

Cordra

A Scalable Digital Object Management Software

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Terminology: Concepts and Cordra Specialization

Digital Object

- A set of bits with a unique identifier.
- In Cordra, a digital object consists of
 - A handle.
 - A type.
 - A structured portion: metadata, access control policies, and provenance.
 - An unstructured portion: payload.

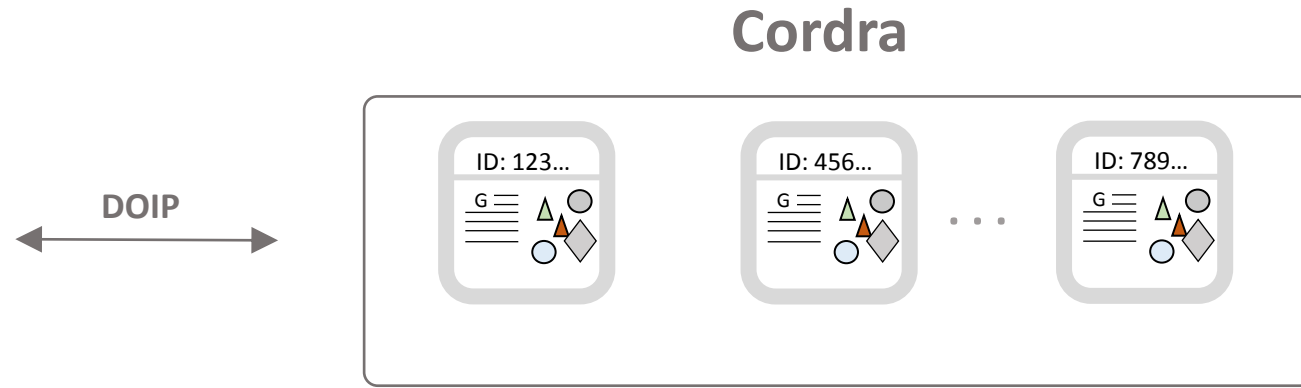
Type Record

- Generally speaking, a type record contains information that helps consumers of digital objects to parse and process them.
- In Cordra, a type record contains information useful for ensuring internal consistency; business rules and default permissions are held in a Cordra type record.
- Although the use cases are different, the same type/id can dereference to both sets of helpful information.

