00MarcKey</u>	<u>projectedProvisionDate</u>	<u>title30MarcKey</u>
<u>name00MatchKey</u>	<u>relation</u>	<u>title30MatchKey</u>
<u>name10MarcKey</u>	<u>relationship</u>	<u>title40MarcKey</u>
		<u>title40MatchKey</u>
		<u>titleSortKey</u>



Deliverable 1: RDF conversion (section of RDF conversion)

LC vocabulary extension

```
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix ns0: <http://id.loc.gov/ontologies/bflc/> .
@prefix ns1: <http://id.loc.gov/ontologies/bibframe/> .
@prefix ns2: <http://id.loc.gov/vocabulary/relators/> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix ns3: <http://www.loc.gov/mads/rdf/v1#> .
<http://share-vde.org/sharevde/rdfBibframe2/Agent/LOC> rdfs:label "LOC" .
<http://id.loc.gov/authorities/names/n50044402>
  a <http://id.loc.gov/ontologies/bibframe/Agent>, <http://id.loc.gov/ontologies/bibframe/Person> ;
  rdfs:label "Bridget,approximately 1303-1373." ;
  ns0:name00MatchKey "Bridget,approximately 1303-1373." ;
  ns0:name00MarcKey "1000 $aBridget, $cof Sweden, Saint, $dapproximately 1303-1373.
$0http://id.loc.gov/authorities/names/n50044402" ;
  ns0:primaryContributorName00MatchKey "Bridget,approximately 1303-1373." .
<http://id.loc.gov/authorities/names/n84007202>
  a <http://id.loc.gov/ontologies/bibframe/Work>, <http://id.loc.gov/ontologies/bibframe/Text> ;
  ns1:title <http://share-vde.org/sharevde/rdfBibframe2/Title/a0f4e860-c259-3611-b7ca-03b9369568cb>, <http://share-
vde.org/sharevde/rdfBibframe2/uniform-title/a0f4e860-c259-3611-b7ca-03b9369568cb> ;
  ns2:cre <http://id.loc.gov/authorities/names/n50044402> ;
  ns1:content <http://rdaregistry.info/termList/RDAContentTypes/1020>, <http://id.loc.gov/vocabulary/contentTypes/txt> ;
  ns1:adminMetadata <http://share-vde.org/sharevde/rdfBibframe2/AdminMetadata/4a8a08f0-9d37-3737-9564-9038408b5f33> ;
  ns1:language <http://id.loc.gov/vocabulary/languages/eng>, <http://share-
vde.org/sharevde/rdfBibframe2/Language/74e6a8b1-11ea-3da1-a7d0-a596f4c35208> ;
  ns1:genreForm <http://id.loc.gov/vocabulary/marcgt/bib> ;
  ns1:classification <http://share-vde.org/sharevde/rdfBibframe2/Lcc/842e73eb-0d86-374b-a4bd-dae01b30c68a> ;
  ns1:subject <http://share-vde.org/sharevde/rdfBibframe2/Subject/6c09b127-ac1a-3428-ad6e-f896dbf69260>, <http://share-
vde.org/sharevde/rdfBibframe2/Subject/2f1b63c0-98ed-35e9-b57b-f7d7ce7c525d> .
```



Deliverable 1: RDF conversion (section of RDF conversion)

```
<http://share-vde.org/sharevde/rdfBibframe2/Title/a0f4e860-c259-3611-b7ca-03b9369568cb> rdfs:label "Revelationes."  
<http://share-vde.org/sharevde/rdfBibframe2/uniform-title/a0f4e860-c259-3611-b7ca-03b9369568cb>  
  a ns1:Title ;  
  rdfs:label "Revelationes." ;  
  ns0:titleSortKey "Revelationes." ;  
  ns1:mainTitle "Revelationes." ;  
  ns0:title40MatchKey "Revelationes." ;  
  ns0:title40MarcKey "24010$aRevelationes. $lEnglish $s(Searby) $0http://id.loc.gov/authorities/names/n84007202" .
```

```
<http://share-vde.org/sharevde/rdfBibframe2/Instance/LOC13910411>  
  ns1:instanceOf <http://id.loc.gov/authorities/names/n84007202> ;  
  ns1:issuance <http://id.loc.gov/vocabulary/issuance/mono> ;  
  ns1:adminMetadata <http://share-vde.org/sharevde/rdfBibframe2/AdminMetadata/ad1517aa-fe91-3d10-902c-a0de7cbd787e>,  
<http://share-vde.org/sharevde/rdfBibframe2/AdminMetadata/4abffffde-8e4b-3806-b70a-e5c95af4f221>, <http://share-  
vde.org/sharevde/rdfBibframe2/AdminMetadata/11d5ffba-c1cd-3077-a2f5-aeb0b1fdc4f9> ;  
  ns1:contribution <http://share-vde.org/sharevde/rdfBibframe2/Contribution/8cd47f23-58b9-3a8c-b1f9-4627fca86c1a>,  
<http://share-vde.org/sharevde/rdfBibframe2/Contribution/e3d5c3a8-560a-3737-a105-dc7a4e8eadba> ;  
  a ns1:Instance ;  
  ns1:media <http://rdaregistry.info/termList/RDAMediaType/1007>, <http://id.loc.gov/vocabulary/mediaTypes/n> ;  
  ns1:carrier <http://rdaregistry.info/termList/RDACarrierType/1049>, <http://id.loc.gov/vocabulary/carriers/nc> ;  
  ns1:title <http://share-vde.org/sharevde/rdfBibframe2/title-statement/1835091e-3641-34e6-b0c5-fe64446acc12> ;  
  ns1:dimensions "25 cm" ;  
  ns1:extent <http://share-vde.org/sharevde/rdfBibframe2/Extent/0d4d8bca-a46a-3701-874b-8c45a15205c7> ;  
  ns1:note <http://share-vde.org/sharevde/rdfBibframe2/Note/2165960f-7bd9-3e33-b926-23c0de8c9765>, <http://share-  
vde.org/sharevde/rdfBibframe2/Note/92ace715-99d1-30a5-bca0-aec0d55a14ec> ;  
  ns1:responsibilityStatement "translated by Dennis Searby with Introduction and Notes By Bridget Morris." ;  
  ns1:provisionActivity <http://share-vde.org/sharevde/rdfBibframe2/ProvisionActivity/0c8dec7d-3f14-30cb-8074-  
7049da6859f9> ;
```



