

**PROCEDURES FOR
SANA REGISTRY
SPECIFICATION**

CCSDS RECORD

CCSDS 313.2-Y-2

YELLOW BOOK

October 2020



CCSDS

The Consultative Committee for Space Data Systems

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AUTHORITY

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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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| CCSDS 313.2-Y-2 | Procedures for SANA Registry Specification, CCSDS Record, Issue 2 | October 2020 | Current issue |

NOTE – Changes from the previous issue are too numerous to permit meaningful application of change bars.

CONTENTS

| <u>Section</u> | <u>Page</u> |
|--|-------------|
| 1 INTRODUCTION | 1-1 |
| 1.1 PURPOSE AND SCOPE..... | 1-1 |
| 1.2 APPLICABILITY..... | 1-1 |
| 1.3 RATIONALE..... | 1-1 |
| 1.4 NOMENCLATURE..... | 1-1 |
| 1.5 DEFINITIONS..... | 1-2 |
| 1.6 REFERENCES..... | 1-2 |
| 2 OVERVIEW | 2-1 |
| 2.1 BACKGROUND..... | 2-1 |
| 2.2 SANA REGISTRY MODEL..... | 2-1 |
| 2.3 CCSDS AREA AND WORKING GROUP REGISTRY WORKFLOW OVERVIEW..... | 2-2 |
| 3 INTERACTIONS WITH SANA | 3-1 |
| 3.1 OVERVIEW..... | 3-1 |
| 3.2 CCSDS AREA AND WORKING GROUP REGISTRY PROCESSES..... | 3-1 |
| 3.3 CESG AND SECRETARIAT RESPONSIBILITIES..... | 3-3 |
| ANNEX A SANA CONSIDERATIONS (NORMATIVE) | A-1 |
| ANNEX B ABBREVIATIONS (INFORMATIVE) | B-1 |
| <u>Figure</u> | |
| 2-1 Overall SANA Registry Model..... | 2-1 |
| 2-2 Correspondence of Document Development Stages to SANA Registry Status..... | 2-5 |

1 INTRODUCTION

1.1 PURPOSE AND SCOPE

This document defines procedures for CCSDS Working Group (WG) interactions with the CCSDS Space Assigned Numbers Authority (SANA) for the purpose of creating and modifying SANA registries.

1.2 APPLICABILITY

The procedures defined herein apply to the development and approval phases of normative projects in the purview of the CCSDS Areas requiring SANA registries.

1.3 RATIONALE

Clear procedures for interaction with the SANA are needed in order to assure consistency in CCSDS Working Group, Area, CESG, and Secretariat interactions with SANA. These are key to ensuring timely and accurate creation, update, review, approval, and promotion of new or modified registries.

1.4 NOMENCLATURE

1.4.1 NORMATIVE TEXT

The following conventions apply for the normative specifications in this document:

- a) the words ‘shall’ and ‘must’ imply a binding and verifiable specification;
- b) the word ‘should’ implies an optional, but desirable, specification;
- c) the word ‘may’ implies an optional specification;
- d) the words ‘is’, ‘are’, and ‘will’ imply statements of fact.

NOTE – These conventions do not imply constraints on diction in text that is clearly informative in nature.

1.4.2 INFORMATIVE TEXT

In the normative section of this document (section 3), informative text is set off from the normative specifications either in notes or under one of the following subsection headings:

- Overview;
- Background;

- Rationale;
- Discussion.

1.5 DEFINITIONS

Registration Authority: An entity such as an organization, a standard, or an automated facility that performs registration of one or more types of objects.

registration rules: The specified rules used to manage the creation and update of a registry (see A2.3).

registry: “[A]n information system that securely manages any content type and the standardized metadata that describes it.”¹ The registry manages the registration of the content. The associated repository is a store for the content.

Review Authority: The person or organization that has responsibility for governance and engineering review of a registry and its contents.

SANA Operator: The organization that manages and operates the SANA.

SANA Steering Group, SSG: Group that provides operational oversight of SANA, validation and confirmation SANA activities, and the first level of appeal for issues.

SANA: The on-line set of registries of CCSDS protocol numbers and other CCSDS information that need to be publicly accessible in an on-line, easily located form.

