        A Uniform Resource Name (URN) Namespace for the Commission
    for the Management and Application of Geoscience Information (CGI)

Status of This Memo

   This memo provides information for the Internet community. It does
   not specify an Internet standard of any kind. Distribution of this
   memo is unlimited.

Abstract

   This document describes a URN (Uniform Resource Name) namespace that
   is engineered by the Commission for the Management and Application of
   Geoscience Information (CGI) for naming (i) persistent resources
   published by the CGI and (ii) resources published by organizations
   that wish them to be used in the context of services conforming to
   protocols and agreements issued by CGI. The formal Namespace
   Identifier (NID) is "cgi".

1. Introduction

   CGI is a Commission of the International Union of Geological Sciences
   (IUGS) concerned with developing best practices in the management and
   application of geoscience information. The active membership is
   primarily drawn from organizations with statutory responsibility for
   providing geoscience information to external users (e.g., Geologic
   Surveys). An important focus of activity is the development of
   standards for networked data interchange to complement or supersede
   the traditional map product.

   A number of documents, definitions, and other artifacts, are required
   to support this. CGI wishes to provide persistent,
   location-independent identifiers for these resources. In addition,
   organizations that subscribe to the interchange standards proposed by
   CGI require external identifiers for data objects that are
   transferred. CGI wishes to provide a scheme to enable data providers
   to uniquely identify data, which is consistent with the requirements
   of the interchange framework.

   Products and services that conform to CGI endorsed interchange
   specifications enable users to exchange and process geoscience
   information across networks, computing platforms, and products.
   Interoperability in such an environment is facilitated by the use of

a system of identifiers that is global in scope. CGI is the lead
forum for statutory organizations that act as primary providers of
technical data in this application domain.

Motivated by these concerns, CGI would like to assign formal URNs to
published resources in order to provide persistent,
location-independent identifiers for them. The process for
registering a namespace identifier is documented in [RFC3406].

The official IANA registry of URN namespaces is available online at:

<http://www.iana.org/assignments/urn-namespaces>

2. URN Specification for the "cgi" NID

   Namespace ID:

      cgi

   Registration Information:

      Registration Version Number: 1
      Registration Date: 2007-10-04

   Declared registrant of the namespace:

      Commission for Geoscience Information (Secretariat)
      c/o British Geological Survey
      Kingsley Dunham Centre
      Keyworth
      Nottingham
      Nottinghamshire
      NG12 5GG
      U K
      Attn. Ian Jackson (ij@bgs.ac.uk)

   Declaration of syntactic structure:

      The Namespace Specific String (NSS) of all URNs that use the "cgi"
      NID has the following structure:

      urn:cgi:{CGIResource}:{ResourceSpecificString}

      where the "CGIResource" is a US-ASCII string that conforms to the
      URN syntax requirements [RFC2141] and defines a specific class of
      resource type. Each resource type has a specific labeling scheme
      that is covered by "ResourceSpecificString", which also conforms
      to the naming requirements of [RFC2141].

The CGI maintains a naming authority, the CGI Naming Authority
(CGINA), that manages the assignment of CGIResource classes and
the specific registration values assigned for each resource class.

Relevant ancillary documentation:

The CGI Naming Authority (CGINA) provides information on the
registered resources and the registrations for each. More
information about CGINA and the registration activities and
procedures to be followed are available at:

<http://www.cgi-iugs.org/CGIIdentifierScheme>

A URN resolver is available at:

<http://www.cgi-iugs.org/uri>

The resolver provides a registry of CGI URNs used in CGI services.

Identifier uniqueness considerations:

The CGINA manages resources using the "cgi" NID and is the
authority for managing the resources and subsequent strings
associated. In the associated procedures, CGINA ensures the
uniqueness of the strings themselves or permits secondary
responsibility for management of well-defined sub-trees.

CGI may permit use of experimental-type values that will not be
registered. As a consequence, multiple users may end up using the
same value for separate uses. As experimental usage is only
intended for testing purposes, this should not interfere with
operational services.

Identifier persistence considerations:

CGINA provides clear documentation of the registered uses of the
"cgi" NID. This is structured such that each CGIResource has a
separate description and associated ResourceSpecificString with
separate registration tables for elements of the strings that are
separately maintained.

The registration tables and information are published and
maintained by CGINA on the CGI web site, indicated above.

   Process of identifier assignment:

      CGINA defines CGIResource classes used with the "cgi" NID, and
      specifies the process for identifier assignment for each class.
      These are described at:

      <http://www.cgi-iugs.org/CGIIdentifierScheme>

      and a set of registers is linked from there. Each such resource
      may have three types of registration activities:

         1) Registered values associated with CGI resources
         2) Registration of values or sub-trees to other entities
         3) Name models for use in experimental purposes

   Process for Identifier Resolution:

      The namespace is not listed with a Resolution Discovery System
      (RDS); this is not relevant.