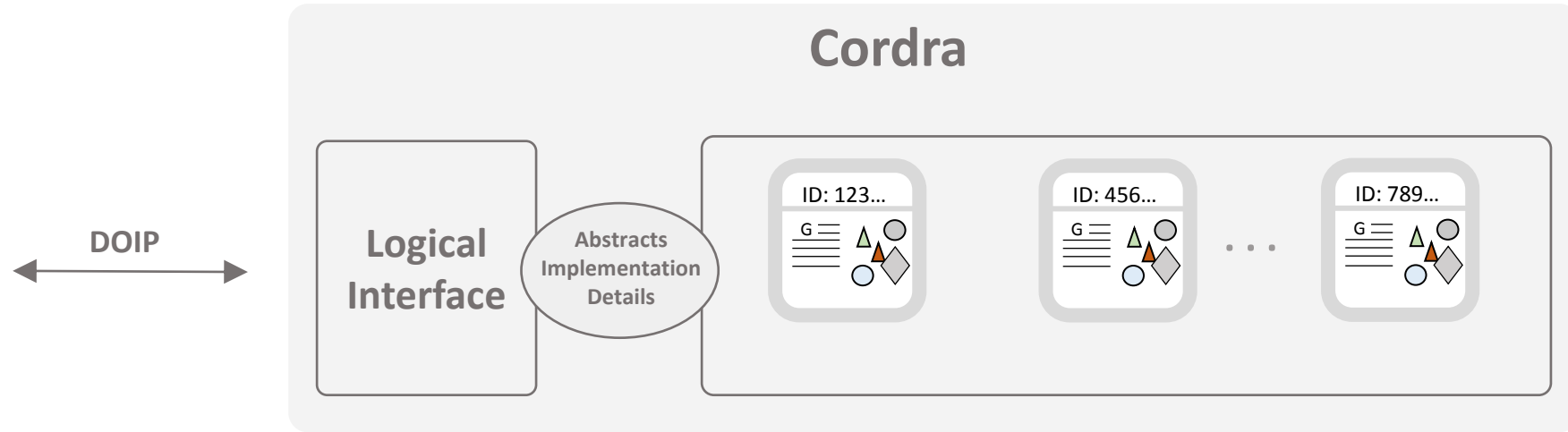
DOIP

- A protocol that enables clients to invoke stated operations on digital objects.
- Operations are unique identifiers that facilitate fixity of actions across DOIP implementations.
- In Cordra, operations are handles.

