

**CCSDS URN
NAMESPACE
POLICY**

CCSDS RECORD

CCSDS 315.1-Y-1

YELLOW BOOK
October 2020

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FOREWORD

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- Swedish Space Corporation (SSC)/Sweden.
- Swiss Space Office (SSO)/Switzerland.
- United States Geological Survey (USGS)/USA.

DOCUMENT CONTROL

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1 INTRODUCTION

1.1 PURPOSE

This document describes the CCSDS Uniform Resource Name (URN) policy and structure. This document is a product of the CCSDS XML Standards and Guidelines Special Interest Group (XSG SIG).

1.2 APPLICABILITY

This CCSDS URN Namespace Policy applies to all CCSDS documents using the URN namespace.

1.3 REFERENCES

The following publications are referenced in this document. At the time of publication, the editions indicated were valid. All publications are subject to revision, and users of this document are encouraged to investigate the possibility of applying the most recent editions of the publications indicated below. The CCSDS Secretariat maintains a register of currently valid CCSDS publications.

- [1] “Uniform Resource Names (URN) Namespaces.” Internet Assigned Numbers Authority. <http://www.iana.org/assignments/urn-namespaces/urn-namespaces.xhtml>.
- [2] “CCSDS URN Namespace.” Space Assigned Numbers Authority. <https://sanaregistry.org/r/urn>.
- [3] *CCSDS Publications Manual*. Issue 4. CCSDS Record (Yellow Book), CCSDS A20.0-Y-4. Washington, D.C.: CCSDS, April 2014.
- [4] *Organization and Processes for the Consultative Committee for Space Data Systems*. Issue 4. CCSDS Record (Yellow Book), CCSDS A02.1-Y-4. Washington, D.C.: CCSDS, April 2014.
- [5] *Procedures for SANA Registry Specification*. Issue 2. CCSDS Record (Yellow Book), CCSDS 313.2-Y-2. Washington, D.C.: CCSDS, October 2020.
- [6] *CCSDS SANA Registry Management Policy*. Issue 2. CCSDS Record (Yellow Book), CCSDS 313.1-Y-2. Washington, D.C.: CCSDS, October 2020.
- [7] M. Blanchet, A. Schiltknecht, and P. Shames. *A Uniform Resource Name (URN) Namespace for the Consultative Committee for Space Data Systems (CCSDS)*. RFC 7738. Reston, Virginia: ISOC, January 2016.

2 URN NAMESPACE ASSIGNMENT

2.1 IETF REQUEST

CCSDS submitted to IETF a request (reference [7]) to assign the ‘urn:ccsds’ permanent unique namespace identifier to CCSDS. The Internet Assigned Numbers Authority (IANA) assigned the urn:ccsds unique namespace for CCSDS use, as confirmed by the IANA registry (reference [1]).

The IETF request contained the generic policy for managing the namespace. This document extends that and details the policy for the assignments under the urn:ccsds tree.

2.2 CUSTODY

All CCSDS assignments under the urn:ccsds tree are kept in a registry managed by the Space Assigned Numbers Authority (SANA) (reference [2]). This registry is the current normative reference for all CCSDS URN assignments. The registration policy is that requests to add, edit, or delete entries in this registry will be reviewed by the CCSDS XML Expert Group (see section 4). The Registration Authority is the SANA Steering Group (SSG).

3 INITIAL STRUCTURE

3.1 GENERAL

The following structure is defined for the tree under urn:ccsds. The requestor of a new or changed URN may be a CCSDS Area, Working Group or Agency. The URN registry is a CCSDS Global registry, as defined in reference [6]. The URN registry is located at: <https://sanaregistry.org/r/urn>.

3.2 CCSDS DOCUMENTS

The CCSDS numbered documents such as recommended standards, practices, and descriptive documents are identified under the 'urn:ccsds:document' sub-tree, as follows:

- urn:ccsds:document:<document number>

The syntax of <document number> follows the CCSDS document naming standards (reference [3]), including the replacement of '.' by 'x' and removal of '-' in all occurrences. Only lowercase letters shall be used.

All CCSDS numbered documents can be referenced through this URN. As specified in the Registry Management Policy (reference [6]), subsection 3.4.5.8: "The CCSDS Secretariat SANA registry point of contact shall request update of the document URN list when a new document is published, updated, or retired."