1.6 REFERENCES

The following publications contain provisions which, through reference in this text, constitute provisions of 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] *Space Assigned Numbers Authority (SANA)—Role, Responsibilities, Policies, and Procedures*. Issue 3. CCSDS Record (Yellow Book), CCSDS 313.0-Y-3. Washington, D.C.: CCSDS, October 2020.
- [2] *CCSDS SANA Registry Management Policy*. Issue 2. CCSDS Record (Yellow Book), CCSDS 313.1-Y-2. Washington, D.C.: CCSDS, October 2020.

¹ From [ebXML Registry Information Model](#).

PROCEDURES FOR SANA REGISTRY SPECIFICATION

- [3] *CCSDS Publications Manual*. Issue 4. CCSDS Record (Yellow Book), CCSDS A20.0-Y-4. Washington, D.C.: CCSDS, April 2014.
- [4] “Organizations.” Space Assigned Numbers Authority. <https://sanaregistry.org/r/organizations>.
- [5] “Contacts.” Space Assigned Numbers Authority. <https://sanaregistry.org/r/contacts>.
- [6] “Spacecraft.” Space Assigned Numbers Authority. <https://sanaregistry.org/r/spacecraft>.
- [7] “Service Sites and Apertures.” Space Assigned Numbers Authority. https://sanaregistry.org/r/service_sites_apertures.

2 OVERVIEW

2.1 BACKGROUND

During development of a new normative document, a Working Group may identify the need to define and access certain kinds of data, both static and dynamic, that could usefully be placed in an on-line registry instead of in a formal, and infrequently updated, document. For this purpose a new on-line registry could be created or an existing registry could be extended with new fields or identifiers. This document is intended to provide to Working Groups, in one place, all required guidance on this process and the related workflow.

2.2 SANA REGISTRY MODEL

The SANA and the SANA Operator provide the framework and the machinery for managing, registering, updating, and accessing these data registries. The set of registries in the SANA belong to one of three separate categories: Enterprise, Global, and Local/WG. These categories are described in the *CCSDS SANA Registry Management Policy* (RMP) (reference [2]). Figure 2-1 provides a view of all of the identified registry categories.

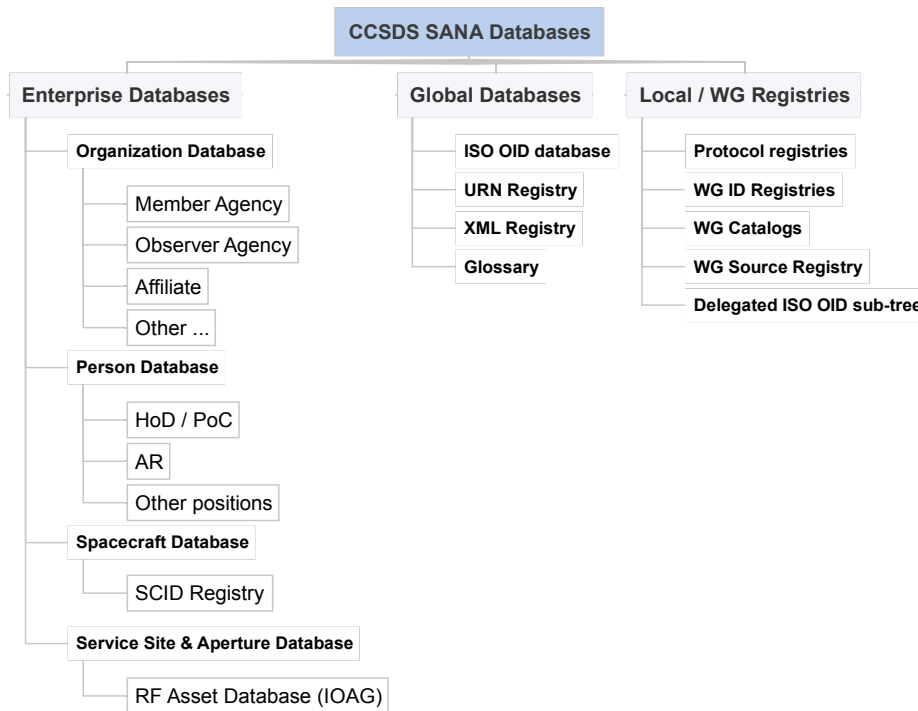


Figure 2-1: Overall SANA Registry Model

Many of these registries are in the Local/WG category, but they may make use of information in the Enterprise or Global registries. Working Groups will most often develop instances of Local/WG registries, but they may need to reference (or even update) certain Enterprise or Global registries.