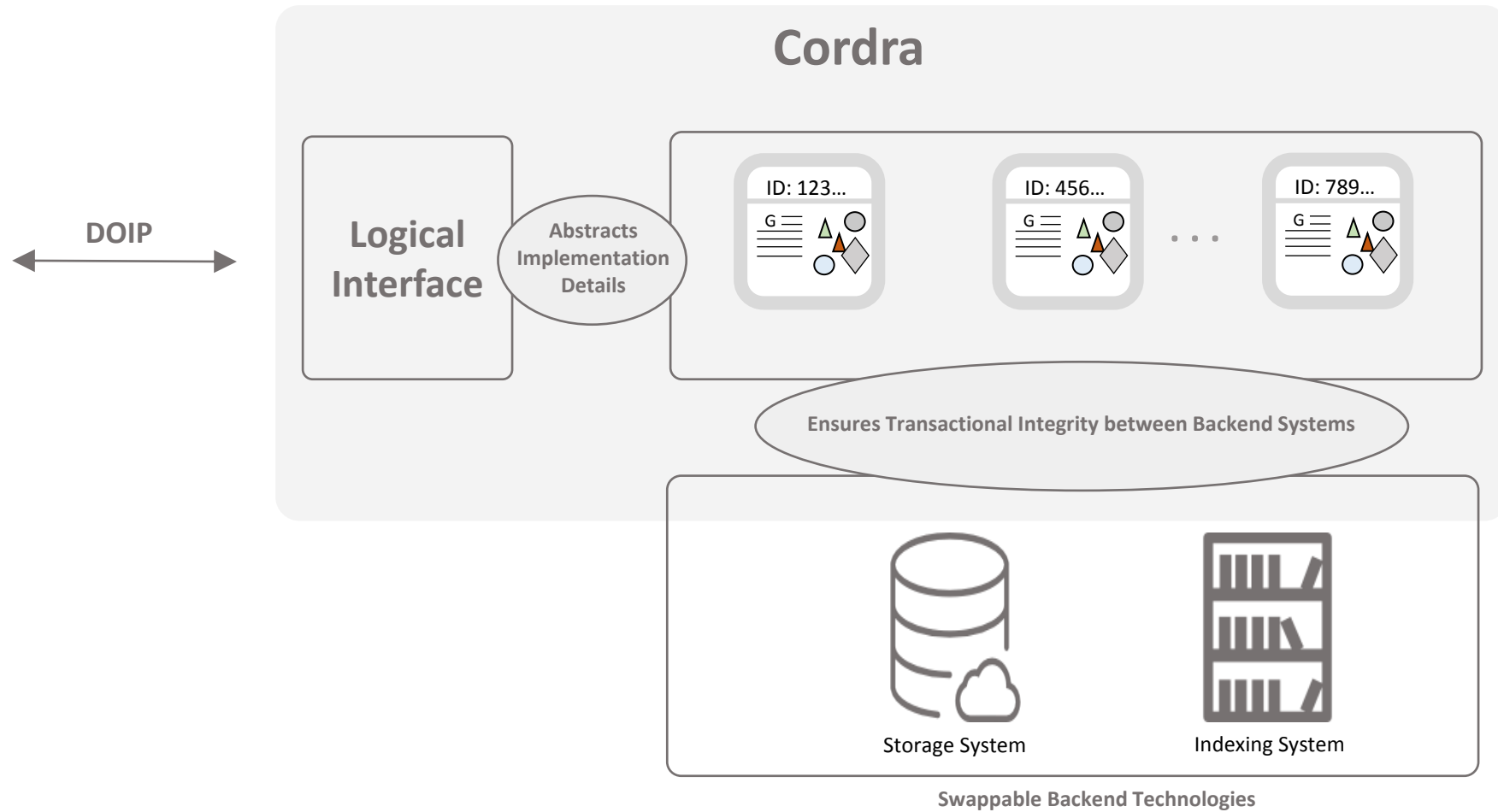
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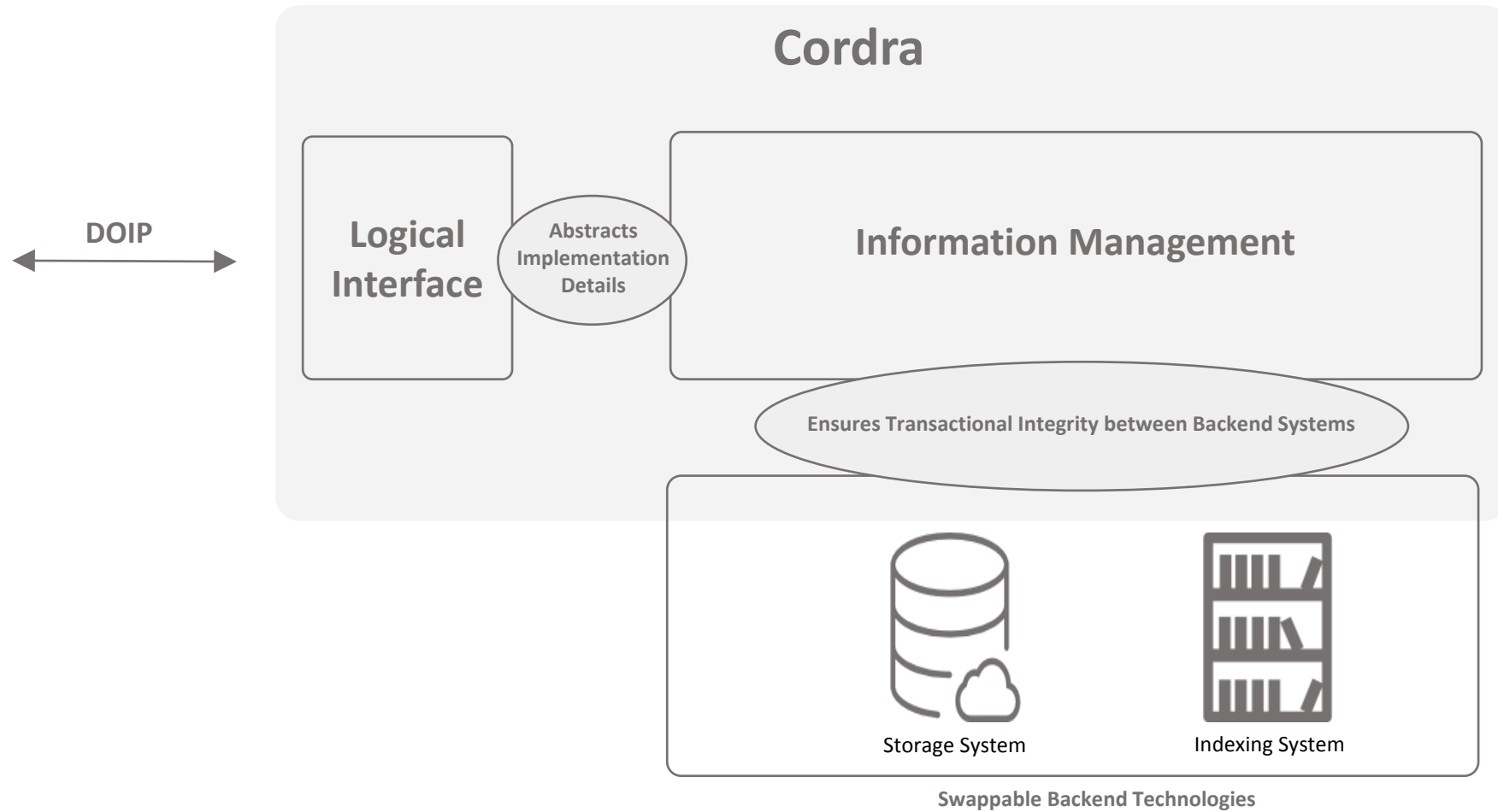
