Proposal for XML Namespaces in OMG Specs – Version 1
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1 Introduction

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

This is intended to be the final proposal, for adoption by the AB.

2 History

In some cases the URL of the schema xsd file is used as the URL for the namespace associated with that schema. 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 any OMG XML namespace always resolves to a RDDL document describing that namespace, and that document be in a dated directory within the file hierarchy associated with the OMG specification which defines the namespace.

The RDDL 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 RDDL document should contain two special XML attributes pertaining to the resource reference:

- rddl:nature (url of: mime type for a non xml resource, or; xml schema for an xml document resource)
- rddl:purpose (url which indicates intended use of resource)

This proposal only deals with namespaces associated with XML schemas, XMI documents and WSDL definitions defined by OMG specifications.

It is recommended that the following specific sets of “nature/purpose” appear in a RDDL document associated with each XML Schema or XMI namespace associated with OMG specifications:

- one set for the normative reference to the pdf document which specifies the semantics associated with the namespace
    - rddl:nature="http://www.iana.org/assignments/media-types/application/pdf"
    - rddl:purpose="http://www.rddl.org/purposes#normative reference"
- another set for schema files for this namespace
    - rddl:nature="http://www.w3.org/2001/XMLSchema"
    - rddl:purpose="http://www.rddl.org/purposes#schema-validation"
- another set for XMI files for this namespace
    - rddl:nature="<url of xml schema for xmi document>"
    - rddl:purpose="http://www.omg.org/spec/XMI"

It is recommended that the following specific sets of “nature/purpose” appear in a RDDL document associated with each WSDL description namespace associated with OMG specifications:

- one set for the normative reference to the pdf document which specifies the semantics associated with the namespace
    - rddl:nature="http://www.iana.org/assignments/media-types/application/pdf"
    - rddl:purpose="http://www.rddl.org/purposes#normative reference"
- another set for WSDL files which define a WSDL description namespace
    - rddl:nature=" http://schemas.xmlsoap.org/wsdl/"
    - rddl:purpose=" http://www.w3.org/TR/wsdl "

This proposal specifies a specific policy for URLs used for OMG schema and WSDL descriptions, which requires that the URL used for an OMG xml namespace be in a dated directory within the directory of the OMG specification which defines the namespace.

The explanatory text in the OMG RDDL document for the namespace needs to include the policy used for defining and versioning the URI used for that namespace. This proposal includes a draft of the text defining the namespace versioning policy. 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 Feburary 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 OMG namespace URI and versioning policy

The following text is the OMG namespace URI policy for XML Schemas. It should be included in each RDDL file associated with XML Schema documents, which are normative parts of OMG specifications.

> The pattern of the OMG namespaces for XML Schema or XMI URIs shall be:
>
> "http://www.omg.org/spec/<specAbbrev>/yyyymm(dd)" + optional suffix "/<nameAbbrev>"
>
> The pattern of the OMG namespaces URIs for WSDL specifications shall be:
>
> "http://www.omg.org/spec/<specAbbrev>/yyyymm(dd)/wsdl" + optional suffix "/<nameAbbrev>"
>
> The optional suffix is required when there is more than one XML namespace defined in the spec.
>
> The form of the date substring "*yyyymm(dd)*" is the century, year, month (and optional day within month if there is more than one for the month) chosen for that version of the namespace URI.
>
> It is the intent of OMG that specified namespace URI values 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 an OMG Specification, results in non-backwardly compatible changes from a previously published version of that 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 OASIS WS-Reliable messaging namespace

For a representative example, look at the RDDL 2 document which the following ws-reliable messaging v 1.1 namespace URIs resolve to:

- XML schema namespace: http://docs.oasis-open.org/ws-rx/wsrm/200702 and:
- WSDL namespace http://docs.oasis-open.org/ws-rx/wsrm/200702/wsdl

This ws-reliable messaging RDDL html document for these namespaces contains three 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/wsrm/200702/wsrm-1.1-spec-os-01.pdf"
  - rddl:nature="http://www.iana.org/assignments/media-types/application/pdf"
  - rddl:purpose="http://www.rddl.org/purposes#normative reference"
- another to the xsd file for the an XML schema namespace, with attributes:
  - href="http://docs.oasis-open.org/ws-rx/wsrm/200702/wsrm-1.1-schema-200702.xsd"
  - rddl:nature="http://www.w3.org/2001/XMLSchema"
  - rddl:purpose="http://www.rddl.org/purposes#schema-validation"
- another to the WSDL file for the WSDL namespace, with attributes:
  - href="http://docs.oasis-open.org/ws-rx/wsrm/200702/wsrm-1.2-wsdl-200702.wsdl"
  - rddl:nature="http://schemas.xmlsoap.org/wsdl/"
  - rddl:purpose=" http://www.w3.org/TR/wsdl "

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.

If you read the namespace URI and versioning policy in this RDDL doc, you will notice that the OMG policy in the proposal is based on theirs.

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

XMI Specification V 2.1.1

xmi v2.1.1 schema file

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.

7 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 thru 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.iana.org/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.iana.org/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.iana.org/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.iana.orgassignments/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.iana.org/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"