BIBFLOW: A Roadmap for BIBFRAME Implementation

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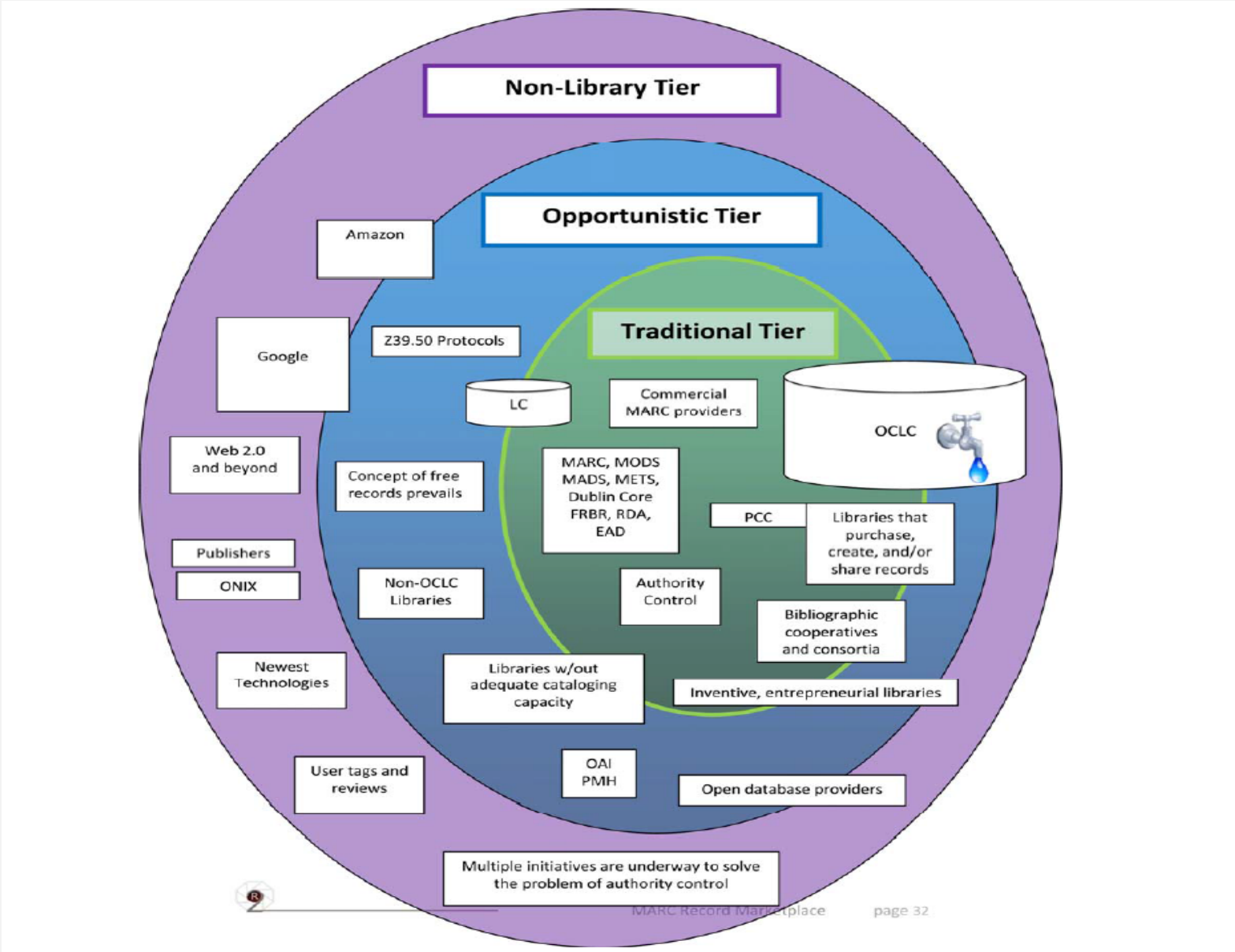
Outline

- Background
- Roadmap
  - Discovery Information Flow
  - Cataloging Data Flow If Authority Exists
  - Cataloging Data Flow if No Authority Exists
- Other Linked Data Efforts
- Final thoughts

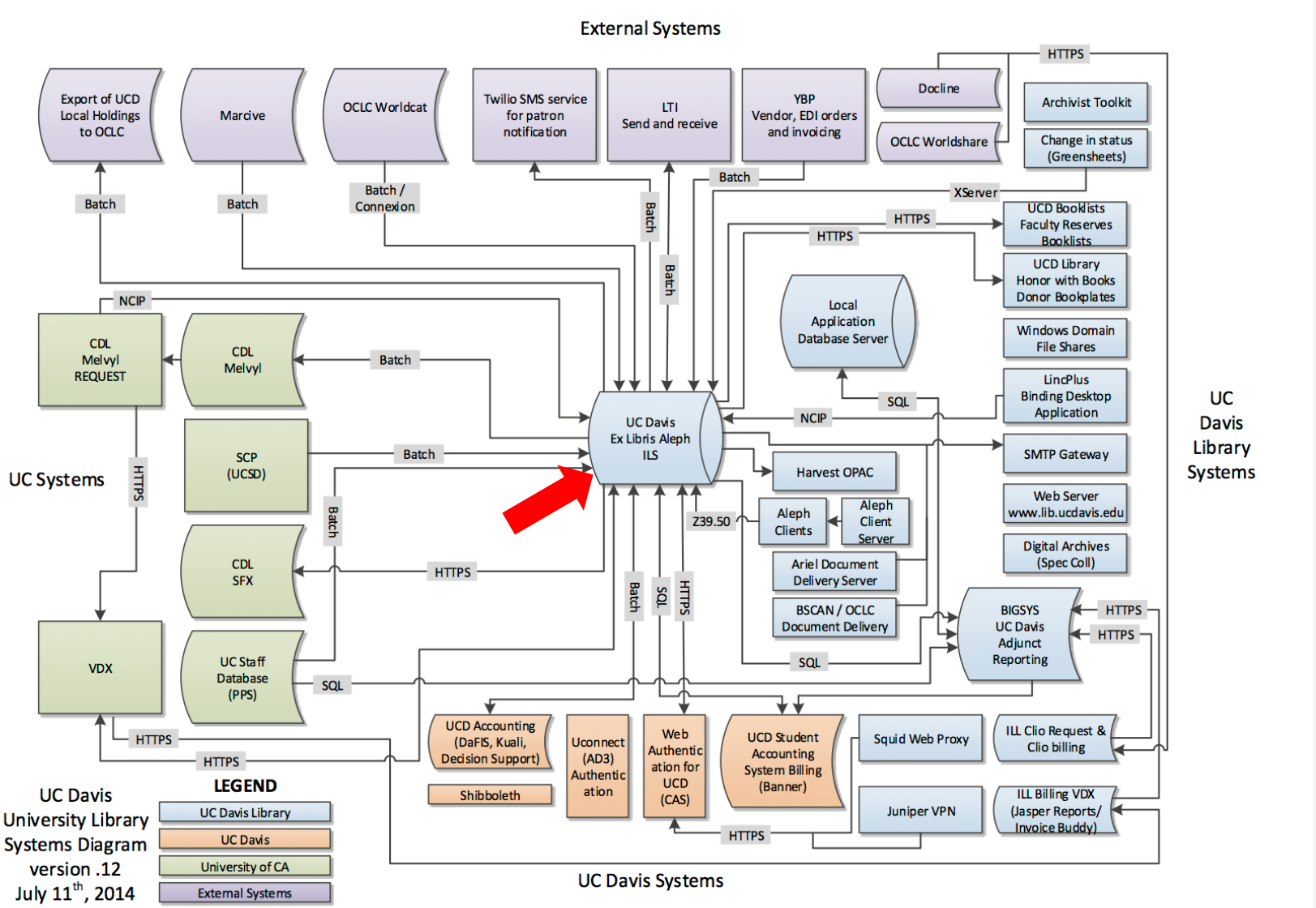
Part I - Background

Overview of BIBFLOW Project

- Is a 2-year project of the UC Davis University Library and Zepheira, funded by Institute of Museum and Library Sciences (May 2014 – April 2016)
- Its official title is “Reinventing Cataloging: Models for the Future of Library Operations”
- Is a research project that will address questions like “What impact will adoption of BIBFRAME on technical services workflows in an academic library”?
- Its primary purpose is to understand ecosystem, test solutions, and provide a roadmap of how libraries can iteratively migrate to linked data without disrupting patron or business services.



Ruth Fischer and Rick Lugg, Study of the North American MARC Records Marketplace, http://www.loc.gov/bibliographic-future/news/MARC_Record_Marketplace_2009-10.pdf


External Systems
Export of UCD Local Holdings to OCLC
Marcive
OCLC Worldcat
Twilio SMS service for patron notification
LTI Send and receive
YBP Vendor, EDI orders and invoicing
Docline
OCLC Worldshare
Archivist Toolkit
Change in status (Greensheets)
HTTPS
Batch
Batch
Batch / Connexion
Batch
Batch
XServer
HTTPS
HTTPS
UCD Booklists Faculty Reserves Booklists
UCD Library Honor with Books Donor Bookplates
Local Application Database Server
Windows Domain File Shares
NCIP
CDL Melvyl REQUEST
CDL Melvyl
Batch
UC Davis Ex Libris Aleph ILS
SQL
LincPlus Binding Desktop Application
NCIP
SMTP Gateway
UC Systems
HTTPS
SCP (UCSD)
Batch
Harvest OPAC
Web Server www.lib.ucdavis.edu
Batch
Aleph Clients
Aleph Client Server
Z39.50
Digital Archives (Spec Coll)
CDL SFX
HTTPS
Ariel Document Delivery Server
Batch
SQL
HTTPS
BSCAN / OCLC Document Delivery
BIGSYS UC Davis Adjunct Reporting
HTTPS
HTTPS
VDX
UC Staff Database (PPS)
SQL
SQL
UCD Accounting (DaFIS, Kuali, Decision Support)
Uconnect (AD3) Authentication
Web Authentication for UCD (CAS)
UCD Student Accounting System Billing (Banner)
Squid Web Proxy
ILL Clio Request & Clio billing
HTTPS
HTTPS
Shibboleth
Juniper VPN
ILL Billing VDX (Jasper Reports/ Invoice Buddy)
HTTPS
UC Davis Systems
UC Davis University Library Systems Diagram version .12 July 11th, 2014
LEGEND
UC Davis Library
UC Davis
University of CA
External Systems
UC Davis Library Systems

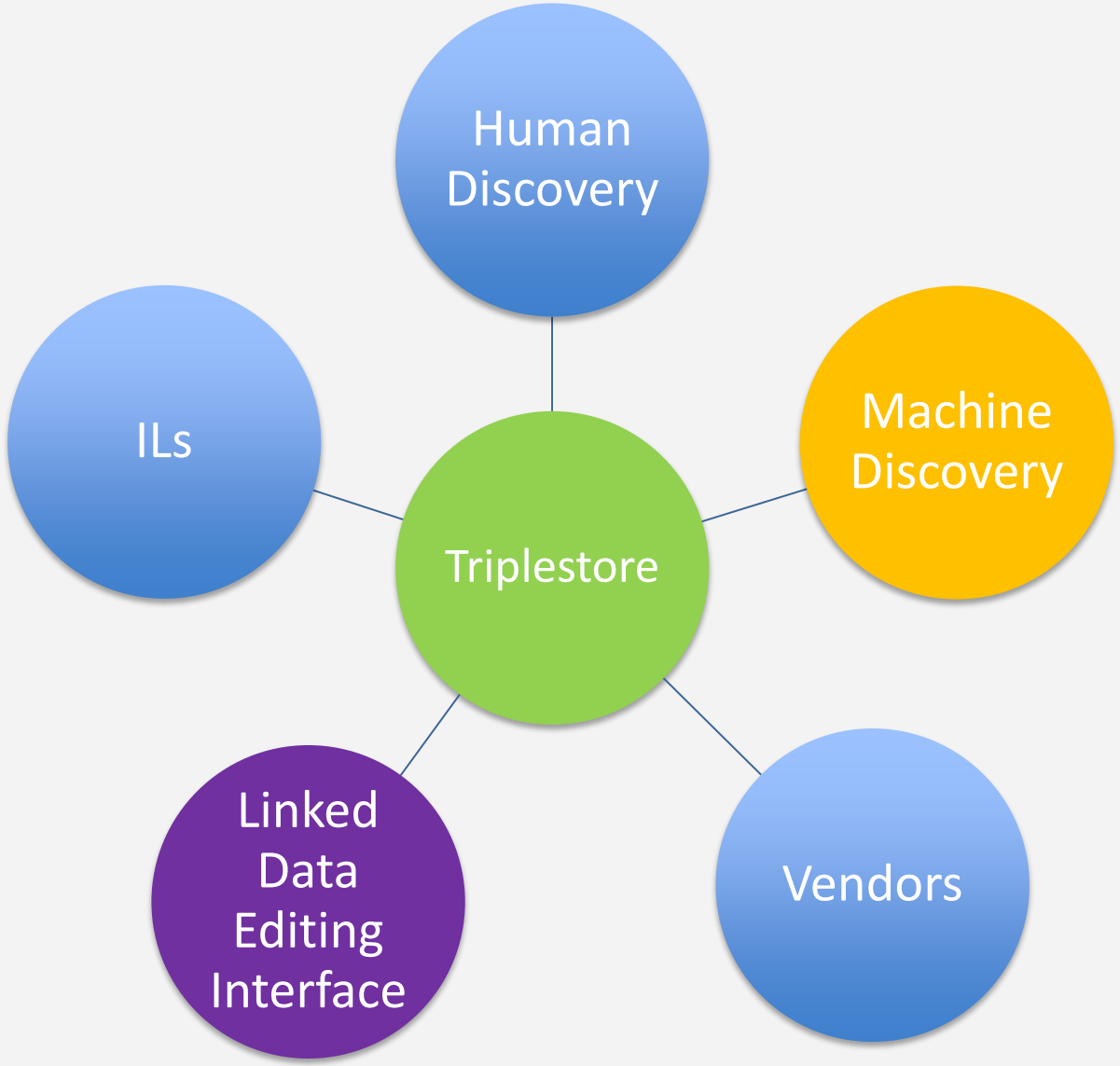
This complexity leads to the inevitable conclusion that moving away from MARC into BIBFRAME represents an evolutionary leap for libraries and not a simple migration.

What Have We Done?