Deliverable 2: the Cluster Knowledge Base

An example of clusterization algorithms

Clusterization of "forename" heading type

Example:

"\$aBridget,\$cof Sweden, Saint,\$dapproximately 1303-1373"

- 1) selections of interesting subfields
- 2) normalization of string text without diacritics, accents: Bridget of Sweden Saint approximately 1303-1373.
- 3) translate all in uppercase and search string into db variant forms and cross references:
BRIDGET OF SWEDEN SAINT APPROXIMATELY 1303-1373
- 4) if no cluster found, subfields will be analyzed
 - 4.1 comparing \$a with other existing forms
 - 4.2 comparing only the numeric part of \$d (having same \$a): \$dapproximately 1303-1373 => \$d1303-1373
 - 4.3 comparing \$c for "saint" or "santa" or other forms (having same \$a)

Deliverable 2: the Cluster Knowledge Base

PostgreSQL as a bridge

<input type="checkbox"/>	clstr_id integer	hdg_id text	name text	pref_frm boolean
<input type="checkbox"/>	151177	AN163420	Bridget, of Sweden, Saint, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX1253673	Bridget, of Sweden, Saint, approximately 1303-1373. ...	false
<input type="checkbox"/>	151177	AX1253674	Bridget, of Sweden, Saint, approximately 1303-1373. ...	false
<input type="checkbox"/>	151177	AX1253675	Bridget, of Sweden, Saint, approximately 1303-1373. ...	false
<input type="checkbox"/>	151177	AX1253676	Bridget, of Sweden, Saint, ca. 1303-1373. Uppenbare...	false
<input type="checkbox"/>	151177	AX1253677	Bridget, of Sweden, Saint, ca. 1303-1373. Reuelation...	false
<input type="checkbox"/>	151177	AX1326216	Bridget, of Sweden, Saint, approximately 1303-1373. ...	false
<input type="checkbox"/>	151177	AX1326217	Bridget, of Sweden, Saint, ca. 1303-1373. Revelations	false
<input type="checkbox"/>	151177	AX186404	Birgit, of Sweden, Saint, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX186405	Birgitta Birgersdotter, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX186406	Birgitta, of Sweden, Saint, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX186407	Birgitta, Saint, of Sweden, d. 1373	false
<input type="checkbox"/>	151177	AX186408	Birgitta, von Schweden, Saint, approximately 1303-13...	false
<input type="checkbox"/>	151177	AX186409	Bridget, of Sweden, Saint, ca. 1303-1373	false
<input type="checkbox"/>	151177	AX186410	Brigid, of Sweden, Saint, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX186411	Brigida, di Svezia, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX186412	Brigida, of Sweden, Saint, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX186413	Brigitta, of Sweden, Saint, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX186414	Brigitte, de Suède, Saint, approximately 1303-1373	false
<input type="checkbox"/>	151177	AX186415	Brigitte, of Sweden, Saint, approximately 1303-1373	false

Deliverable 2: the Cluster Knowledge Base

The final result

▼ This person in



Birgitta, helgon, 1303-1373

ID: 151177

Works

▼ Other name forms

-  Bridget, of Sweden, Saint, approximately 1303-1373
-  Brigida, de Suècia, santa, 1303-1373
-  Brigitta, s., vidua, c. 1303-1373
-  Brigita, Zviedrijas, Svētā, ap 1303-1373
-  Bridget, of Sweden, Saint, approximately 1303-1373
-  Birgitta святая 1303-ок.1373
-  Birgitta, de Suède, sainte
-  Brigida 1303-1373 de Suècia, santa
-  Bridget, of Sweden, Saint, ca. 1303-1373
-  Brygida (šw. ; 1302-1373)
-  Birgitta, of Sweden, Saint, approximately 1303-1373
-  Birgitta, Saint, of Sweden, d. 1373
-  Birgitta, von Schweden, Saint, approximately 1303-1373
-  Brigitta, of Sweden, Saint, approximately 1303-1373
-  Brigitte, de Suède, Saint, approximately 1303-1373
-  Bride, of Sweden, Saint, ca.

