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A Uniform Resource Name (URN) Namespace for the Society of Motion Picture and Television Engineers (SMPTE)

Status of This Memo

Abstract

This document describes a Uniform Resource Name (URN) namespace for the Society of Motion Picture and Television Engineers (SMPTE) for naming persistent resources that SMPTE produces or manages. A subnamespace for Universal Labels is specifically described.

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1. Introduction

SMPTE (the Society of Motion Picture and Television Engineers) is an internationally-recognized standards-developing organization. Headquartered and incorporated in the United States of America, SMPTE has members in over 80 countries on six continents. SMPTE's Engineering Documents, including Standards, Recommended Practices, and Engineering Guidelines, are prepared by SMPTE's Technology Committees. Participation in these Committees is open to all with a bona fide interest in a committee's work. SMPTE cooperates closely with other standards-developing organizations, including ISO, the IEC, and the ITU. Also, the SMPTE Registration Authority maintains a registry of Universal Labels (ULs) used in identifying the type and encoding of data within data streams associated with audio-visual material.

SMPTE would like to assign unique, permanent, and location-independent names using URNs for resources that SMPTE produces or manages.

This namespace specification is for a formal namespace.

2. URN Namespace Definition Template

The following template is provided in accordance with [RFC3406].

Namespace ID:

smpte

Registration Information:

Version: 2

Date: 2007-07-08

Declared registrant of the namespace:

Registering Organization: Society of Motion Picture and Television Engineers

Address: 3 Barker Avenue - 5th Floor
White Plains, NY 10601 USA

Designated Contact Person: Director of Engineering

Phone: +1 (914) 761-1100
Email: standards@smpte.org

Declaration of structure:

The Namespace Specific String (NSS) of all URNs that use the "smpte" NID shall be conformant to the URN syntax requirements defined in [RFC2141].

URNs for the "urn:smpte" namespace shall follow the structure defined in [SMPTE2029].

SMPTE (or it successor) may add additional subnamespaces in the future. Any system that deals with URNs for the "urn:smpte" namespace should be written with the awareness that this could occur at any time.

For informative purposes, the identifier structure described using ABNF (according to [RFC4234]) is as follows:

```
;start ABNF notation

URN = "urn:" NID NSS

NID = "smpte:"

NSS = UL-NSS / other-NSS

UL-NSS = "ul:" UL

UL = QUADBYTE *(DOT QUADBYTE)

DOT = %x2E ; period

QUADBYTE = 4BYTE

BYTE = 2HEXDIG

other-NSS = 1*(DIGIT / ALPHA / "-"/":")

; other-NSS that conforms with [RFC2141] for future
expansion

;end ABNF notation
```

Relevant ancillary documentation:

The structure for URNs in the "urn:smpte" namespace are defined in [SMPTE2029].

The values of ULs in the "urn:smpte:ul" subnamespace shall be constrained as defined in [SMPTE298M]. Details regarding the use of ULs as keys in key-length-value (KLV) coding, including how to determine in which SMPTE registry a SMPTE-administered UL may be found, are described in [SMPTE336M].

Identifier uniqueness considerations:

[SMPTE2029] states that "All URNs in the SMPTE namespace shall conform to IETF RFC 3406. In particular, URNs in the SMPTE namespace shall not be re-assigned, and URNs shall continue to be valid, even if the owners or registrants of the SMPTE resources identified by the URNs are no longer members or customers of SMPTE. There need not be resolution of such URNs, but they shall not resolve to false or stale information."

Additionally, the rules for assignment of SMPTE-administered ULs requires that each UL be unique to the UL space and that it cannot be reassigned or reused.

It should be noted that [SMPTE298M] states that "A universal label shall be an 'object identifier' as specified by ISO/IEC 8824-1," ([ISO8824-1]) although the SMPTE Universal Label representation is a specialized one that carries additional semantics over the OID representation of a URN OID ([RFC3061]).

SMPTE will work to ensure that all current and future "urn:smpte" subnamespaces contain unique identifiers.

Identifier persistence considerations:

SMPTE-administered ULs may occasionally be deleted through SMPTE procedures. Regardless, even after a UL has been deleted, it will not be reused. Revisions to ULs will result in the creation of a new UL and the deletion of the old one.

The persistence of URNs in future "urn:smpte" subnamespaces will be defined by SMPTE Standards.

Process of identifier assignment:

Assignment of URNs in the SMPTE NID is limited to SMPTE and those authorities that are specifically designated by SMPTE. SMPTE may designate portions of its namespace for assignment by other parties.

Due process is followed by committees in the development of SMPTE documents. Some types of Universal Label registrations and other registrations may require a fee to be paid to SMPTE.

All classes of SMPTE-administered ULs require for registration the name and address of the applicant. Some classes of labels also require the submission of supporting technical documentation for the label and may require a due process evaluation through the SMPTE Engineering Committee process.

