



OSLC Architecture Management Version 3.0. Part 3: Constraints

OASIS Standard

11 July 2022

This stage:

<https://docs.oasis-open-projects.org/oslc-op/am/v3.0/os/architecture-management-shapes.html> (Authoritative)
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Previous stage:

<https://docs.oasis-open-projects.org/oslc-op/am/v3.0/ps01/architecture-management-shapes.html> (Authoritative)
<https://docs.oasis-open-projects.org/oslc-op/am/v3.0/ps01/architecture-management-shapes.pdf>

Latest stage:

<https://docs.oasis-open-projects.org/oslc-op/am/v3.0/architecture-management-shapes.html> (Authoritative)
<https://docs.oasis-open-projects.org/oslc-op/am/v3.0/architecture-management-shapes.pdf>

Latest version:

<https://open-services.net/spec/am/latest>

Latest editor's draft:

<https://open-services.net/spec/am/latest-draft>

Open Project:

[OASIS Open Services for Lifecycle Collaboration \(OSLC\) OP](#)

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Additional components:

This specification is one component of a Work Product that also includes:

- OSLC Architecture Management Version 3.0. Part 1: Specification. [architecture-management-spec.html](#)
- OSLC Architecture Management Version 3.0. Part 2: Vocabulary. [architecture-management-vocab.html](#)
- OSLC Architecture Management Version 3.0. Part 3: Constraints (this document). [architecture-management-shapes.html](#)
- OSLC Architecture Management Version 3.0. Part 4: Machine Readable Vocabulary Terms. [architecture-management-vocab.ttl](#)

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- *OSLC Architecture Management Version 3.0. Part 5: Machine Readable Constraints.* [architecture-management-shapes.ttl](#)

Related work:

This specification is related to:

- *OSLC Architecture Management Specification Version 2.0.* <http://open-services.net/wiki/architecture-management/OSLC-Architecture-Management-Specification-Version-2.0/>

RDF Namespaces:

<http://open-services.net/ns/core/am#>

<http://jazz.net/ns/dm/linktypes#>

Abstract:

OSLC Architecture Management Version 3.0. Part 2: Vocabulary defines the OSLC Architecture Management RDF vocabulary terms and resources. This document specifies the standard constraints on those vocabulary terms using OSLC ResourceShapes.

Status:

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Citation format:

When referencing this specification the following citation format should be used:

[OSLC-AM-3.0-Part3]

OSLC Architecture Management Version 3.0. Part 3: Constraints. Edited by Jim Amsden. 11 July 2022. OASIS Standard. <https://docs.oasis-open-projects.org/oslc-op/am/v3.0/os/architecture-management-shapes.html>. Latest stage: <https://docs.oasis-open-projects.org/oslc-op/am/v3.0/architecture-management-shapes.html>.

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1. Introduction

This section is non-normative.

RDF vocabularies define the terms and resources for a domain of interest, life-cycle management in the case of OSLC Architecture Management. These vocabularies are often specified in an open manner, without providing information such as property domain and range assertions, cardinalities, etc. This helps keep the vocabulary applicable for a wide range of uses and furthering integration with other vocabularies.

However, it is often desirable to closed down a vocabulary with specific constraints to facilitate using the vocabulary for a specific purpose. This document specifies the constraints for using the OSLC Architecture Management vocabulary in OSLC. Different sets of constraints may be applied to a vocabulary in order to tailor its use, without overly constraining the vocabulary for other usages.

These constraints apply to the core vocabulary defined in [OSLC Architecture Management Version 3.0. Part 2: Vocabulary](#).

1.1 Terminology

This section is non-normative.

Terminology is based on OSLC Core Overview [\[OSLCCore3\]](#), W3C Linked Data Platform [\[LDP\]](#), W3C's Architecture of the World Wide Web [\[WEBARCH\]](#), Hyper-text Transfer Protocol [\[HTTP11\]](#). Terminology for this specification is defined in part 1 of the multi-part specification.

