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Taking an API-first approach to product development

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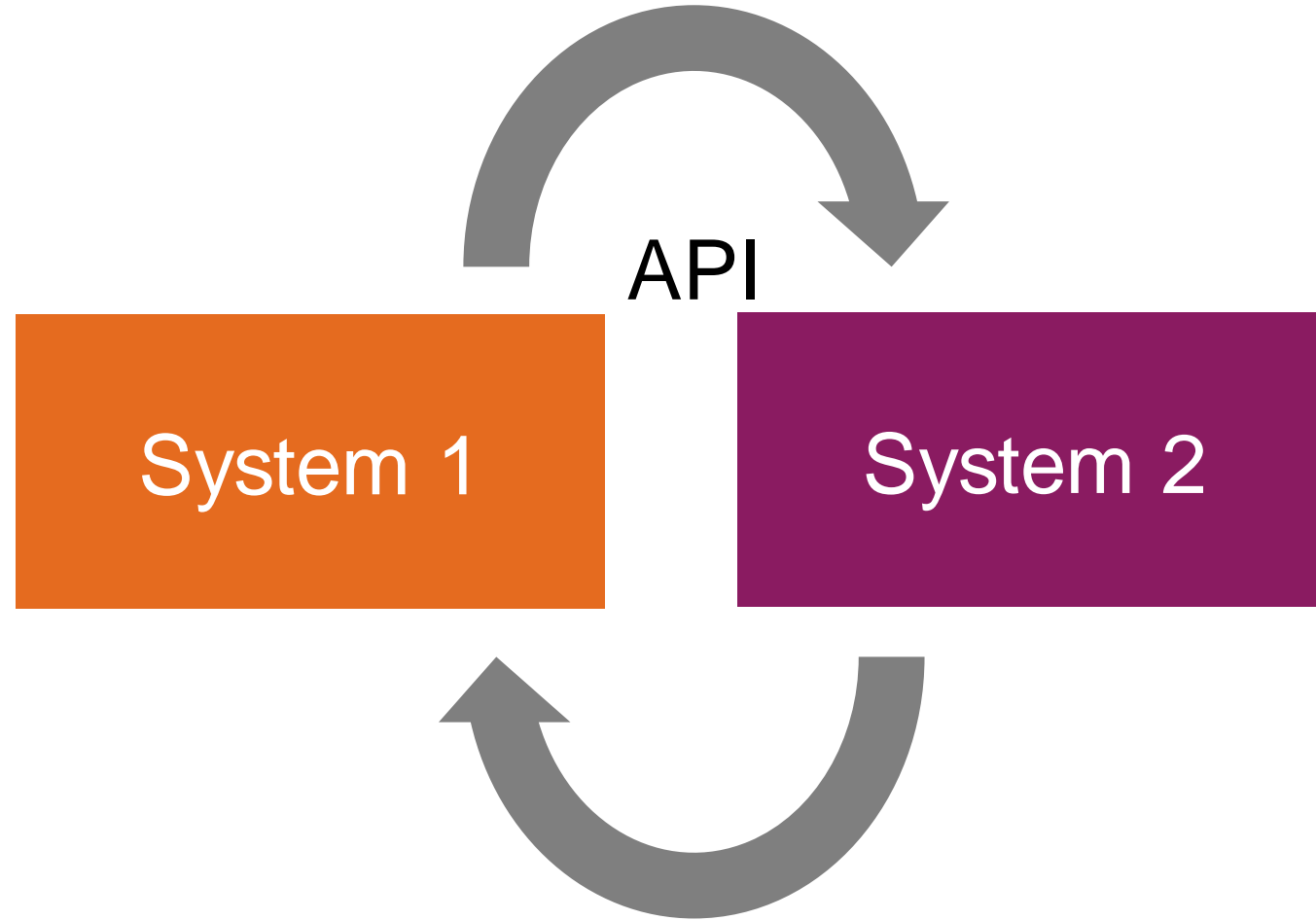
Product Manager, OCLC