Process for identifier resolution:

SMPTE-administered ULs are resolved through publications of the SMPTE Registration Authority. Currently, publication of SMPTE-administered ULs are made through a Metadata Dictionary as specified in [RP210] and through the SMPTE Labels Registry as specified in [RP224], both of which are currently available online at http://www.smpte-ra.org/mdd/.

SMPTE expects to develop and maintain "URN catalogs" that map all future assigned URNs in the "urn:smpte" namespace to Uniform Resource Locators (URLs) to enable Web-based resolution of named resources.

Rules for Lexical Equivalence:

Lexical equivalence of URNs in the "urn:smpte:ul" subnamespace is defined by case-insensitive string match.

Lexical equivalence of URNs in additional subnamespaces of "urn:smpte:" will be specified by SMPTE in the defining document; in the absence of such specification, lexical equivalence of URNs in the "urn:smpte:" namespace outside of the "urn:smpte:ul" subnamespace is defined by exact string match, according to [RFC2141].

Conformance with URN Syntax:

No special considerations beyond the syntax herein described.

Validation mechanism:

None.

Scope:

Global.

3. Examples

Currently, only a "urn:smpte:ul" subnamespace is defined. This is the subnamespace for SMPTE Universal Labels [SMPTE298M]. SMPTE may add additional subnamespaces in the future.

The following examples are not guaranteed to be real and are provided for illustrative purposes only.

urn:smpte:ul:060E2B34.04010103.04010202.01011100

urn:smpte:newnss:future-urn-2105

4. Security Considerations

The SMPTE URN Namespace ID shares the security considerations outlined in [RFC3406], but has no other known security considerations.

5. Namespace Considerations and Community Considerations

SMPTE is an internationally-recognized standards-developing organization. As part of this effort, SMPTE also registers items such as Universal Labels through the SMPTE Registration Authority. The SMPTE namespace provides a uniform, unique, and effective way to communicate resource names for these items, which can be used by the motion imaging industry community. This namespace is also intended to be a useful mechanism to provide both human and automated access to these resources through online systems.

The individual URNs in the namespace shall be assigned through the process of development of documents by SMPTE, through definition by SMPTE standards, or through the registration of Universal Labels or other items by the SMPTE Registration Authority.

RFC 3406 states that a URN registration RFC must include a ’Namespace Considerations’ section, which outlines the perceived need for a new namespace. There are four areas where existing URN namespaces fall short of the requirements for a SMPTE URN namespace.

URN assignment procedures: URNs for resources defined by SMPTE standards must be assigned exclusively by SMPTE or its delegates to ensure the integrity of the standards process. No other existing URN namespace has URNs assigned and managed by SMPTE.

URN resolution: URNs assigned by SMPTE standards must be resolved by SMPTE mechanisms such as the SMPTE Registration Authority to

ensure the integrity of the standards process. This resolution may require the reference of databases only maintained by SMPTE.

Types of resources to be identified: Many resources defined by SMPTE standards (such as Universal Labels) have no adequate existing URN representation.

Types of services to be supported: SMPTE expects to establish Web services for the automated resolution of resources defined by SMPTE standards utilizing the SMPTE URN namespace.

6. IANA Considerations

This document defines a URN NID registration that has been entered into the IANA registry of URN NIDs. IANA has registered the NID "smpte".

7. SMPTE Registration Authority (Informative)

The URL of the SMPTE Registration Authority is http://www.smpte-ra.org.

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.

[SMPTE2029] Society of Motion Picture and Television Engineers, "Uniform Resource Names for SMPTE Resources", SMPTE 2029-2007, <http://www.smpte.org>.

8.2. Informative References

[ISO8824-1] International Organization for Standardization, "Information Processing - Open System Interconnection - Specification of Abstract Syntax Notation One (ASN.1)", ISO Standard 8824-1:1995, 1995.

[RFC3061] Mealling, M., "A URN Namespace of Object Identifiers", RFC 3061, February 2001.

[RFC4234] Crocker, D., Ed., and P. Overell, "Augmented BNF for Syntax Specifications: ABNF", RFC 4234, October 2005.

[RP210] Society of Motion Picture and Television Engineers, "Metadata Dictionary Registry of Metadata Element Descriptions", SMPTE RP210, <http://www.smpte.org>.

[RP224] Society of Motion Picture and Television Engineers, "Registry of SMPTE Universal Labels", SMPTE RP224, <http://www.smpte.org>.

[SMPTE298M] Society of Motion Picture and Television Engineers, "Universal Labels for Unique Identification of Digital Data", ANSI / SMPTE 298M-1997, <http://www.smpte.org>.

[SMPTE336M] Society of Motion Picture and Television Engineers, "Data Encoding Protocol using Key-Length-Value", SMPTE 336M-2001, <http://www.smpte.org>.

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