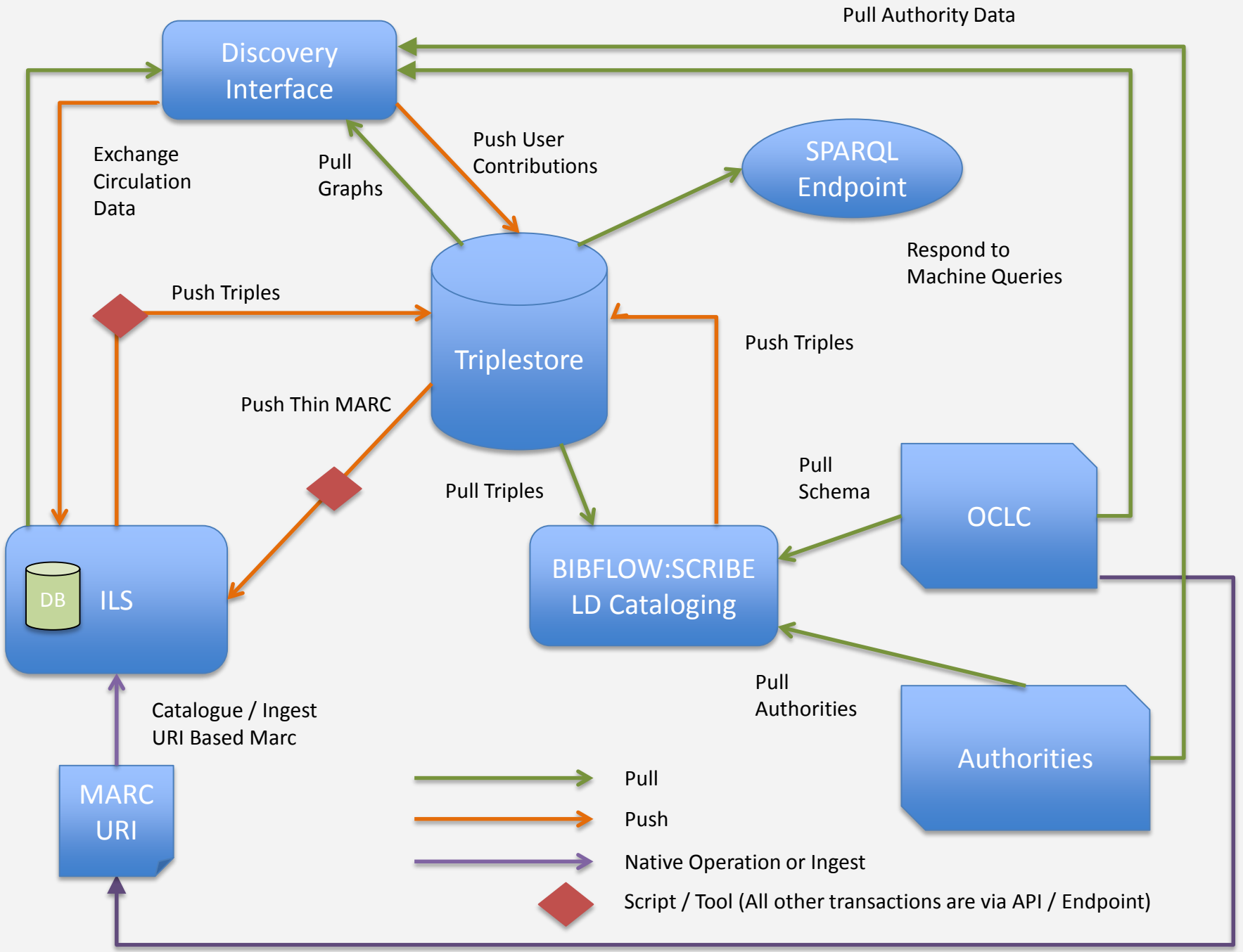
- Analyzed cataloging workflow: https://www.library.ucdavis.edu/bibflow/category/workflow-2/
- Tested pulling data from OCLC using *BIBFRAME Scribe*: http://jarjar.lib.ucdavis.edu:8888/static/
- Tested pulling data and URI from LC using *BIBFRAME Scribe*: http://jarjar.lib.ucdavis.edu:8888/static/
- Explored conversion of MARC records to BIBFRAME
  - LC's MARC to BIBFRAME Transformation Service
    - http://bibframe.org/tools/transform/start
  - Zepheira's transformation tool
    - https://linksmith.zepheira.com/training/ (password required)
- Developed a roadmap