For example, this document, 315.1-Y-1, will be identified as urn:ccsds:document:315x1y1. URN references to urn:ccsds:document will be mapped dynamically to the CCSDS document repository.

3.3 CCSDS XML SCHEMAS

The CCSDS XML Schemas are identified under the 'urn:ccsds:schema' sub-tree as follows:

- urn:ccsds:schema:<keyword>

The <keyword> is any keyword conforming to the URN syntax. The keyword is chosen by the requesting CCSDS working group or other entity that can create or modify registries. The WG is expected to check whether the keyword is already assigned at the same level of this sub-tree and to avoid such collisions. The requestor sends its request to SANA by email (<mailto:info@sanaregistry.org>), specifying the keyword, the requestor affiliation (i.e., CCSDS Working Group), and the purpose of the identifier, such as a reference to a CCSDS document.

The request to SANA for a new keyword shall contain the following information:

- keyword requested;

- description of its use;
- description of the structure of the sub-tree including the syntax rules;
- the CCSDS working group or area requesting the new sub-tree.

SANA will verify the uniqueness and conformance of the request and then, if conformant, forward the request to the CCSDS XML Expert Group, defined below, which is the body that approves the requests.

CCSDS member agencies may also use this registry to identify their own CCSDS related agency schema. The CCSDS agency Schemas are identified under the ‘urn:ccsds:schema’ sub-tree as follows:

urn:ccsds:schema:agency:<agencyid>:<keyword>

The <agencyid> shall be one of the member or observer agencies entries in the SANA Organizations registry: <https://sanaregistry.org/r/organizations?roles=1&roles=2>.

Considering its previous use, this document also grandfathers the following identifier:

urn:ccsds:recommendation:navigation:schema:ndmxml

3.4 CCSDS REGISTRIES

The CCSDS protocol and related registries managed by SANA are identified under the ‘urn:ccsds:sana’ sub-tree as follows:

urn:ccsds:sana:<registry_name>

The <registry_name> corresponds to the SANA registry identifier. The SANA will update the URN registry when a new registry is created.

For example, the spacecraft identifier registry is located at <http://sanaregistry.org/r/spacecraftid>. Therefore, the corresponding URN identifier is urn:ccsds:sana:spacecraftid. Similarly, a glossary entry such as CFDP is identified by urn:ccsds:sana:glossary:cfdp.

3.5 WORK IN PROGRESS

There is no defined temporary or work-in-progress sub-tree defined. If implementers or working groups require a temporary sub-tree for their work in progress, they are invited to use the IETF informal namespaces managed by IANA (reference [1]). However, this policy requires that a working group apply for a permanent namespace under the appropriate section as soon as possible.

3.6 REQUESTING NEW URN SUBTREES

CCSDS working groups or other entity that can create or modify registries may request additional urn:ccsds sub-trees not defined in this document by sending an email to SANA (mailto:info@sanaregistry.org), specifying the keyword, the requestor affiliation (i.e., CCSDS working group or agency), and the purpose of the request. SANA will verify the conformance of the request and then, if conformant, forward the request to the CCSDS XML Expert Group, defined below, which is the body approving the requests.

3.7 LIMITATIONS

New registries, or changes to existing registries, must be specified in a CCSDS Blue Book or Magenta Book. The WG responsible for establishing a registry shall also define the policy for its updating and use, which is normally defined as part of the document establishing the registry. (See the Working Group Procedures for SANA Registry Specification, reference [5], for specifics.)

CCSDS Orange Books may create new Candidate registries in SANA, but may not modify existing registries. If a registry is required as a part of an Orange Book it shall follow the procedures documented in reference [5].

4 XML EXPERT GROUP

This document defines a CCSDS XML Expert Group to review the requests. This group is composed of XML experts nominated by the ADs of affected Areas with no predetermined terms. CESG may choose to change the group as it see fits. As with all other CCSDS processes, the XML Expert Group makes decisions based on consensus, as defined in Organization and Processes for the Consultative Committee for Space Data Systems (reference [4]). Requests to the XML Expert Group may be sent to XEG@mailman.ccsds.org.

If at any point an XML Expert Group is not empaneled, all requests will be handled by the SANA Steering Group (SSG@mailman.ccsds.org). They will seek guidance from the current XML experts within the CCSDS Working Groups.