2.3 CCSDS AREA AND WORKING GROUP REGISTRY WORKFLOW OVERVIEW

2.3.1 GENERAL

The overall policies and procedures for the SANA and the SANA Operator are described in the SANA Procedures Yellow Book (see reference [1]). The RMP document (reference [2]) describes the specific policies and procedures that the CCSDS Areas, Working Groups, and users are to follow for the Enterprise and Global registries and for the development of new registries or extensions to existing registries. The RMP also has all of the details of the design of the Enterprise and Global registries and the processes for managing and extending them.

This document is intended to provide, in one place, specific guidance to any WG that decides, or discovers, that it needs a registry. It includes step-by-step guidance for the design, creation, review, and approval of new and modified registries.

2.3.2 REGISTRY WORKFLOW EMAILS & URLS

In the following section, key point-of-contact names and Web sites are referenced. These email addresses and registry site URLs are:

- SANA Operator—info@sanaregistry.org
- SANA Steering Group (SSG)—ssg@mailmain.ccsds.org
- SANA Registry site—<http://sanaregistry.org>
- SANA Beta Registry site—<https://beta.sanaregistry.org>

2.3.3 SANA REGISTRY WORKFLOW DETAIL

Once a WG has determined that it needs to create or adapt a registry, it should contact the SANA Operator to explore possible approaches for meeting its registry needs. The SSG, which is the technical part of the CCSDS organization that governs the SANA, may also be consulted. It is strongly recommended that the WG initiate discussions with the SANA Operator and/or the SSG as early in the standards development process as possible. The SANA Operator will meet with the WG, describe the registry process, and help determine the best structure for the registry. One possible outcome of these discussions may be to determine that no registry is needed.

Once it is determined that a registry is needed, the WG must define the registry structures and procedures and document them in the SANA Considerations annex subsection of the White Book that is a draft of a proposed Blue or Magenta Book. This must be done *prior* to when the first Agency review is requested. Once this registry design is stable the SANA Operator will create a Candidate registry in the Beta site. This Beta registry can be used by the WG and reviewers for evaluation, testing, and document review during WG-internal development.

NOTE – In some rare cases an Orange Book may require a registry. In such instances the SANA registry processes will follow those for Blue Books, but any registries will only be promoted to Candidate status in the Production SANA site.

When a WG is developing a new standard that requires a registry, it must understand the overall SANA context and contents, which are to be found at <http://sanaregistry.org>. Each SANA registry includes a description, the source reference, a pointer to the registration policy, and the Review Authority for the registry, as well as pointers to any source document(s).

Before a new registry is proposed, or before changes to an existing registry are made, the WG must determine if re-use or extension of an existing registry would be acceptable. If extension of an existing registry, of any category, seems most appropriate, then the proposer must contact the Review Authority for the existing registry to explore the possible options. Every effort should be made to re-use, or make simple, conformant extensions to existing capabilities wherever possible. The SANA Operator and SSG will play a role in facilitating this.

When the registry design is settled, the WG will document it in the SANA Considerations annex subsection of the WG-internal draft, and the SANA Operator will create the prototype of the new registry in a separate Beta site (<https://beta.sanaregistry.org>). This Beta site is a replica of the complete Production SANA site, but it is used to support development of new registries and also new software elements, prior to release in production. This permits the kinds of experimentation that may occur in development to take place without disrupting the Production SANA services.

When the WG has completed internal development and the document is approved for CCSDS Agency review, the SANA can migrate the associated registries to Candidate registries on the Beta site. The candidate registries will be included in the normative references and referenced in the text of the draft document submitted for CCSDS Agency review.