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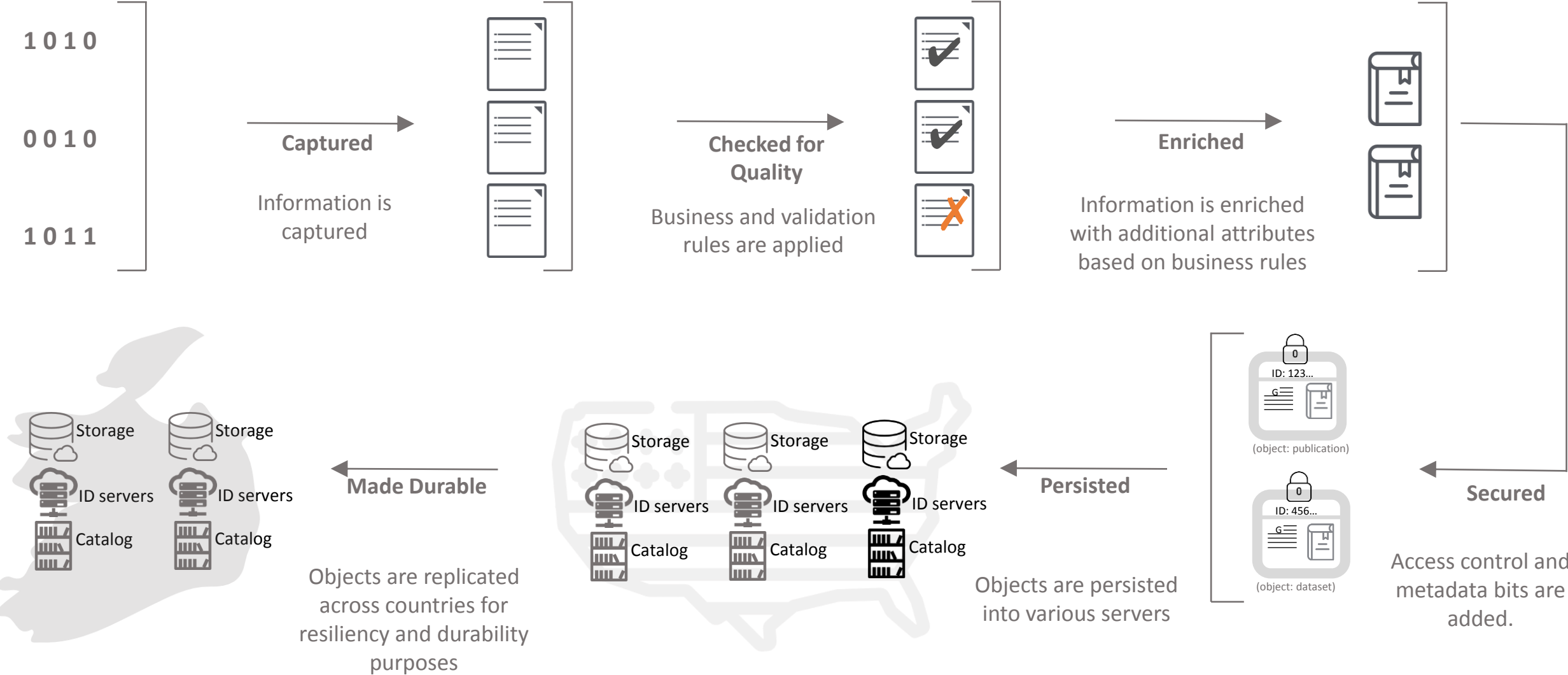
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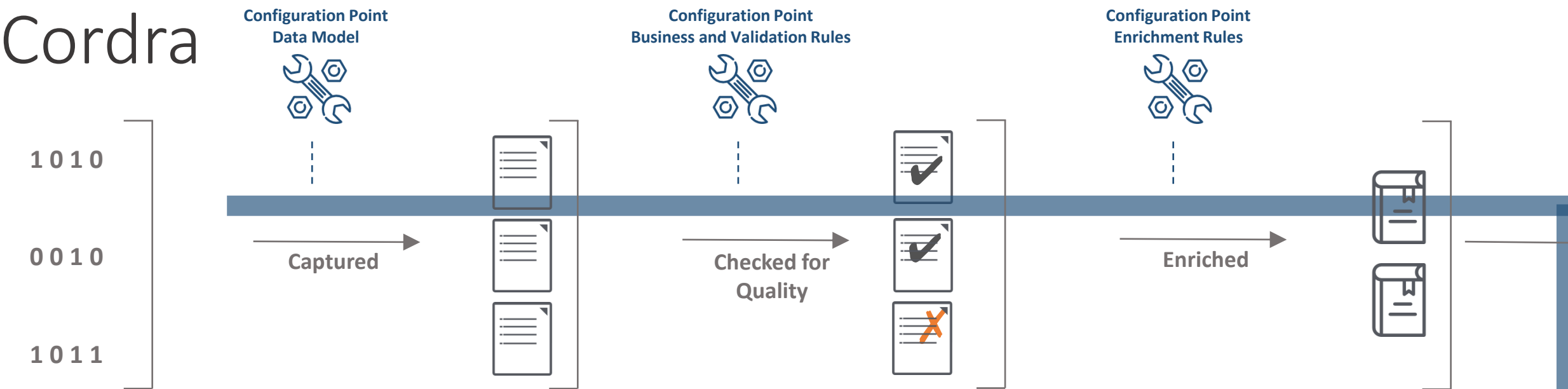
