**Origination Date:** 02/10/17

**Originator:** iconectiv

### Change Order Number: NANC 489

**Description:** IIS/EFD Doc-Only Clarifications

**Functional Backwards Compatible:** Yes

**IMPACT/CHANGE ASSESSMENT**

|  |  |  |
| --- | --- | --- |
| DOC | FRS | IIS |
| N | Y |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CMIP | GDMO | ASN.1 | **NPAC** | SOA | LSMS |
| N | N | N | N | N |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XML | XIS | XSD | **NPAC** | SOA | LSMS |
| N | N | N | N | N |

**Business Need**

Documentation updates.

**Description of Change:**

Changes detailed below.

IIS:

NPAC SMS (changed text in yellow highlights)

#### Association Functions

The Association Function(s) must be specified on the initial association request (AARQ PDU). The following table lists the possible Association Functions that can be specified for each of the Association Request Initiators and the associated bit mask value:

Exhibit 5 Association Functions

|  **Association Request Initiator****Association Function**  | **SOA** | **Local SMS** |
| --- | --- | --- |
| **SOA Management (Audit and Subscription Version)****Classes:****lnpNPAC-SMS****lnpSubscriptions****numberPoolBlock****numberPoolBlockNPAC****subscriptionAudit****subscriptionVersion****subscriptionVersionNPAC** | 0x01 |  |
| **Service Provider and Network Data Management****Classes:****lnpNetwork****lnpNPAC-SMS****lnpServiceProvs****lsmsFilterNPA-NXX****serviceProv****serviceProvLRN****serviceProvNetwork****serviceProv-NPA-NXX****serviceProvNPA-NXX-X** | 0x02 | 0x04 |
| **LSMS Network and Subscription Data Download****Classes:****lnpNetwork****lnpNPAC-SMS****lnpSubscriptions** |  | 0x08 |
| **SOA Network Data Download** **Classes:****LnpNetwork****lnpNPAC-SMS** | 0x20 |  |

|  **Association Request Initiator****Association Function**  | **SOA** | **Local SMS** |
| --- | --- | --- |
| **Query Outbound from the NPAC SMS****Classes:****All** |  | 0x10 |
| **SOA Notifications (only applicable for SOAs supporting a separate notification association)****Classes:****lnpNPAC-SMS****lnpSubscriptions****numberPoolBlockNPAC****subscriptionAudit****subscriptionVersionNPAC** | 0x40 |  |

The association functions specified upon association are stored. Then all subsequent operations performed by that association are then validated against that data to verify that they are 'legal'. All outbound messages from the NPAC are also validated against the association functions and if a service provider does not have the correct masking set, they will not receive the transmission. Note that the multiple Association Functions can be specified for an association. For example, a Local SMS can establish an association for both the process audit and network and subscription data download association functions.

SOA Notifications have been separated out to support SOAs that wish to implement a separate SOA Channel for Notifications. Based on the Service Provider tunable (SOA Notification Channel Service Provider Tunable), this function may be included in a SOA association, even if the Service Provider does not bind with that function mask. This allows SOA notifications to be sent down a single SOA channel.

IIS Section 5.2.2

In CMIP certification testing, there are security tests where invalid access control data is inserted into NPAC responses to SOA/LSMS requests to bind (establish an association). The tests call for the local system to abort the association. It was discovered that some local systems could not abort the association during these tests since the local system never established the association due to the invalid data. Instead the local system retried binding to the NPAC, where NPAC seeing the new association request aborted the previous invalid association and successfully established the new association. The IIS should be updated to reflect this alternative behavior.

Last paragraph of Section 5.2.2

[snip]

When the Local SMS receives the association response it validates the data received. The data is validated as follows:

1. Ensure the systemId is present and valid for the association. (Note: the userId field is not required for Local SMS and NPAC SMS associations).
2. Ensure the sequence number is 0.
3. Ensure the cmipDepartureTime is within 5 minutes of the current Local SMS GMT time.
4. find the key specified and decrypt the signature insuring that the systemId, systemType, userId, cmipDepartureTime, and sequenceNumber are the same as those specified in the PDU.

If validation of the AARE PDU fails then an A-ABORT will be issued by the Local SMS or the Local SMS will attempt to re-associate with the NPAC SMS. If validation is successful then a secure association has been established.

EFD, Error Codes

|  |  |  |  |
| --- | --- | --- | --- |
| 5009 | LrnId is required if no customer id, on delete lrn action. | 26 | accessDenied\_er (CMIP)invalidAttributeValue\_er (XML) |
| 5015 | Npa required for delete if no NpaNxxId. | 26 | accessDenied\_er (CMIP)invalidAttributeValue\_er (XML) |
| 5016 | Nxx required for delete if no NpaNxxId. | 26 | accessDenied\_er (CMIP)invalidAttributeValue\_er (XML) |
| 5017 | Lrn required for delete if no lrnId. | 26 | accessDenied\_er (CMIP)invalidAttributeValue\_er (XML) |
| 5073 | Delete denied due to associated NPA-NXX-Xs. | 26 | accessDenied\_er (CMIP)invalidAttributeValue\_er (XML) |

When a CMIP interface request fails validations, the error response returned to the originating system only includes the error code (application error code if supported, else the CMIP error code). When an XML interface request fails validations, the error response returned to the originating system includes both the error code and the error textual description. Therefore, iconectiv proposes that a note be added to the EFD application error code mapping table indicating that only a single error code file with CMIP error code/description mappings only will be produced for retrieval by local systems.

**Section A.3 of the EFD**, note added after paragraph before the error code mapping table:

 [snip]

The CMIP errors listed in the table should be used as a general guideline. Due to interaction of the different request types (M-ACTION, M-CREATE, M-SET, M-DELETE) and the internal handling of errors, some messages may be delivered to the SOA/LSMS using a different CMIP error than those listed in the table.

Note, some application errors in this table map to two different CMIP errors: one used for CMIP interface messages and a different one used for XML interface messages. When the NPAC provides a soft format version of this table for use by local systems, the table produced will only contain CMIP errors.

[snip]

EFD, Flow B.5.1.9, Create Subscription Version: Resend Successful to Local SMS Action

NPAC SMS sets the subscriptionVersionStatus to “active” in the subscriptionVersionNPAC object, subscriptionFailedSP-List, subscriptionBroadcastTimeStamp, and the subscriptionModifiedTimeStamp.

EFD, Flow B.5.1.17.6, Port-to-Original Activation Partial Failure Broadcast of a Pooled TN

Step 1 and step 2, picture, reverse arrow direction.

EFD, Flow B.5.1.17.9, Successful Resend Broadcast of a Port-to-Original of a Pooled TN

Step 1 and step 2, picture, reverse arrow direction.