Part II - Roadmap

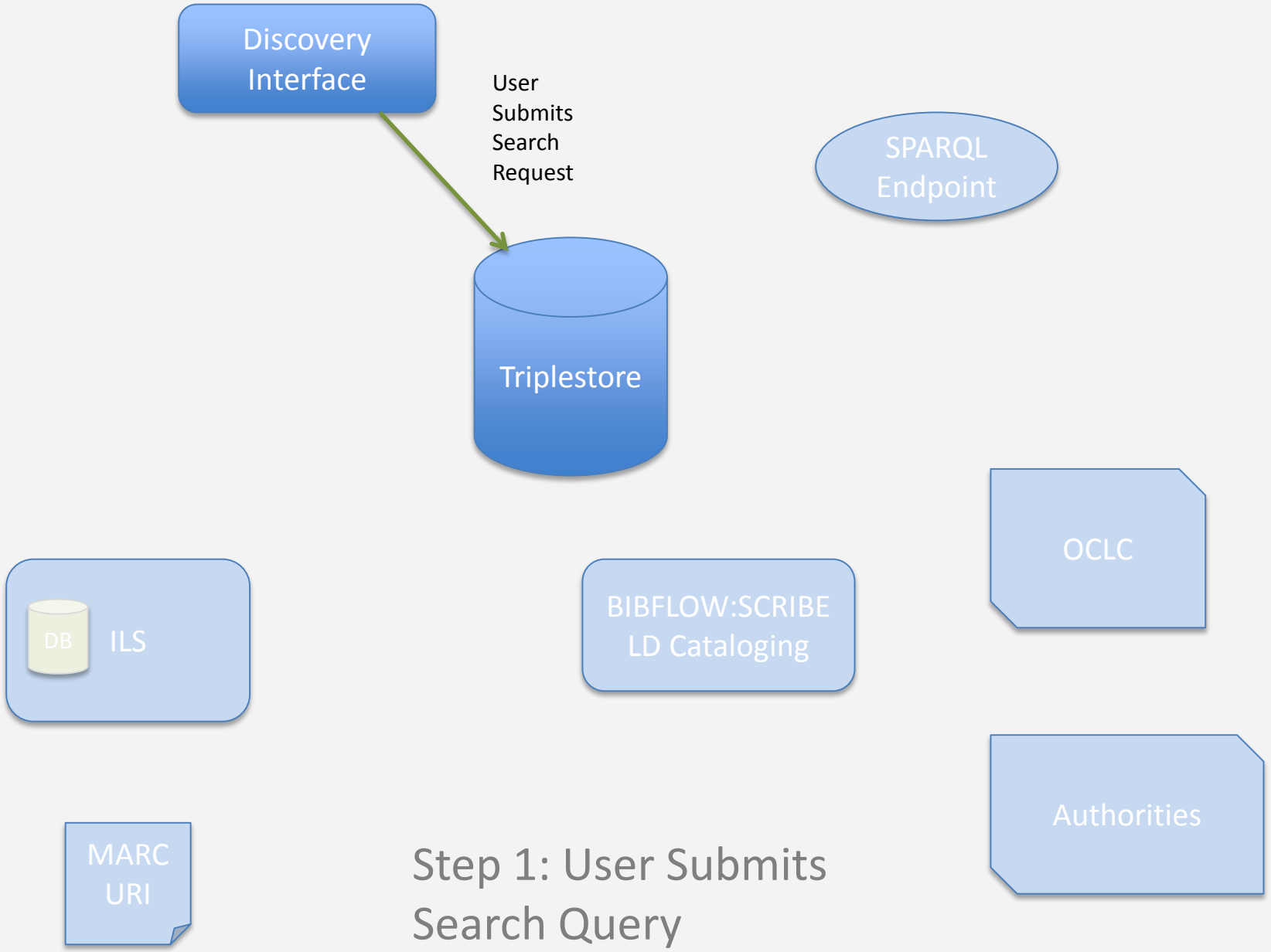
Roadmap: Primary Stakeholders



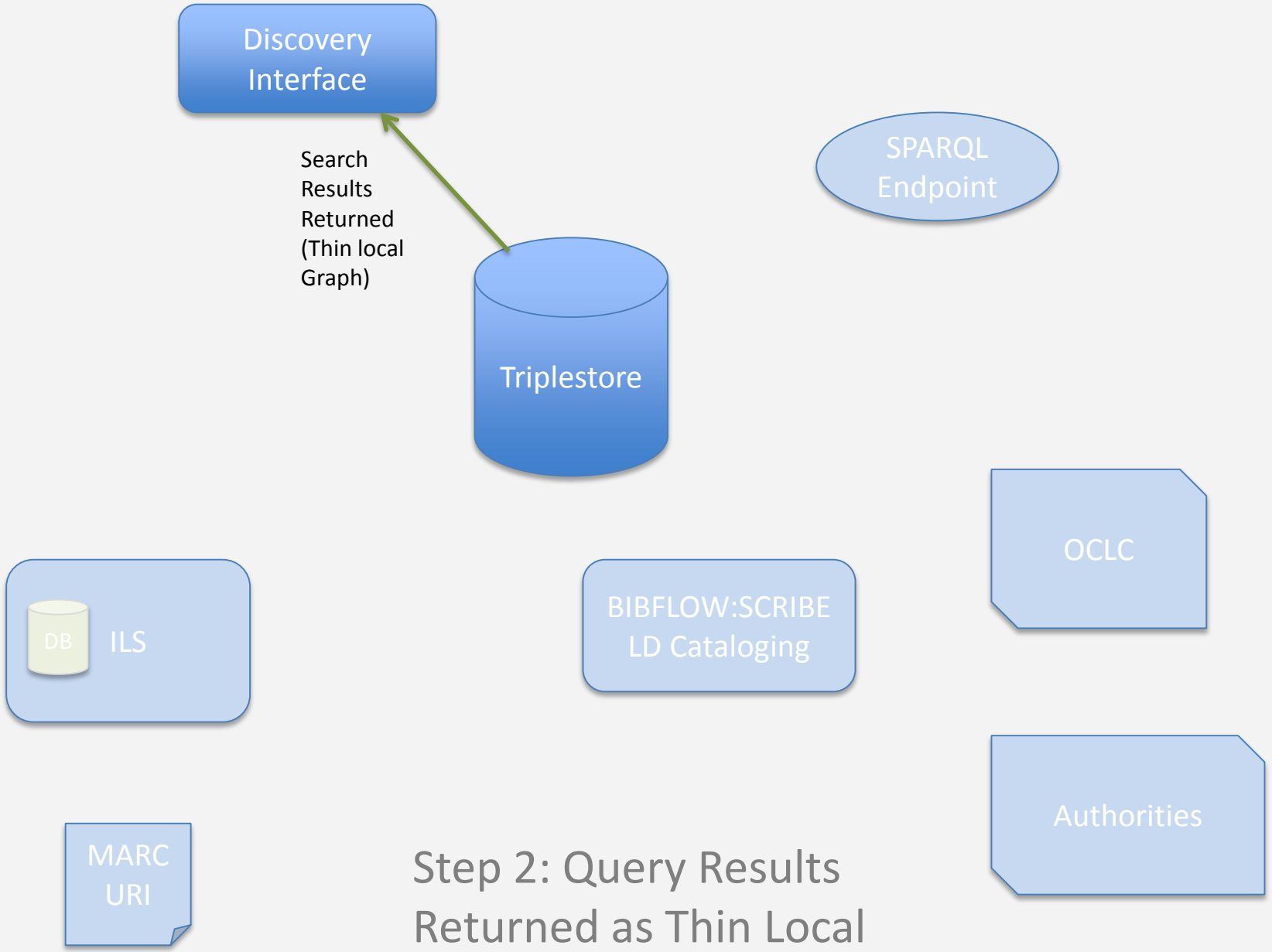
Roadmap: Ecosystem



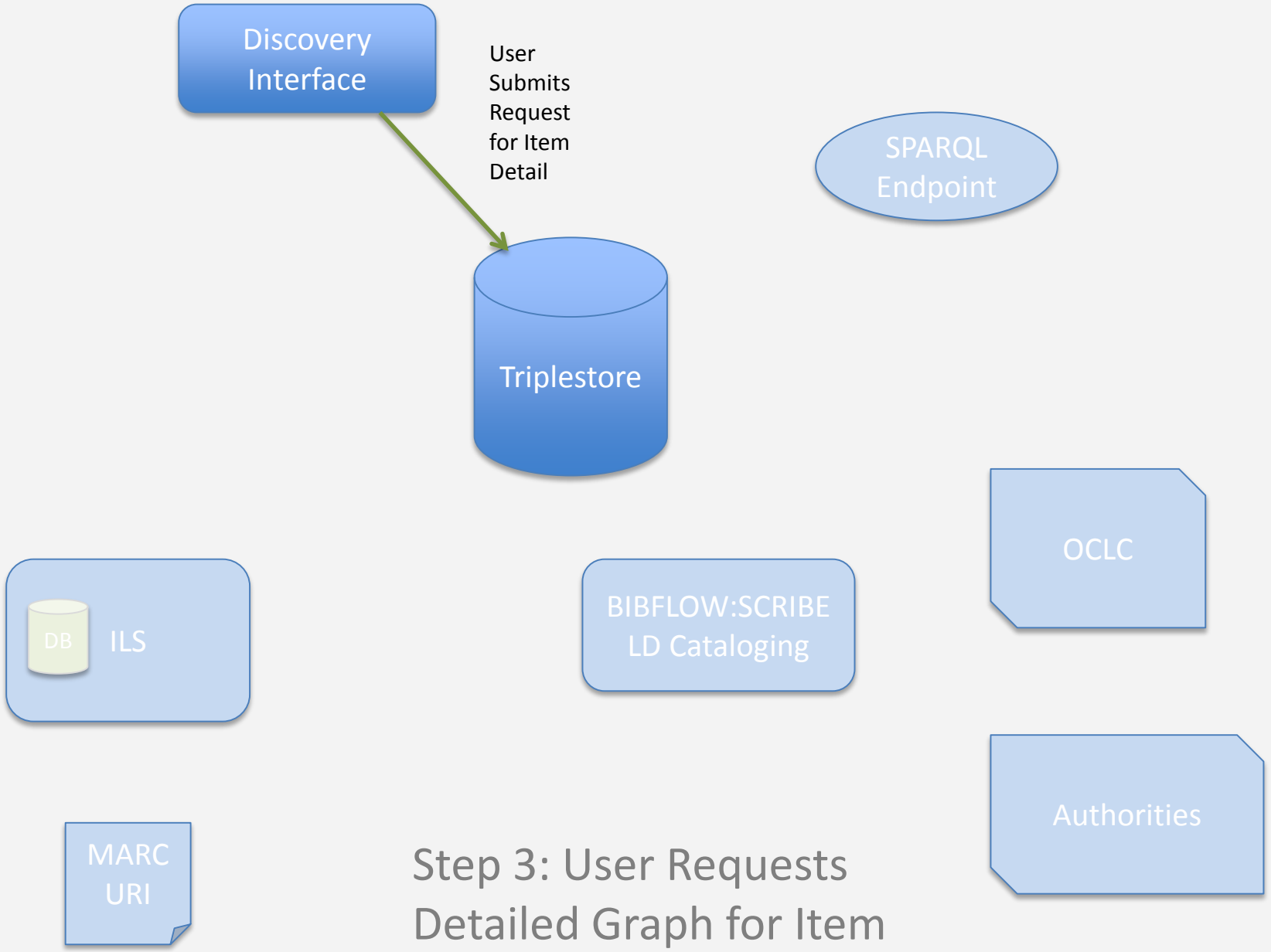
1. Discovery Information Flow



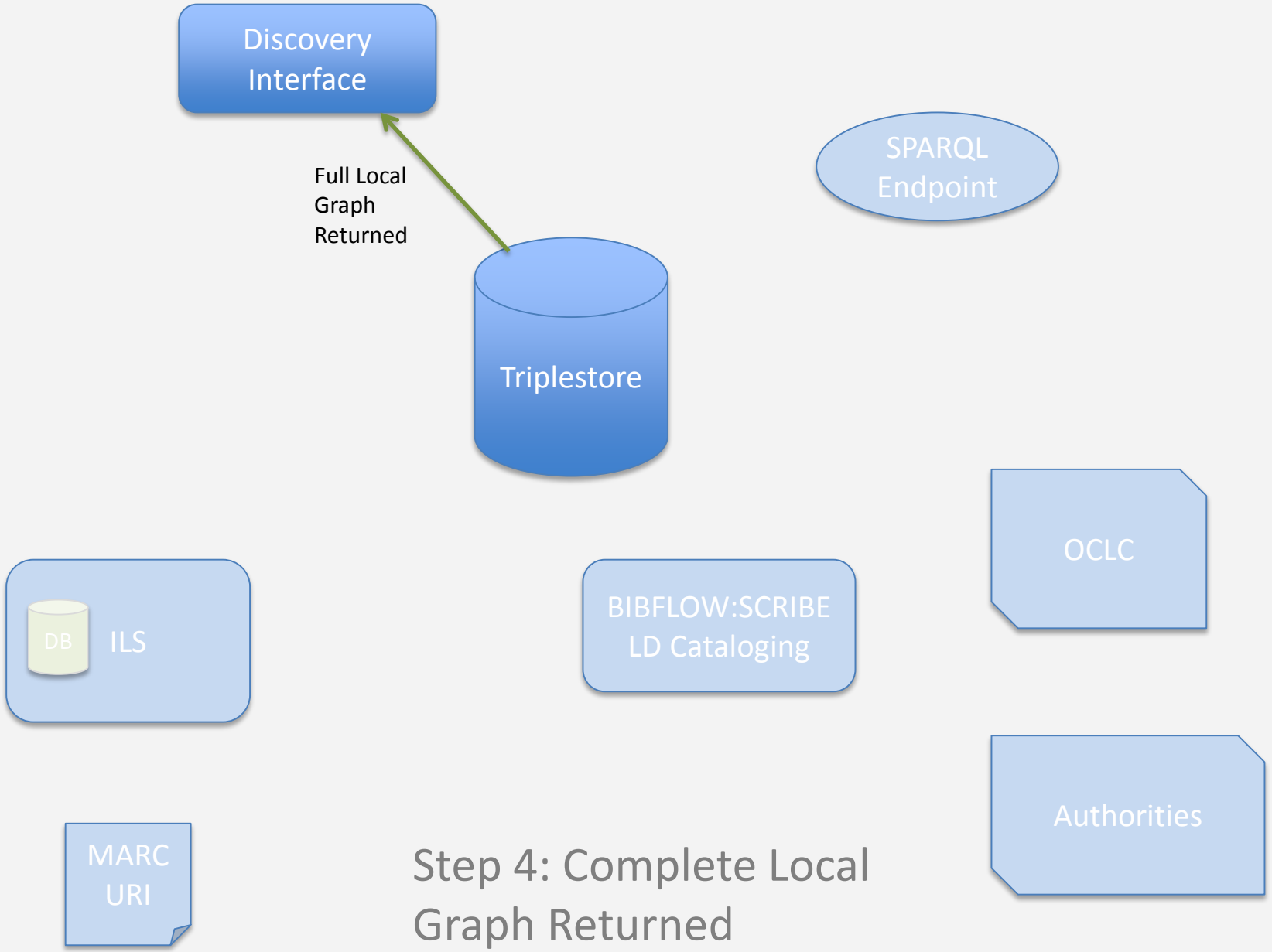
Step 1: User Submits Search Query



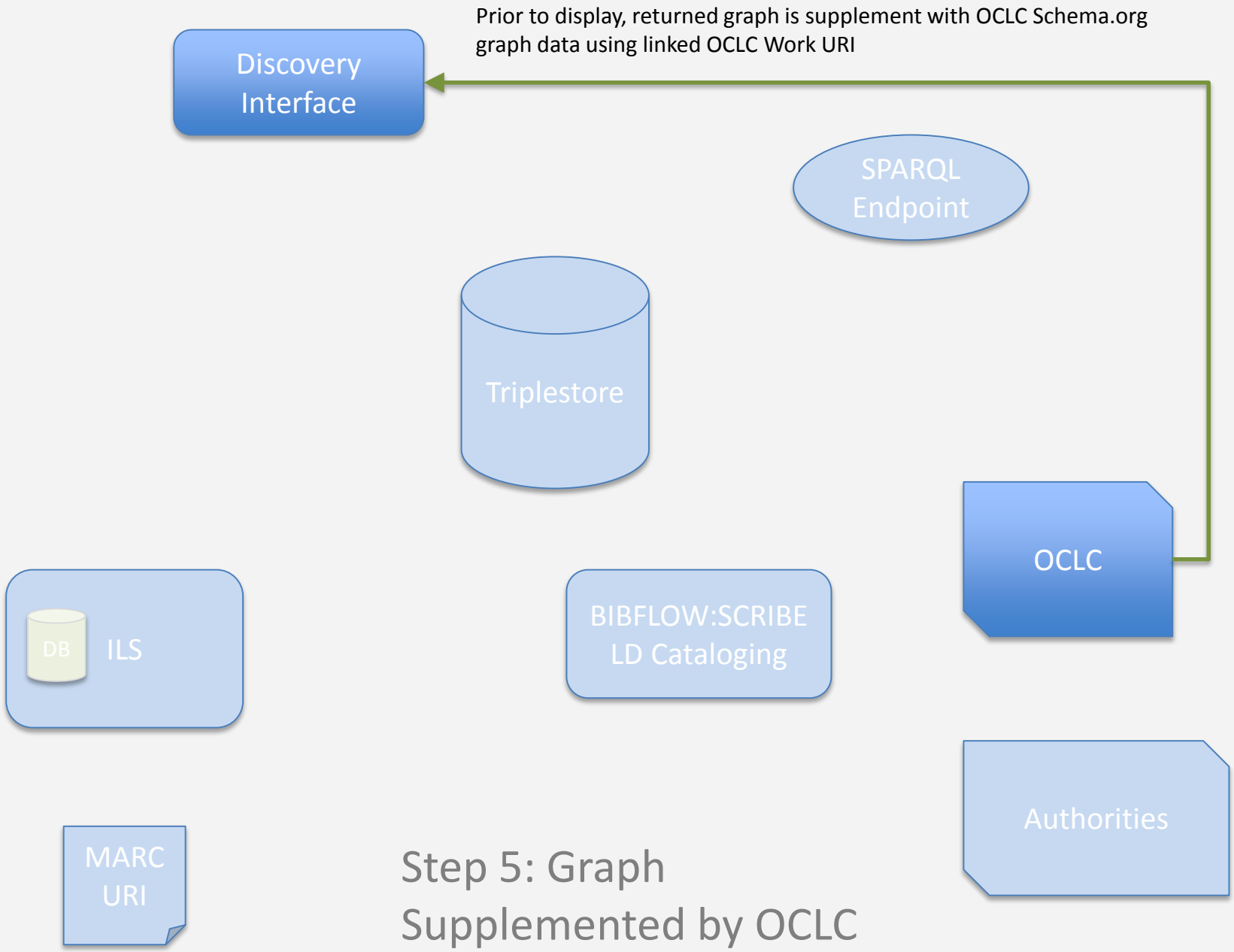
Step 2: Query Results Returned as Thin Local Graph



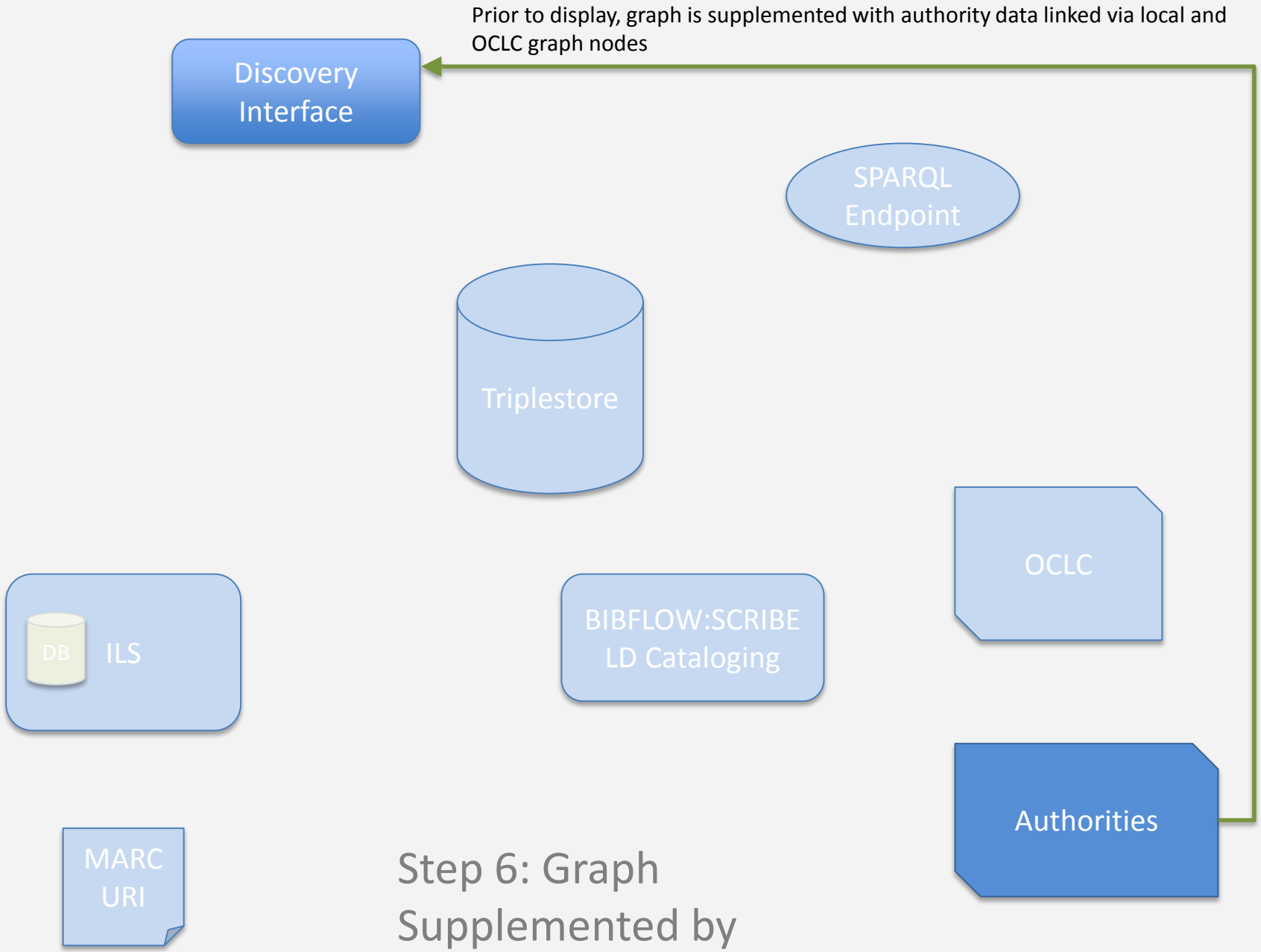
Step 3: User Requests Detailed Graph for Item



