Origination Date: 06/13/2001

Originator: NeuStar

Change Order Number: NANC 329

Description: Prioritization of SOA Notifications

Pure Backwards Compatible: Yes

IMPACT/CHANGE ASSESSMENT

FRS	IIS	GDMO	ASN.1	NPAC	SOA	LSMS
Y	Y	Y	N	Medium	N/A	N/A

Business Need: With the deployment of the NPAC Release 3.0 in the Northeast region a SOA – NPAC Interface problem has surfaced. The improved performance of NPAC Release 3.0 and the faster hardware platform that this software is running on is resulting in transactions being processed for broadcast to the industry quicker than the SOA – NPAC interface can transmit them. The SOA – NPAC interface has a specification of 2 CMIP transactions per second (sustained) and 5.2 CMIP transactions per second (peak). During peak periods the interface cannot support the volumes of notifications that the NPAC SMS is generating, thus there is a long delay in notification delivery that results in operational issues. At the current time it is the ILEC that is primarily affected by this problem because the ILEC receives the largest volume of SOA notifications but the problem has the potential of affecting any Service Provider. The NAPM, LLC has decided not to go forward with the deployment of NPAC Release 3.0 until this interface problem has been resolved. NeuStar is proposing that SOA Notifications be prioritized and transmitted over the interface based on priority. This would allow for more timely delivery of Service Providers high priority notifications.

Description of Change: Currently SOA notifications are not prioritized so they are generated by the NPAC SMS and then transmitted on a 'first in, first out' basis. During a large porting volume peak this model can produce major delays in the transmission of notifications through the SOA – NPAC interface, resulting in operational issues. This change order would prioritize SOA notifications and allow requests and notifications with the highest priority to be transmitted first. The SOA notifications would have five categories: **very high, high, medium, low,** and **none**. The category of **very high** would be reserved for Subscription Version Object Creation notifications with a due date less than or equal to today. The category of **none** would indicate that a Service Provider did not want to receive a particular notification. One of the other three categories would be assigned to each notification on a per region basis. A Service Provider would have the option of overriding the default value.

Requirements:

Req 1 SOA Notification Priority Tunable Parameter

NPAC SMS shall provide a SOA Notification Priority tunable parameter for each SOA notification that defines the priority of the SOA notification for the given region.

Req 2 SOA Notification Priority Based on Attributes

NPAC SMS shall allow SOA Notifications to have separate priorities associated with the value of certain attributes based on the information contained in Appendix C, Table C-7 – SOA Notification Priority Tunables.

Note: The table referenced above is new and is appended to this document.

Req 3 SOA Notification Priority Tunable Parameter – Valid Values

NPAC SMS shall use **VERY HIGH, HIGH, MEDIUM, LOW,** and **NONE** as valid values for the SOA Notification Priority tunable parameters.

Req 4 SOA Notification Priority Tunable Parameter – Default Value

NPAC SMS shall default the SOA Notification Priority tunable parameters to the values specified in Appendix C, Table C-7 – SOA Notification Priority Tunables.

Req 5 Modifying the SOA Notification Priority Tunable Parameter Value

NPAC SMS shall allow NPAC Personnel to modify the SOA Notification Priority tunable parameter values based on Service Provider requests.

Req 6 SOA Notification Priority Tunable Parameter Value for Notifications Associated with Subscription Versions

NPAC SMS shall set the SOA Notification Priority tunable parameter value to **VERY HIGH** for Subscription Version Object Creation notifications with a due date less than or equal to the current system date.

RR6-30 (Modified) Notification Recovery – Order of Recovery

NPAC SMS shall recover all notifications, failed or successful, in *the* order *they were sent* when notification recovery is requested by the SOA or LSMS.

Note: The SOA Notification Priority tunable parameter values will be ignored during notification recovery.

Req 7 SOA Notification Priority Tunable Parameter based on Old or New Service Provider Status

NPAC SMS shall allow different SOA Notification Priority values for Status Attribute Value Change notifications based on whether the Service Provider is acting as the Old Service Provider or as New Service Provider for the port.

Req 9 SOA Notification Priority Tunable Parameter –Value Equal to NONE

NPAC SMS shall use the SOA Notification Priority tunable parameter equal to **NONE** to indicate that the notification is **not** sent to that Service Provider.

Req 10 Processing of SOA Notification Queues

NPAC SMS shall use the SOA notification priority when determining the order to send notifications to a Service Provider.

