Draft for Core Issue-43-5

See: http://open-services.net/bin/view/Main/OslcCoreV2Issues

1. Occurs lists the valid values, but not what each value means semantically (which has proven to be a point of contention). The vocabulary document does describe the semantics, however.
2. Feedback from May 30 Core meeting was that people wanted to cover the general case of implementation limits, not just the specific case of Occurs = *-many that the first draft covered.
3. TBD from May 30 Core meeting: hyperlink where URLs are used as enums.
4. TBD from May 30 Core meeting: update Core RDFS with seeAlso links.
5. TBD from June 13 Core meeting: replace "Occurs" example with simpler one, i.e. very large string value as a triple object.
6. TBD from June 13 Core meeting: use "For example" rather than "e.g.", per ID guidance.

Revised: Core topic OSLC Defined Resources

Source: http://open-services.net/bin/view/Main/OslcCoreSpecification?sortcol=table;up=#OSLC_Defined_Resources

OSLC Defined Resources

OSLC uses a simple model of resources with property values intended to be consistent with the Resource Description Framework (RDF) data model (reference: RDF Concepts). OSLC also builds upon the Extensible Markup Language (XML) namespace mechanism (reference: XML Namespaces).

When specifying a resource or a property, OSLC Specifications define its type as a URI which can be decomposed into a namespace URI and a name. We abbreviate type URIs as Prefixed Names (reference: Prefixed Names), which are represented in XML as QNames. The namespace used for resources defined in this specification is defined as follows:

- Namespace URI: `http://open-services.net/ns/core#`
- Default Prefix: `oslc`

When defining an OSLC Resource type, OSLC Specifications **MUST** provide the following information:

- **Name** (String): name of the resource which **MUST** be valid as the Local Name part of a QName (reference: XML Namespaces).
- **URI** (URI): The URI of the resource definition. Per the rules of Prefixed Names, this URI is formed by appending the Name to the end of the Namespace URI in the specification that defines the

resource. For example, the resource named Service (defined below) gets the Type URI of `http://open-services.net/ns/core#Service`.

Once a resource type is defined, its allowed and required properties can be defined.

Regardless of any property definitions, providers and clients MAY impose implementation-specific limits on resources they accept. For example, they are not required to accept/create/store resources whose triples contain objects with arbitrarily large literal values.

Defining OSLC Properties

OSLC Specifications **MAY** provide a list of properties allowed and/or required for a particular operation on an OSLC Defined Resource. Specifications that do so **SHOULD** provide the following information for each property that they define.

- **Name**: name of the property which **MUST** be valid as the Local Name part of a QName (reference: XML Namespaces).
- **URI**: The URI of the property's type. The URI is formed by appending the Name to the end of the Namespace URI associated with the property. For example, the resource named `oslc:ServiceProviderCatalog` (defined below in the Service Providers Section) defines a property named `domain` with the URI of `http://open-services.net/ns/core#domain`
- **Description**: Description of the property.
- **Occurs**: value **MUST** be one of:
  - `http://open-services.net/ns/core#Exactly-one`
  - `http://open-services.net/ns/core#Zero-or-one`
  - `http://open-services.net/ns/core#Zero-or-many`
  - `http://open-services.net/ns/core#One-or-many`
- **Value-types**: A property **MAY** allow multiple value-types and a value **MUST** satisfy one of them. Each value-type **MUST** be a URI that corresponds to one of the following:
  - Literal value-types:
    - **Boolean**: a boolean type as specified by XSD Boolean (`http://www.w3.org/2001/XMLSchema#boolean`, reference: XSD Datatypes).
    - **DateTime**: a Date and Time type as specified by XSD dateTime (`http://www.w3.org/2001/XMLSchema#dateTime`, reference: XSD Datatypes).
    - **Decimal**: a decimal number type as specified by XSD Decimal (`http://www.w3.org/2001/XMLSchema#decimal`, reference: XSD Datatypes).
    - **Double**: a double floating-point number type as specified by XSD Double (`http://www.w3.org/2001/XMLSchema#double`, reference: XSD Datatypes).
    - **Float**: a floating-point number type as specified by XSD Float (`http://www.w3.org/2001/XMLSchema#float`, reference: XSD Datatypes).

Comment [JA1]: Each item becomes a hyperlink to the vocabulary document

Comment [JA2]: Document URL would be different from the URI, e.g. http://www.w3.org/TR/xmlschema-2/#boolean in this case. May 30 discussion said we wanted hyperlinks – do we want hyperlinks here as well, or let these "fall through" to the References section?

        - **Integer:** an integer number type as specified by XSD Integer (`http://www.w3.org/2001/XMLSchema#integer`, reference: XSD Datatypes).
        - **String**: a string type as specified by XSD String (`http://www.w3.org/2001/XMLSchema#string`, reference: XSD Datatypes).
        - **XMLLiteral**: a Literal XML value (`http://www.w3.org/1999/02/22-rdf-syntax-ns#XMLLiteral`).
    - Resource value-types:
        - **Resource**: value is a resource at a specified URI (i.e. a URI Reference) (`http://open-services.net/ns/core#Resource`).
        - **Local Resource**: value is an resource available only inside the resource being defined (i.e. a Blank Node) (`http://open-services.net/ns/core#LocalResource`).
        - **AnyResource**: value is either a **Resource** or **Local Resource** as defined above (`http://open-services.net/ns/core#AnyResource`).
- **Representation**: for properties with a resource value-type, OSLC specifications should also specify how the resource will be represented. The options are `http://open-services.net/ns/core#Reference` , `http://open-services.net/ns/core#Inline` or `http://open-services.net/ns/core#Either`.
- **Range**: for properties with a resource value-type, OSLC specifications should also specify the range of possible resource classes allowed. This can be specified as `any` or as a list of one or more resource classes specified by Prefixed Name. Best practices for specifying ranges for Resource value-types are covered in the Appendix C Guidance on Links and Relationships document.

In the rest of this document we will define OSLC resources as described above. The below section titled OSLC Defined Resource Representations defines how OSLC resources are to be represented in RDF/XML, JSON and other formats.

OSLC Services that wish to provide the information above in a machine-readable format **MAY** use OSLC Resource Shapes, see Appendix A: Common Properties and Resources for more information.

NOTE: we do not mention Internationalization of strings here because we expect standard HTTP content-negotiation and representation (e.g. `xml:lang`) mechanisms to be used for such.

Comment [JA3]: hyperlink

Comment [JA4]: hyperlinks

Comment [JA5]: hyperlinks