Step 4: Complete Local Graph Returned

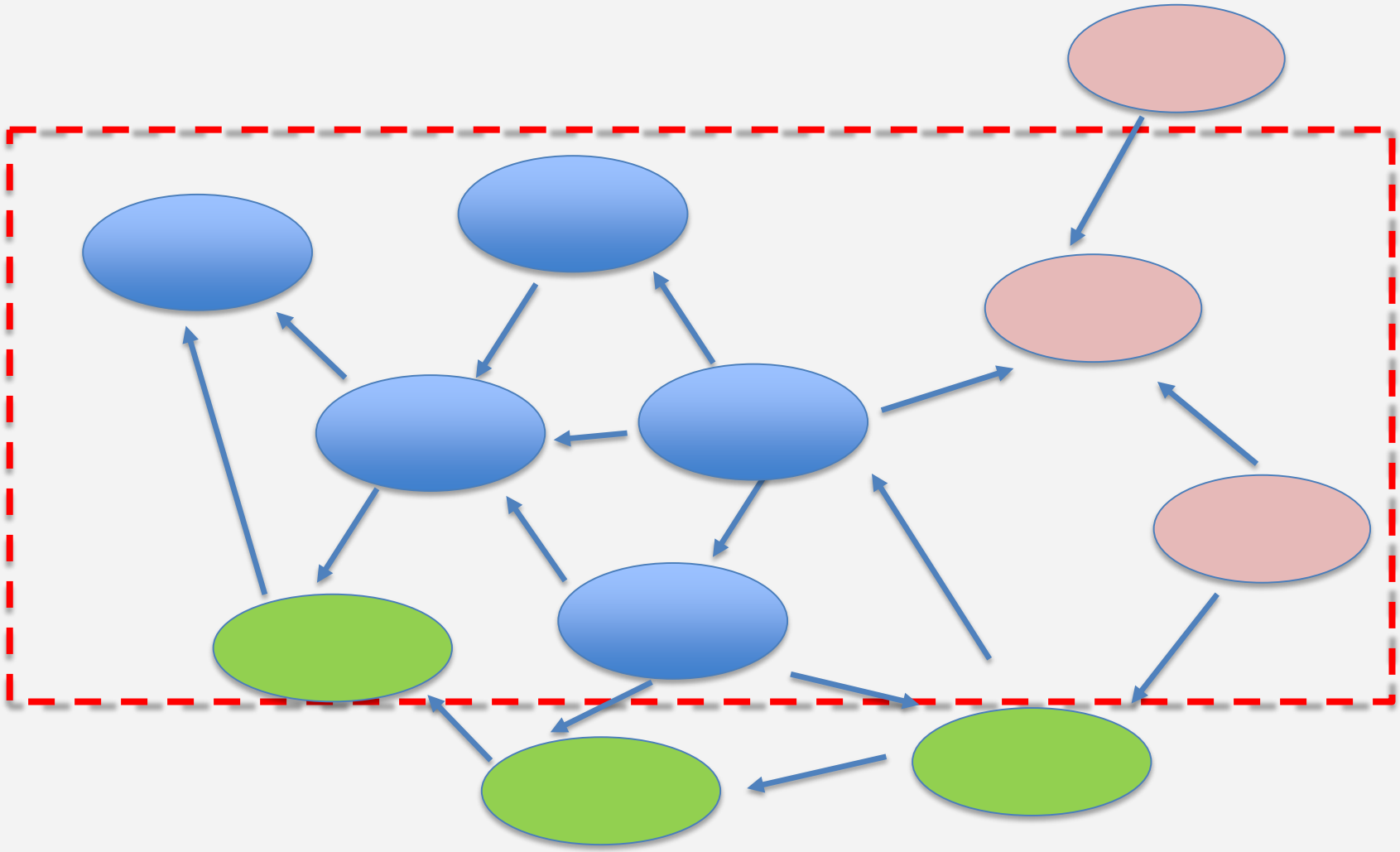


Step 5: Graph Supplemented by OCLC Schema.org graph

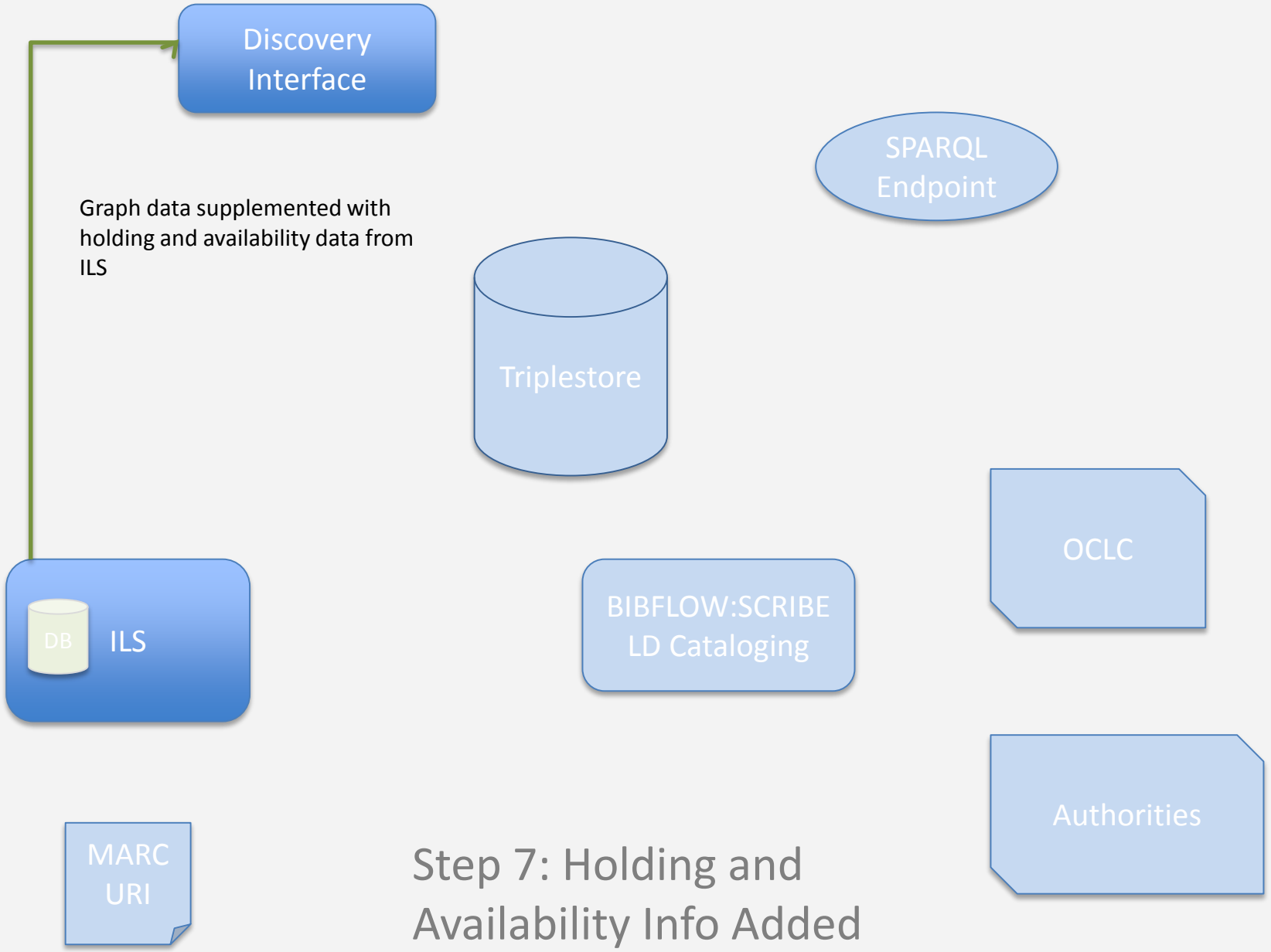


Step 6: Graph Supplemented by Authority Graphs

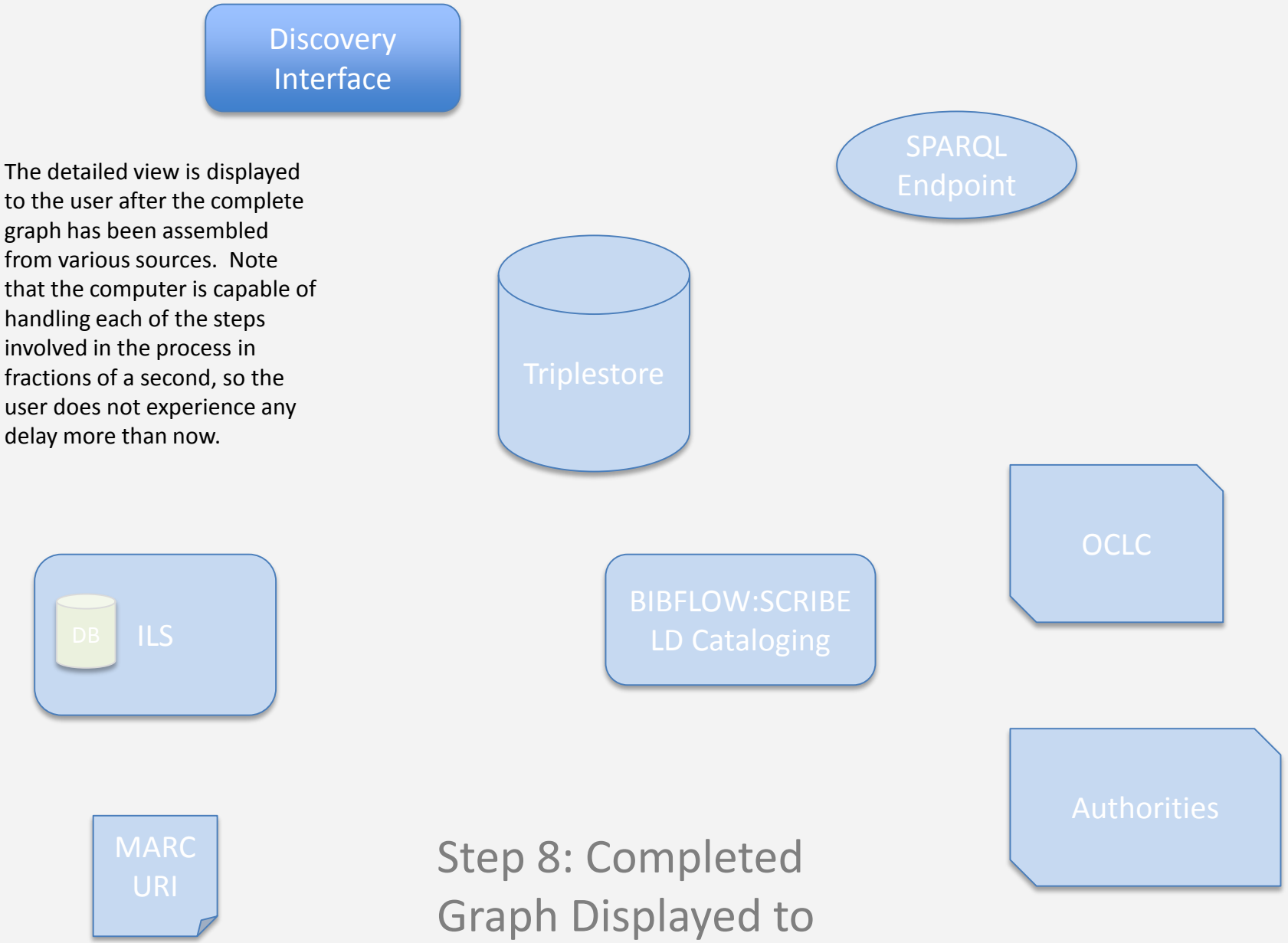
Graph Building (steps 4, 5 & 6)



Triples in the rectangle forms a record view which is displayed to a user via discovery interface



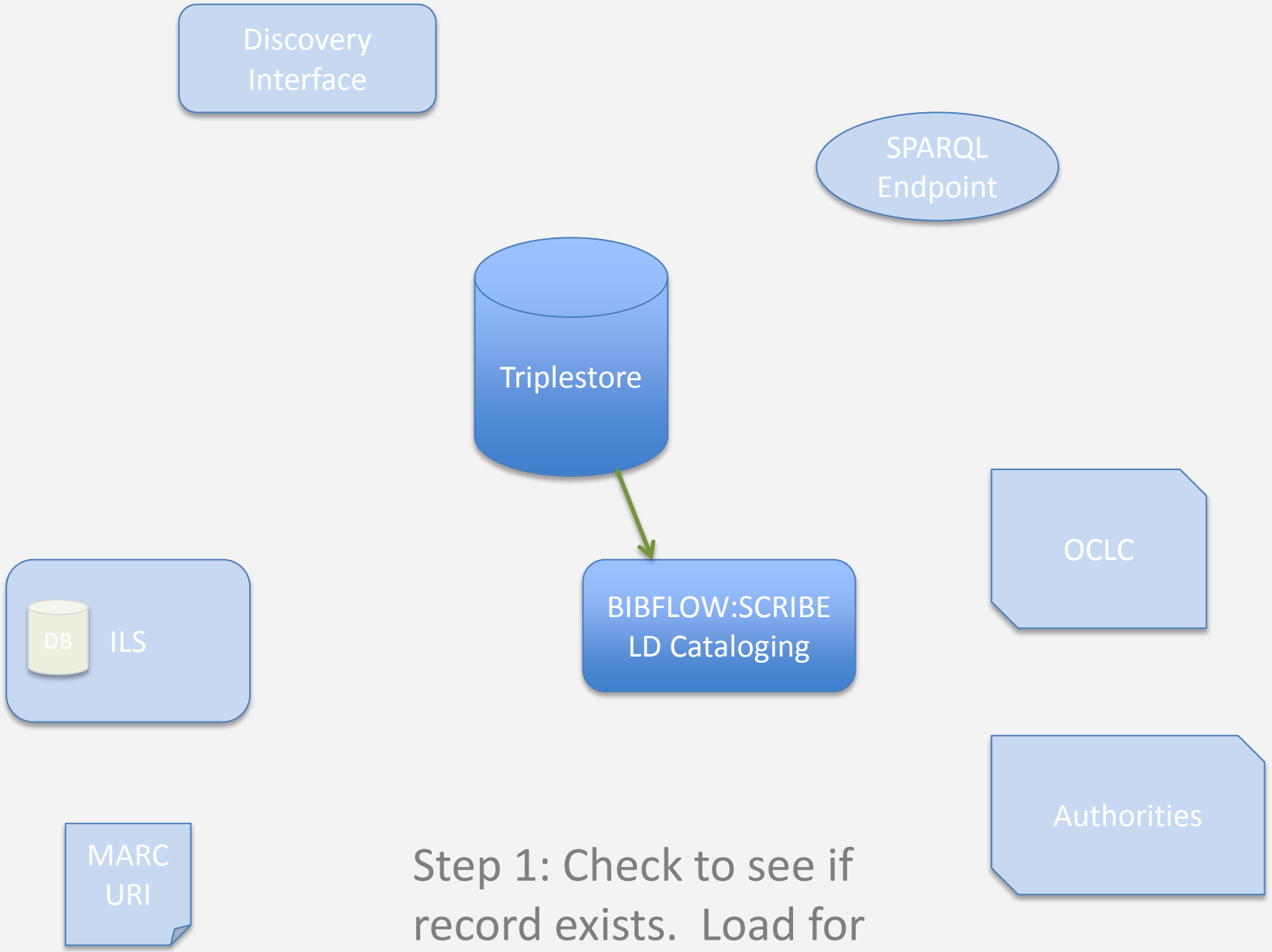
Step 7: Holding and Availability Info Added



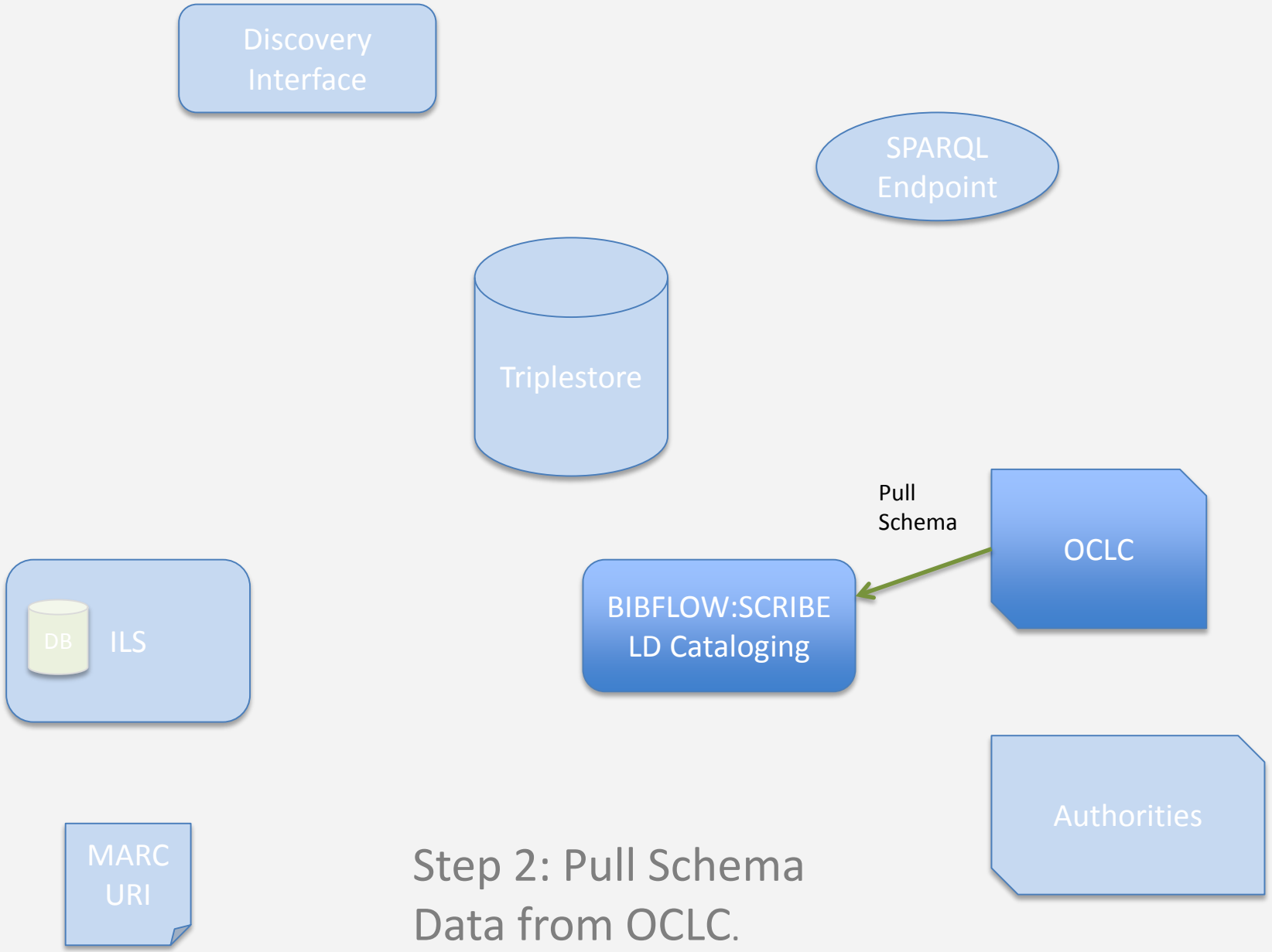
The detailed view is displayed to the user after the complete graph has been assembled from various sources. Note that the computer is capable of handling each of the steps involved in the process in fractions of a second, so the user does not experience any delay more than now.