The following describes the overall workflow for a WG to define and develop a new registry. Depending on the WG and its familiarity with the process, the flow may differ in some details from what is described, but the approval gates for promotion from Beta to Candidate to Approved registry status are the same for all WGs. Prior to requesting that a proposed standard or practice be released for CCSDS agency review, a WG will

- a) identify a need for a new or modified registry related to a standard;
- b) explore the SANA to see if there is an existing registry that either meets the need or that can be easily adapted to do the new task;
- c) evaluate how best to use or adapt existing registries, where that appears to be feasible, and discuss the approach with the affected organization.
- d) draft and then discuss the proposed registry requirements and design with the SANA Operator and, if necessary, the SSG;

- e) stabilize the initial registry design during WG-internal development and document it in the draft SANA Considerations annex subsection (see annex A for the outline and some examples);
- f) document the registry policies, registration rules, and Review Authority, and if necessary the Registration Authority, in the draft SANA Considerations annex subsection of the document;
- g) identify whether the registry, or its contents, requires any sort of security, such as access controls, data confidentiality, or data integrity, and discuss this with the SANA Operator and the SSG before proceeding with registry and related process design;
- h) work with the SANA Operator to create the proposed registry in the SANA Beta site *prior to* initiating a request for the first Agency review of the document;
- i) populate the Beta registry with initial values and make any adjustments to registry structure, formats, fields, and related references (such as references to Organizations or Contacts registries, or adding new Roles) prior to requesting initial Red Book Agency review.

The Beta site registry is expected to be complete and stable prior to the start of Agency review. The CESG will verify that it exists before approving the Red Book for initial Agency review. The CESG may ask for changes to the registry during approval polling.

The Beta site registry is expected to be complete and contain an adequate amount of relevant data content prior to the start of any interoperability testing. The registration rules, any Website interfaces, and the policies must be exercised, and, if required by the source document, the Beta registry itself must be used during testing.

When the draft standard or practice has completed all CCSDS Agency reviews, and before submitting the document for publication approval, the WG will review the SANA Considerations annex subsection in the final document to ensure that it is up to date and that any other related registry extensions, such as new roles that must be added to Organization or Contacts Registries, have been defined and checked.

When publication of the document has been approved by the CESG, the Secretariat will notify the SANA Operator to promote the registry from Candidate status on the Beta site to Candidate status on the Production site. During this promotion process, procedural issues, such as updating the SANA References registry with the new document edition, and procedural anomalies, such as conflicts between existing approved registries and new candidate registries, will be addressed by the Secretariat and the SSG on a case-by-case basis. The document will be updated with the Production URL before publication.

When publication of the document has been authorized by the CMC, the Secretariat will notify the SANA Operator to promote the registry from Candidate status to Approved status on the SANA Production site.

PROCEDURES FOR SANA REGISTRY SPECIFICATION

A Working Group can request that a registry be held on the Production site in ‘Candidate’ status until there is a sufficient body of approved data content. In such a case it is the responsibility of the Working Group, or other responsible group, to request the SANA Operator to promote the registry to Approved status. Even after a registry is in Production status it may contain data that have their Status marked ‘provisional’ as opposed to ‘assigned’, ‘retired’, or some other marking. The Status of data items within the registries is under the control of the Review Authority. It is the responsibility of the Review Authority, or other responsible party, to request the SANA Operator to change data item Status as required.

Figure 2-2 shows typical correspondence between CCSDS document development stages and SANA registry status.