1.2 References

1.2.1 Normative references

[HTTP11]

R. Fielding, Ed.; J. Reschke, Ed.. [Hypertext Transfer Protocol \(HTTP/1.1\): Message Syntax and Routing](#). IETF, June 2014. Proposed Standard. URL: <https://httpwg.org/specs/rfc7230.html>

[LDP]

Steve Speicher; John Arwe; Ashok Malhotra. [Linked Data Platform 1.0](#). W3C, 26 February 2015. W3C Recommendation. URL: <https://www.w3.org/TR/ldp/>

[OSLCCore3]

Jim Amsden; S. Speicher. [OSLC Core Version 3.0. Part 1: Overview](#). OASIS. Project Specification Draft. URL: <https://docs.oasis-open-projects.org/oslc-op/core/v3.0/oslc-core.html>

[RFC2119]

S. Bradner. [Key words for use in RFCs to Indicate Requirement Levels](#). IETF, March 1997. Best Current Practice. URL: <https://www.rfc-editor.org/rfc/rfc2119>

[RFC8174]

B. Leiba. [Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words](#). IETF, May 2017. Best Current Practice. URL: <https://www.rfc-editor.org/rfc/rfc8174>

1.2.2 Informative references

[OSLCQM]

Paul McMahan; Jim Amsden; Gray Bachelor. [OSLC Quality Management 2.1. Part 1: Specification](#). OASIS. Project Specification Draft. URL: <https://open-services.net/spec/qm/latest>

[OSLCRM]

Ian Green; Jad El-khoury. [OSLC Requirements Management Version 2.1. Part 1: Specification](#). OASIS. Project Specification Draft. URL: <https://open-services.net/spec/rm/latest>

[WEBARCH]

Ian Jacobs; Norman Walsh. [Architecture of the World Wide Web, Volume One](#). W3C, 15 December 2004. W3C Recommendation. URL: <https://www.w3.org/TR/webarch/>

1.3 Typographical Conventions and Use of RFC Terms

As well as sections marked as non-normative, all authoring guidelines, diagrams, examples, and notes in this specification are non-normative. Everything else in this specification is normative.

The key words "**MUST**", "**MUST NOT**", "**REQUIRED**", "**SHALL**", "**SHALL NOT**", "**SHOULD**", "**SHOULD NOT**", "**RECOMMENDED**", "**NOT RECOMMENDED**", "**MAY**", and "**OPTIONAL**" in this specification are to be interpreted as described in [BCP 14](#) [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

In addition to the namespace URIs and namespace prefixes `oslc`, `rdf`, `dcterms` and `foaf` defined in the [OSLC Core specification](#), OSLC AM defines the namespace URI of `http://open-services.net/ns/am#` with a namespace prefix of `oslc_am`

This specification also uses these namespace prefix definitions:

- `oslc_rm` : `http://open-services.net/ns/rm#` [OSLCRM]
- `oslc_qm` : `http://open-services.net/ns/qm#` [OSLCQM]

2. Resource Constraints

This section specifies the constraints for the Architecture Management resources. The resource properties are not limited to the ones defined in this specification, AM Servers may provide additional properties. It is recommended that any additional properties exist in their own unique namespace and not use the namespaces defined in these specifications.

2.1 Resource: ResourceShape

An Architecture Management Resource (AMR) is a generic resource format that can be used to represent any type of specific architecture resource such as a UML Class, Use Case, or Business Process Diagram.

- **Describes:** <http://open-services.net/ns/am#Resource>
- **Summary:** Resource
- **Description:** A generic resource format that can be used to represent any type of specific architecture resource like a UML Class, Use Case, or Business Process Diagram.

Resource Properties

Prefixed Name	Occurs	Read-only	Value-type	Representation	Range	Description
<code>dcterms:contributor</code>	Zero-or-many	unspecified	AnyResource	Either	<code>oslc:Any</code>	Contributor or contributors to the resource. It is likely that the target resource will be a foaf:Person but that is not necessarily the case.
<code>dcterms:created</code>	Zero-or-one	unspecified	dateTime	N/A	Unspecified	Timestamp of resource creation.
<code>dcterms:creator</code>	Zero-or-many	unspecified	AnyResource	Either	<code>oslc:Any</code>	Creator or creators of the resource. It is likely that the target resource will be a foaf:Person but that is not necessarily the case.
<code>dcterms:description</code>	Zero-or-one	unspecified	XMLLiteral	N/A	Unspecified	Descriptive text about resource represented as rich text in XHTML content.

