

## 1 Introduction

Currently, within the OMG there is no consistency in how namespaces are defined and associated with XML schema documents for OMG Specs. Moving forward, it has been suggested that the OMG should have a policy for XML Namespaces associated with XML schemas for OMG specs.

This is a proposal, for discussion in the OMG Specification Management Subcommittee.

## 2 History

In some cases the URL of the schema xsd file is used as the URL for the namespace associated with that schema (e.g., This has the disadvantage that the schema document cannot be revised in a backwards compatible manner without changing the Namespace.

In other cases a more abstract URL is used (e.g., `xmlns:xmi="http://schema.omg.org/spec/XMI/2.1"`), however there is inconsistency in what is reached when resolving that URL (e.g xmi url resolves to a directory page containing a subdirectory which contains a pdf version of the XMI spec, but not a schema file).

## 3 Proposal

For consistency, the most important aspect of this proposal is that a URL used for an OMG namespace always resolves to a RDDDL document describing that namespace, and that document be somewhere within the file hierarchy associated with the OMG specification which defines the namespace.

The RDDDL document (as defined in <http://www.rddl.org/rddl2>) is a special type of xhtml file, which contains explanatory text describing important aspects of the namespace definition, as well as specialized html links to related resources.

The html resource reference links in a RDDDL document should contain two special XML attributes pertaining to the resource reference:

- `rddl:nature`
- `rddl:purpose`

This proposal only deals with namespaces associated with XML schemas defined by OMG specifications. As such, this proposal recommends that the following two specific sets of “nature/purpose” always appear in a RDDDL document specific to each namespace associated with OMG defined XML schemas:

- one set for the normative reference to the pdf document which specifies the semantics associated with the namespace
  - rddl:nature="http://www.isi.edu/in-notes/iana/assignments/media-types/pdf"
  - rddl:purpose="http://www.rddl.org/purposes#normative reference"
- another set for the schema files which define the namespace
  - rddl:nature="http://www.w3.org/2001/XMLSchema"
  - rddl:purpose="http://www.rddl.org/purposes#schema-validation"

This proposal specifies only one specific policy for URLs used for OMG schema Namespaces, which requires that the url used for an OMG xml schema namespace be within the directory of the OMG specification which defines the namespace.

*(Note: this new policy is proposed to avoid an increasing plethora of url patterns for OMG schema namespaces, as are currently being used in OMG specs, including ones rooted on on “schema.omg.org” and others rooted on “<specname>.omg.org” )*

The explanatory text in the OMG RDDDL document for the namespace should specify the policy used for defining and versioning the URI used for that namespace (e.g., some specifications may choose a dated url somewhere in the document file hierarchy for the OMG Specification which defined the Namespace). The use of a dated URL, rather than a fixed version number, in a namespace name allows for evolution of the namespace, thru subsequent XSD files which refine the valid productions in that namespace.

For example, it would be within the rules of this proposal for the namespace (made stable in February 2008) associated with the “FOO” spec to have the URL <http://www.omg.org/spec/FOO/200802> . Note that this namespace is placed outside the scope of any particular version of the “FOO” spec.

## 4 Example OASIS WS-Reliable messaging namespace

For a representative example, look at the RDDDL 2 document which the following URI, for the ws-reliable messaging v 1.1 namespace resolves to: <http://docs.oasis-open.org/ws-rx/wsrn/200702>

This ws-reliable messaging RDDDL html document contains two machine readable resource reference “<a” tagged links,

- one to the text of WS-reliable messaging v1.1 spec, with attributes:
  - href="http://docs.oasis-open.org/ws-rx/wsrn/200702/wsrn-1.1-spec-os-01.pdf"
  - rddl:nature="http://www.isi.edu/in-notes/iana/assignments/media-types/pdf"

- rddl:purpose="http://www.rddl.org/purposes#normative reference"
- another to the xsd file for the schema defining the namespace, with attributes:
  - href="http://docs.oasis-open.org/ws-rx/wsrn/200702/wsrn-1.1-schema-200702.xsd"
  - rddl:nature="http://www.w3.org/2001/XMLSchema"
  - rddl:purpose="http://www.rddl.org/purposes#schema-validation"

As you will notice if you access the namespace rddl file at the above address, the links to the spec and schema look just like any other link to the human reader, however the nature and purpose attributes in these links provide machine readable information allowing identification and retrieval of the schema file (of files in the case of namespaces which have evolved) associated with the namespace.