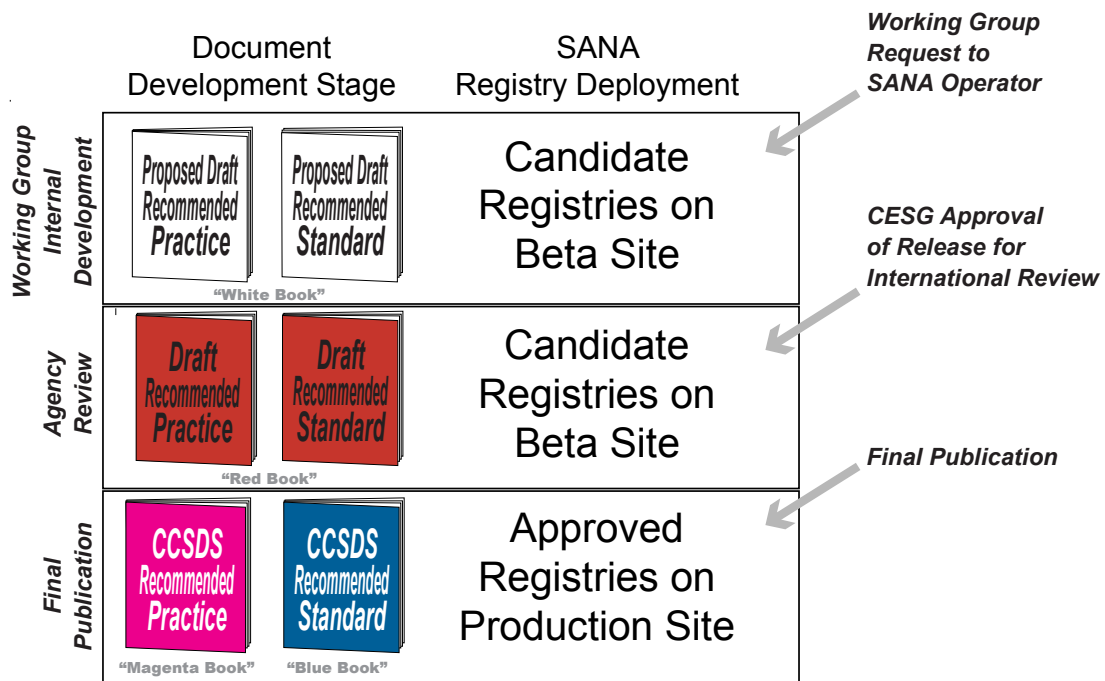


Figure 2-2: Correspondence of Document Development Stages to SANA Registry Status

Many registries are intended to be regularly updated. In many cases this may be done by the SANA Operator, as described in the registration rules. For other registries, the WG, or the Area if the WG is no longer active, will have to act as the Review Authority for managing updates to the registry.

3 INTERACTIONS WITH SANA

3.1 OVERVIEW

This section describes the overall process for CCSDS Areas or Working Groups who wish to develop new registries or extend existing registries.

3.2 CCSDS AREA AND WORKING GROUP REGISTRY PROCESSES

3.2.1 Every CCSDS Area or Working Group requiring a registry shall evaluate the existing registries in the SANA for re-use or adaptation.

3.2.2 All new registries, or extensions to existing registries, shall be documented in and referenced by the CCSDS normative document or Experimental Specification associated with the creation or extension of the registry.

3.2.3 Every CCSDS Area or Working Group that identifies a potential requirement for a new registry shall contact the SANA Operator at the earliest opportunity, well prior to final draft specification.

3.2.3.1 Contacting the SANA Operator shall be accomplished by sending an email request to info@sanaregistry.org;

3.2.3.2 The request shall contain relevant information concerning the creation or modification of one or more registries:

- a) for new registries:
 - 1) the name of the registry,
 - 2) a short description of the registry purpose,
 - 3) the structure of the registry (column names, ...),
 - 4) a precise data type for each data item, including boundaries,
 - 5) registration rule governing how the SANA Operator will assign new parameters to that registry (see A2.3),
 - 6) registry category (Enterprise [Organization, Person, Assets], global, or WG/local—see reference [2]),
 - 7) Review Authority (the organization responsible for the registry),
 - 8) any security or access control considerations that must be enforced (see 2.3.3g));
- b) for existing registries:
 - 1) the name of the registry;

- 2) a description of the requested modification;
- 3) if a change in the structure of the registry is required,
 - i) the new structure of the registry (column names, ...),
 - ii) a precise data type for each data item, including boundaries,
 - iii) registration rule governing how the SANA Operator will assign new parameters (see A2.3);
- 4) any other relevant information.

NOTE – It is expected that the initial request to SANA will involve a dialog between the requestor and the SANA Operator in which questions are answered and particular requirements are discussed and accommodated.

3.2.4 Enterprise and Global registries shall be directly utilized, or extended if necessary, in preference to creating new local registries (reference [2]).

3.2.4.1 Any requirement for a registry referencing agencies, organizations, commercial entities, universities, or other service providers shall use or extend the existing Organizations registry (reference [4]).

3.2.4.2 Any requirement for a registry referencing contacts who are members of a CCSDS agency or other registered organization shall use or extend the existing Contacts registry (reference [5]).

3.2.4.3 Any requirement for a registry referencing spacecraft shall use or extend the existing Spacecraft registry (reference [6]).

3.2.4.4 Any requirement for a registry referencing service providers, sites, or apertures shall use or extend the existing Service Sites and Apertures registry (reference [7]).

3.2.5 If direct use of an Organization, Contacts, Service Site and Aperture, or Spacecraft Registry is possible, the standard shall point to the existing registries.

3.2.6 If new roles or other attributes are required, the standard shall define these extensions and coordinate them with the SANA and the Review Authority for the affected registries.