<http://share-vde.org/sharevde/rdfBibframe/Agent/151177>
rdfs:label "Bridget, of Sweden, Saint, approximately 1303-1373. Puch der himlischen Offenbarung der heiligen Wittiben Birgitte von dem Königreich Sweden", "Birgitta Suecica 1303-1373", "Bridget, of Sweden, Saint, ca. 1303-1373. Revelaciones", "Brigida, of Sweden, Saint, approximately 1303-1373", "Birgitta Birgersdotter, approximately 1303-1373", "Birgitta of Sweden, Saint, approximately 1303-1373. Liber celestis of St. Bridget of Sweden", "Bridget, of Sweden, Saint, approximately 1303-1373. Saint Bride and her book", "Brigida da Suécia, Santa, 1303-1373", "Birgitta, helgon, 1303-1373", "Bridget, of Sweden, Saint, ca. 1303-1373", "Bridget, of Sweden, Saint, approximately 1303-1373. Reuelationes celestes praelecte sponse Christi beate Birgitte vidue de regno Suecie", "Bridget, of Sweden, Saint, ca. 1303-1373. Selections", "Brigida, de Suecia, Santa, Ca. 1303-1373", "Bridget, of Sweden, Saint, approximately 1303-1373. Revelations of Saint Birgitta", "Bridget, of Sweden, Saint, approximately 1303-1373. Brigida di Svezia", "Bridget, of Sweden, Saint, approximately 1303-1373", "Birgitta, von Schweden, Saint, approximately 1303-1373", "Bridget, of Sweden, Saint, ca. 1303-1373. Sermo angelicus", "Birgitta, ca. 1303-1373", "Bridget, of Sweden, Saint, approximately 1303-1373. Book V of St Birgitta's Uppenbarelseser" ;

<http://share-vde.org/sharevde/rdfBibframe/Agent/151177> <<http://www.w3.org/2002/07/owl#sameAs>> <<http://isni.org/isni/0000000121012842>> .
<<http://share-vde.org/sharevde/rdfBibframe/Agent/151177>> <<http://www.w3.org/2002/07/owl#sameAs>> <<http://www.wikidata.org/entity/Q204996>> .
<<http://share-vde.org/sharevde/rdfBibframe/Agent/151177>> <<http://www.loc.gov/mads/rdf/v1#isIdentifiedByAuthority>>
<<http://id.loc.gov/authorities/names/n50044402>> .



Deliverable 4: URIs table for external sources

SHARE-VDE

URI_table_for_external_sources_2017-12-22.xls

SPARQL endpoint	RDF dump	LICENSE TERMS	URL SEARCH	NOTES	AUTHIFY (Yes for search URL specified)	SUBFIELD \$0/\$1
	Yes		http://id.loc.gov/search/?q=Shakespeare+William&q=cs%3Ahttp%3A%2F%2Fid.loc.gov%2Fauthorities%2Fnames&format=atom&start=1		http://\$\${host}:\$\${port}/authify/lnaf/persons?q=Eco, Umberto	\$0
	Yes		http://id.loc.gov/search/?q=bible+old+testament&q=cs		http://\$\${host}:\$\${port}/authify/lnaf/works?title=Solomon	\$0

SHARE-VDE

URI_table_for_external_sources_2017-12-22.xls

2017-12-22 ify/lnaf/nt?title=larte%20della%20

CODE	SOURCE	INSTITUTION	LINK TO PROJECT PAGE	URI	URI EXAMPLE	MARC21 TAG	API/WS
NAF (Names)	Library of Congress Names	Library of Congress	http://id.loc.gov/authorities/names.html	http://id.loc.gov/authorities/names	http://id.loc.gov/authorities/names/n78095332	100/110/111 \$0 700/710/711 \$0 600 \$0 ?	S/M
NAF (NameTitle + Titles)	Library of Congress Title / NameTitle	Library of Congress	http://id.loc.gov/authorities/names.html	http://id.loc.gov/authorities/names	http://id.loc.gov/authorities/names/nr00019197	100/110/111(\$t) \$0 700/710/711 \$0 600 \$0 \$0 730 \$	S/M
LCSH	Library of Congress Subject Headings	Library of Congress	http://id.loc.gov/authorities/subjects.html	http://id.loc.gov/authorities/subjects	http://id.loc.gov/authorities/subjects/sh90004917 http://id.loc.gov/authorities#concept	6xx \$0	
LC Classification	Library of Congress Classifications	Library of Congress	http://id.loc.gov/authorities/classification.html	http://id.loc.gov/authorities/classification	http://id.loc.gov/authorities/classification/Z2784.P7		
LC Identifiers	Library of Congress Standard Identifiers Scheme	Library of Congress	http://id.loc.gov/vocabulary/identifiers.html	http://id.loc.gov/vocabulary/identifiers	http://id.loc.gov/vocabulary/identifiers/isbn		
Geographic Areas	MARC List for Geographic Areas	Library of Congress	http://id.loc.gov/vocabulary/geographicAreas.html	http://id.loc.gov/vocabulary/geographicAreas	http://id.loc.gov/vocabulary/geographicAreas/e-it	043 \$0	
Relators	MARC Code List for Relators	Library of Congress	http://id.loc.gov/vocabulary/relators.html	http://id.loc.gov/vocabulary/relators	http://id.loc.gov/vocabulary/relators/cre	1xx-7xx	
Languages	MARC List for Languages	Library of Congress	http://id.loc.gov/vocabulary/languages.html	http://id.loc.gov/vocabulary/languages	http://id.loc.gov/vocabulary/languages/ita	041 ?	
Countries	MARC List for Countries	Library of Congress	http://id.loc.gov/vocabulary/countries.html	http://id.loc.gov/vocabulary/countries	http://id.loc.gov/vocabulary/countries/it	?	
ISNI	ISNI - International Standard Name Identifier	OCLC	http://isni.org/search	http://isni.org/isni/[ID]	http://isni.org/0000000121032683 http://isni.org/0000000109205182	100/110/700/710/600 \$1 ?	
VIAF (Names)	VIAF - Virtual International Authority File	OCLC	http://viaf.org/	http://viaf.org/viaf/id	http://viaf.org/viaf/96994048	100/110/700/710/600 \$1 ?	