Agenda

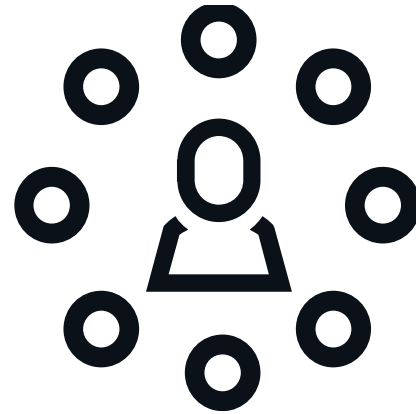
- Having an “API-first” mindset
- OCLC’s API ecosystem
- Our API philosophy and principles
- Benefits to libraries

HAVING AN API-FIRST MINDSET

A bit of context

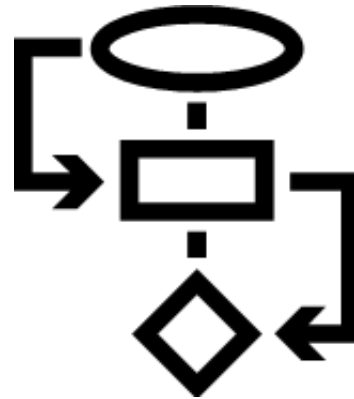


Old way of building technology products



Consider only the product end user, restricting data and capabilities to a user interface

New way: Consider APIs first!



Assume data and capabilities will be consumed by different workflows, devices, and developers