R4-8 (Modified) Service Provider Data Elements

NPAC SMS shall require the following data if there is no existing Service Provider data:

1. Service Provider name, address, phone number, and contact organization.
2. NPAC customer type.
3. Service Provider allowable functions.
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   -
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18. *SOA Notification Priority for each SOA notification. Separate values may be set for Status Attribute Value Change notifications based on whether the Service Provider is acting as the Old Service Provider or as the New Service Provider for the port.*

IIS

Need to add some notes to section 2.3.3 explaining the prioritisation of SOA notifications.

GDMO

For each notification, we should add a note to the description text that indicates the notification is prioritised and transmitted according to the SOA Notification Priority tunable and its Service Priority Profile SOA Notification Priority tunable.

ASN.1

No change required.

M&P

TBD.

SOA Notification Priority Tunables

#	Notification Name	Priority
L-1.0	**NPAC SMS Operational Information Notification**	LOW
L-2.0	**Subscription Audit Discrepancy Report**	LOW
L-3.0	**Subscription Audit Results**	LOW
L-4.0 A	**Subscription Version Cancellation Acknowledge Request** Scenario A: the OLD SP is requesting cancellation and no concurrence from New SP.	LOW
L-4.0 B	**Subscription Version Cancellation Acknowledge Request** Scenario B: the New SP is requesting cancellation and no concurrence from Old SP	LOW
L-6.0	**Subscription Version - Donor SP - Customer Disconnect Date Notification**	LOW
L-7.0	**Subscription Version Local SMS Action Results**	N/A
L-8.0	**Subscription Version New NPA-NXX Notification**	LOW (to SOA)
L-9.0	**Subscription Version New SP Create Request Notification (T1 timer expiration for New SP concurrence)**	LOW
L-10.0	**Subscription Version Old SP Concurrence Request Notification (T1 timer expiration for Old SP concurrence)**	LOW
L-11.0 A1	**Subscription Version Status Attribute Value Change Notification – Activates** When an INTER or INTRA SV has been created in the Local SMSs (or 'activated' by the SOA) and the SV status has been set to: *Active* or *Partial-Failure*. The notification is sent to both SOAs: Old and New. If the status has been set to *Partial-Failure*, this notification contains the list of Service Providers (SP) LSMSs that have failed to receive the broadcast.	LOW (to new SOA) LOW (to Old SOA)
L-11.0 A2	**Subscription Version Status Attribute Value Change Notification – re-sends to fail list** Every time one of these SPs is removed from the Fail-List, the NPAC re-sends the notification to both SOAs. This iteration happens until the last SP is cleared from the fail-list.	LOW (to Old SP) LOW (to New SP)
L-11.0 A3	**Subscription Version Status Attribute Value Change Notification – clear Fail List** Upon cleaning the SP Fail list, the NPAC sends the same notification to both SOAs but with an SV status of *active* and empty fail-list.	LOW (to New SP) LOW (to Old SP)
L-11.0 B	**Subscription Version Status Attribute Value Change Notification – total failure** When an SV has failed to be created (or 'activated') in ALL LSMSs and the SV status has been set to *Failed*. The notification is sent to both SOAs: Old and New.	LOW

L-11.0 D1	**Subscription Version Status Attribute Value Change Notification – re-sends** When the NPAC attempts to re-send Creates (or 'activates') /Modifies/Deletes to the LSMSs for SV with statuses of *Partial-Failure*, *Failed* or *Old,* and with a Fail SP List (the notification is sent regardless the final status of the SV and to the corresponding SOA/s involved in the requested operation).	Same priorities as for 11.0 Ax scenarios
L-11.0 E	**Subscription Version Status Attribute Value Change Notification – set to OLD** When the SV status has been set to *old*. (Port to Original, port-of-a port, port to original of a Pool TN (or snap back), disconnect, disconnect of a ported Pool TN). The notification is received only by those SOAs that actually have the SV in their local DB. It varies with the scenario.	LOW
L-11.0 F	**Subscription Version Status Attribute Value Change Notification – Modify active** When an *Active* SV has been modified in the LSMS and the status of the SV has been re-set to *Active* (with or without a Fail-SP-List). The notification is sent only to the current SOA.	LOW
L-11.0 G	**Subscription Version Status Attribute Value Change Notification – cancel pending** When a *Pending* SV has been cancelled by the Old SP and the NPAC SMS has set the SV status to *Cancel-Pending*. The notification is sent to both SOAs: Old and New.	LOW
L-11.0 H1	**Subscription Version Status Attribute Value Change Notification - cancel** When the NPAC SMS has set the status of a *pending*, *cancel-pending*, or *conflict* SV to *CANCEL* after: 1) concurrence and cancellation acknowledgment by both SOAs has been received in the NPAC	LOW
L-11.0 H2	**Subscription Version Status Attribute Value Change Notification - cancel** When the NPAC SMS has set the status of a *pending*, *cancel-pending*, or *conflict* SV to *CANCEL* after: 2) expiration of a tunable period without cancellation acknowledgment by one of the SOAs or	LOW
L-11.0 H3	**Subscription Version Status Attribute Value Change Notification - cancel** When the NPAC SMS has set the status of a *pending*, *cancel-pending*, or *conflict* SV to *CANCEL* after: 3) cancellation request by the originating SOA with no concurrence from the other SOA. (Only one create action has been received in the NPAC and the same provider sends the cancellation request before the second provider send a create request.)	LOW
L-11.0 H4	**Subscription Version Status Attribute Value Change Notification - cancel** When the NPAC SMS has set the status of a *pending*, *cancel-pending*, or *conflict* SV to *CANCEL* after: 4) the Conflict Cancellation Window expires, if no resolution has been	LOW