ify/lcsh/subjects? \$0

SHARE-VDE

URI			
http://id.loc.gov/authorities/names/n79021285			
http://id.loc.gov/authorities/names/n80106714			
http://id.loc.gov/authorities/names/nr00019197			
http://id.loc.gov/authorities/subjects/sh85037601			
http://id.loc.gov/vocabulary/geographicAreas/a-ko			
http://id.loc.gov/vocabulary/relators/aut			
http://isni.org/isni/0000000120981297			
http://viaf.org/viaf/14356			

Deliverable 4: enriched MARC21

Record example: <http://id.loc.gov/tools/bibframe/compare-id/full-ttl?find=13910411>

[Original record]

```
01996cam a2200421 i 4500
001 13910411
005 20161026123523.0
008 050324s2015 nyua b 001 0 eng
010 $a 2005047277
020 $a9780195166446 (v.1)
020 $a9780195166262 (v.2)
020 $a9780195166279 (v.3)
020 $a9780195166286 (v.4)
040 $aDLC$beng$cDLC$erda
041 1 $aeng$hlat
042 $apcc
050 00 $aBX4700.B62$bE5 2006
100 0 $aBridget,$cof Sweden, Saint,$dapproximately 1303-1373.
240 10 $aRevelationes.$lEnglish$s (Searby)
245 14 $aThe revelations of St. Birgitta of Sweden Volume 4 : the heavenly emperor's book to kings, the
rule, and minor works /$ctranslated by Dennis Searby with Introduction and Notes By Bridget Morris.
264 1 $aOxford :$bOxford University Press,$c2006-[2015]
300 $a4 volumes :$billustrations ;$c25 cm
```



Deliverable 4: enriched MARC21

Record example: <http://id.loc.gov/tools/bibframe/compare-id/full-ttl?find=13910411>

[Original record]

```
336    $atext$btxt$2rdacontent
337    $aunmediated$bn$2rdamedia
338    $avolume$bnc$2rdacarrier
504    $aIncludes bibliographical references and index.
505 0  $av. 1. Liber Caelestis, books I-III -- v. 2. Liber Caelestis, books IV-V -- v. 3. Liber Caelestis, books VI-VII
-- v. 4. The heavenly emperor's book to kings, the rule, and minor works.
650 0  $aPrivate revelations.
650 0  $aVisions.
700 1  $aSearby, Denis Michael,$etranslator.
700 1  $aMorris, Bridget,$d1954-$ewriter of supplementary textual content.
906    $a0$bibc$corignew$d2$encip$f20$gy-gencatlg
925 0  $aacquire$b1 shelf copy$xpolicy default
952    $aComplete in 4 vols.
955    $brm08 2016-06-06 (Telework)
955    $apc16 2005-03-24 to HLCD$csch21 2005-03-30$dsh13 2005-03-31$esh42 2005-04-04 to Dewey$aaa05 2005-04-06$aps12
2006-07-19 1 copy rec'd., to CIP ver.$fpv17 2006-08-03 Z-CipVer$arc09 2009-06-25 v. 2 added$trf13 2009-07-27 c. 2, v. 2
to BCCD
955    $aADDED VOLS: v. 3 xn05 2012-4-5 to USGEN
955    $aADDED VOLS: v. 4 xn12 2015-12-01 to USASH
```



Deliverable 4: enriched MARC21

Record example: <http://id.loc.gov/tools/bibframe/compare-id/full-ttl?find=13910411>

[The same record enriched with URIs]

```
=LDR 02447cam a2200421 i 4500
=001 13910411
=005 20161026123523.0
=008 050324s2015\\nyua\\b\\001\0\eng\\
=010 \\$a 2005047277
=020 \\$a9780195166446 (v.1)
=020 \\$a9780195166262 (v.2)
=020 \\$a9780195166279 (v.3)
=020 \\$a9780195166286 (v.4)
=040 \\$aDLC$beng$cDLC$erda
=041 1$aeng$hlat
=042 \\$apcc
=050 00$aBX4700.B62$bE5 2006
=100 0$aBridget,$cof Sweden, Saint,$dapproximately 1303-1373.
$0http://id.loc.gov/authorities/names/n50044402
=240 10$aRevelationes.$lEnglish$s (Searby) $0http://id.loc.gov/authorities/names/n84007202
=245 14$aThe revelations of St. Birgitta of Sweden Volume 4 : the heavenly emperor's book to kings, the
rule, and minor works /$ctranslated by Dennis Searby with Introduction and Notes By Bridget Morris.
=264 \1$aOxford :$bOxford University Press,$c2006-[2015]
=300 \\$a 4 volumes :$billustrations ;$c25 cm
```