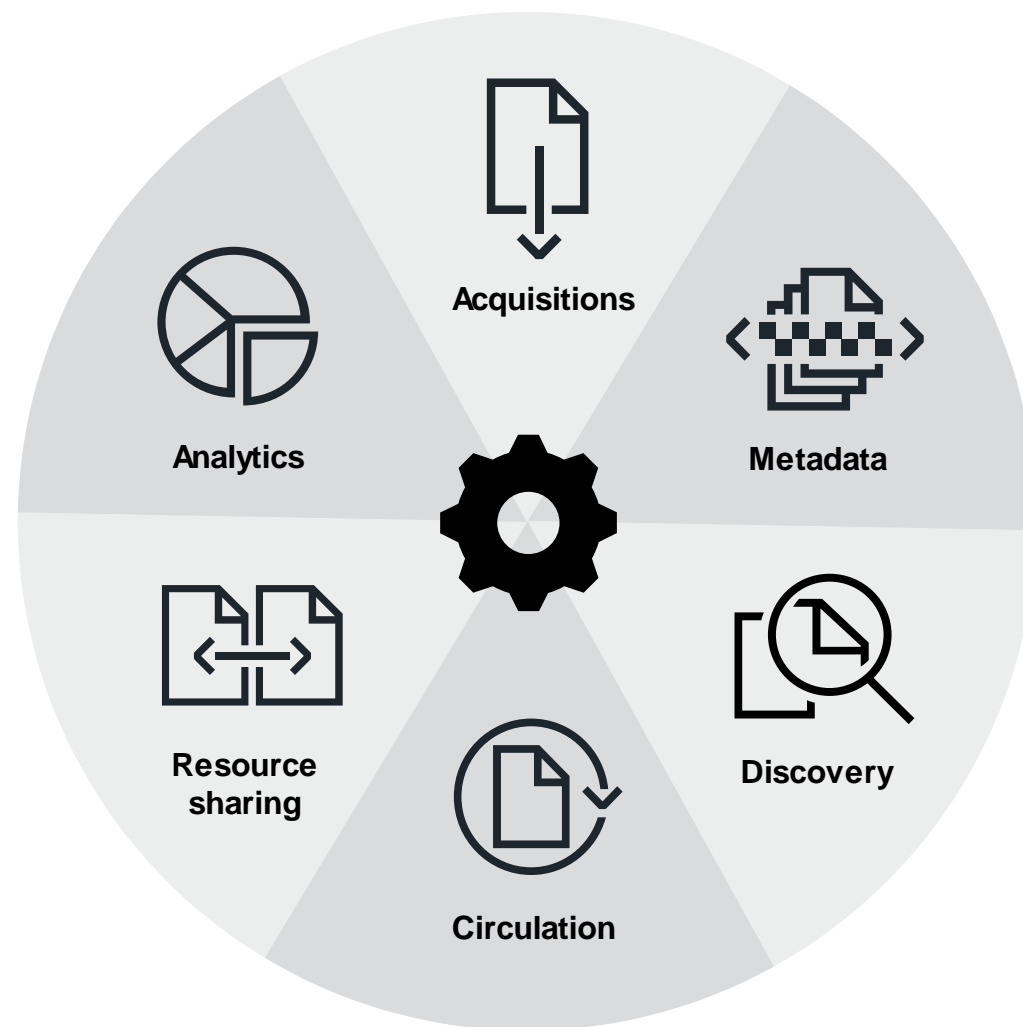
OCLC'S API ECOSYSTEM

OCLC's API ecosystem



Library community, OCLC, and partner developers

This API ecosystem spans library areas



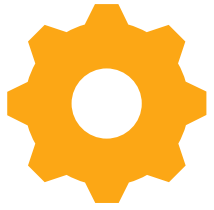


Library community developers

Libraries use WMS Acquisitions API to integrate with campus financial systems to pay vendors

Concordia University Library used WMS Circulation and Vendor Information Management APIs to migrate open orders (future DevConnect session!)

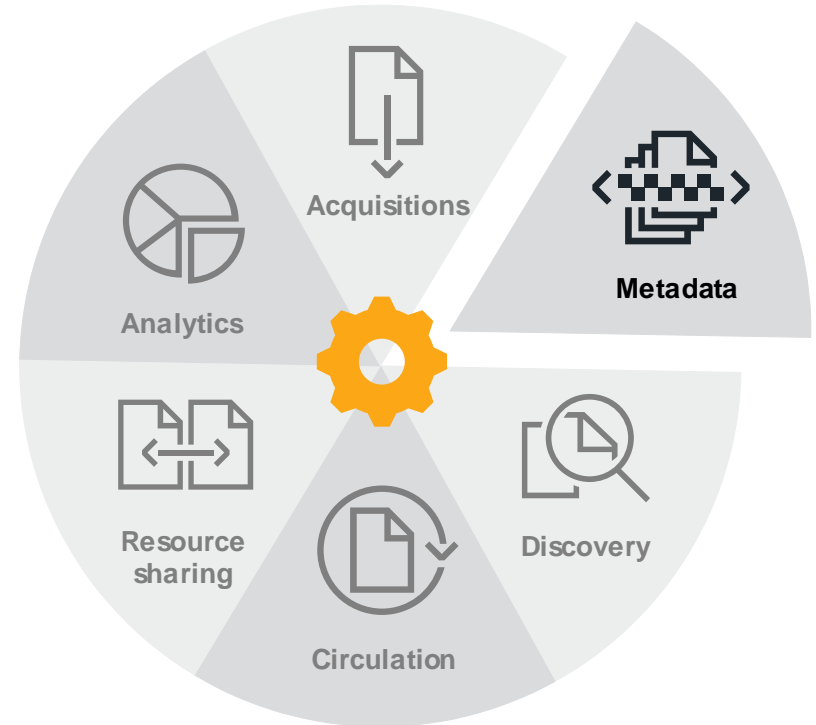




Library community developers

Dartmouth syncs data from their repository to WorldCat using the WorldCat Metadata API

The MarcEdit application uses WorldCat Metadata API to create and manipulate MARC records





Library community developers

Libraries use WorldCat Search API to integrate WMS with learning management systems so faculty create reading lists with materials

Libraries want to use our new discovery APIs to incorporate WorldCat data into their library website bento box search results





Library community developers

The University of New Mexico
Label Application uses the WMS
Circulation API to create
customized spine labels

Libraries use the WMS Circulation
API to synchronize circulation and
offsite storage item data