.Each OMG specification should determine and publish, in their RDDDL files, their own URI versioning policy for XML schema namespaces. The RDDDL document for the ws-reliable messaging RDDDL namespace includes a section explaining the Namespace URI Versioning policy which applies to the evolution of that namespace. The following is quoted, as an example, from the versioning policy text included their RDDDL files.:

“

The pattern of the WS-ReliableMessaging v1.1 namespace URI shall be:

`http://docs.oasis-open.org/ws-rx/wsrn/yyyymm`

Where *yyyymm* is the century, year and month chosen by the TC for that version of the namespace URI.

It is the intent of the OASIS WS-RX Technical Committee that the WS-ReliableMessaging v1.1 namespace URI will not change arbitrarily with each subsequent revision of the corresponding WSDL or XML Schema documents but rather change only when a subsequent revision, published in conjunction with a Committee Draft or Committee Specification results in non-backwardly compatible changes from a previously published Committee Draft or Specification.

Under this policy, the following are examples of backwards compatible changes that would **not** result in assignment of a new namespace URI:

- addition of new global element, attribute, complexType and simpleType definitions
- addition of new operations within a WSDL portType or binding (along with the corresponding schema, message and part definitions)
- addition of new elements or attributes in locations covered by a previously specified wildcard

- modifications to the pattern facet of a type definition for which the value-space of the previous definition remains valid or for which the value-space of the preponderance of instance would remain valid
- modifications to the cardinality of elements for which the value-space of possible instance documents conformant to the previous revision of the schema would still be valid with regards to the revised cardinality rule

“

## 5 Example for XMI 2.1.1 specification schema

The XMI 2.1.1 spec defines a schema with the namespace <http://schema.omg.org/spec/XMI/2.1>

This namespace is defined by a schema file at <http://www.omg.org/spec/XMI/20071213/XMI.xsd> , with the normative specification pdf file at <http://www.omg.org/spec/XMI/2.1.1/PDF> .

Since this namespace was finalized before this proposal was in place, it is not rooted in the OMG directory structure for the spec. However we might consider posting a rddl file accessible thru the url <http://schema.omg.org/spec/XMI/2.1>

The RDDDL 2 html file for this schema namespace would contain the following two “<a” tagged links (with rddl attributes), as follows:

```
<a href="http://www.omg.org/spec/XMI/2.1.1/PDF"
rddl:nature="http://www.isi.edu/in-notes/iana/assignments/media-types/pdf"
rddl:purpose="http://www.rddl.org/purposes#normative reference">XMI Specification V
2.1.1</a>
```

```
<a href="http://www.omg.org/spec/XMI/20071213/XMI.xsd "
rddl:nature="http://www.w3.org/2001/XMLSchema"
rddl:purpose="http://www.rddl.org/purposes#schema-validation">xmi v2.1.1 schema
file</a>
```

If some revision task force proposes a backwards compatible amendment to the schema, which does not require a new namespace, the rddl file at that location could be updated to add a new link to the second schema and the new spec version pdf file, with an explanation of the backwards compatible changes that were made to the namespace. That way one rddl file at the location for the namespace would evolve with the namespace.

## 6 Example for PAGE-OM Schema

The PAGE-OM final revised submission has a PSM with five XML schemas:

- snp.xsd

- snp2.xsd
- fuge.xsd
- page.xsd
- bref.xsd

In this final submission, the namespaces are not under the OMG root. The FTF will have to modify the final available specification to have them adhere to the final approved version of this schema namespace proposal.