   Rules for Lexical Equivalence:

      No special considerations; the rules for lexical equivalence of
      [RFC2141] apply.

   Conformance with URN Syntax:

      No special considerations.

   Validation mechanism:

      None specified. URN assignment will be handled by procedures
      implemented in support of CGINA activities.

   Scope:

      Global

3. Examples

   The following examples are representative URNs that have been
   assigned by CGINA:

   urn:cgi:document:CGI:CGIIdentifierScheme

      - identifies the document that describes the CGI Identifier
        Scheme.

urn:cgi:register:CGI:CGIResourceClasses

    - identifies the register of resource classes for which
      identifiers from the CGI scheme may be provided.

urn:cgi:xmlns:CGI:GeoSciML:2.0

    - is the XML namespace for version 2.0 of GeoSciML, which is owned
      by CGI.

urn:cgi:schema:GGIC:MineralOccurences:1.0:XMI

    - identifies the XML Metadata Interchange (XMI) representation of
      version 1.0 of the Mineral Occurrences information model owned
      by the (Australasian) Government Geoscience Information
      Committee.

urn:cgi:featureType:CGI:GeoSciML:2.0:Fault

    - identifies the Fault feature-type from version 2.0 of the
      GeoSciML schema that is owned by CGI.

urn:ogc:serviceType:CGI:GSML-FS:1.0

    - identifies version 1.0 of the "GSML-FS" service-type owned by
      CGI.

urn:cgi:classifierScheme:ICS:StratChart:2004

    - identifies the 2004 edition of the Stratigraphic Chart published
      by the International Commission for Stratigraphy.

urn:cgi:classifier:ICS:StratChart:2004:Silurian

    - identifies the geologic period designated Silurian from the 2004
      edition of the Stratigraphic Chart published by the
      International Commission for Stratigraphy.

urn:cgi:classifier:GSV:Lithology:UIUYG1245NN07

    - identifies the concept given the designation UIUYG1245NN07 from
      the lithology scheme published by Geoscience Victoria
      (Australia).

urn:cgi:feature:USGS:2feb49bc-6755-11dc-8314-0800200c9a66

   - identifies a feature instance given the designation
     2feb49bc-6755-11dc-8314-0800200c9a66 by the US Geological
     Survey.

urn:cgi:object:SGU:552cb080-6755-11dc-8314-0800200c9a66

   - identifies an object given the designation
     552cb080-6755-11dc-8314-0800200c9a66 by the Geological Survey of
     Sweden.

4. Namespace Considerations

   There is currently no available namespace that will allow the CGI to
   uniquely specify and access resources, such as schemas and
   registries, that are required by organizations implementing CGI
   standards. There is also a need for other standards organizations,
   such as the Open Geospatial Consortium (OGC) to be able to access
   CGI-specific resources.

   The CGI members considered use of other existing NIDs, such as those
   for OGC. However, these do not support the semantics required and in
   particular do not allow for the delegation of identifier assignment
   within the CGI community that is demonstrated here.

5. Community Considerations

   CGI standards require access to resources, such as schemas,
   registries, catalogues, documents, and services. In order for the
   larger IT community to be able to implement applications that access
   CGI resources effectively, a unique namespace is required. We desire
   these resources to be freely and openly available as a set of
   community resources.

   The design of the CGI namespace builds on the experience of the Open
   Geospatial Consortium (OGC) which has defined the framework of
   geospatial services within which CGI standards have been developed.
   The OGC membership has expertise in using the OGC URN [OGC-URN]
   [OGC-DEF], gained through implementation experiments and a variety of
   operational testbeds. The CGI namespace is compatible with this
   experience.

6. Security Considerations

   There are no additional security considerations other than those
   normally associated with the use and resolution of URNs in general.

7. IANA Considerations

   This document defines a URN NID registration of "cgi", which has been
   entered into the IANA registry located at:

   <http://www.iana.org/assignments/urn-namespaces>

8. References

8.1 Normative References

   [RFC2141] Moats, R., "URN Syntax", RFC 2141, May 1997.

   [RFC3406] Daigle, L., van Gulik, D., Iannella, R., and P. Faltstrom,
             "Uniform Resource Names (URN) Namespace Definition
             Mechanisms", BCP 66, RFC 3406, October 2002.

8.2 Informative References

   [OGC-URN] Reed, C., "A URN namespace for the Open Geospatial
             Consortium (OGC)", Work in Progress, October 2007.

   [OGC-DEF] Whiteside, A., "Definition identifier URNs in OGC
             namespace", OpenGIS Best Practice document, OGC 06-023r1,
             August 2006. Available [online]:
             <http://portal.opengeospatial.org/files/?artifact_id=16339>

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