OCLC developers

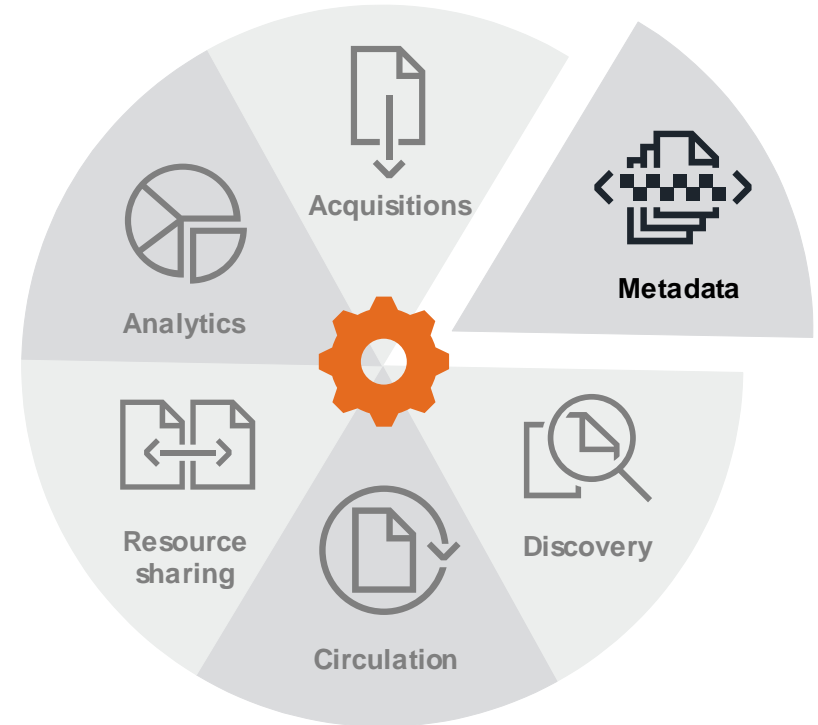
Some OCLC implementation teams use the WMS Acquisitions API to load open orders as part of WMS implementation process





OCLC developers

Some OCLC teams use the WorldCat Metadata API to clean up and enhance records



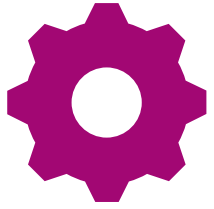


OCLC developers

Digby application uses the WMS Circulation API so libraries can get real-time pull lists

Some OCLC implementation teams use the WMS Circulation API to get everything in old system checked out in WMS



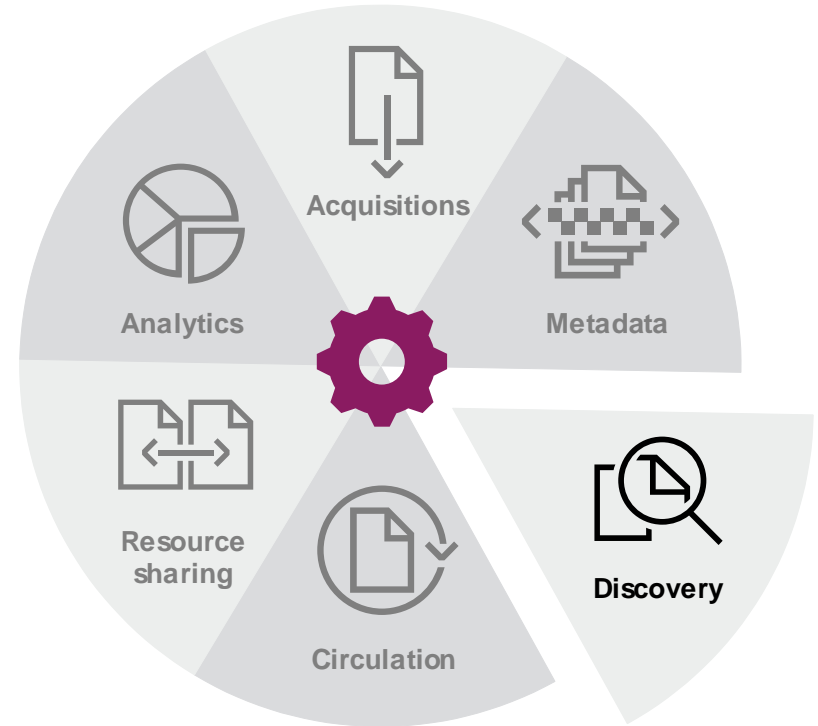


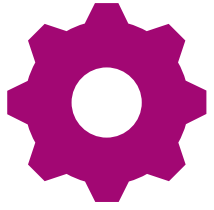
Partner developers

Reading list management system partners use the WorldCat Search API to integrate with WMS