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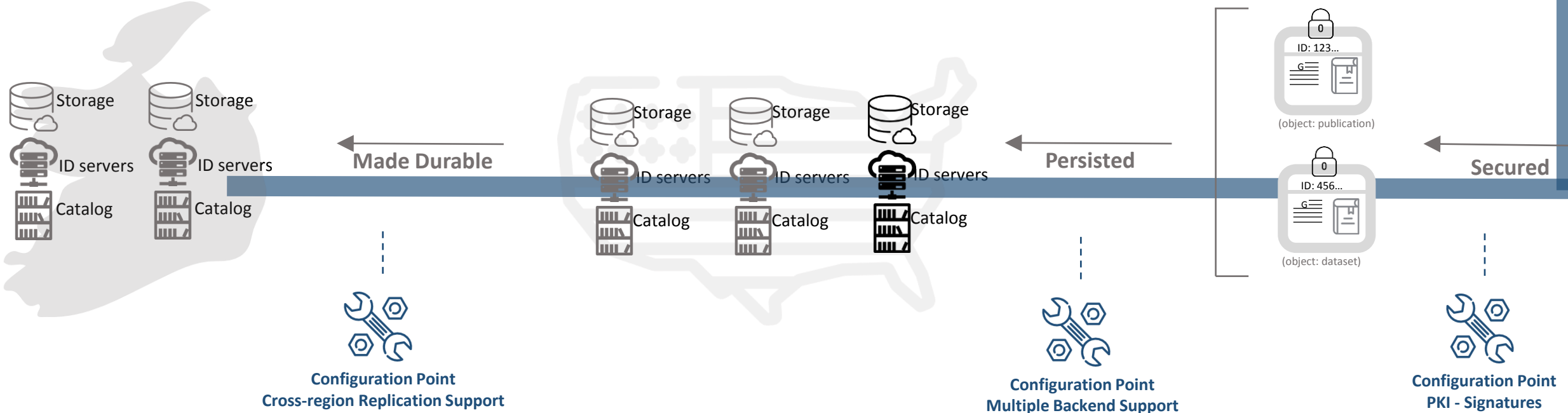
Information Management Complexity



