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Standardised Namespaces for XML infosets in GGF

Status of This Memo

This memo provides information to the Grid community on how to define identifying names uniquely and uniform in the GGF domain. It does not define any standards or technical recommendations. Distribution is unlimited.

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Abstract

This document defines a rule set to generate namespaces for XML documents and infosets.

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1. Introduction

The main purpose of GGF work is to produce documents. Many of these documents, if not the majority, are specifications to standardise Grid Computing. Every Working Group and Research Group thus faces the problem to structure the namespace URI for their particular area of interest. A non-exhaustive survey of current GGF research groups showed that indeed the defined namespaces vary greatly.

Indeed, recurring patterns of identification within a larger organisational domain greatly improve communication and recognition both internal and external to an organisation. This very popular pattern has many names, of which the most commonly known name is "Corporate Identity" in the commercial world.

This document defines a small part of a greater "Grid Community Identity" by standardising the way in which GGF Working Groups and, possibly, Research Groups, organise their associated namespaces.

1.1 Notational conventions

The key words "MUST," "MUST NOT," "REQUIRED," "SHALL," "SHALL NOT," "SHOULD," "SHOULD NOT," "RECOMMENDED," "MAY," and "OPTIONAL" are to be interpreted as described in [RFC2119].

2. Namespace Generation Rules

This section presents a set of rules to generate namespaces. The outcome of every rules application is a namespace suitable for XML schema documents. The rules presented in this section closely follow the "augmented BNF" framework given in [RFC2616].

The rule element named "token" MUST be interpreted as given in [RFC2616] chapter 2.2.

2.1 Namespace

A namespace uniquely identifies a specification within the GGF domain. To demonstrate that the specification relates to GGF, its namespace shall have a common part related to GGF, and a specification related part:

```
namespace      = common-part [specific-part ]
```

2.2 common-part

The common part that every namespace contains is further refined to the following:

```
common-part    = scheme customs domain
```

Example: A common part for namespace identifiers

```
http://schemas.ggf.org
```

2.3 scheme

The scheme is an additional element for further extension For the purpose of this document, its semantics are just a string. Other documents inherited from this document may impose additional semantics to extended tokens to the scheme rule.

```
scheme = ( "http" | extension ) "://"
```

2.3.1 http

The scheme literal value "http" MUST be used when generating namespaces for XML schema documents and infosets associated to specifications published by GGF Working Groups and Research Groups.

2.4 customs

The customs part defines the general purpose of the containing namespace. It is used to partition the semantics of the GGF domain namespace.

```
customs = "schemas" | extension
```

Other documents extending the rule set given here MAY introduce further extension and impose other semantics to those tokens.

2.4.1 schemas

The customs literal value "schemas" defines that the containing namespace is used to define a namespace for a specification's associated XML schema. All GGF specifications that publish XML schema documents MUST use this literal value when defining the namespace.

2.5 domain

The domain part of the common-part element of a namespace identifier associates the namespace with a higher level community.

```
domain = ".ggf.org" | extension
```

2.5.1 ggf.org

The domain literal value "ggf.org" MUST be used when generating namespaces for XML schema documents and infosets associated to specifications published by GGF Working Groups and Research Groups.

2.6 specific-part

The specific-part of a namespace defines the project specific properties. The minimum information provided MUST include the project acronym and a version. If the structure of the project permits, arbitrarily detailed information MAY be added to the namespace:

```
specific-part = project version [ project | part ]
```

If additional information is needed, the main namespace **MUST** be constructed using

```
specific-part = project version project
```

and all subordinate namespaces **MUST** be constructed using

```
specific-part = project version part
```

Example: Specific parts defined by the JSDL working group

```
/jsdl/2005/06/jsdl  
/jsdl/2005/06/jsdl-posix
```

For further information see section 2.11.

2.7 project

To satisfy the project rule, each GGF project selects an acronym describing that project. The acronyms **MUST NOT** contain any hints on the nature of the project group; they neither **MUST NOT** incorporate fractions of or whole acronyms of other projects.

```
project = "/" <project acronym>
```

Example: A selection of correct and wrong project acronyms

```
/rss  
/graap  
/jsdl      (correct)  
/jsdl-wg   (wrong!)  
/bes       (correct)  
/ogsa-bes  (wrong!)
```

2.8 version

To satisfy the version rule a project **MUST** give the year and month of publication of the XML schema document. It is irrelevant whether the published specification is a draft or a final document.

```
version = "/" version-year "/" version-month
```

This document imposes the restriction on the selection of the year and month components that new values **MUST NOT** be selected if the next published version is backwards compatible to the current version of the XML schema document.