Discovery system partners use the WorldCat Search API to load WorldCat data

Chegg powers its citation tool with WorldCat Search API

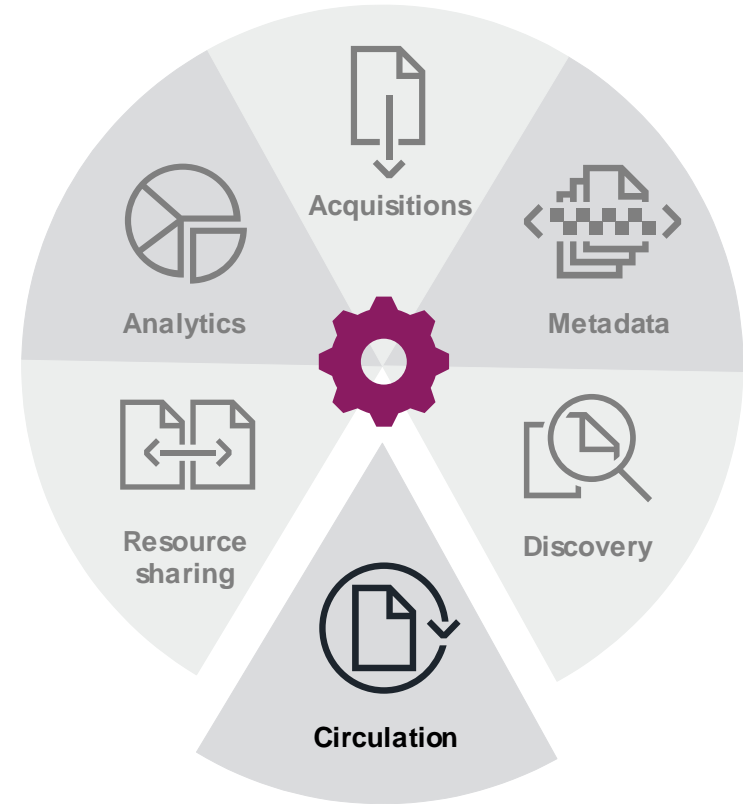


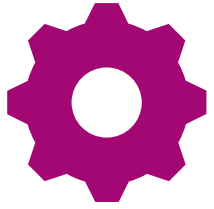


Partner developers

Student portal system partners use WMS Circulation API to enable “My Library Account”

Offsite storage partners work with libraries to synchronize circulation and offsite storage item data

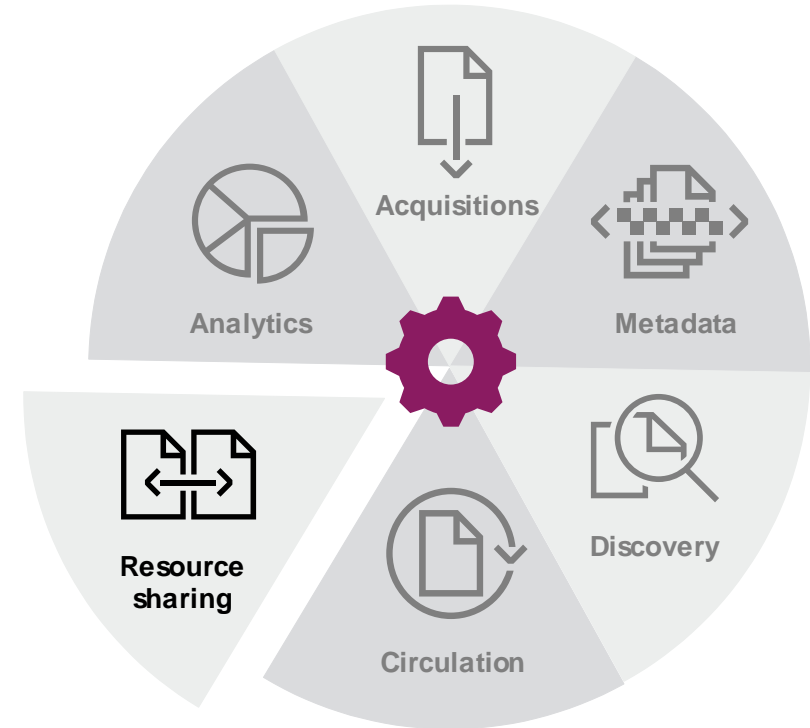




Partner developers

ILLiad uses our APIs to get requests into the ILL network, scan documents, and aid fee payments

Minitex's Resource Sharing unit uses the Article Exchange API to electronically deliver digital materials directly from their system (future DevConnect session!)



