What is a URN?

Uniform Resource Names (URNs) are resource identifiers.   They are persistent, location-independent, and are designed to make it easy to map other namespaces (which share the properties of URNs) into URN-space. For example, Object Identifiers (OIDs) can be mapped into a URN namespace.   URNs are a subset of the larger Uniform Resource Identifier (URI) family.

Allocation of Uniform Resource Names in IEEE standards

From time to time, some IEEE standards have a requirement to allocate Uniform Resource Name (URN) values—the most common example being for the purpose of defining YANG data models, but other examples exist. This document 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. This hierarchy can be used by all current and future IEEE Working Groups, and can be used flexibly to meet the needs of the standards defined by those working groups. This will establish a consistent practice within IEEE for the development and allocation of URNs. Consistency of URN allocation will facilitate implementation and operation of IEEE standards compliant equipment.

The IEEE Namespace ID and Namespace Specific String

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

> ieee

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

> urn:ieee:{IEEEresource}:{ResourceSpecificString}

There are potential uses of URNs in the IEEE outside of standards use. The RA is responsible for assigning values to IEEEresource. Only standards use is currently considered, in which case, the IEEEresource is always:

> std

Hence, all URN values assigned for use in the context of IEEE standards are of the 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.

ResourceSpecificString values in IEEE 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[1]

{resourceType} identifies the type of resource to which the URN value applies. A single value of resourceType is defined for use across all IEEE 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 all IEEE standards, they will be defined by the RA. Further resourceType values that are specific to a designated IEEE 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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[1]The IEEE-SA Project Numbering Policy is available from https://development.standards.ieee.org/myproject/Public/mytools/init/parnum.pdf