Step 8: Completed Graph Displayed to User

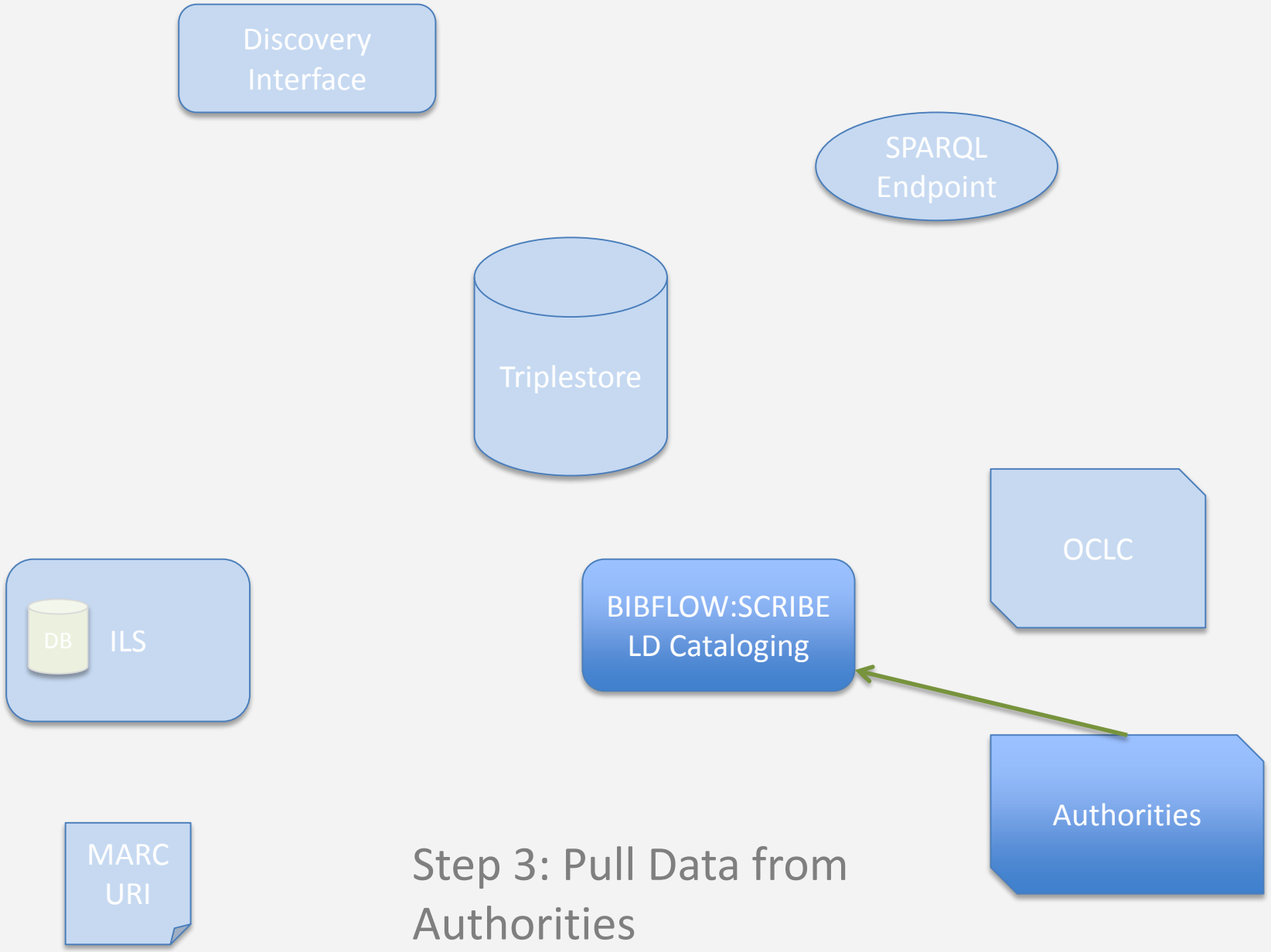
2. Cataloging Data Flow If Authority Exists



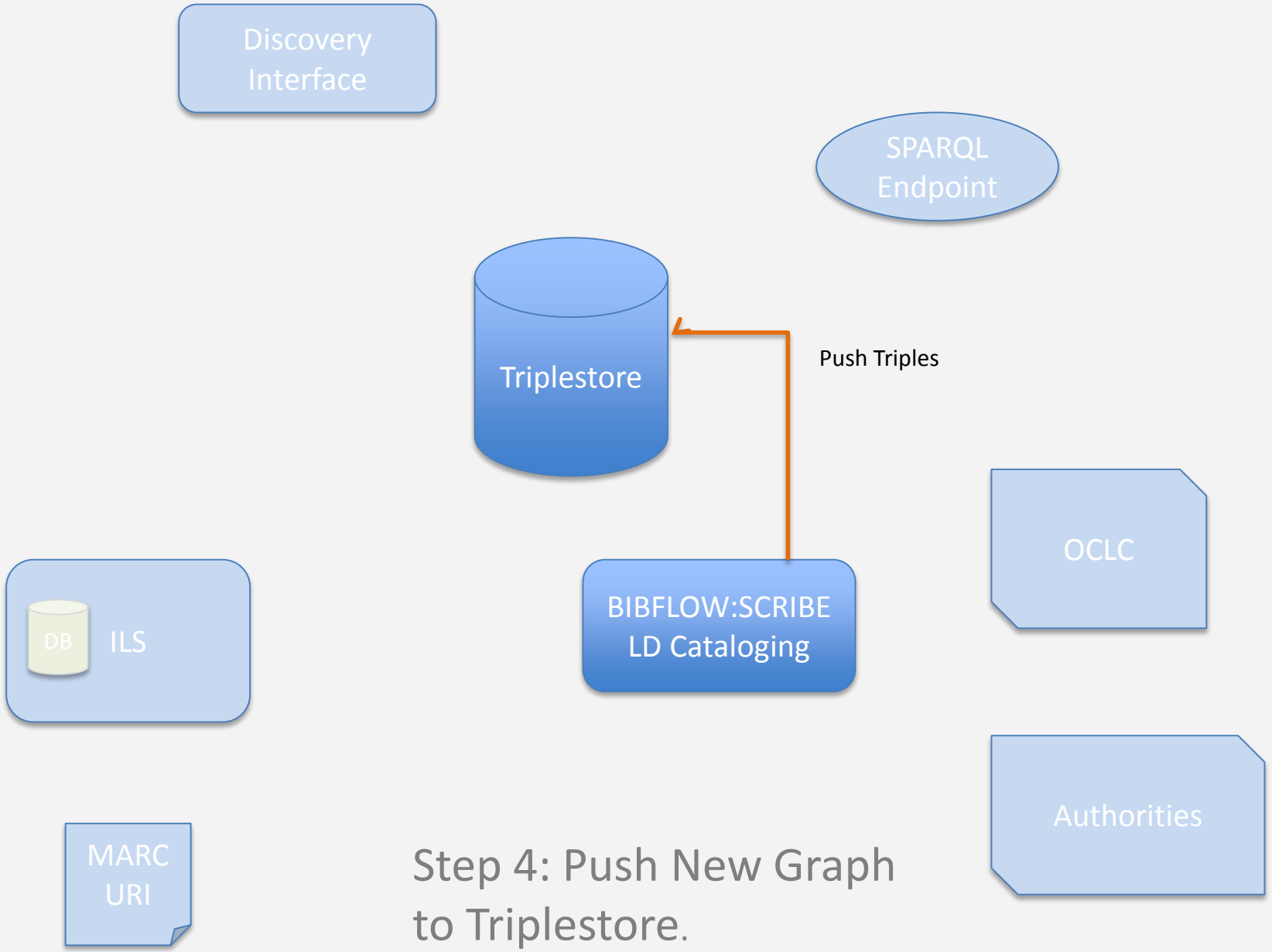
Step 1: Check to see if record exists. Load for Edit if Yes. New if No.



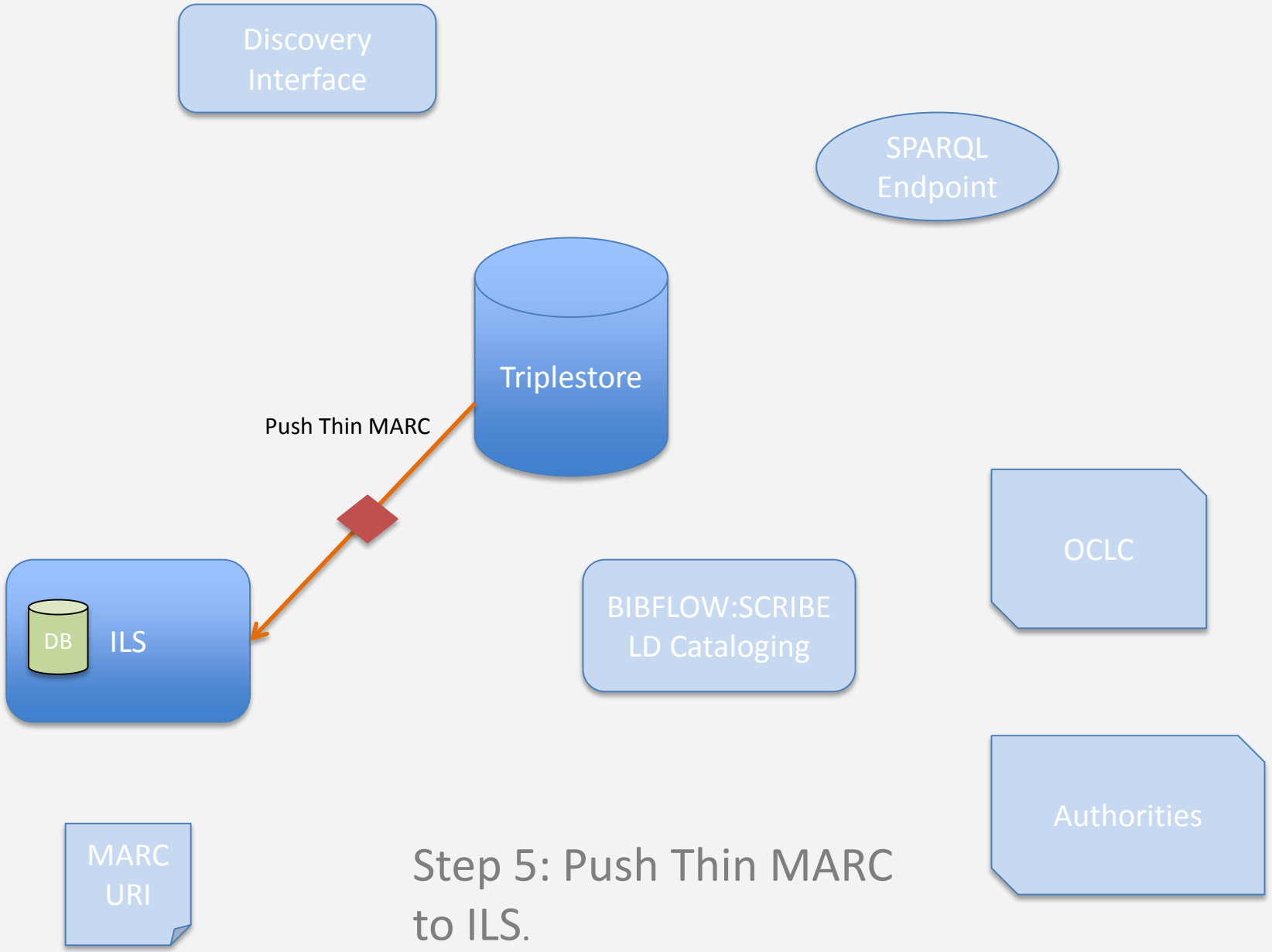
Step 2: Pull Schema Data from OCLC.