The following namespaces (using a dated scheme assuming the FTF output becomes stable on December 10 2008) are consistent with this proposal:

- <http://www.omg.org/spec/PAGE-OM/20081210/snp>
- <http://www.omg.org/spec/PAGE-OM/20081210/snp2>
- <http://www.omg.org/spec/PAGE-OM/20081210/fuge>
- <http://www.omg.org/spec/PAGE-OM/20081210/page>
- <http://www.omg.org/spec/PAGE-OM/20081210/bref>

The four schema files should be placed at the following OMG web locations:

- <http://www.omg.org/spec/PAGE-OM/20081210/snp.xsd>
- <http://www.omg.org/spec/PAGE-OM/20081210/snp2.xsd>
- <http://www.omg.org/spec/PAGE-OM/20081210/fuge.xsd>
- <http://www.omg.org/spec/PAGE-OM/20081210/page.xsd>
- <http://www.omg.org/spec/PAGE-OM/20081210/bref.xsd>

The pdf file for the final available spec would be made available (most likely using redirect to the formal directory) from the following url:

- <http://www.omg.org/spec/PAGE-OM/1.0/PDF>

There would be five rddl files, each describing one of the four namespaces, accessed through the following urls :

- <http://www.omg.org/spec/PAGE-OM/20081210/snp>
  - including a link to the text of PAGE-OM v1.0 spec, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/1.0/PDF"
    - rddl:nature="http://www.isi.edu/in-notes/iana/assignments/media-types/pdf"
    - rddl:purpose="http://www.rddl.org/purposes#normative reference"
  - including a link to the xsd file for the schema defining the namespace, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/20081210/snp.xsd"

- rddl:nature="http://www.w3.org/2001/XMLSchema"
  - rddl:purpose="http://www.rddl.org/purposes#schema-validation"
  
- <http://www.omg.org/spec/PAGE-OM/20081210/snp2>
  - including a link to the text of PAGE-OM v1.0 spec, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/1.0/PDF"
    - rddl:nature="http://www.isi.edu/in-notes/iana/assignments/media-types/pdf"
    - rddl:purpose="http://www.rddl.org/purposes#normative-reference"
  - including a link to the xsd file for the schema defining the namespace, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/20081210/snp2.xsd"
    - rddl:nature="http://www.w3.org/2001/XMLSchema"
    - rddl:purpose="http://www.rddl.org/purposes#schema-validation"
  
- <http://www.omg.org/spec/PAGE-OM/20081210/fuge>
  - including a link to the text of PAGE-OM v1.0 spec, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/1.0/PDF"
    - rddl:nature="http://www.isi.edu/in-notes/iana/assignments/media-types/pdf"
    - rddl:purpose="http://www.rddl.org/purposes#normative-reference"
  - including a link to the xsd file for the schema defining the namespace, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/20081210/fuge.xsd"
    - rddl:nature="http://www.w3.org/2001/XMLSchema"
    - rddl:purpose="http://www.rddl.org/purposes#schema-validation"
  
- <http://www.omg.org/spec/PAGE-OM/20081210/page>
  - including a link to the text of PAGE-OM v1.0 spec, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/1.0/PDF"
    - rddl:nature="http://www.isi.edu/in-notes/iana/assignments/media-types/pdf"
    - rddl:purpose="http://www.rddl.org/purposes#normative-reference"
  - including a link to the xsd file for the schema defining the namespace, with attributes:

- href="http://www.omg.org/spec/PAGE-OM/20081210/page.xsd"
  - rddl:nature="http://www.w3.org/2001/XMLSchema"
  - rddl:purpose="http://www.rddl.org/purposes#schema-validation"
- <http://www.omg.org/spec/PAGE-OM/20081210/bref>
  - including a link to the text of PAGE-OM v1.0 spec, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/1.0/PDF"
    - rddl:nature="http://www.isi.edu/in-notes/iana/assignments/media-types/pdf"
    - rddl:purpose="http://www.rddl.org/purposes#normative-reference"
  - including a link to the xsd file for the schema defining the namespace, with attributes:
    - href="http://www.omg.org/spec/PAGE-OM/20081210/bref.xsd"
    - rddl:nature="http://www.w3.org/2001/XMLSchema"
    - rddl:purpose="http://www.rddl.org/purposes#schema-validation"