API PHILOSOPHY AND PRINCIPLES

Our API philosophy and principles

Our API philosophy and principles

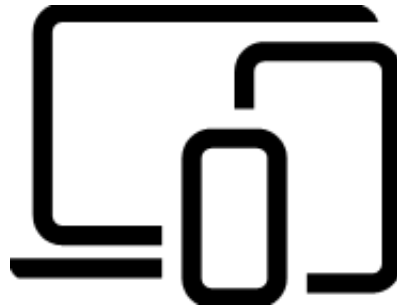


APIs should be treated as products and as fundamental to product strategy

Our API philosophy and principles



APIs should be treated as products and as fundamental to product strategy

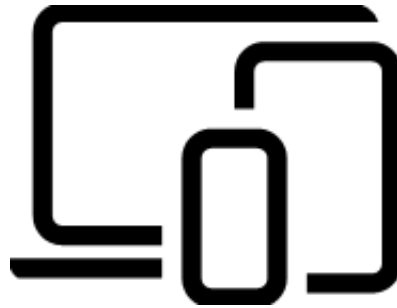


API naming, authorization, and other components should be consistent

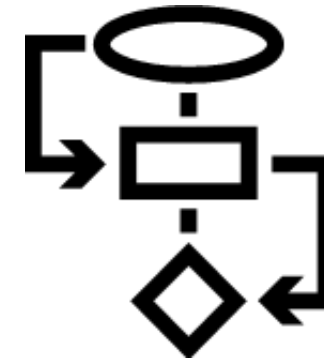
Our API philosophy and principles



APIs should be treated as products and as fundamental to product strategy



API naming, authorization, and other components should be consistent



API use cases should be considered across library areas and workflows

How we implement this API philosophy

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Today

Projects assume APIs will be consumed by different workflows and devices

API product team collaborates across lines of business

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Today

Projects assume APIs will be consumed by different workflows and devices

