**Origination Date:** 9/11/2018

**Originator:** iconectiv

### Change Order Number: NANC 530

**Description:** Hold/Replay Clarifications

**Functional Backwards Compatible:** Yes

**IMPACT/CHANGE ASSESSMENT**

|  |  |  |
| --- | --- | --- |
| DOC | FRS | IIS/EFD |
| Y | N |

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

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

**Business Need**

iconectiv developed Hold / Replay capabilities based on NPAC SMS FRS requirements, to enable the transition of service providers from using CMIP-based local system implementations to using XML-based local system implementations. During industry discussions of the transition of LNPA services from Neustar to iconectiv, some industry participants expressed a need for additional capabilities including having local systems on hold for long durations as well as using hold / replay capabilities for CMIP mechanized interface users.

Subsequent industry discussions dismissed the need to support Hold / Replay for CMIP users since the CMIP Interface supports Recovery. In order to address the need for long duration hold periods, it was discussed that local systems, if having issues, would not need to go on hold if the NPAC could queue up messages while the local system remained connected to the NPAC but were not processing messages (placing a local system on hold in the Neustar implementation removed the local system from broadcasts, so service providers were not seeing the local system on failed SP lists for broadcasts). If the local system remained connected, then roll-up of broadcasts would occur as normal and the system not processing messages would be placed on Failed SP Lists as normal. When the system not processing messages fixes their issues and can resume processing messages, messages in the queue would be sent as normal (XML supports queueing of messages and continuously retrying to send messages to the local systems).

Therefore, the Hold / Replay capability will continue to focus on transitioning CMIP local systems to XML (or initially onboarding an XML system from using no system). Having the NPAC support longer duration queuing of messages without having to place a system on Hold will also be supported. Note, the queue can not be infinite and the quantity of messages that can be queued is also dependent on other factors such as the number of local systems having issue sand not processing messages at the same time. If the local system has issues for a lengthy period, the local system will need to be disabled and then use conventional BDD files to restore their system before being placed on Hold to process their final delta BDD file and then replay.

To summarize:

1. A local system initially onboarding or transitioning from a CMIP to XML implementation will be in a disabled state and use BDD capabilities to bring their system in synch with the NPAC (either full and/or delta BDDs). They will connect and verify their XML connection with the NPAC.
2. When the local system is close to being synchronized with the NPAC, the local system will be placed on Hold, in which case broadcast roll-up timers will be suspended. The local system will obtain and process a final delta BDD file (which should be minimal) to bring their system in synch with the NPAC (this will be used to recover from their previous BDD/delta BDD and the time that the local system is placed on Hold). Scheduled downloads destined for this local system will be queued. This time in Hold should be minimized (and if it extends too long, the system will need to be disabled and restart from step 1).
3. Once the local system has finished processing the final BDD file, the local system will be placed in Replay. Roll-up timers are started and the NPAC starts sending messages in the queue to the local system.
4. Once messages have been replayed, the local system is actively connected to the NPAC and receiving broadcasts.
5. Messages for a local system that is not processing broadcasts, connected to the NPAC and not on Hold will be queued and iconectiv will monitor the size of the queue. Roll-up timers operate as normal through-out queuing. There will be triggers to notify the local system owner and to notify the industry if the length of time/queue size exceeds certain thresholds.
	1. If the local system starts processing messages again, the queue will be drained. If the industry was notified of the event, they will be notified of the restoration of processing.
	2. If the queue of messages / length of time for the local system not processing messages reaches certain triggers, the local system will be placed in a disabled state, their queue of messages will be flushed, and the local system starts at step 1 to recover using BDD files.

**Description of Change:**

Changes detailed below.

**FRS Changes:**

## 3.17 Customer Onboarding

This section describes the Customer Onboarding feature. …….

When the hold queue is empty, the provider's system status is changed to *Normal* and synchronization is complete.

ADD:

The NPAC SMS will provide M&Ps to support working with the provider’s system to minimize the time period that the system is in the *Hold* status to minimize the period of not adding the service provider's LSMS to the subscription version or pooled block failed-SP List. Additionally the NPAC SMS via internal M&Ps will support the queueing of downloads to the provider’s system based on current NPAC SMS resources and the event on the local system when it is not able to respond during *Normal* state. This period will be based on the desire to not have the system reenter the *Hold* state where reasonable. Long outages of the system may require reentering the *Hold* process given there is no recovery function for XML system. If the local system reenters the *Hold* process, their queue of downloads will be flushed and the local system will need to use full and/or delta BDD files to recover data.