	reached for the conflict, the NPAC automatically cancels the *Conflict* SV.	
L-11.0 I	**Subscription Version Status Attribute Value Change Notification – Disconnect pending** When an *active* SV is being disconnected with an Effective Release Date in the NPAC and the SV status is set to *Disconnect-Pending*. Only the current SOA receives the notification.	LOW
L-11.0 J	**Subscription Version Status Attribute Value Change Notification – Fail disconnect** When the NPAC attempts to delete an *Active* SV and the request fails to ALL LSMSs and the SV status is re-set to *Active*. Only the Current SOA receives the notification.	LOW
L-11.0 K	**Subscription Version Status Attribute Value Change Notification - Conflict** When the status of a *Pending* SV is set to *conflict*. The notification is sent to both SOAs: Old and New.	LOW
L-11.0 L	**Subscription Version Status Attribute Value Change Notification** After Conflict Resolution, when the status of the *Conflict* SV is re-set to *Pending*. The notification is sent to both SOAs: Old and New.	LOW
L-12.0	**Subscription Version Old SP Final Concurrence Timer Expiration Notification** **(T2 expiration for Old SP concurrence)**	LOW
L-13.0 A	**Number Pool Block Status Attribute Value Change Notification** The Pool Block has being created in the LSMSs (EDR and Non_EDR) and the Block Status has being set to Active or Partial Failure;	LOW
L-13.0 B	**Number Pool Block Status Attribute Value Change Notification** The creation of the Pool Block has failed in all the LSMSs (EDR and Non-EDR) and the Block Status has been set to Failed.	LOW
L-13.0 C	**Number Pool Block Status Attribute Value Change Notification** The NPAC attempts to re-send a failed Pool Block or failed SVs to SP in the fail-SP-List of the Block and the Block status changes to Active, Partial Failure or Failure.	LOW
L-13.0 D	**Number Pool Block Status Attribute Value Change Notification** The attributes in the Pool Block have been modified in the LSMSs (EDR and Non-EDR) and the Block Status has been re-set to Active (with or without fail-sp-list).	LOW
L-13.0 E	**Number Pool Block Status Attribute Value Change Notification** When a Pool Block has been 'de-pooled' from the LSMSs (EDR and Non-EDR) and the Block Status has been set to Old (with or without fail-sp-list).	LOW
L-13.0 F	**Number Pool Block Status Attribute Value Change Notification** When the NPAC SMS has attempted to 'de-pool' a block but the request has failed to ALL LSMSs (EDR and Non-EDR) and the Block Status has been reset to Active with a Failed-SP-list.	LOW
L-14.0	**Subscription Version New SP Final Create Window Expiration Notification** New notification to be implemented with *CO NANC 240.* It will be sent after T2 expiration to both SPs SOAs (old and new) to inform	LOW

	them that the T2 timer has expired and the new SP hasn't send its create request yet. The SV will remain in status of Pending until the New SP sends the Create or the NPAC cancels it.	
S-1.00	**Object Creation**	LOW
S-2.00	**Object Deletion**	LOW
S-3.00 A	**Attribute Value Change For pending SVs**	LOW
S-3.00 B	**Attribute Value Change For Pool Blocks**	LOW