Step 3: Pull Data from Authorities

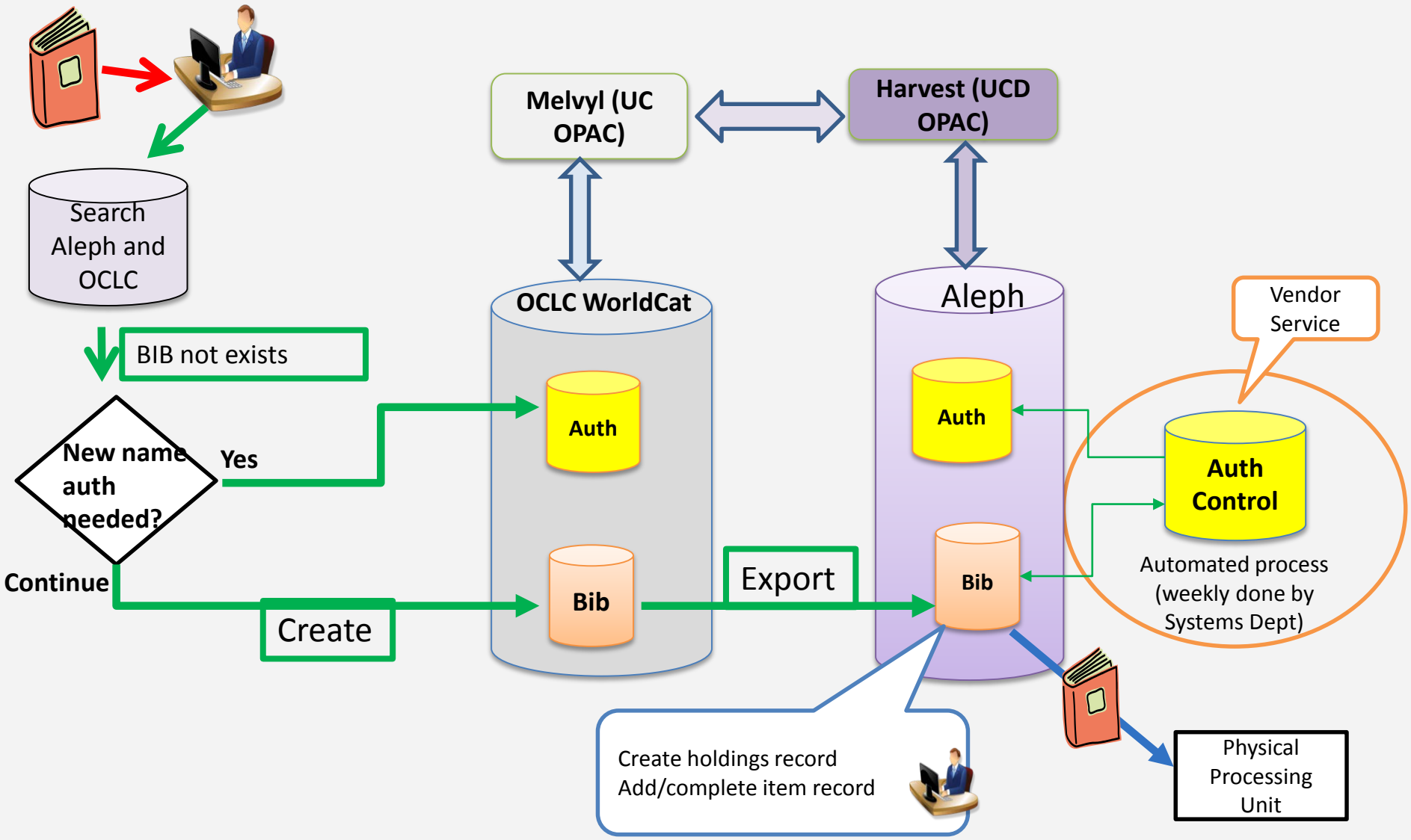


Step 4: Push New Graph to Triplestore.



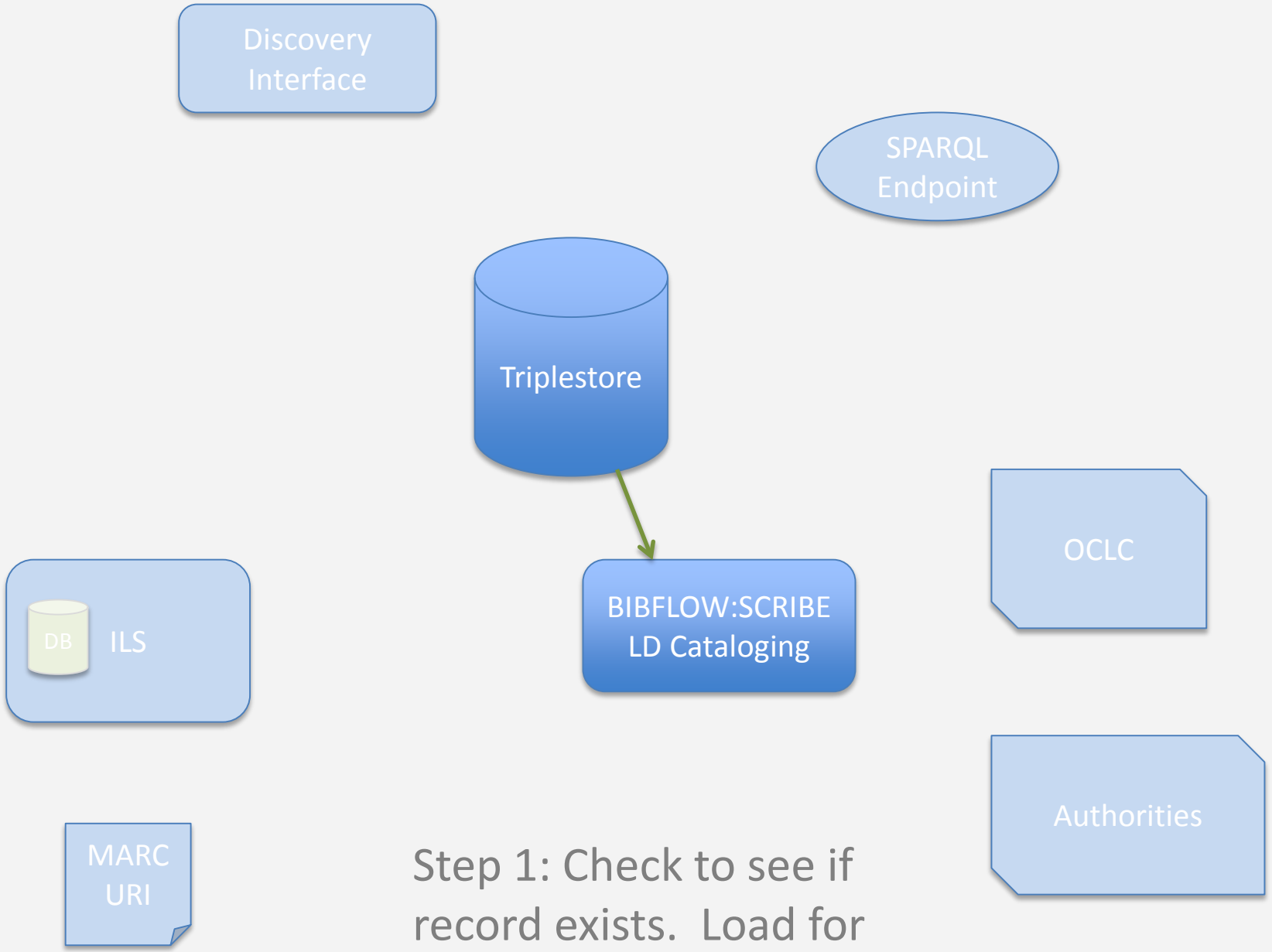
Step 5: Push Thin MARC to ILS.

3. Cataloging Data Flow if No Authority Exists

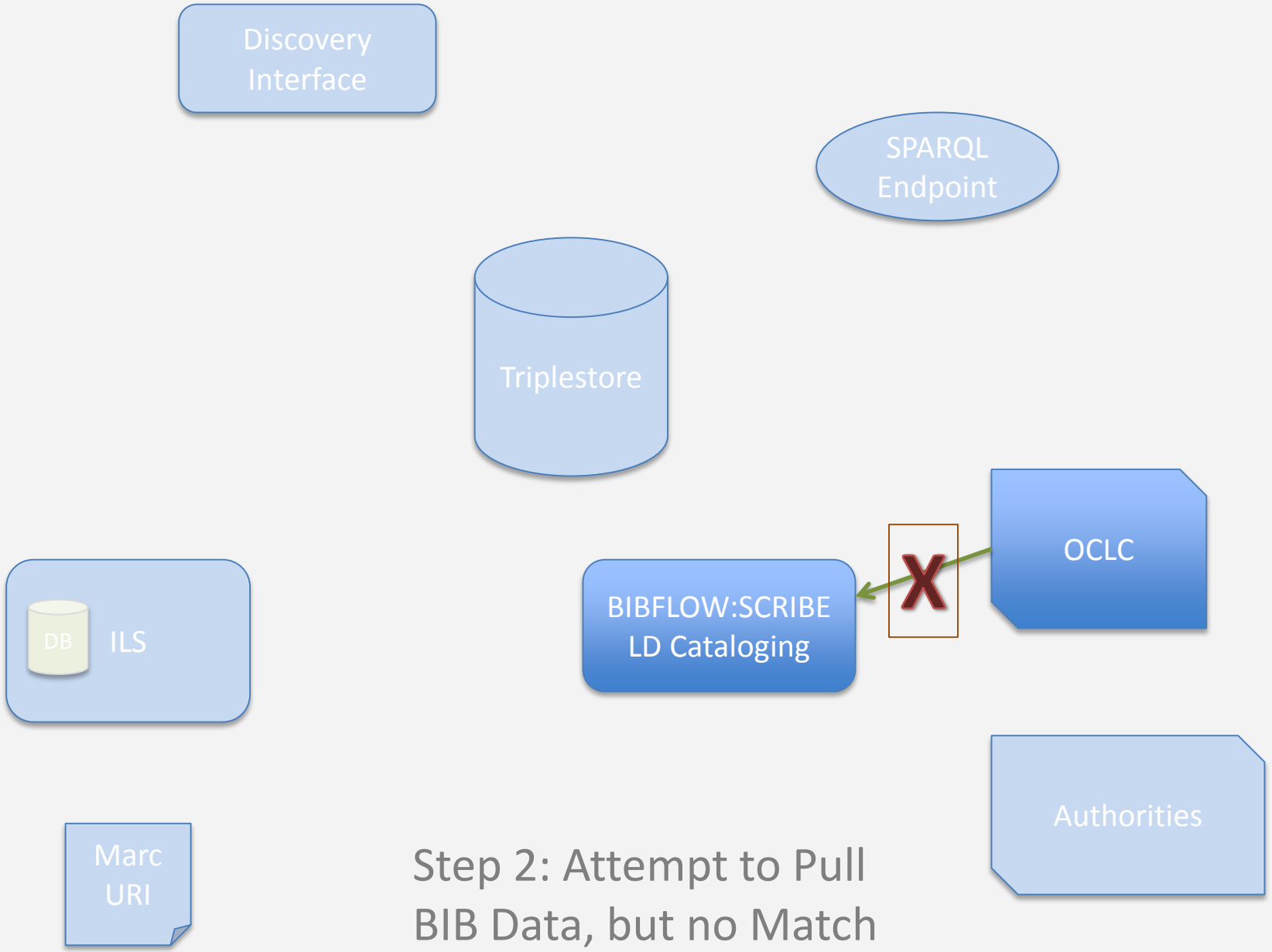


Current Workflow for Original Cataloging of Print Monographs

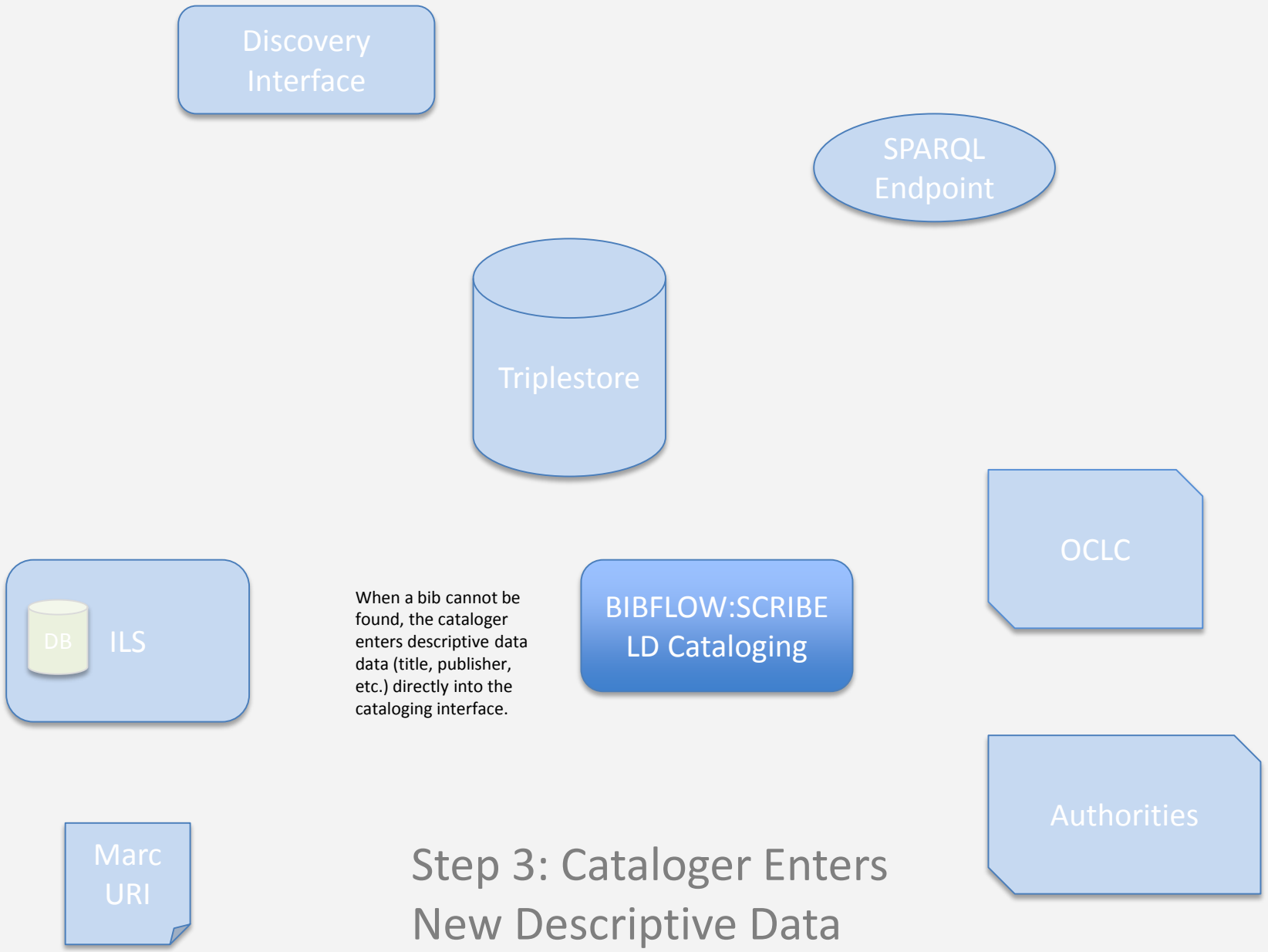
NEW Workflow for Original Cataloging of Print Monographs