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Prefix Name	Occurs	Read-only	Value-type	Representation	Range	Description
<code>dcterms:identifier</code>	Exactly-one	unspecified	string	N/A	Unspecified	A unique identifier for a resource. Typically read-only and assigned by the service provider when a resource is created. Not typically intended for end-user display.
<code>dcterms:modified</code>	Zero-or-one	unspecified	dateTime	N/A	Unspecified	Timestamp of latest resource modification.
<code>dcterms:source</code>	Zero-or-one	unspecified	Resource	Reference	<code>oslc:Any</code>	The resource URI a client can perform a get on to obtain the original non-OSLC AM formatted resource that was used to create this resource. The source resource is usually a binary or proprietary format that the service provider can consume and convert into an OSLC AM format. The service may use content negotiation with the Accept header to obtain the desired content type.

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Prefix Name	Occurs	Read-only	Value-type	Representation	Range	Description
<code>dcterms:title</code>	Exactly-one	unspecified	XMLLiteral	N/A	Unspecified	Title of the resource represented as rich text in XHTML content.
<code>dcterms:type</code>	Zero-or-many	unspecified	string	N/A	Unspecified	A short string representation for the type, for example 'Car'.
<code>jazz_am:derives</code>	Zero-or-many	unspecified	Resource	Reference	<code>oslc:Any</code>	The resource that derives from another resource originated from or is significantly influenced by the referenced resource. For example a model element derives from a requirement.
<code>jazz_am:elaborates</code>	Zero-or-many	unspecified	Resource	Reference	<code>oslc:Any</code>	This resource elaborates the referenced resource.
<code>jazz_am:external</code>	Zero-or-many	unspecified	Resource	Reference	<code>oslc:Any</code>	A generic link from a resource to an external web page.
<code>jazz_am:refine</code>	Zero-or-many	unspecified	Resource	Reference	<code>oslc:Any</code>	The target is a refinement of the source. (e.g. a use case scenario might be a refinement of a textual requirement that describes the interaction).
<code>jazz_am:satisfy</code>	Zero-or-many	unspecified	Resource	Reference	<code>oslc:Any</code>	The model element satisfies the requirement (e.g. The use case satisfies a functional requirement).

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Prefix Name	Occurs	Read-only	Value-type	Representation	Range	Description
<code>jazz_am:trace</code>	Zero-or-many	unspecified	Resource	Reference	<code>oslc:Any</code>	The model element has a trace to the requirement (e.g. An attribute or its value are traced to a requirement).
<code>oslc:instanceShape</code>	Zero-or-one	unspecified	Resource	Reference	<code>oslc:ResourceShape</code>	The URI of a Resource Shape that describes the possible properties, occurrence, value types, allowed values and labels. This shape information is useful in displaying the subject resource as well as guiding clients in performing modifications. Instance shapes may be specific to the authenticated user associated with the request that retrieved the resource, the current state of the resource and other factors and thus should not be cached.

Prefix Name	Occurs	Read-only	Value-type	Representation	Range	Description
<code>oslc:serviceProvider</code>	Zero-or-many	unspecified	Resource	Reference	<code>oslc:ServiceProvider</code>	A link to the resource's OSLC Service Provider. There may be cases when the subject resource is available from a service provider that implements multiple domain specifications, which could result in multiple values for this property.
<code>oslc:shortTitle</code>	Zero-or-one	unspecified	XMLLiteral	N/A	Unspecified	Short name identifying a resource, often used as an abbreviated identifier for presentation to end-users. SHOULD include only content that is valid inside an XHTML <code></code> element [cc-1].
<code>rdf:type</code>	Zero-or-many	unspecified	Resource	Reference	<code>rdfs:Class</code>	The resource type URIs.

