



2021
Annual **INCOSE**
international workshop
Virtual Event
January 29 - 31, 2021

Bill Chown, OSLC Open Project Governing Board

OSLC – Applicability to MBSE



OSLC Open Project

- Since May 2019, OSLC is an OASIS Open Project
- Participation in the OSLC Open Project is open to anyone who has something to contribute
- Governance for the OSLC Open Project is managed by its Project Governing Board and its Technical Steering Committee



Applicability of OSLC

Open Services for Lifecycle Collaboration

- Domain-driven scenarios inspire standardization of common capabilities across disciplines
 - Many potential Disciplines, including Change Management, Requirements Management, and Quality Management
 - Cross-domain scenarios such as Application Lifecycle Management (ALM) & DevOps, Product Lifecycle Management (PLM), and Integrated Service Management (ISM)
- The OSLC approach focuses on software lifecycle management to ensure it meets a core set of scenarios and requirements



Values of the OSLC Approach

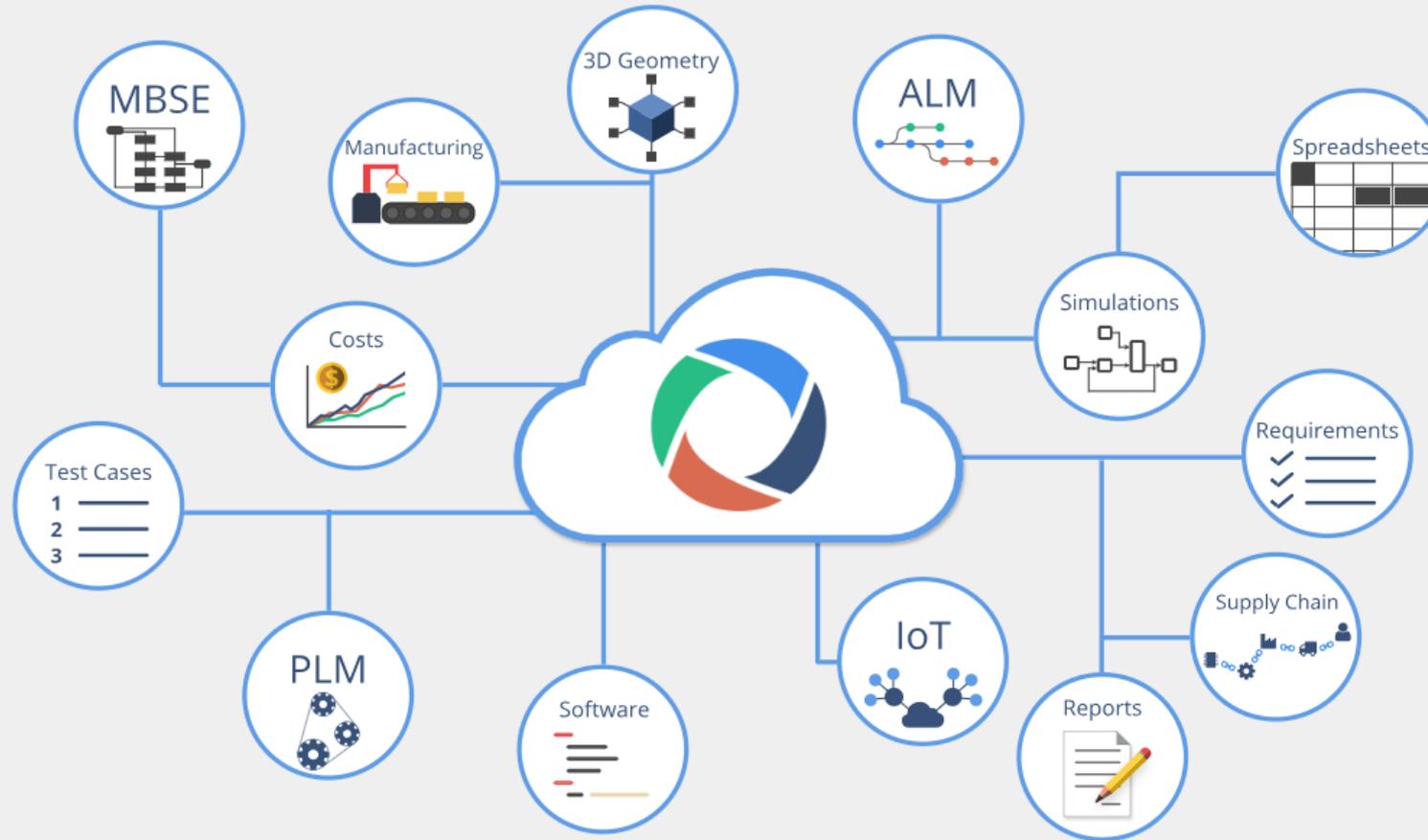
 [WHY OSLC?](#) [ABOUT](#) [SPECS](#) [RESOURCES](#) [NEWS](#) [CONTRIBUTE](#) [FORUM](#)