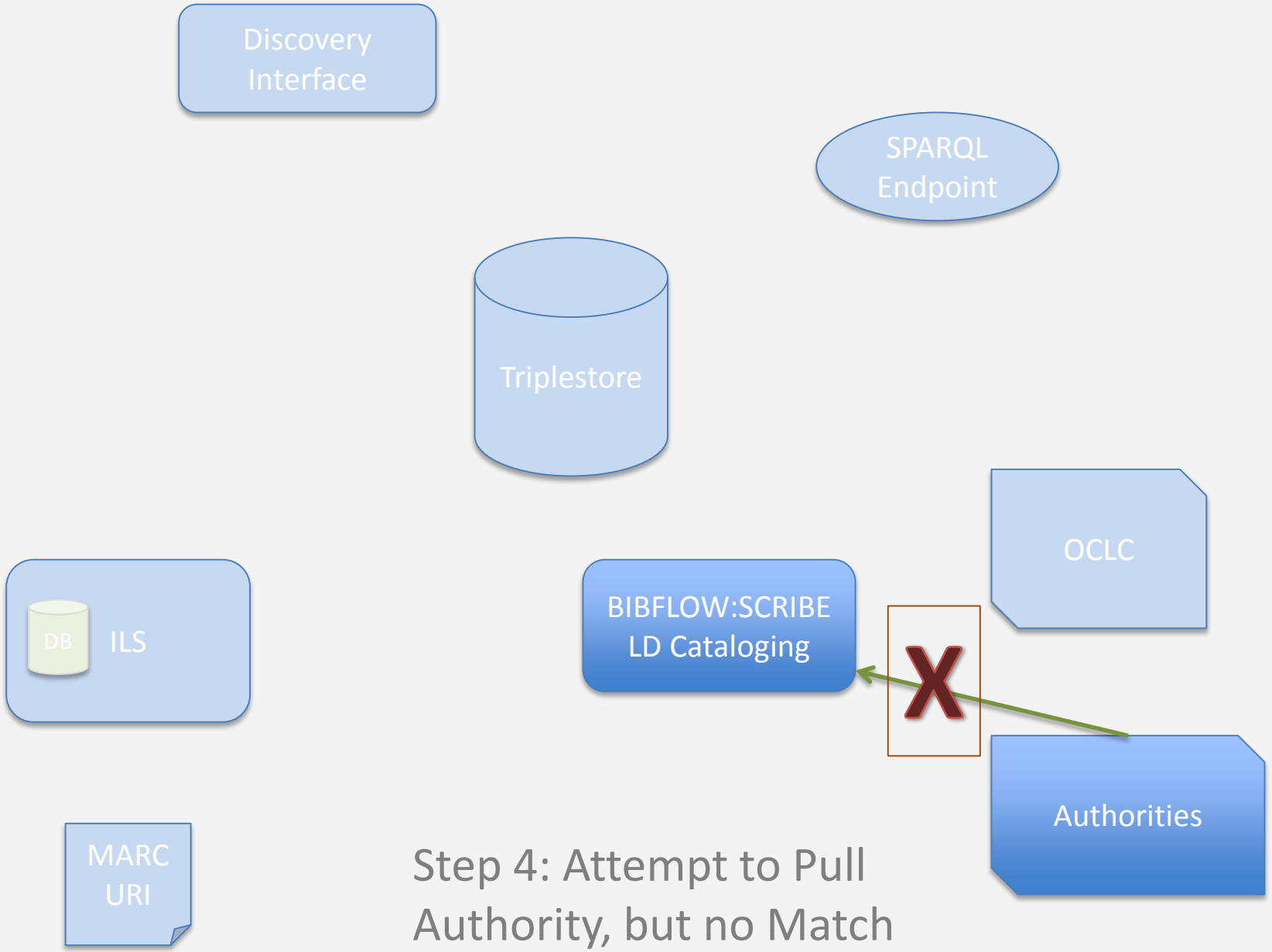
Step 1: Check to see if record exists. Load for Edit if Yes. New if No



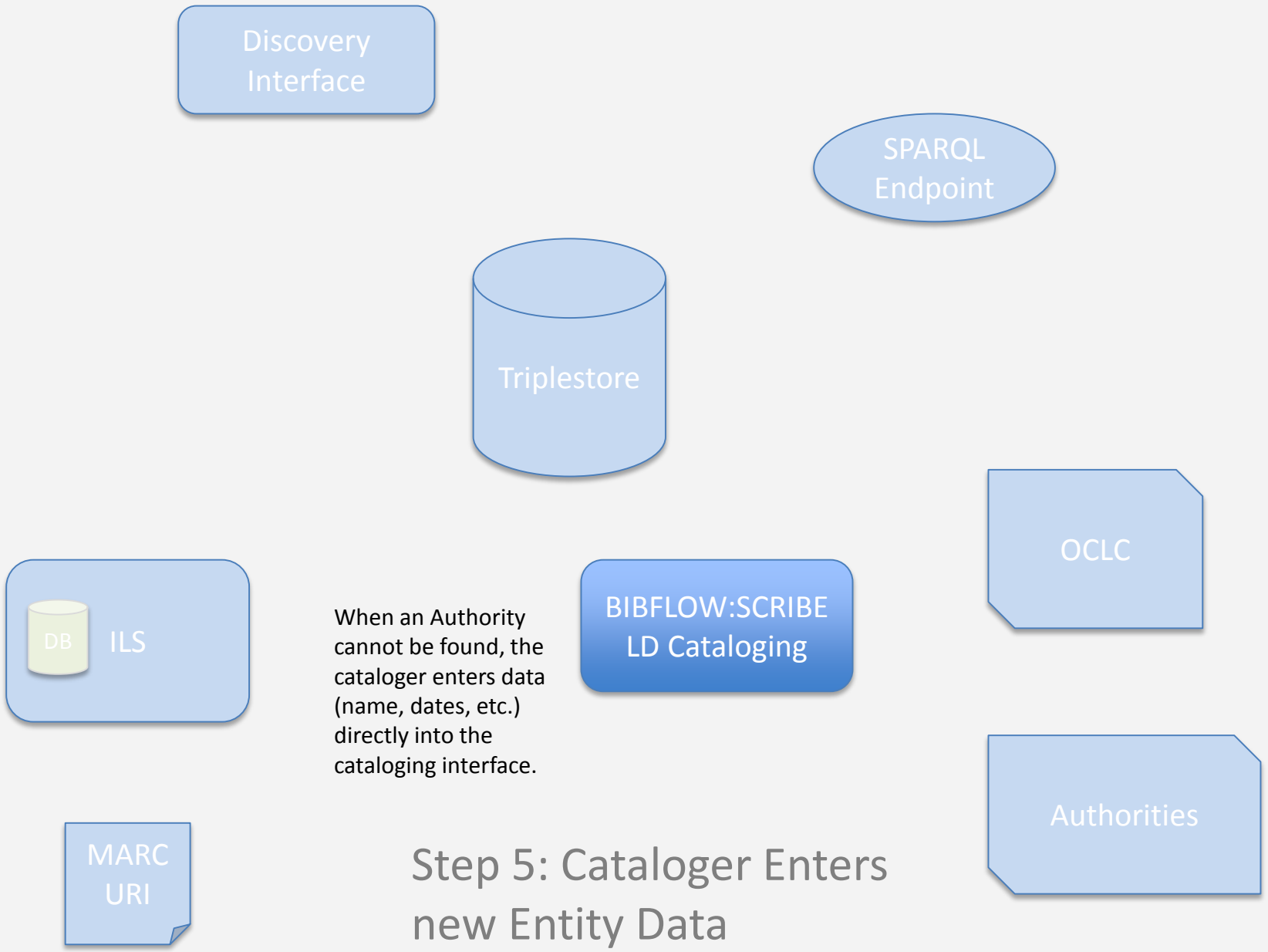
Step 2: Attempt to Pull BIB Data, but no Match Found



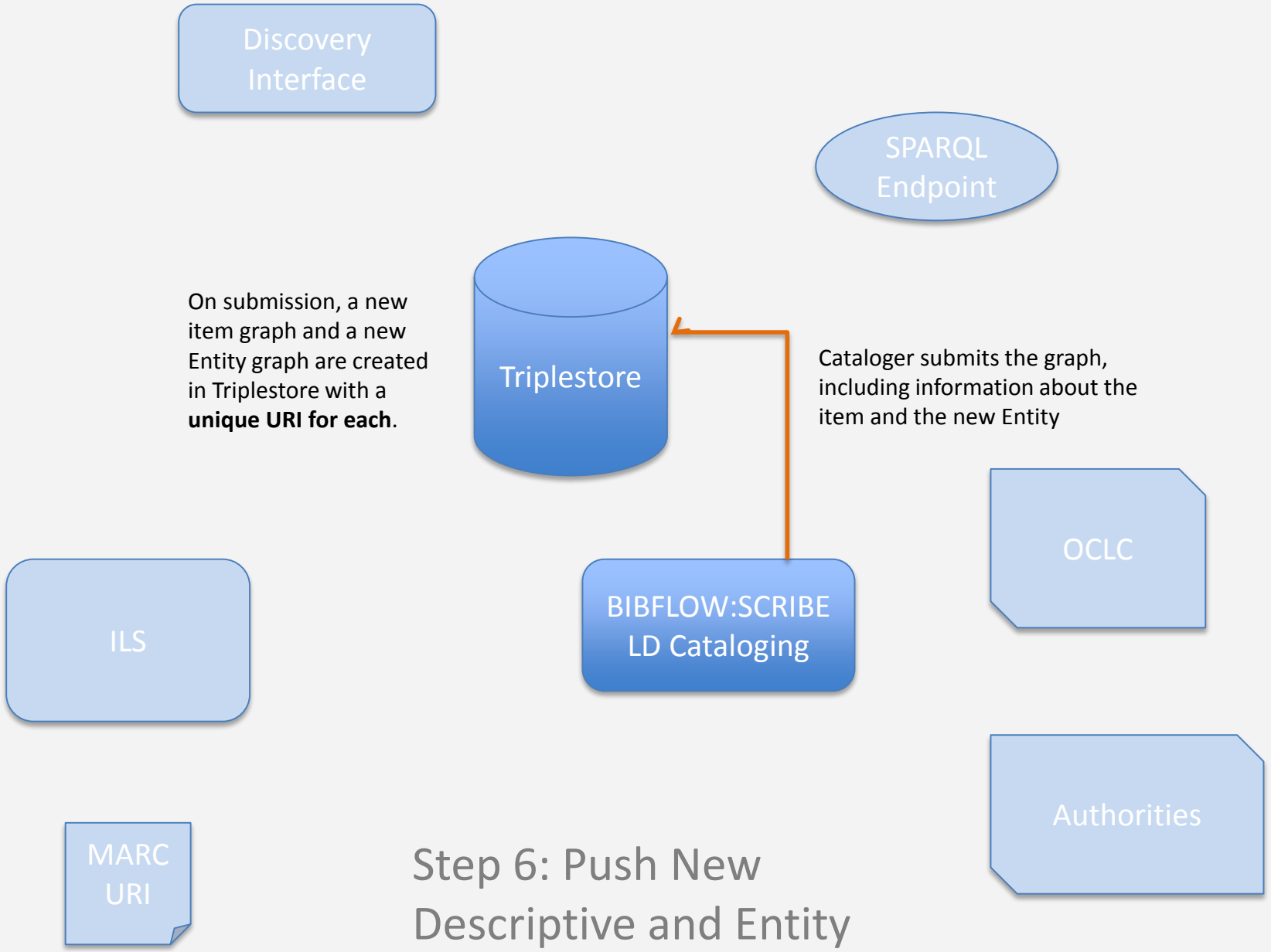
Step 3: Cataloger Enters New Descriptive Data



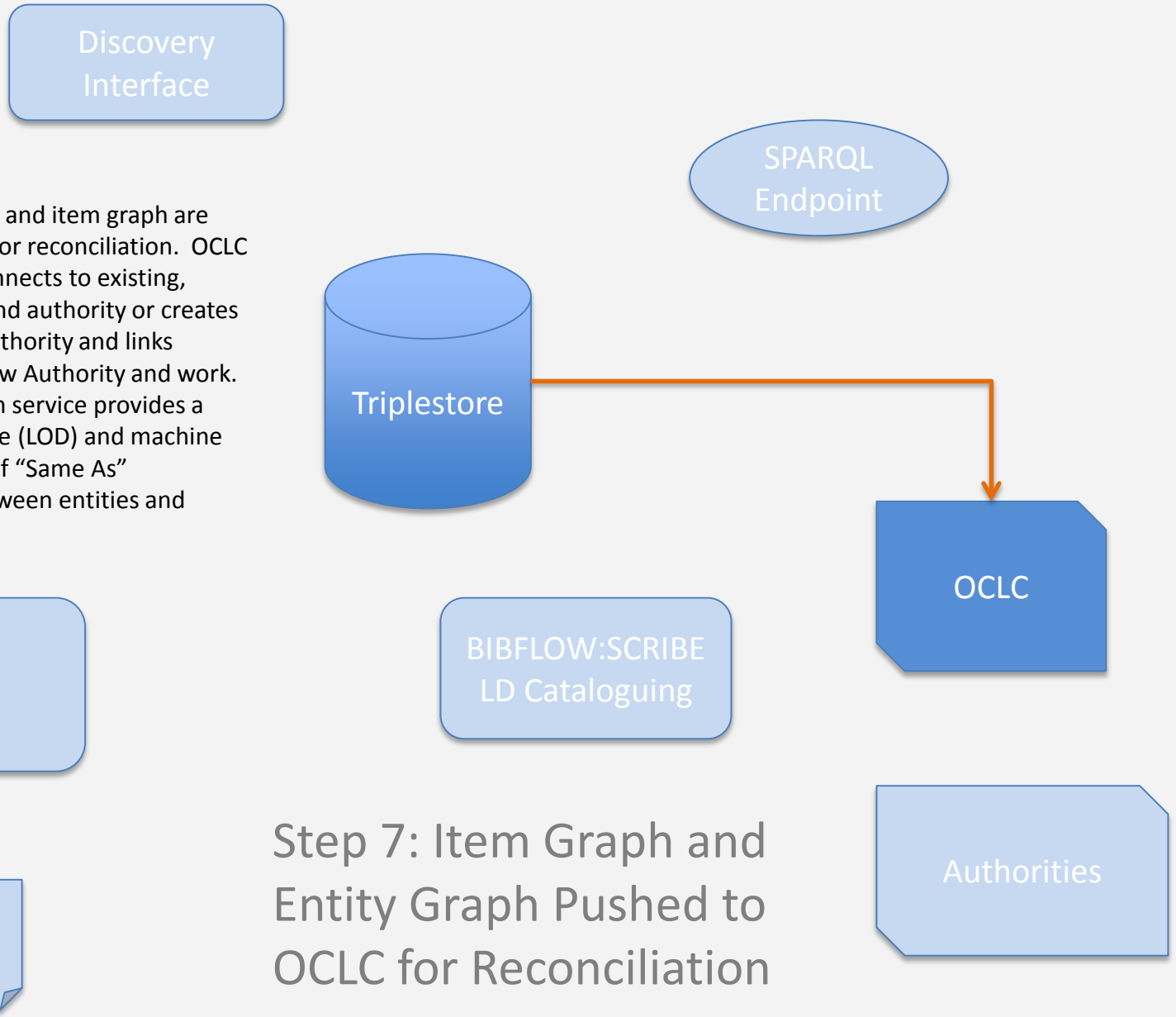
Step 4: Attempt to Pull Authority, but no Match Found