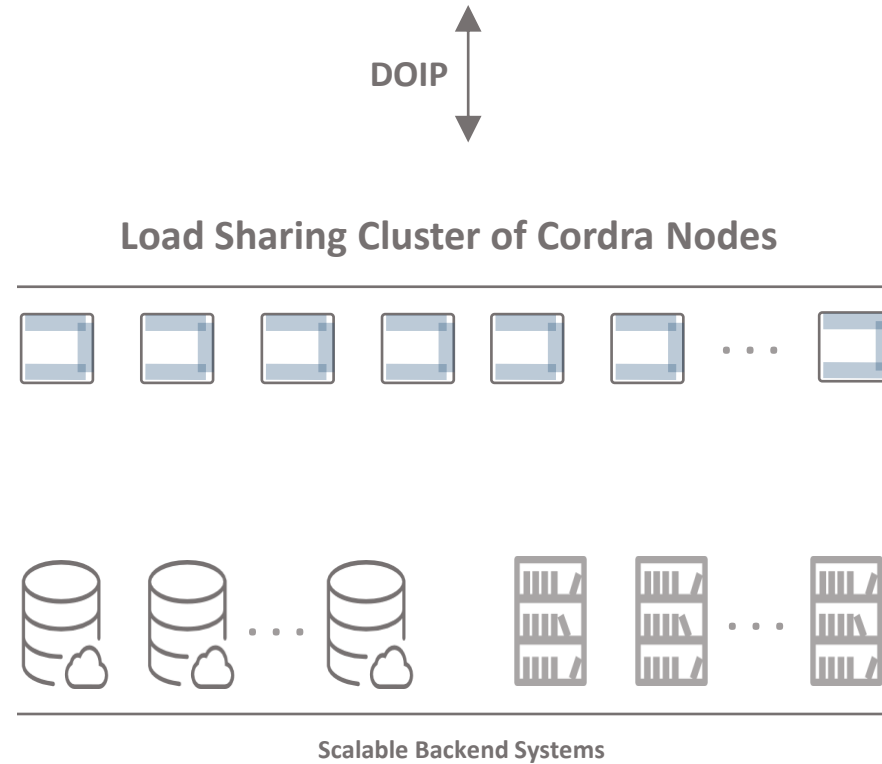
Cordra



Cordra connects all of these processes and provides configuration points at each stage



Cordra: A scaled scenario



In one setup:

21 Cordra nodes fronted
30 MongoDB and 15 Solr Nodes

Works in Regular VM and
Kubernetes environments.

Cordra

Cordra is an open source software which

- Makes it easy to ***build prototypes*** of complex data management systems.
- Makes it easy to ***scale*** those systems for production.

Cordra: As a system building utility

Cordra:

is ***not*** a ***database***;

is ***not*** an ***indexer***; but

leverages those two systems, in that it uses them to store ***digital objects***, and index them;

allots ***handles*** to stored information for persistent reference,

offers in-built ***PKI*** support,

enables ***declarative access controls***,

applies business and enrichment ***rules*** codified in ***JavaScript***, and

exposes those features via ***APIs***.

Cordra: As a distributed system

A collection of Cordra nodes

work in ***unison***

to ***share user demand*** and

to provide ***fault-tolerance***;

provide ***concurrent access*** to information;

guarantee ***atomicity*** of operations;

enable ***consistent states*** between storage & indexing ***backends***;

replicate across Cordra collections in other regions;

in a ***cloud agnostic*** way.

User Community

Select Production Examples that show diversity of Cordra users:

- Entertainment industry (eidr.org)
- Financial investment trading (anna-dsb.com)
- One more big project in the financial sector coming out soon.
- United Nations' ITU for several production applications.
- A startup in the US that is incentivizing content publishers.

User Community

Select Prototypes:

- Construction industry in UK, pioneered by RIBA/BSI.
- Scientific research groups in EU.
- China, for enabling a couple of use cases to solve heterogeneity of information.
- African countries from medical records to governance supporting infrastructure. (Still under deliberation).

Cordra

Cordra Beta v2.0 Software

Open source license.

Public release in non-beta form in the next few weeks.

Bitbucket distribution. Coming soon.

Slack channel and email support.

Talk to me for Beta access.

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