Network Working Group   M. Abel
Request for Comments: 4729   NFC Forum
Category: Informational   November 2006

                 A Uniform Resource Name (URN) Namespace for
                  the Near Field Communication (NFC) Forum

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.

Copyright Notice

Abstract

   This document describes the Namespace Identifier (NID) for Uniform
   Resource Name (URN) resources published by the Near Field
   Communication (NFC) Forum. The NFC Forum defines and manages
   resources that utilize this URN identification model. Management
   activities for these and other resource types are provided by the NFC
   Forum Technical Committee.

Table of Contents

1. Introduction

   The NFC Forum is a specification development body developing
   technologies related to near-field communications. This activity is
   supported by a membership comprised of chip vendors, smart card
   vendors, equipment vendors, software developers, finance and banking
   service providers, content providers, and other interested companies.

   Some of the technologies being developed by the NFC Forum need
   namespaces that are managed so that they are unique and persistent.
   To ensure that the uniqueness is absolute, the registration of a
   specific NID for use by the NFC Forum was deemed appropriate.
   Therefore, a full and complete registration will follow the namespace
   specification process as defined in [RFC3406].

2. URN Specification for "nfc" NID

   Namespace ID:

      nfc

   Registration Information:

      Registration version number: 1
      Registration date: 2006-05-17

   Declared registrant of the namespace:

      Registering organization
         Name: Near Field Communication Forum, Inc.
         Address: 401 Edgewater Place, Suite 600
                  Wakefield, MA 01880

      Designated contact
         Role: Technical Program Manager
         Email: TPM@nfc-forum.org

   Declaration of syntactic structure:

      The Namespace Specific String (NSS) of all URNs that use the "nfc"
      NID will have the following structure:

      urn:nfc:{NFCresource}:{ResourceSpecificString}

      Where the "{NFCresource}" is a US-ASCII string that conforms to
      the URN syntax requirements [RFC2141] and defines a specific class
      of resource. Each resource class has a specific labeling scheme

that is covered by "{ResourceSpecificString}" which also conforms
to the naming requirements of [RFC2141].

NFC Forum working groups will manage the assignment of NFC
resources and the specific registration values assigned for each
resource class. The Technical Committee will coordinate creation
of new resource class assignments based on community need.

Relevant ancillary documentation:

The NFC Forum publishes specifications describing the use of
near-field communication for interoperable exchange of information
between devices in close proximity. Among these specifications
are the designation of new data types, schema, XML elements and
attributes, protocols, and other formally named items intended for
machine parsing. Interested parties are referred to the NFC Forum
web site where these publications will be made available to the
community:

http://www.nfc-forum.org/

Identifier uniqueness considerations:

The NFC Forum working groups and Technical Committee will ensure
uniqueness of resource names assigned by the NFC Forum within the
resource classes for which they are responsible.

When authority and responsibility for assignment of names with a
resource class are delegated to an external organization,
commitment to adhere to the uniqueness requirements of the
assigned resource names will be a pre-condition of such
delegation.

The structure of the NFC Forum namespace into resource classes
will further ensure isolation of names in each class from names in
other classes.

It is anticipated that some resource classes may be open to self-
assignment by any interested individual or organization. To
ensure a degree of uniqueness for these self-assigned resource
names, fully-qualified domain names will be factored into the name
to distinguish the naming authorities.

It should be understood that due to the flexibility of the domain
name system and the underlying market-based forces that allow for
ownership transfer and abandonment of domain names, no guarantee
of long-term uniqueness or persistence can be made for this class

of resource names beyond that made for the domain names
themselves.

Identifier persistence considerations:

The NFC Forum will not reassign names and will thus guarantee the
persistence of names beyond the expected lifetime of the named
resource. NFC Forum does not anticipate operating a name
resolution service for the assigned names and does not anticipate
any other usability issues of the assigned names beyond those for
any other naturally aging technology.

Process of identifier assignment:

The NFC Forum will provide procedures for registration of each
class of resource that it maintains. Each such resource may have
three types of registration activities:

1) Registered names associated with NFC Forum specifications or
   services;
2) Registration of names or resource classes for 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 and registration will be handled
by procedures implemented in support of NFC Forum activities.

Scope:

Global

3.   Examples

   The following examples are representative URNs that could be assigned
   by the NFC Forum. They may not be the actual strings that would be
   assigned:

      urn:nfc:wkt:Uri
         Defines the well-known type identifier used to identify URI
         bookmark data objects defined by the NFC Forum and exchanged by
         NFC devices.

      urn:nfc:schema:manifest
         Declares an XML namespace for elements and attributes, used in
         an XML schema to describe an NFC Forum data transfer manifest.

4.   Namespace Considerations

   The NFC Forum is developing a variety of communication protocol and
   data exchange specifications. Some of these specifications depend
   upon supporting information (e.g., data descriptions, attributes,
   schema, etc.) to be fully specified. For proper operation,
   descriptions of the needed supporting information must exist and be
   available in a unique, reliable, and persistent manner. These
   dependencies provide the basis of need for namespaces, in one form or
   another.

   As type information is relayed across NFC Forum protocols, the need
   for compact, machine-parsed type identification of data and meta-
   content, with the attributes of uniqueness and reliability mentioned
   above, becomes imperative for proper interoperation across widely
   varied implementations.

   As the NFC Forum work is ongoing and covers many technical areas, the
   possibility of using various other namespace repositories has been
   deemed impractical. Each data object, description, or schema as
   defined in the NFC Forum could possibly be related to multiple
   different other namespaces, so further conflicts of association might
   occur. Thus, the intent is to utilize the requested URN namespace to
   manage NFC Forum-defined objects, descriptions, and schema.

5. Community Considerations

   The objects and descriptions required for specifications produced and
   published by the NFC Forum are generally available for use by other
   organizations. The NFC Forum will provide access and support for
   name requests by these external organizations. This support can be
   enabled in a timely and responsive fashion as new objects and
   descriptions are produced.

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

   The requested NID (nfc) has been entered into the IANA registry for
   URN NIDs.

8. Informative 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.

Acknowledgments

   The author wishes to express thanks to Dwight Smith (Motorola) for
   his guidance on the URN registration process and for providing, by
   example, a registration that was worthy of emulation.

Author's Address

   Miller Abel
   Technical Committee Delegate, NFC Forum
   Microsoft Corporation
   One Microsoft Way
   Redmond, WA 98052

   EMail: TPM@nfc-forum.org

Full Copyright Statement

Intellectual Property

Acknowledgement