Deliverable 4: enriched MARC21

Record example: <http://id.loc.gov/tools/bibframe/compare-id/full-ttl?find=13910411>

[The same record enriched with URIs]

```
=336  \\$atext$btxt$2rdacontent$0http://rdaregistry.info/termList/RDAContentType/1020
=337  \\$aunmediated$bn$2rdamedia$0http://rdaregistry.info/termList/RDAMediaType/1007
=338  \\$avolume$bnc$2rdacarrier$0http://rdaregistry.info/termList/RDACarrierType/1049
=504  \\$aIncludes bibliographical references and index.
=505  0\\$av. 1. Liber Caelestis, books I-III -- v. 2. Liber Caelestis, books IV-V -- v. 3.
Liber Caelestis, books VI-VII -- v. 4. The heavenly emperor's book to kings, the rule, and minor works.
=650  \\0$aPrivate revelations.$0http://id.loc.gov/authorities/subjects/sh85107042
=650  \\0$aVisions.$0http://id.loc.gov/authorities/subjects/sh85143882
=700  1\\$aSearby, Denis Michael,$etranslator.$0http://id.loc.gov/authorities/names/nr98021028
=700  1\\$aMorris, Bridget,$d1954-$ewriter of supplementary textual
content.$0http://id.loc.gov/authorities/names/n92016617
=906  \\$a0$bibc$corignew$d2$encip$f20$gy-gencatlg
=925  0\\$aacquire$b1 shelf copy$xpolicy default
=952  \\$aComplete in 4 vols.
=955  \\$brm08 2016-06-06 (Telework)
=955  \\$apc16 2005-03-24 to HLCD$scsh21 2005-03-30$dsh13 2005-03-31$esh42 2005-04-04 to Dewey$aaa05 2005-04-
06$aps12 2006-07-19 1 copy rec'd., to CIP ver.$fpv17 2006-08-03 Z-CipVer$arcc09 2009-06-25 v. 2
added$trf13 2009-07-27 c. 2, v. 2 to BCCD
=955  \\$aADDED VOLS: v. 3 xn05 2012-4-5 to USGEN
=955  \\$aADDED VOLS: v. 4 xn12 2015-12-01 to USASH
```



The SHARE-VDE technology core the LOD Platform



The LOD Platform

The **LOD Platform** is a highly innovative technological system, for handling bibliographic catalogues and transforms them in Linked Open Data.

The **LOD Platform** uses **BIBFRAME** as its ontology, but is able to combine and add all other ontologies and data models required by each specific project.



The LOD Platform

The system allows:

- data analysis and management, to identify and group (clusterization process) the entities;
- data enrichment through links with external projects;
- bibliographical and authority data conversion, according to the standard models foreseen by the W3C for LOD, RDF (Resource Description Framework), using vocabularies and ontologies;
- publication of the dataset in LOD on Triple Store (RDF);
- user-friendly ways of finding data, through a portal with navigational tools based on BIBFRAME or other data model (FRBR/LRM ...).



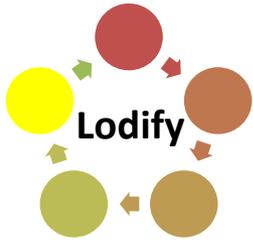
The LOD Platform

Components of the technological architecture:

- **AUTHIFY**, RESTFul module that provides bibliographic and authority search services and full text of external datasets, mainly related to Authority file (VIAF, Library of Congress Name Authority file,...) but also extendable to other types of datasets.
- **CLUSTER KNOWLEDGE BASE**, on PostgreSQL database, is the result of the data identification, enrichment, and clusterization processes.
- **LODIFY**, RESTFul module that automates the entire process of data conversion in RDF format;
- **BLAZEGRAPH** and/or **STARDOG**, the Triple Store (open source and not) for storing RDF files;
- **PORTAL SKIN**, the instance of data publication portal.



LODIFY Maturity Level

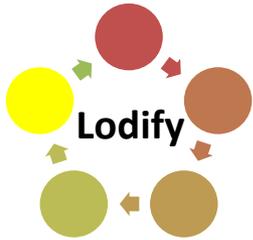


Lodify is the framework that automates the conversion and publication of bibliographic and authority data in RDF according to BIBFRAME 2.0 ontology in a linear scalable way.

Lodify contains the **conversion rules** from Marc 21 to BIBFRAME 2.0, following the public mapping published by the Library of Congress.

Lodify is flexible and adaptable to multiple situations: it allows, therefore, to manage the classes and properties not only of BIBFRAME but also of ontologies that are considered integral to the project.

LODIFY Maturity Level



Data conversion and analysis:

- During this phase we analyzed a file of 690 RDA BIBCO Standard Records produced by Casalini Libri for LC (file belonging to the SHELF-READY workflow).
- This file was converted taking into account the rules of the Deliverable 3.
- These 690 records are used to determinate the maturity status of LODIFY.