API product team collaborates across lines of business

Future

Establish API governance processes

Expand investments in API developer tools

API building blocks drive consistency and innovation

Authorization

RESTful

Design

Relevancy

Search
syntax

Serialization

Facet
infrastructure

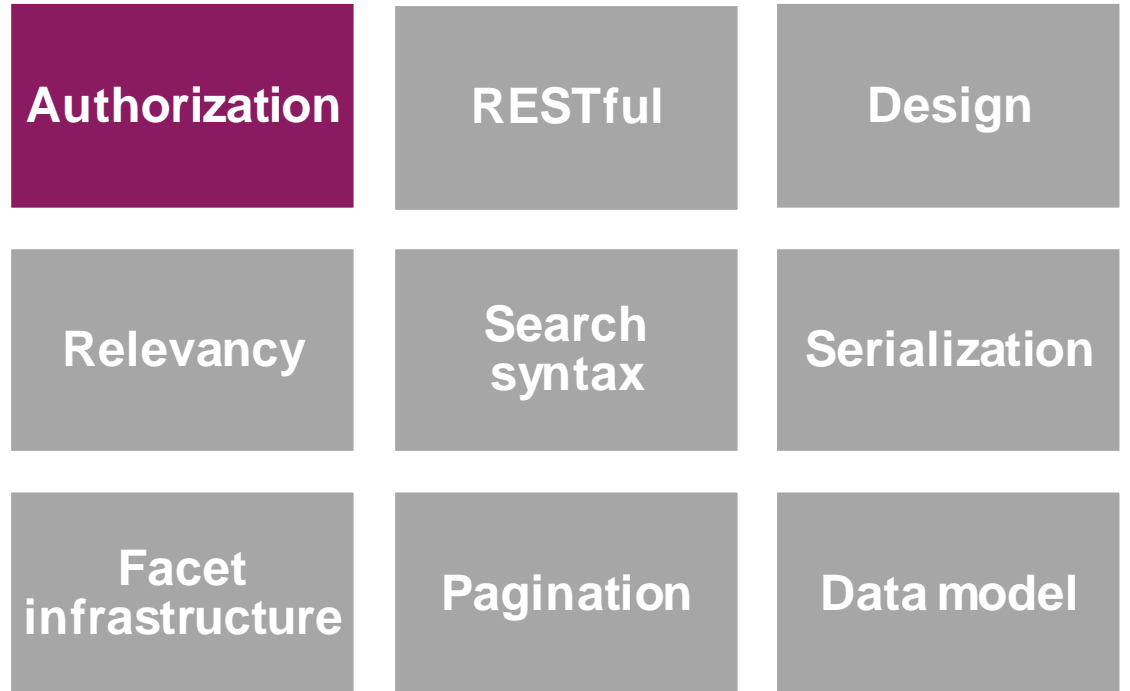
Pagination

Data model

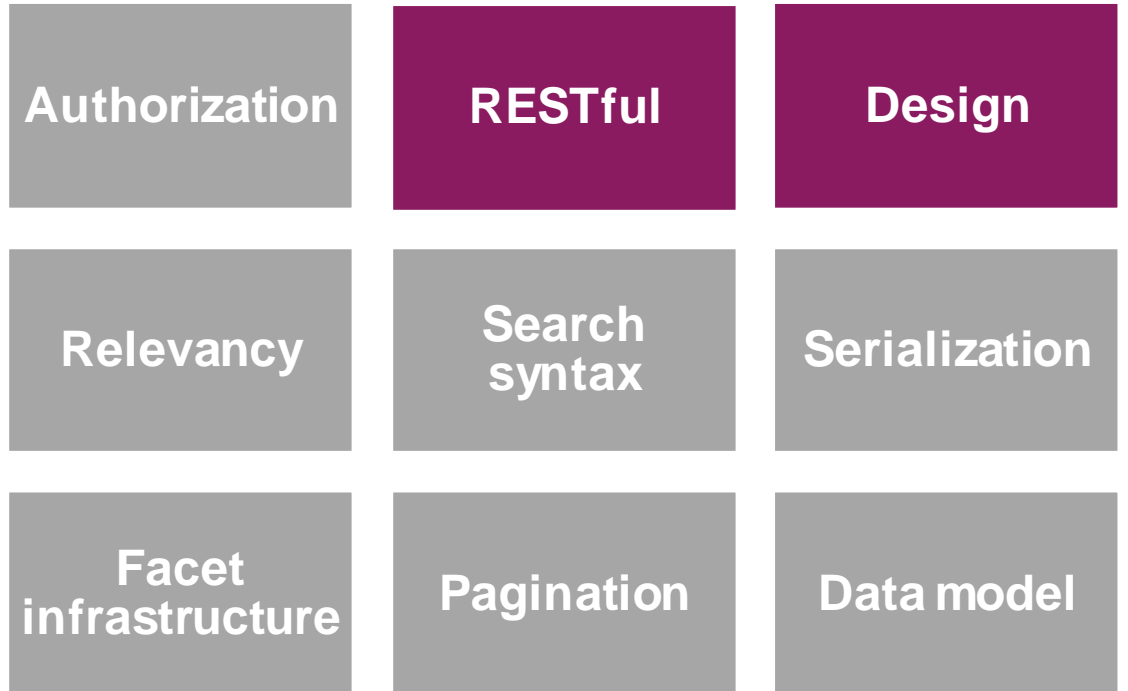
OAuth 2.0 is an industry standard; makes APIs easier to test and implement

It's device independent; allows a variety of applications to interact with our APIs

Extensible – OIDC for user authentication

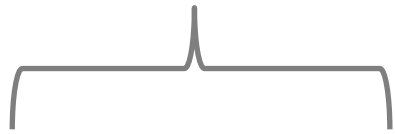


API naming and design align with market problems across library areas and ecosystem



How our API URLs are designed

Product
family



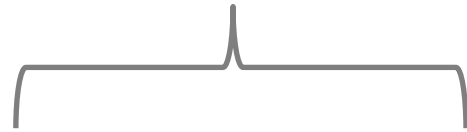
metadata.api.oclc.org/worldcat/search/brief-bibs

metadata.api.oclc.org/worldcat/manage/bibs

discovery.api.oclc.org/worldcat/search/bibs

How our API URLs are designed

Standard
domain



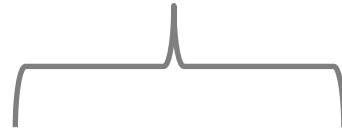
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How our API URLs are designed

