Overview of OSLC and its Potential Applications to Systems Modeling and Simulation

This document is available as a [wiki page](#) linked from [SMSWG Meeting #12](#) on the [INCOSE MBSE Wiki](#). It was prepared for a presentation by Roger Burkhart (with help from additional contributors) at the face-to-face SMSWG meeting during the INCOSE International Workshop on February 1, 2016. It provides links to work at INCOSE, OMG, and elsewhere to apply OSLC and Linked Data to engineering needs.

MBSE Applications of OSLC
[OMG OSLC Summit (December 9, 2015)](#)
[INCOSE Insight](#) Vol. 18/2, Integration of MBSE Artifacts Using OSLC
[OSLC Breakout Session of 2015 INCOSE IW MBSE Workshop](#) (January 24 & 25, 2015)
[OSLC4MBSE WG of the OMG Systems Engineering DSIG](#)

OSLC/OASIS Committees and General Information
[OASIS OSLC Committees and Governance](#)
[Open Services For Lifecycle Collaboration (OSLC)](#)

World Wide Web Consortium (W3C) Specifications
[Linked Data Platform](#)
[Resource Description Framework (RDF)](#)
[RDF Schema](#)
[Shapes Constraint Language (SHACL)](#)
[Web Ontology Language (OWL)](#)

There is a wealth of information on OSLC and its use of W3C platforms for RDF and Llinked Data on the above sites. For more specifics on how OSLC and linked data can solve specific problems of engineering tool integration, see MBSE-related presentations in the first table above. A good place to start is the [Introduction to OSLC](#) presentation by Axel Reichwein at the [OMG OSLC Summit (December 9, 2015)](#).

One specific role for which OSLC and linked data could be well suited is to share a common systems engineering context across multiple engineering tools. Roger Burkhart highlighted this application in a panel presentation at last year's OSLC breakout, and more recently in a short talk on Challenges of Collaboration through Shared Models at the ASSESS 2016 Congress. A breakout group at ASSESS 2016 also proposed standardizing metadata for analysis and simulation models. Mapping of metadata across tools could benefit from the data exchange flexibility provided by OSLC and linked data.

Commercial tools already support OSLC specifications for a variety of ALM, PLM, requirements management, issue tracking, and configuration and change management tools. A summary of such tools is available under the Software link on the main OSLC site. Open-source resources are available to build OSLC-compliant tools, such as the Eclipse Lyo project. The MBSE Center at the Georgia Institute of Technology has recently released some adapters to SysML, requirements management, and dynamic simulation tools which implement their own RDF vocabularies for integrating models at the level of an entire system. See their project link at Systems Engineering Tools Integration & Interoperability using OSLC and their GitHub repositories at github.com/ld4mbse.

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