2.2 Resource: LinkTypeShape

A Link Type Resource (LTR) represents type of link that is or can be used when defining links from AM resources. The type has an ID (expressed as a string), whose universally accepted semantics may be defined elsewhere. This resource represents the definition as it is used by this service provider. This resource is meant as a convenience for clients to get a list of known/registered link types with human readable labels and definitions that can be used in client user interfaces when links are being created.

The resource defines the properties `rdfs:label` and `rdfs:comments` for the link type URI. The link type URI is made type: <http://open-services.net/ns/am#LinkType> via an `rdf:type` property. The remaining properties may be properties of the link type URI, or on a separate resource managed by the service provider. In the case where the service provider owns the domain of the link type URI these can be the same, and all properties can be on the same link type URI.

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Links from AMR resources are managed in accordance with the [OSLC Core Guidance on Links and Relationships](#). They appear as simple properties in the resource. Links may include inlined values for the target and may include anchor properties on the link itself. AM Servers may support LinkType Resources for clients to get a list of known and acceptable link properties.

- **Describes:** <http://open-services.net/ns/am#LinkType>
- **Summary:** LinkType
- **Description:** Represents type of link that is or can be used when defining links from AM resources.

LinkType Properties

Prefixed Name	Occurs	Read-only	Value-type	Representation	Range	Description
<code>dcterms:contributor</code>	Zero-or-many	unspecified	AnyResource	Either	<code>oslc:Any</code>	Contributor or contributors to the resource. It is likely that the target resource will be a foaf:Person but that is not necessarily the case.
<code>dcterms:created</code>	Zero-or-one	unspecified	dateTime	N/A	Unspecified	Timestamp of resource creation.
<code>dcterms:creator</code>	Zero-or-many	unspecified	AnyResource	Either	<code>oslc:Any</code>	Creator or creators of the resource. It is likely that the target resource will be a foaf:Person but that is not necessarily the case.
<code>dcterms:identifier</code>	Exactly-one	unspecified	string	N/A	Unspecified	A unique identifier for a resource. Typically read-only and assigned by the service provider when a resource is created. Not typically intended for end-user display.
<code>dcterms:modified</code>	Zero-or-one	unspecified	dateTime	N/A	Unspecified	Timestamp of latest resource modification.

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<i>Prefixed Name</i>	<i>Occurs</i>	<i>Read-only</i>	<i>Value-type</i>	<i>Representation</i>	<i>Range</i>	<i>Description</i>
<code>oslc:instanceShape</code>	Zero-or-one	unspecified	Resource	Reference	<code>oslc:ResourceShape</code>	The URI of a Resource Shape that describes the possible properties, occurrence, value types, allowed values and labels. This shape information is useful in displaying the subject resource as well as guiding clients in performing modifications. Instance shapes may be specific to the authenticated user associated with the request that retrieved the resource, the current state of the resource and other factors and thus should not be cached.

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Prefix Name	Occurs	Read-only	Value-type	Representation	Range	Description
<code>oslc:serviceProvider</code>	Zero-or-many	unspecified	Resource	Reference	<code>oslc:ServiceProvider</code>	A link to the resource's OSLC Service Provider. There may be cases when the subject resource is available from a service provider that implements multiple domain specifications, which could result in multiple values for this property.
<code>rdfs:comment</code>	Zero-or-one	unspecified	string	N/A	Unspecified	Descriptive text about link type. Provides a description of this link type that could be used in hover help or other areas of the UI where the user wants to understand more about what a link of this type means.
<code>rdfs:label</code>	Exactly-one	unspecified	string	N/A	Unspecified	The human readable name for this link type. This value is expected to be used in drop down lists and in tables where a link of this type is involved.

3. Conformance

Architecture Management servers **MUST** follow the constraints defined here where required, and with the meanings defined here.

Architecture Management servers **MAY** provide additional constraints for specific purposes.

Clause Number	Requirement
cc-1	Short name identifying a resource, often used as an abbreviated identifier for presentation to end-users. SHOULD include only content that is valid inside an XHTML element