 No Vendor Lock-In Free yourself from vendor dependency. Your data in your hands	 Reusability Reuse existing OSLC REST APIs supported by major vendor and for specific application or data formats	 Application Integration Integrate your own or existing open sources applications to visualize, search, analyze and edit your data, and more!
 Source Independent Integrate databases from different sources	 Database Independent Integrate systems with different technologies and standards	 Linked Data Link your data using widely adopted web standards
 Data Visualization Visualize your data the way you need. Graphs, Tables, Trees, you name it	 Data Analysis Analyze your connected data for insights never before possible	 Make Better Decisions Take action with information and insight never possible before



Achieving the Digital Thread

Use OSLC to connect your data and achieve the digital thread across domains, applications, and organizations





OSLC Architecture

Layered architecture builds on Linked Data

Domains of interest that maintain separation of concerns and establish collaborative value streams through integration

OSLC Domains Vocabularies Constraints
RM DM CCM QM Automation

OSLC Change Management 3.0 and OSLC Configuration Management 1.0 Specifications, OASIS

Discoverability through Minimal, discoverable, self-describing capabilities to *enable* application integration

OSLC Core Resource Preview Query
Discovery Delegated UI Attachments

OSLC Core 3.0 Specification, OASIS

Reducing Variability through Self-describing, semantically rich, linked data resources leveraging HATEOAS

LDP Containers, Accept-Post Link Relations Paging
Open-World Assumptions JSON-LD Turtle Patch

LDP 1.0 Specification, LDP.next Working Group, W3C

Address Complexity through HTTP and REST as the standard mechanism for distributed, loosely coupled APIs

HTTP POST GET PUT DELETE **REST**
Authentication Resource MIME Types Content Negotiation

HTTP 1.1 Specification, IETF



A Family of Specifications and Methods



2020 saw publication of key OASIS Project Specifications:

- OSLC Core v3.0
- OSLC Query v3.0
- OSLC Requirements Management v2.1
- OSLC Change Management v3.0
- OSLC Quality Management v3.0