3.2.7 Any requirement for a registry referencing global data, SANA, Terminology/Glossary, XML, Uniform Resource Name (URN), or Object Identifier (OID) shall use or extend an existing global category registry.

3.2.8 If direct use of one of the global registries is possible the standard shall point to the existing registries.

3.2.9 If extension to one of the global registries appears to be required, the Area or Working Group shall contact the appropriate Review Authority for the affected registry.

3.2.10 Any requirement for a local category, Area, or Working Group registry shall evaluate use or extension of one of the existing registries, either within the Area or in another Area.

3.2.11 If extension to an existing local category registry appears to be required, the Area or Working Group shall contact the Review Authority for the affected registry.

3.2.12 In some cases it may be appropriate to adapt, extend, or promote a local registry to a global category registry. Any such proposals shall be reviewed with the SSG and the originator of the registry.

3.2.13 Each working meeting of any CCSDS group that acts as a Review Authority shall, when necessary, review and determine dispositions for proposed changes, additions, or deletions to any existing registries and contact points under their purview.

3.2.14 Every Working Group that defines or modifies a registry shall use that registry during any interoperability testing that is required prior to publication of the standard.

NOTE – This does not necessarily require exercise of any programmatic interfaces as part of interoperability testing, but it does require the registry to exist, be populated with relevant data, and be used for its intended purpose during testing.

3.2.15 Registries that are created or modified in connection with a CCSDS normative document shall be included in the normative references of the respective document and be referenced in the text of that document.

3.2.16 Existing registries used by a new CCSDS normative document shall be included in the normative references and referenced in the text of that document.

3.2.17 When a new Candidate registry has been created, the SANA Operator shall inform the CESG by sending an email to cesg@ccsds.mailman.org, as defined in subsection 3.6 of reference [1].

3.3 CESG AND SECRETARIAT RESPONSIBILITIES

3.3.1 AGENCY REVIEW

3.3.1.1 The CESG has responsibility to verify that any new or modified registry has been created and tested prior to release of a normative document for Agency review:

- a) The CESG shall verify that every review document that has a non-null SANA Considerations annex subsection adequately covers all of the topics identified in annex A.
- b) The CESG shall verify that the registry design is sufficiently accurate and unambiguous.

- c) The CESG shall verify that the registry policies and procedures are reasonable and unambiguous.
- d) The CESG shall verify that the identified Candidate registry has been created on the <https://beta.sanaregistry.org> site and that it is populated with at least a subset of representative data.

3.3.1.2 Upon CESG approval of the final document for publication, the Secretariat shall notify the SANA Operator that the Candidate registry can be moved from the Beta site to the Production site.

3.3.2 FINAL PUBLICATION

3.3.2.1 The CESG has responsibility to verify the existence and viability of registries identified in SANA Considerations annex subsections:

- a) As part of final-publication-approval polling, the CESG shall verify that identified Candidate registries exist on the <https://sanaregistry.org> site.
- b) The CESG shall verify that the required interactions with identified registries are documented in an interoperability test report.

3.3.2.2 After CESG approval of the final document, and upon CMC authorization to release the normative document for final publication, the Secretariat shall advise the SANA Operator that the status of associated Candidate registries be changed to Approved.

ANNEX A

SANA CONSIDERATIONS

(NORMATIVE)

A1 OVERVIEW

This annex provides Working Groups with a template for the SANA Considerations annex subsection that is to be included in all CCSDS normative track documents (see reference [3]). Examples of different customizations of the template are provided.

A2 REQUIREMENTS

A2.1 NO SANA ACTION

When there is no SANA action required, the following text shall be included in the CCSDS standards track document.

NOTE – In the examples in this annex, ‘ $\{Xn.n\}$ ’ stands for the annex heading number of the SANA Considerations annex subsection.

$\{Xn.n\}$ SANA CONSIDERATIONS

The recommendations of this document do not require any action from SANA.

A2.2 NEW REGISTRY

When one or more new registries have been requested to be created by the SANA Operator, the SANA Considerations annex subsection of the associated CCSDS normative document or Experimental Specification shall contain, for each new registry:

- a) the name of the registry;
- b) a short description of the registry purpose;
- c) the structure of the registry (column names, ...);
- d) a precise data type for each data, including boundaries;
- e) registration rule governing how the SANA Operator will assign new parameters to that registry (A2.3);
- f) registry category (Enterprise [Organization, Person, Assets], global, or WG/local—see reference [2]);

- g) Review Authority (the organization responsible for the registry).

