IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture

Amendment 1: Allocation of Uniform Resource Name (URN) Values in IEEE 802® Standards

IEEE Computer Society

Sponsored by the
LAN/MAN Standards Committee

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of the
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Abstract: How Uniform Resource Name (URN) values are allocated in IEEE 802® standards is described in this amendment to IEEE Std 802®-2014.

Keywords: IEEE 802®, Uniform Resource Name, URN

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Introduction

This introduction is not part of IEEE Std 802d-2017, IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture—Amendment 1: Allocation of Uniform Resource Name (URN) Values in IEEE 802® Standards.

This amendment specifies a Uniform Resource Name (URN) namespace for IEEE 802 networks. This URN is used as the root identifier for YANG data models that allow configuration and status reporting for IEEE 802 network elements. The YANG data modeling language is defined in IETF RFC 6020 [B8] and IETF RFC 7950 [B9].[1]

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[1] The numbers in brackets correspond to the numbers of the bibliography in Annex A.

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(This amendment is based on IEEE Std 802®-2014.)

NOTE—The editing instructions contained in this amendment define how to merge the material contained here into the base document and its other amendments to form the new comprehensive standard.

Editing instructions are shown in *bold italic*. Four editing instructions are used: change, delete, insert, and replace. *Change* is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed either by using ~~strikethrough~~ (to remove old material) and <u>underscore</u> (to add new material). *Delete* removes existing material. *Insert* adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. *Replace* is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editing instructions, change markings, and this NOTE will not be carried over into future editions because the changes will be incorporated into the base standard.[2]

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[2]Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

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2. Normative references

Insert the following references into Clause 2 in the appropriate collating sequence:

IETF RFC 3406, Uniform Resource Names (URN) Namespace Definition Mechanisms, October 2002.[3]

IETF RFC 8069, URN Namespace for IEEE, February 2017.

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[3] IETF documents (i.e., RFCs) are available from the Internet Engineering Task Force (http://rfc-archive.org).

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3. Definitions, acronyms, and abbreviations

3.2 Acronyms and abbreviations

Insert the following abbreviations into 3.2 in the appropriate collating sequence:

IANA   Internet Assigned Numbers Authority[4]

NETCONF   Network Configuration Protocol

NID   Namespace identifier

URN   Uniform Resource Name

YANG   The name of the data modeling language defined in IETF RFC 6020 [B8] and IETF RFC 7950 [B9].[5]

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[4]http://www.iana.org/.

[5]The numbers in brackets correspond to the numbers of the bibliography in Annex A.

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Insert the following clause, Clause 11, after Clause 10:

11. Allocation of Uniform Resource Name (URN) values in IEEE 802 standards

11.1 Introduction

From time to time, some IEEE 802 standards have a requirement to allocate Uniform Resource Name (URN) values—the most common example being for the purpose of defining data models using the YANG data modeling language defined in IETF RFC 6020 [B8] and IETF RFC 7950 [B9], but other examples exist. This clause defines a simple and consistent URN hierarchy, based on the use of the base URN value that has been assigned by the Internet Assigned Numbers Authority (IANA) for use in IEEE standards. All current and future IEEE working groups can use this hierarchy flexibly to meet the needs of the standards defined by those working groups. This will establish a consistent practice within IEEE 802 for the development and allocation of URNs. Consistency of URN allocation will facilitate implementation and operation of IEEE 802 compliant equipment.

NOTE—While the focus of this standard is on the use of URN values in IEEE 802 standards, the base URN value identified in 11.2 and the hierarchy of values that follows forms a basis for the assignment of URN values in all IEEE standards, not just those developed by IEEE 802.

11.2 The IEEE Namespace ID and Namespace Specific String

URN values used in IEEE standards use the following Namespace ID (NID) value assigned to the IEEE (see IETF RFC 3406 and IETF RFC 8069):

ieee

The Namespace Specific String (NSS) of all URNs that use the IEEE NID shall use the following structure:

urn:ieee:{IEEEresource}:{ResourceSpecificString}

The strings used as values of IEEEresource and ResourceSpecificString are case-insensitive.

There are potential uses of URNs in the IEEE outside of standards use. Only standards use is considered in this standard; therefore, the IEEEresource is always as follows:

std

Hence, all URN values assigned for use in the context of IEEE standards are of the following form:

urn:ieee:std:{ResourceSpecificString}

NOTE—The mechanism for allocation of URN values used by the IEEE is fully conformant with IETF RFC 3406 and is documented in IETF RFC 8069.

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11.3 ResourceSpecificString values in IEEE 802 standards

ResourceSpecificString values identify the IEEE standard that has assigned the URN value, and the particular resource defined by that standard that the URN value identifies. The structure of ResourceSpecificString is as follows:

> {IEEE standard designation}:{resourceType}:{resourceIdentifier}

{IEEE standard designation} is the standard designation assigned to the base standard that defines the URN value. For example, in the case of IEEE Std 802.1Q, the standard designation is 802.1Q; in the case of IEEE Std 802.11, the standard designation is 802.11. Where URN values are assigned in amendments or corrigenda to a base standard, the base standard's IEEE standard designation shall be used, not the IEEE standard designation of the amendment or corrigendum. The IEEE standard designation shall not include any colons. The form of standard designation numbers is as specified in the IEEE-SA Project Numbering Policy[6]

{resourceType} identifies the type of resource to which the URN value applies. A single value of resourceType is defined for use across all IEEE 802 standards:

> yang

The yang resourceType shall be used where the URN value has been assigned for use in the context of YANG models.

Should further resourceType values be required for consistent use across multiple IEEE 802 standards, they will be defined via future amendments to this standard. Further resourceType values that are specific to a designated IEEE 802 standard can be defined within that standard.

The {resourceIdentifier} identifies a specific resource, in the context of the designated IEEE standard and the resourceType. All resourceIdentifier values are specified within the designated standard.

For example, in IEEE Std 802.1Q, a URN value for use in a YANG model would take the following form:

> urn:ieee:std:802.1Q:yang:{resourceIdentifier}

Or in IEEE Std 802.11, a URN value for use in a YANG model would take the following form:

> urn:ieee:std:802.11:yang:{resourceIdentifier}

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[6]The IEEE-SA Project Numbering Policy is available from
https://development.standards.ieee.org/myproject/Public/mytools/init/parnum.pdf.

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Annex A

(informative)

Bibliography

Insert the following bibliography entries and NOTE into Annex A, renumbering as necessary:

[B8] IETF RFC 6020, YANG—A Data Modeling Language for the Network Configuration Protocol (NET-CONF), October 2010.[7]

[B9] IETF RFC 7950, The YANG 1.1 Data Modeling Language, August 2016.

NOTE—The specification in Clause 11 is intended to be applicable to subsequent versions of YANG also.

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[7]IETF documents (i.e., RFCs) are available from the Internet Engineering Task Force (http://rfc-archive.org).

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