LODIFY Maturity Level

OUTCOMES:

TAG MARC	VALUE	INDICATOR	SUBFIELD	CONVERTED IN BIBFRAME (@Cult)	CONVERTED IN BIBFRAME (LOC)
000/05				Y	Y
000/06	a			Y	Y
000/7	m			Y	Y
000/8	#			N	N (ignore)
000/08	a			Y	Y
000/09				N	N (ignore)
000/10				N	N (ignore)
000/11				N	N (ignore)
000/12-16				N	N (ignore)

a	Y	Y
b	N	N
n	N	N
d	N	N
c	N	N
e	Y (we use the relator term, not the URI)	Y (different from LOC)
0	Y	Y
a	Y	Y
n	N	N
d	N	N
c	N	N
a	Y	Y
0	Y	Y
1	Y	Y
4	N	N (nac)???
1	N	N
3	Y	Y
u	Y	Y
MANAGED 40 TAGS		
MANAGED 23 VALUE POSITIONS OF TAG 000 AND 008		
MANAGED 106 SUBFIELDS		

Analysis result:

- Managed and converted **40** tags on 41 found in all records
- Managed and converted **23** value positions of tags 000 and 008
- Managed and converted **106** subfields



SHARE-VDE Troubleshooting

Data analysis and library feedback:

- Outputs from phases 1 and 2 of the project offered the opportunity to share the common experience and knowledge of the Linked data and BIBFRAME in the SHARE-VDE community.
- This sharing has become a discussion table and an opportunity to improve work and the project: errors, imperfections, doubts have become the starting point for a *virtuous cycle*, which gives a voice to the library community in a new and pioneering ecosystem.
- Continuous problem-solving activities increase the quality of the project and the awareness and knowledge of libraries.



Where we are now?



How the SHARE-VDE Community works

Transformation Council

«The SHARE-VDE Transformation Council's role is to provide insight and analysis of the MARC to BIBFRAME transformation to make recommendations for improvements based on member library data analysis, and project documentation.

Initial recommendations are based on Phase 2 deliverables, but the work of the team will be ongoing into the foreseeable future.»

There are 2 sub-committees focusing on specific areas:

- **Work Identification Working Group**
- **Authority/Identifier Management Services Working Group**



How the SHARE-VDE Community works

Work Identification Working Group

- Reviews the [SHARE work clustering outline](#) and submits feedback on potential improvements or optimizations;
- Reviews the use of primary resource identifiers in the SHARE-VDE data set and provides feedback as appropriate;
- Engages with the PCC to identify and/or develop best practices for use of these identifiers in BIBFRAME and MARC data.



How the SHARE-VDE Community works

Authority/Identifier Management Services Working Group

- Defines guidelines and best practices for the authority / Identifier management in the linked data environment in consideration of a variety of different workflows and use cases.

Among the participating institutions:

Stanford University, Duke University, University of Alberta, Yale University, University of Pennsylvania, University of Chicago, University of Michigan, University of California Davis, George Washington University, Ohio State University, National Library of Medicine



SHARE-VDE

The production phase

→ SVDE component 1: Linked Data Lifecycle Support

Aims to guarantee the cultivation of a library's bibliographic holdings in RDF over time through:

- the initial conversion of library data in RDF to create an homogeneous catalogue in Linked Data;
- data updating.

Among the involved processes:

- entity detection and identification;
- data enrichment applying sources of library preference;
- data reconciliation with the attribution of the SHARE-VDE community entity identifiers;
- conversion into BIBFRAME of all the data for all resource types with the latest version of mappings, including other vocabularies when needed.



SHARE-VDE - The production phase

→ SVDE component 2: **Membership**

The institution becomes **actively involved** in the SHARE-VDE community and in the project governance. A number of services and benefits are included in the membership, notably:

- the access to a shared linked data environment (also as SPARQL endpoint);
- the **Cluster Knowledge Base** (CKB) available in RDF, also for other library initiatives;
- the development of APIs and the definition of workflows for the data updating and maintenance;
- in the opposite direction, data dissemination according to the library system availability;
- deployment, configuration and tuning of the **online SHARE-VDE Platform** applying the BIBFRAME three layered architecture (Person/Work, Instance, Item).



What comes next?