NOTE – The information required in the SANA Considerations annex subsection is identical to the information supplied to the SANA Operator under 3.2.

A2.3 CHANGES TO AN EXISTING REGISTRY

When changes to one or more existing registry have been requested of the SANA Operator, the information below must be included in the CCSDS standards track document. The SANA Considerations annex subsection of the associated CCSDS normative document or Experimental Specification shall contain, for each changed registry:

- a) the name of the registry;
- b) a description of the requested modification;
- c) if a change in the structure of the registry is required,
 - 1) the new structure of the registry (column names, ...),
 - 2) a precise data type for each data item, including boundaries,
 - 3) registration rule governing how the SANA Operator will assign new parameters (see A2.3);
- d) any other relevant information.

NOTE – The information required in the SANA Considerations annex subsection is identical to the information supplied to the SANA Operator under 3.2.

A2.4 REGISTRATION RULES²

The CCSDS Area or Working Group requesting creation of a new registry (cf. 3.2.1) must state which one of the following registration rules is to be used for adding new entries or for making changes to the registry:

- a) Change requires a CCSDS approved document.
- b) Change requires an engineering review by a designated expert or expert group (see 3.18 of reference [1]). This is the Review Authority for the registry. The Review Authority for that registry is assigned by the CESG based on the WG recommendation.
- c) Change requires no engineering review, but the request must come from the official representative of a space agency, or other registered organization, that is a member of the CCSDS. The official representative of an agency may differ for each registry.

² From reference [1].

d) Change requires no review; assignments are done on a first-come, first-served basis.

If a registration rule outside those listed here is required, the CCSDS Area or Working Group requesting creation of the new registry shall define that rule in its request to the SANA Operator (see 3.18 of reference [1]).

A3 DISCUSSION—EXAMPLES OF SANA CONSIDERATIONS ANNEX SUBSECTION ENTRIES

A3.1 EXAMPLE 1: NEW FrameID REGISTRY

The following example is a SANA Considerations annex subsection entry for a new simple registry that creates a list of FrameIDs. This registry may only be extended by action of a Working Group.

{Xn.n} SANA CONSIDERATIONS

The recommendations in this document include the creation of the following SANA registry located at {URL of registry}.

Registry Description: The registry named FrameID documents mandatory and optional parameters that may be used in the FrameID field of XYZ link layer protocol.

The registry named FrameID consists of a table of parameters:

FrameID: an integer between 0 and 256

Description: a string of text describing the parameter

The initial registry should be filled with the following values:

| FrameID | Description |
|---------|----------------|
| 0 | Reserved |
| 1 | Basic Frame |
| 2 | Extended Frame |

Registration Rule: The registration rule for new values in this registry requires engineering review by the Review Authority.

Review Authority: The Review Authority for this registry is the SLS AD or an SLS WG to which this has been delegated.

A3.2 EXAMPLE 2: NEW DATA REGISTRY REQUIRING A NEW AGENCY REPRESENTATIVE ROLE

The following example is a SANA Considerations annex subsection entry for a new registry that creates a list of new data objects. The registry may be extended by request of an Agency Representative (AR) who has been assigned the Role to perform these updates. This requires reference to existing Organization (for the agency) and Contacts (for the AR) registries, and also creation of a new Role that the AR gets assigned.

The Submitting Organization is the one supplying the DataObject format to be registered; it identifies the organization that created this DataObject format. If the Organization is not yet registered it must register in the SANA Organizations registry following the RMP rules (see reference [2]).

NOTE – The Submitting Organization and the AR assigned by the Head of Delegation of that organization must both be registered in the respective SANA registries. Normal SANA rules apply. If the ‘*DataObjectClass assignor*’ Role does not yet exist it will also have to be created (see A3.5). When creating new Roles, the WG should try to make them be as broad as possible, such as DataObjectClass (e.g., navigation data as a class or cross support service data as a class), and not narrowly focused on one specific data type (e.g., MO mission planning data type).

{Xn.n} SANA CONSIDERATIONS

The recommendations in this document include the creation of the following SANA registry located at {URL of registry}.

