* 1. SANA Considerations
     1. General

The recommendations of this document request SANA to modify the registries described below. New assignments in these registries, in conformance with the modifications identified, will be shown at the SANA registry Web site: http://sanaregistry.org. Therefore, the reader shall look at the SANA Web site for all the assignments contained in these registries.

Already registered values shall not be affected by this Recommended Standard.

* + 1. CSS Originating Organization Registry

The values for orginatingOrganization (see table xxx) shall be as those defined in the CCSDS Organizations registry (<http://sanaregistry.org/r/organizations/organizations.html>), specifically with regard to the “Name” field of this registry.

This recommendation shall add an attribute of “serviceProvider” which shall be composed of enumerated values. A “null” value shall be the first ordinal value of the list. “SchedulePublisher” shall be added to this enumerated list in whatever order is best determined by SANA engineering. All values that exist in this registry prior to the original (first) publication date of this recommendation shall have effectively have a null value assigned for this attribute.

The procedure to follow for adding new values to this registry shall be that defined in CCSDS xxxx. An approved entry shall have one additional step to this procedure: the “serviceProvider” attribute shall be set the enumerated value of “SchedulePublisher”.

*[ed. Note 1: this means that the definition in the standard service management header table needs to to be made consistent with the value definition in the registry, which is 64 characters, not 1024 – this might be a bit constraining if an organization has same “layering” it want to convey in its identification of schedule publishers: NASA-JPL-DSN-SchedulingOffice (if that’s what they choose) is already ~1/2 of the legal string length); my experience has been that operations have a tendency to use thing in ways engineers never considered) ]*

*[ed Note 2: if an OID is assigned for the “Name” field, then this could be referenced ]*

*[ed Note 3.0 – this recommendation “gets away” with identifying all the new attributes because they don’t yet exist – that is not going to be the case in the future]*

*[ed Note 3.1: the attributes defined by a particular recommendation that make their way into the SANA registries should in and of themselves be somehow cataloged so that future recommendations don’t start proliferating new attributes that have the same semantics – this might be some sort internal CCSDS engineering type registry; I envision this as being checked by one of the newlyh defined “expert groups”]*

*[ed Note 4: it assumed that CCSDS SE Area will provide the proper reference for processes for updating CCSDS “global” registries in accord with whatever is needed for the updated SANA Registry Management policy; the exact reference needs to be supplied]*



* + 1. CSS User REGISTRY

The values for the “user” parameter (see table xxx) shall be as those defined in the CCSDS Spacecraft Identifiers registry (http://sanaregistry.org/r/spacecraftid/spacecraftid.html), specifically with regard to the “Spacecraft Name” field of this registry.

The procedure to follow for adding new values to this registry shall be that defined in CCSDS **320x0b.** .

In addition to the values for the “user” parameter, the following values shall be recognized by implementations (see also Table 3-3):



|  |  |
| --- | --- |
| **user** | **Description** |
| UNALLOCATED | Indicates that the time is unallocated. |
| PROVIDER-CSSS | Indicates that the time is allocated for the Provider CSSS. |

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*[Ed Note 5: the user parameter definition in table 3-3 needs to be made consistent with the spacecraft name parameter of the SANA registry here – probably not string 1024]*

* + 1. CSS Station and Antenna Reference Registry

This recommendation adds StationRef and antennaRef to the CCSDS RF Communications Asset registry (<http://sanaregistry.org/cgi/registry-auth?id=rf_assets>). The combined value of these two parameter shall be unique with respect to the registry (ie., no two communication can be identified as the same stationRef and antennaRef).

The procedure to follow for adding new values to this registry shall be that defined in CCSDS xxxx. .

The stationRef and antennaRef parameters are defined as

|  |  |
| --- | --- |
| stationRef: | a string of between 1 and 1024 characters in length. |
| antennaRef: | a string of between 1 and 1024 characters in length. |
|  |  |

1. If a particular station has only one antenna, then the antennaRef field may have the same value as the stationRef.
2. If a particular station has two or more antennas then there shall be as many entries for the station in the registry as there are antennas, with each of the stationRef entries having a unique antennaRef.

The following table presents examples of how this registry should be populated.

|  |  |  |
| --- | --- | --- |
| **stationRef** | **antennaRef** | **Description** |
| STATION-1 | STATION-1 | An example of a station with only 1 antenna. In this case the antennaRef has been given the same value as stationRef. |
| STATION-2 | ANTENNA-1 | An example of a station with only 1 antenna. In this case the antennaRef has been specified with a value different to that of stationRef. |
| STATION-3 | ANTENNA-1 | This example is of a station which has 3 antennas. This entry refers to antenna-1 at that station. |
| STATION-3 | ANTENNA-2 | This example is of a station which has 3 antennas. This entry refers to antenna-2 at that station. |
| STATION-3 | ANTENNA-3 | This example is of a station which has 3 antennas. This entry refers to antenna-3 at that station. |

*[Ed note 6: the naming and contents of this registry as currently defined in SANA tends to indicate that this does not really take into account relay satellites which the schedule of services book does include in its scope; this may cause issues for the RF Assets registry in general; in parituclar latitude/longitude doesn’t really make sense. From the SoS point of view something like the multiple access antenna on TDRS-l, could be represented as stationRef = “TDRS-L”, antennaRef=”MA”. Its unclear how the RF Comm assets database will be “upgraded” here; presumably SE area will address this]*

*[Ed note 7: The “RF” as part of the name of this registry implies that this will be used only for radio frequency communication assets. However optical communication appears to be on the way. The service management working group has is one of its core principles that recommendations be extensible. To that end, the functional resource model will allow for optical communications to be swapped out for radio frequency communications. The schedule of services blue book does not have any particular dependency on optical versus radiofrequency communications. However we have been requested to use this registry. It is recommended that this registry have its name change to communications assets in general, assuming that is consistent with an overall CCSDS information model that does not dictate segregating optical versus radio frequency communications registry considerations. If there are compelling reasons to do so from information model point of view input is requested as soon as possible from system engineering area as to how to address the registration for the schedule services book in this case.]*

*[Ed note 8: given that access to this registry is restricted, will there be an unrestricted version made available so that implementations can quickly grab the appropriate values? If not, will there be some sort of policy or rules stated (elsewhere) as to how to go about registering for access to this registry? For the purpose of this recommendation, it is assumed that all of that is handled appropriately at a global CCSDS level in whatever registry policy is applicable to the communications asset registry]*