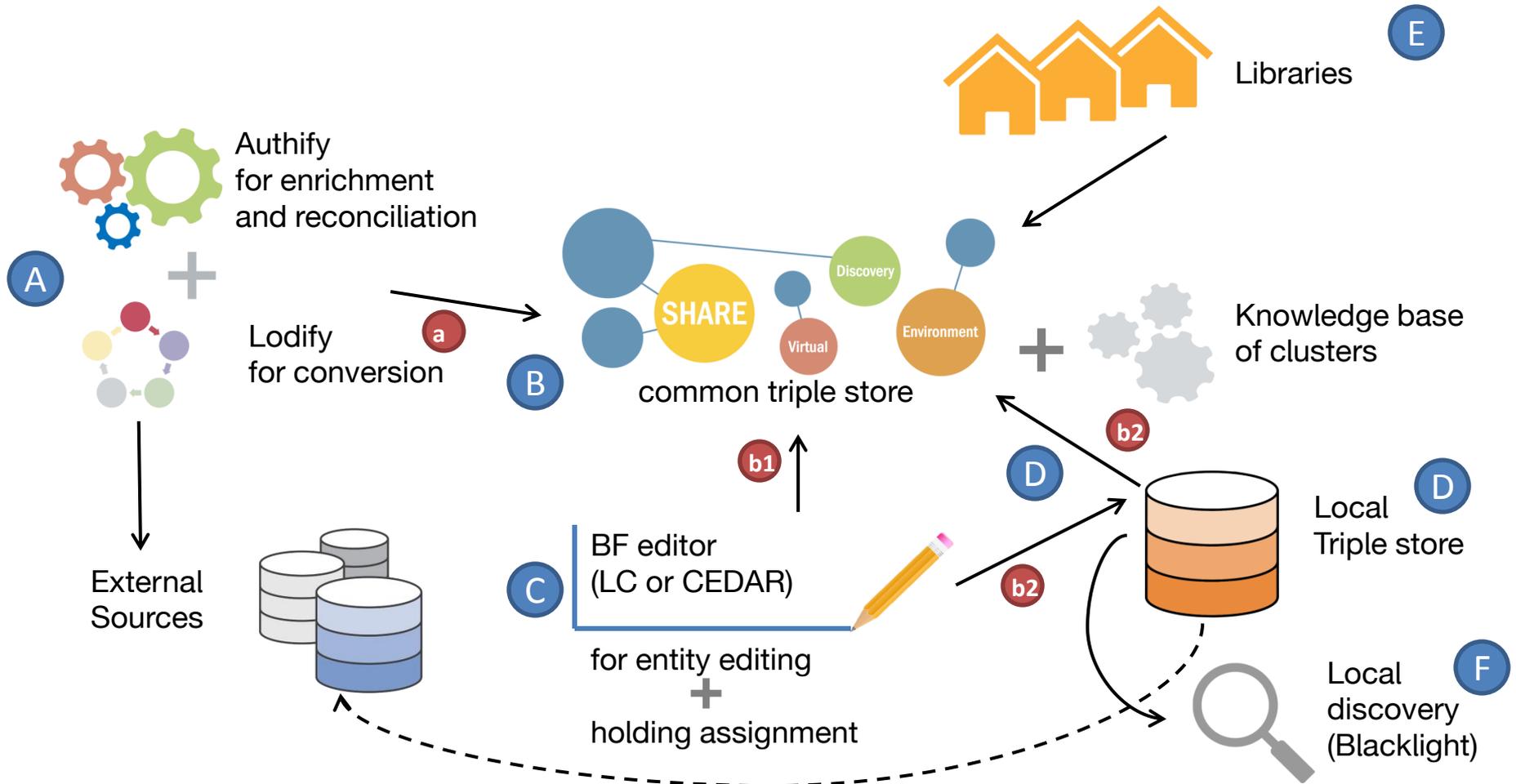
SHARE-VDE

Subsequent candidate use cases

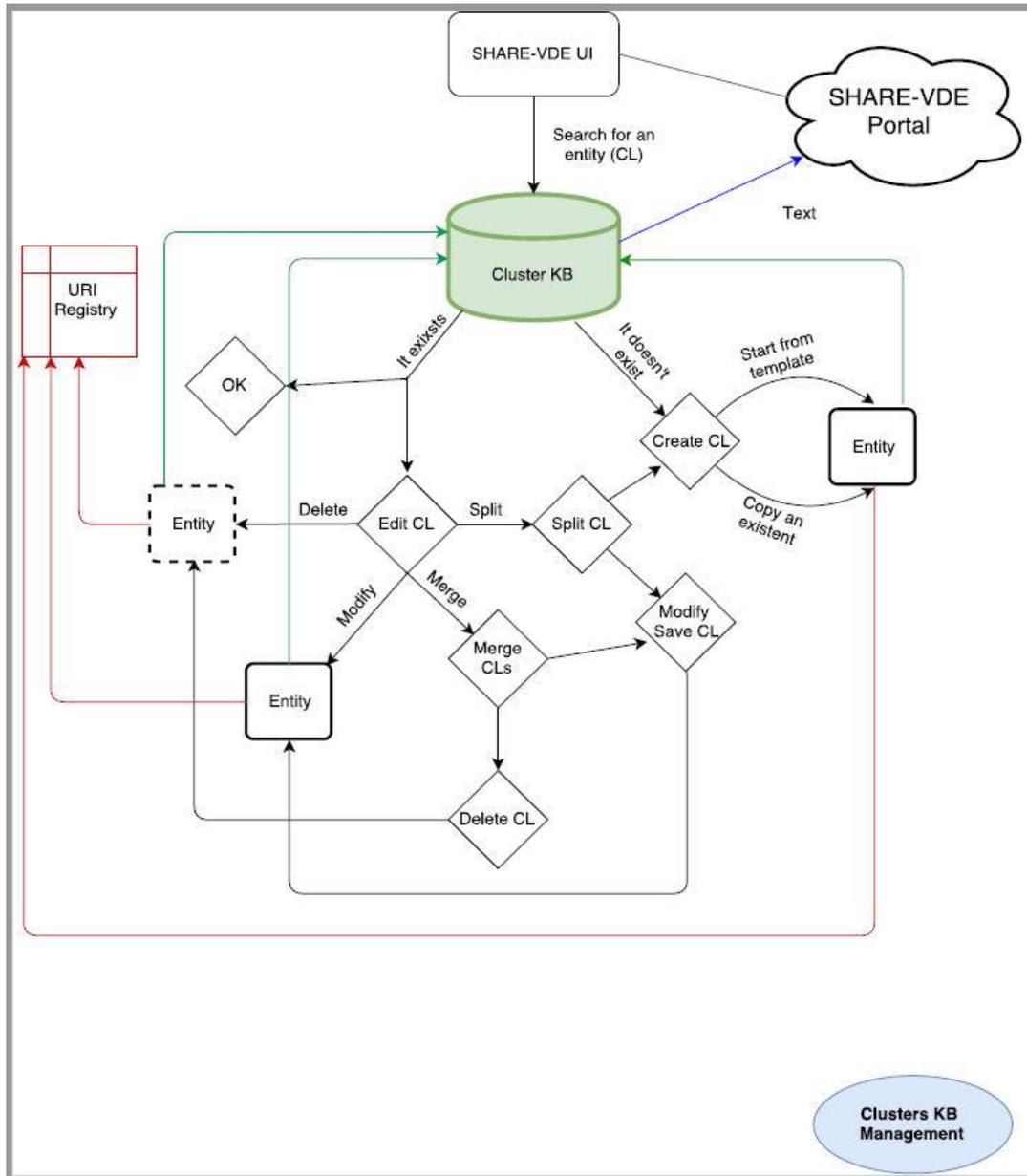
- **Cluster Knowledge Base** management system;
 - **Copy cataloging** and **Original cataloging** dataflows;
 - **APIs layer** for ILS and other LD systems (such as BF Editors and triplestore);
 - **Retro-conversion tools** (from BIBFRAME to MARC);
 - **Reporting** to serve library needs;
 - Inclusion of **SHARE-VDE environment** in new projects
- some further details