Each has 3 Statements of Use



OSLC Core

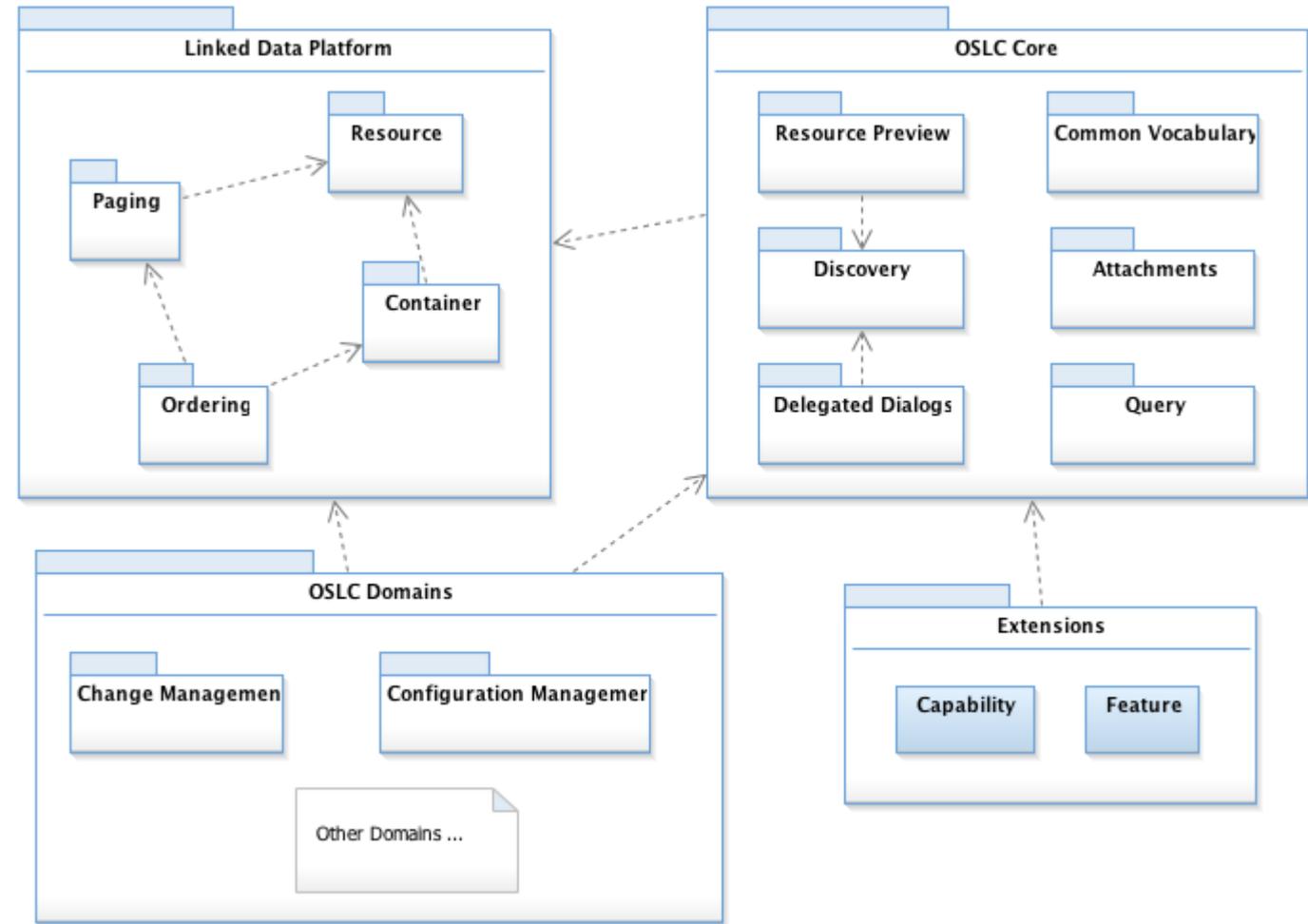
OSLC Core defines the overall approach to Open Services for Lifecycle Collaboration that extend and complement the W3C Linked Data Platform

- The OSLC Core specification expands on the W3C LDP capabilities
 - Define the essential and common technical elements of OSLC domain specifications
 - Offer guidance on common concerns for creating, updating, retrieving, and linking to lifecycle resource
 - RDF vocabularies describe standardized resource types and properties
 - OSLC resource shapes are used to define constraints such as multiplicity constraints on properties of specific resource type
- OSLC domain-specific specifications
 - The equivalent of schemas in RDF for enabling data interoperability
 - They consist of RDF vocabularies and OSLC resource shapes
- The OSLC Core Specification is a Hypermedia API, with the potential to provide value to any domain with data integration challenges



OSLC Core 3.0

- OSLC Core 3.0 builds on capabilities developed in different standards organizations, TCs and working groups





Goals of OSLC Core 3.0

- Integration based on an open standard, not controlled by any single vendor
- Based on the W3C Linked Data Platform standard which provides a solid foundation for reading and writing linked data resources
- 3.0 specifications are simpler, more consistent and will potentially be more attractive to, and easier to consume by new integrations
- New capabilities specified in 3.0, including attachments, inverse link labels, traceability and impact types



Coming Next

- An OSLC API & reference implementation for SysML v2, to be contributed to OMG
- Architecture Management has published a project specification draft
- Project specification draft for Configuration Management expected soon
- Working on Tracked Resource Sets



Contribute to OSLC

- See more at <https://open-services.net>
- Access specs and work in progress in github <https://github.com/topics/oslc>
- Join the team!



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www.incose.org/IW2021