Registry Description: The registry named DataObjectID documents mandatory or optional parameters that may be used in the DataObject field of BFD data exchange specification. New entries in this registry must be requested by an Agency Representative (AR).

The registry named DataObjectID consists of a table of parameters:

DataObjectID: an integer between 0 and 1024

Description: This registry allows single projects, a single space agency, or multi-agency enterprises to register new DataObjects and assign them a DataObjectID.

The DataObjectID Registry shall consist of the following fields:

PROCEDURES FOR SANA REGISTRY SPECIFICATION

| Field | Type | Size | Comments |
|----------------------------------|----------------|------|--|
| DataObject Name | Character (64) | 64 | Max size string |
| DataObjectID | ISO OID | | Unique OID is assigned by the SANA Operator |
| Submitting Organization Name | Character (64) | 64 | Max size string, referenced from Organization OID |
| Submitting Organization OID | ISO OID | | OID from the Organization registry, must be registered |
| DataObject Point of Contact Name | Character (64) | 64 | Max size string, referenced from Contact OID |
| DataObject Point of Contact OID | ISO OID | | OID from the Contact registry for the Point of Contact for the DataObject |
| DataObject source document name | Character (64) | 64 | Name of the document that specifies the DataObject format. Max size string, referenced from References OID |
| DataObject source document OID | ISO OID | | OID from the References registry for the source document that formally specifies the DataObject format. |
| Reference URI | URI | | Optional URI for additional information on the registered format |

Registration Rule: New values in this registry require engineering review by the Review Authority, and the request must come from an Agency Representative (AR), an official representative of a space agency, who is member of the CCSDS. The AR must have the 'DataObjectClass assignor' Role.

Review Authority: The Review Authority for this registry is the MOIMS AD or a MOIMS WG to which this has been delegated.

A3.3 EXAMPLE 3: CHANGE TO EXISTING REGISTRY, ADDITION OF RECORDS

The following example is a SANA Considerations annex subsection entry for the addition of two new entries to a registry that was specified so as to permit such additions. This change follows the rules already established for the existing registry (see A3.1).

{Xn.n} SANA CONSIDERATIONS

The recommendations in this document include modification of the SANA FrameID registry located at {URL of registry}.

The following two new records have been added.

| FrameID | Description |
|---------|---------------------|
| 3 | Compatibility Frame |
| 4 | IPv4 packet payload |

A3.4 EXAMPLE 4: CHANGE TO EXISTING REGISTRY, ADDITION OF FIELDS

The following example is a SANA Considerations annex subsection entry for the addition of one new field to an existing registry. This change follows the rules already established for the existing registry (see A3.1), but adds a new Name field for additional information and specifies acceptable Name field contents.

{Xn.n} SANA CONSIDERATIONS

The recommendations in this document include the addition of the new Name column to the SANA FrameID registry located at {URL of registry}.

The registry named FrameID consists of a table of parameters:

FrameID: an integer between 0 and 256

Name: a string of [a-zA-Z0-9] characters, limited to 256 chars maximum

Description: a string of text describing the parameter

Any existing registered entries will contain the value ‘empty’ in their respective Name column.

The registration rule and Review Authority are not changed.

A3.5 EXAMPLE 5: CHANGE TO EXISTING REGISTRY, ADDITION OF NEW ORGANIZATION ROLE

The following example is a SANA Considerations annex subsection entry for the addition of a new Role to the existing Role registry defined in the RMP. This change follows the rules already established for the Role registry.

{Xn.n} SANA CONSIDERATIONS

The recommendations in this document include the addition of a new role of ‘Relay Spacecraft Operator’ in the SANA Organization Roles registry located at <https://sanaregistry.org/r/organization-roles>.

Description: Organization Roles types are defined in the OID registry, starting at OID 1.3.112.4.5.1. This creates a new, unique OID that may be used to identify organizations of this type.

The current registered entries in the Organization Roles registry will remain as they were. This is to be added as a new role. The registration rule and Review Authority are not changed.

ANNEX B

ABBREVIATIONS

(INFORMATIVE)

| | |
|------|----------------------------------|
| CESE | CCSDS Engineering Steering Group |
| CMC | CCSDS Management Council |
| OID | object identifier |
| RMP | Registry Management Policy |
| SANA | Space Assigned Numbers Authority |
| SSG | SANA Steering Group |
| URN | Uniform Resource Name |
| XML | EXtensible Markup Language |