Example: A version particle for a draft published in June 2005

/2005/06

2.9 version-year

The year of publication **MUST** be given using four digits:

`version-year = 4DIGIT`

The value for the year particle **MUST** be chosen according to the Gregorian calendar.

Example: A year particle for a draft published in 2005 AD

2005

2.10 version-month

The month of publication **MUST** be given using two digits using a leading zero where appropriate:

`version-month = 2DIGIT`

The value for the year particle **MUST** be chosen according to the Gregorian calendar. The Gregorian months "January" through "December" are in ascending order associated to the values "01" up and including to "12" Hence the value "01" denotes the publication month "January" and

Example: A month particle for a draft published in June

06

2.11 part

Where necessary, projects **MAY** define namespaces having specific-part elements of arbitrary length:

`part = "/" token [part]`

Restrictions outlined in chapter 2.5.1 **MUST** be followed.

Example: Some example part particles

/foo

/foo/bar

/foo/bar/baz

Example: Concrete part particles defined by the current draft ByteIO specification

```
/transfer-mechanisms/simple
```

```
/transfer-mechanisms/dime
```

```
/transfer-mechanisms/mtom
```

2.12 extension

This rule defines an extension point for later documents and extended specifications:

```
extension = token
```

The rule named “token” MUST be interpreted as in [RFC2616] chapter 2.2.

Other documents SHOULD exploit this extension rule. However, if the need exist, they MAY alter the interpretation of parts of this document.

3. Security Considerations

This document defines rules and guidelines on how to create namespaces for GGF Research Groups and Working Groups. It touches the concept of “Corporate Identity” which may need protection by legal terms and conditions. For example, there are no procedures known to the authors that will be followed in case of fraudulent use of “ggf.org” etc in namespace definitions that are not endorsed by GGF.

Such legal steps are out of scope of this document, and should be considered by GFSG prior to publishing this document in the GFD series.

Having said that, no other security actions are required.

Author Information

Michel Drescher
Fujitsu Laboratories of Europe Ltd.
Hayes Park Central, Hayes Park Road, Hayes, Middlesex, UB4 8FE, U.K.
Michel.Drescher@uk.fujitsu.com

Ali Anjomshoaa
EPCC
University of Edinburgh
James Clerk Maxwell Building, Mayfield Road, Edinburgh EH9 3JZ, U.K.
ali@epcc.ed.ac.uk

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References

- RFC2119 RFC2119: Key words for use in RFCs to Indicate Requirement Levels
<http://www.ietf.org/rfc/rfc2119.txt>
- RFC2616 RFC 2616: Hypertext Transfer Protocol – HTTP/1.1
<http://www.ietf.org/rfc/rfc2616.txt>

Appendix A. Complete rule set

This appendix lists the complete set of rules defined in this document:

```
namespace      = common-part [specific-part ]
common-part    = scheme customs ".ggf.org"
scheme         = ( "http" | extension ) "://"
customs        = "schemas" | extension
specific-part  = project version [ project | part ]
project        = "/" <project acronym>
version        = "/" version-year "/" version-month
version-year   = 4DIGIT
version-month  = 2DIGIT
part           = "/" token [ part ]
extension      = token
```

Appendix B. Outlook on further actions

This specification has been developed having mainly namespaces for XML schema documents and infosets in mind.

However, other considerations supported this specification. For example, this document has been heavily influenced by the plans on how to update the GGF related WWW presence. Combined efforts led to the idea to provide a centralized repository for all published XML schema documents and infosets. This way, programmatic XML document validation can be performed online, supporting the idea of a ubiquitous (Grid) network. In the end, all these considerations and discussions led to the general URL pattern for XML namespaces to ease the integration of the XML schema document repository into the overall GGF WWW presence.

To enable this combined effort, GFSG may decide to enact a general infrastructure policy stating

- that every namespace defined by GGF may be interpreted as a URL
- that a centralized repository operated by GGF delivers a XML schema document when queried using that URL
- that the delivered XML schema document is identified by the very namespace used as a URL to query the central XML schema repository.