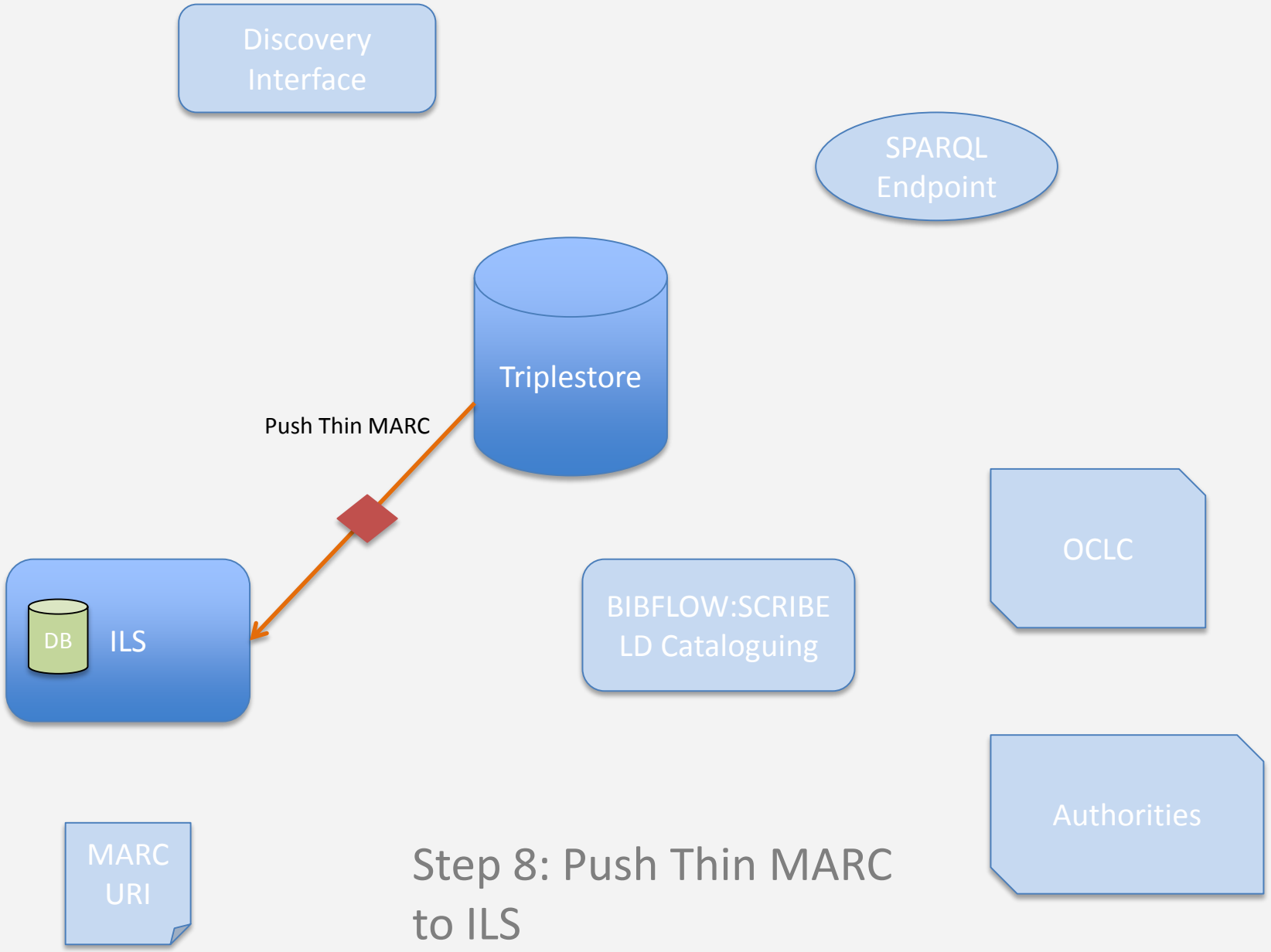


Step 5: Cataloger Enters new Entity Data

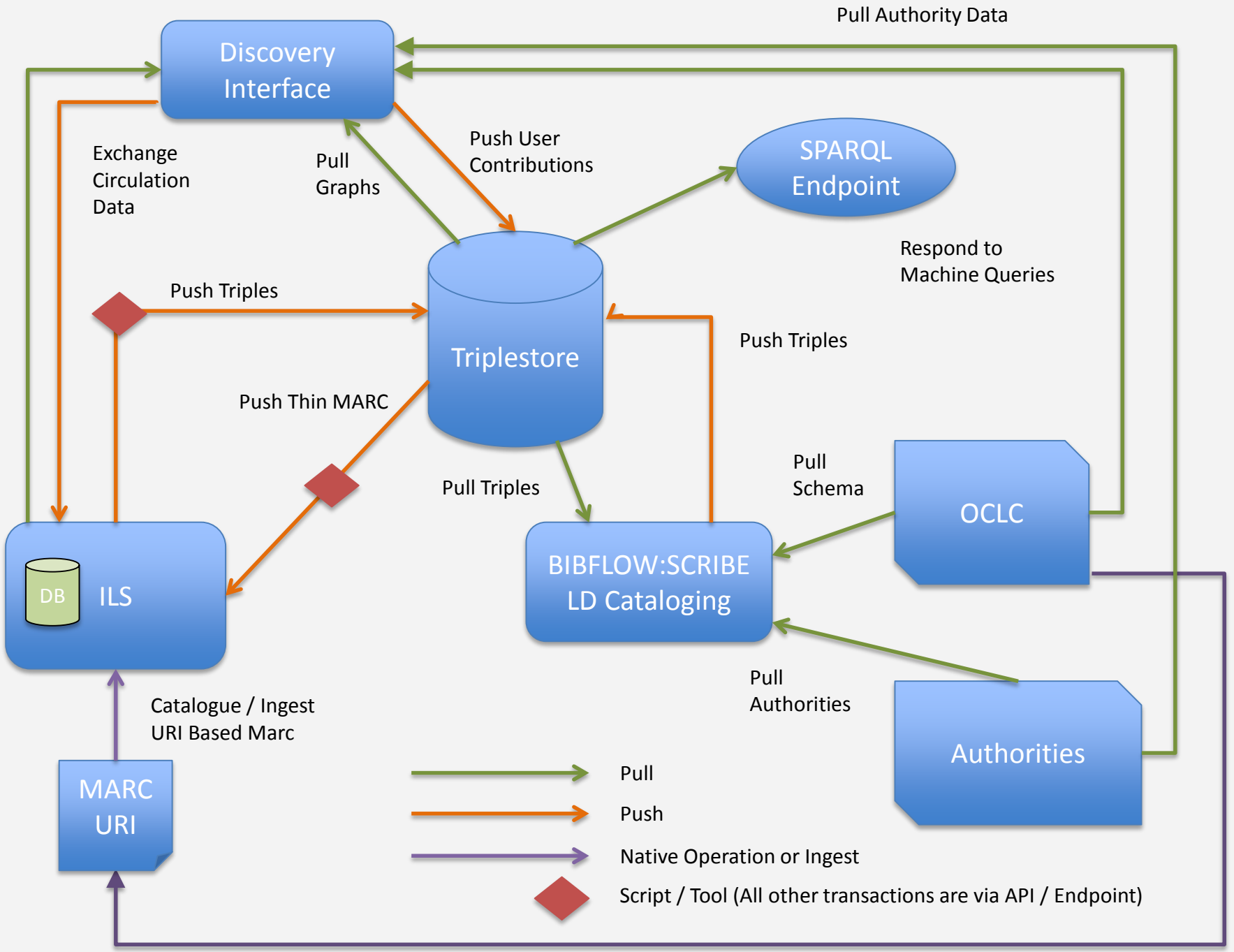


Step 6: Push New Descriptive and Entity Data to Triplestore


Discovery Interface
SPARQL Endpoint
New entity graph and item graph are pushed to OCLC for reconciliation. OCLC service either connects to existing, overlooked bib and authority or creates a new bib and Authority and links entities to the new Authority and work. The reconciliation service provides a publicly accessible (LOD) and machine actionable map of “Same As” relationships between entities and Authorities.
Triplestore
OCLC
DB
ILS
BIBFLOW:SCRIBE LD Cataloguing
MARC URI
Authorities
Step 7: Item Graph and Entity Graph Pushed to OCLC for Reconciliation



Step 8: Push Thin MARC to ILS


Pull Authority Data
Discovery Interface
Exchange Circulation Data
Pull Graphs
Push User Contributions
SPARQL Endpoint
Respond to Machine Queries
Push Triples
Triplestore
Push Triples
Push Thin MARC
Pull Triples
Pull Schema
OCLC
DB
ILS
BIBFLOW:SCRIBE LD Cataloging
Pull Authorities
Authorities
Catalogue / Ingest URI Based Marc
MARC URI
Pull
Push
Native Operation or Ingest
Script / Tool (All other transactions are via API / Endpoint)

Part III – Other Linked Data Efforts

Other Linked Data Efforts (1)

Examples of grant supported projects:

- Linked Data for Production (LD4P): (2016-2018) https://wiki.duraspace.org/pages/viewpage.action?pageId=74515029
- Linked Open Data for Special Collections (2016-2017) http://publish.illinois.edu/linkedspcollections/about/
- National Strategy for Shareable Local Name Authorities (2016-2017) https://www.imls.gov/grants/awarded/LG-70-16-0009-16
- LD4PE: Explore Learning Resources by Competency http://explore.dublincore.net/explore-learning-resources-by-competency/

Other Linked Data Efforts (2)

PCC Tasks Groups: http://www.loc.gov/aba/pcc/taskgroup/task-groups.html

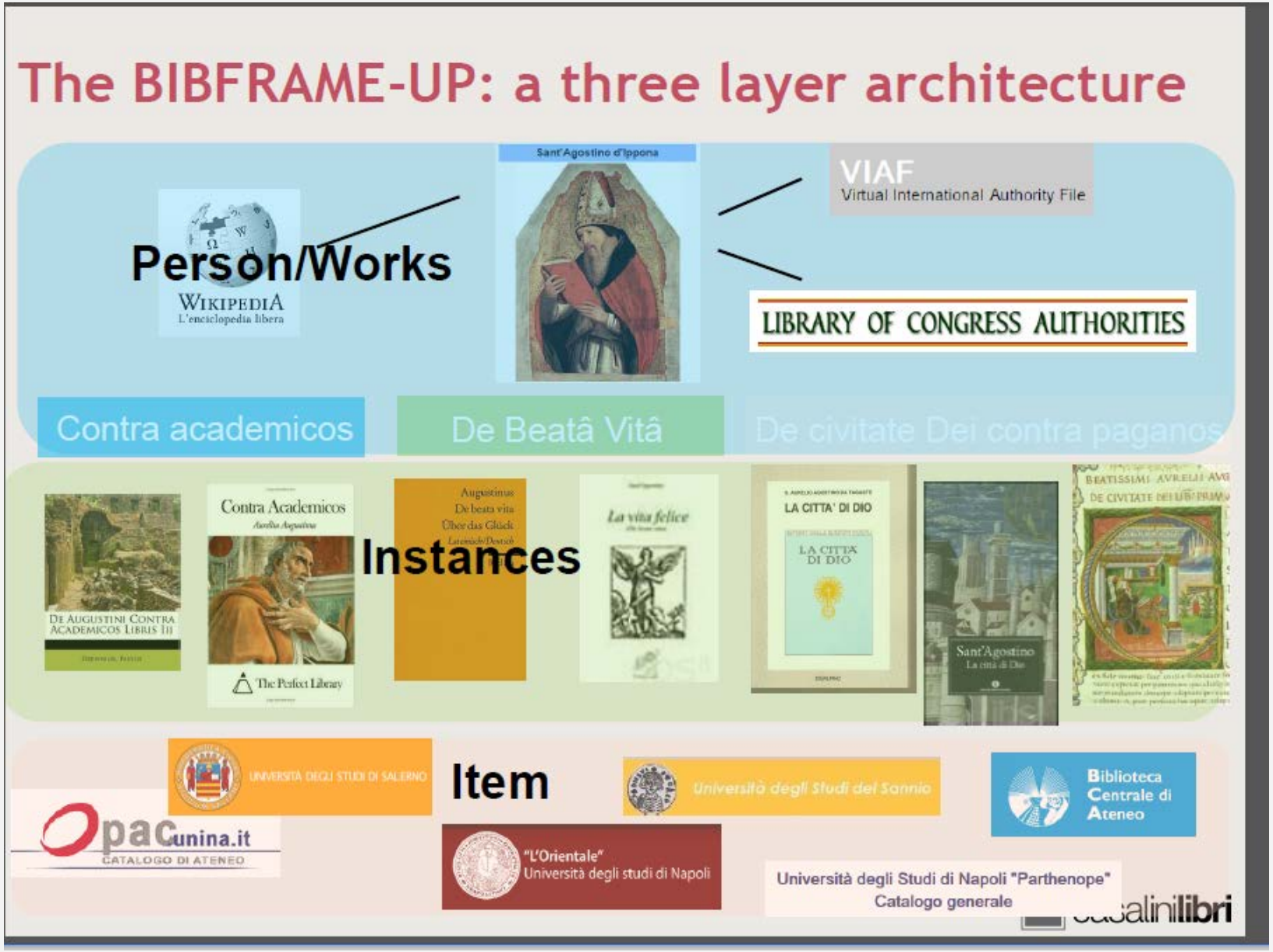
- PCC Linked Data Advisory Committee
- PCC SCS/LDAC Task Group on the Work Entity
- PCC Task Group on Identity Management in NACO
- PCC Task Group on URIs in MARC
- PCC SCS FRBR-LRM Review
- PCC BIBFRAME Task Group

Other Linked Data Efforts (3)

Examples of library service providers:

- ILS vendors:
  - Ex Libris Linked Open Data White Paper: http://www.exlibrisgroup.com/files/Putting_Linked_Data_at_the_Service_of_Libraries_2016.pdf

- Book vendors:
  - Casalini Libri (**http://tinyurl.com/z9mwhg9**)



Tiziana Possemato, A supplier's approach to BIBFRAME/Linked Data, http://tinyurl.com/z9mwhg9

To learn more about BIBFRAME-UP, visit: http://www.atcult.it/en/products/bibframe-up/

Final Thoughts

- Is BIBFRAME ready to be implemented? If yes, in what time line?
- What kind of impact BIBFRAME will have on the technical services librarianship? What impact will it have on the job market?
- As a technical services librarian, how should I prepare for the change?

Acknowledgements

Carl Stahmer, BIBFLOW Project Manager, who has provided many of the PowerPoint slides used in this presentation.

Thank you!

BIBFLOW: A Roadmap for Success

UC DAVIS UNIVERSITY LIBRARY

zepheira

INSTITUTE of Museum and Library SERVICES