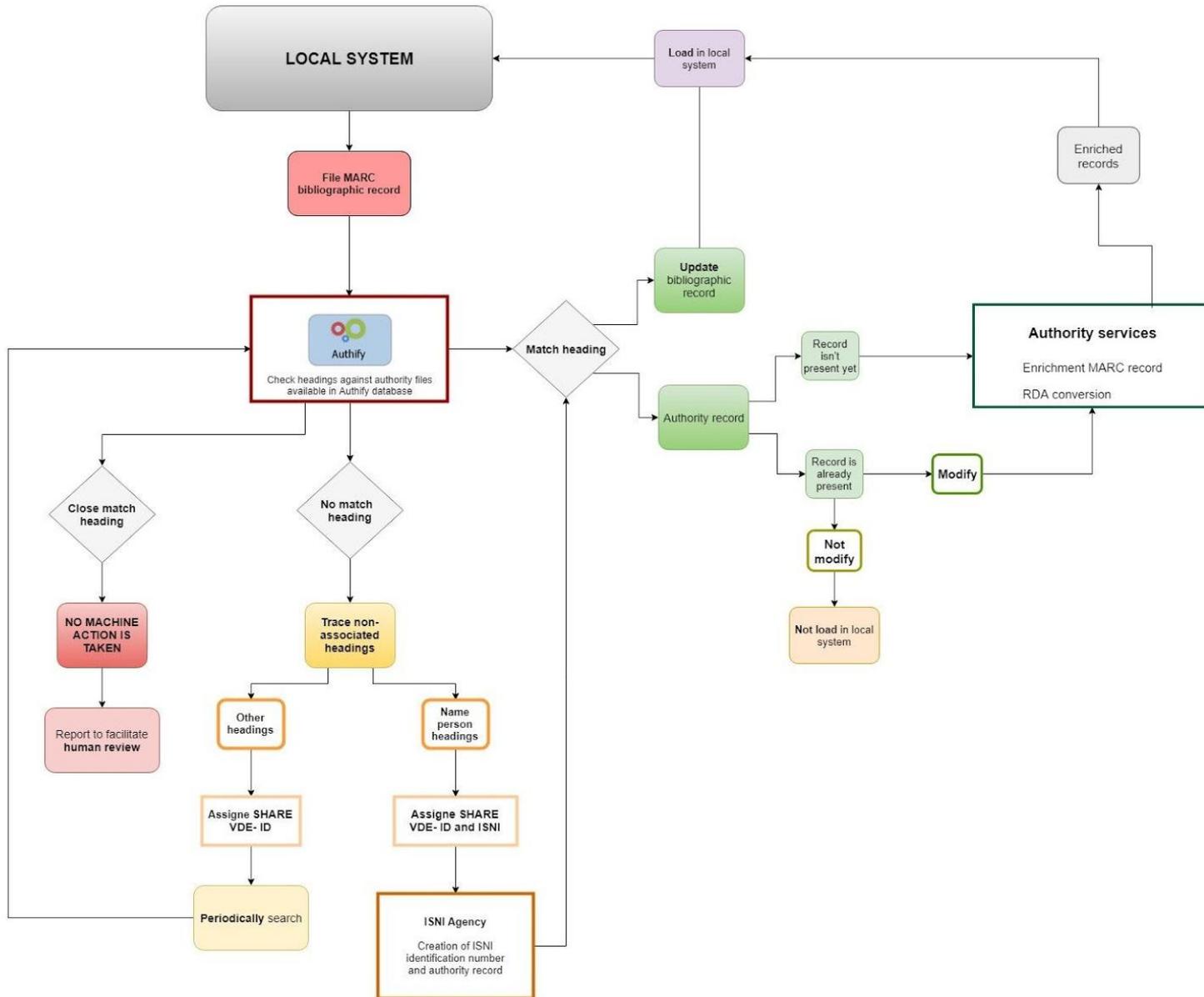
Copy cataloguing



Cluster Knowledge Base Management



Authority Management and Services



European BIBFRAME Workshop
18 September 2018
Firenze

Thank you!
Any questions and feedback are greatly
appreciated.

Tiziana Possemato
Casalini Libri - @Cult



SHARE

Virtual

Discovery

Environment