Capability
group



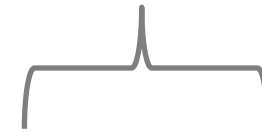
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How our API URLs are designed

Capability



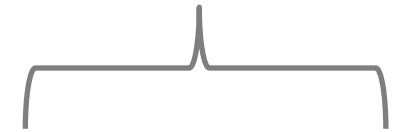
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How our API URLs are designed

Resource



metadata.api.oclc.org/worldcat/search/brief-bibs

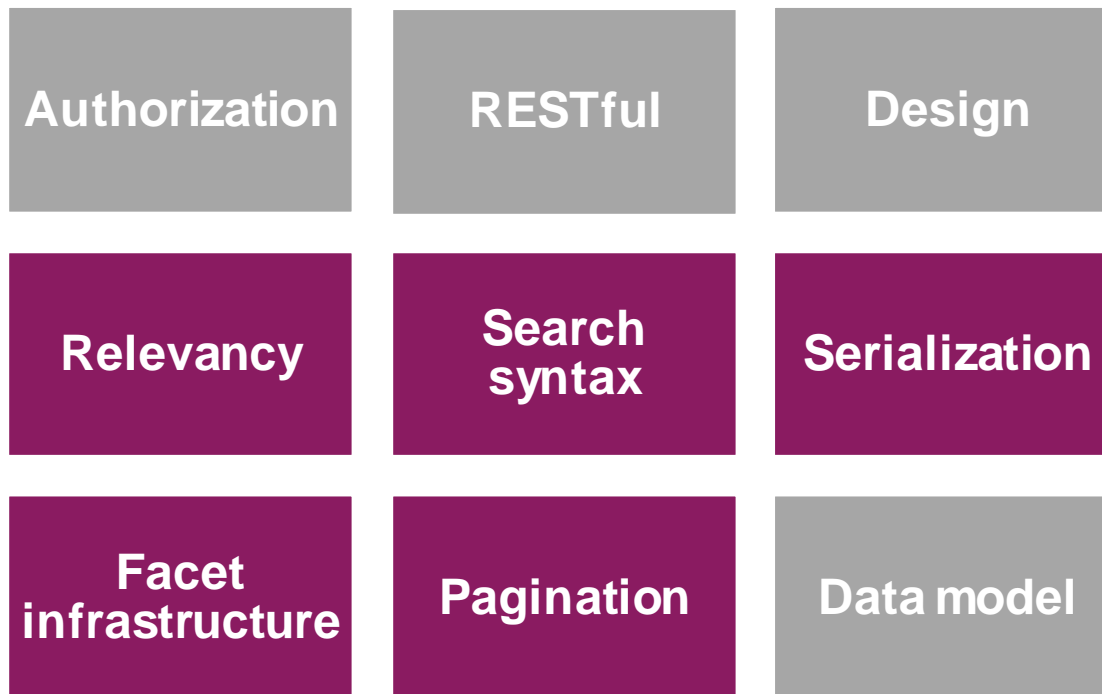
metadata.api.oclc.org/worldcat/manage/bibs

discovery.api.oclc.org/worldcat/search/bibs

Consistent search experience across both user interfaces and APIs

Default relevancy and options for relevancy are the same

Uniform facet structure in API response



Data field naming is uniform across APIs

How data fields are populated is uniform across APIs

If there is a difference, there is a semantic difference and reason!



BENEFITS TO LIBRARIES

How our API philosophy benefits you

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Provides the flexibility to optimize workflows

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Provides the flexibility to optimize workflows

Creates opportunities to extend the library reach

How our API philosophy benefits you

Provides the flexibility to optimize workflows

Creates opportunities to extend the library reach

Drives and sustains library community innovation

Register at oc.lc/devconnect-2021

“Migrating open orders with WMS APIs”, 13 May

“Visually exploring current events patterns in WorldCat records and holdings data”, 25 May

“Lightning talks: Managing and highlighting collections using APIs”, 3 June