

8/31/98

NPAC SMS Processing in a Number Pooling Environment
For SOA-Initiated and NPAC-Initiated Requests of

Sub-Blocks

And

Subscription Versions

Including

LSMS Broadcasts (EDR and non-EDR)

Definitions:

- N/A = Not Applicable
- BAU = Business As Usual (i.e., same as it works today)

Scenario: Sub-Block Behavior, Pre-Effective Date for the Block in the Block Holder Table

The table below shows the SOA/NPAC message sent, and the behavior of the NPAC based on the sent message, for Sub-Block behavior.

SOA/NPAC sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create/Activate Sub-Block	Reject message, send error back to SOA/NPAC (not allowed to perform this activity prior to block effective date)	N/A	N/A
Modify Pending Sub-Block	N/A (no such message exists)	N/A	N/A
Cancel Sub-Block	N/A (no such message exists)	N/A	N/A
Activate Sub-Block	N/A (no such message exists)	N/A	N/A
Modify Active Sub-Block	Reject message, send error back to SOA/NPAC (because no object found)	N/A	N/A
Disconnect Sub-Block	N/A (no such message exists)	N/A	N/A

Scenario: Sub-Block Behavior, On or After Effective Date for the Block in the Block Holder Table

The table below shows the SOA/NPAC message sent, and the behavior of the NPAC based on the sent message, for Sub-Block behavior.

SOA/NPAC sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create/Activate Sub-Block	<p>New NPAC functionality.</p> <p>Perform appropriate validation on sub-block.</p> <p>If error is encountered, Provide error message (need to have M&P to resolve issue). This includes the pending-like, no-active SVs, plus all the normal SV-like error conditions (LRN, range, etc.). Send error to SOA when SOA Origination = TRUE. Exit the process.</p> <p>Else, Create sub-block and SV data on the NPAC (sending status). For SV data, loop through 1000 TNs. If contaminated*, skip. Else, Create an SV with type POOL. Endif. End loop. Send appropriate data to LSMSs. If successful to LSMSs, Update sub-block and SV data (active status). Else, Update sub-block and SV data (failed or partially failed, with a failed SP List). Endif. Send sub-block update to SOA when SOA Origination = TRUE. Suppress SV data updates to SOA.</p> <p>Endif.</p> <p>* = Contaminated numbers include, active, partial failure, disconnect pending, sending.</p> <p>In the case where a broadcast fails to an SP, the sub-block assumes an “all or nothing” perspective. Therefore, a broadcast failure to an SP for either the sub-block object, or one or more SVs, is considered a failure to the SP, and is returned to the originating SP.</p> <p>If one or more individual SVs fail, the originating SOA will not know the specific TNs that failed to the non-EDR SP, but will know the discrepant SP. In order to identify the specific TNs that failed to the non-EDR SP, the initiating SOA can either send up TN range queries, or request this information from NPAC personnel.</p>	<p>Individual SVs (TN Range M-ACTION) with type POOL, for each newly created TN (non-contaminated) in the Sub-Block.</p> <p>(the newly created ones are defined in the previous box)</p>	<p>A single sub-block object for the 1K range of TNs in the Sub-Block.</p>
Modify Pending Sub-Block	N/A (no such message exists)	N/A	N/A
Cancel Sub-Block	N/A (no such message exists)	N/A	N/A
Activate Sub-Block	N/A (no such message exists)	N/A	N/A
Modify Active Sub-Block	New NPAC functionality.	Individual SVs (TN Range M-ACTION),	A single sub-block object for the 1K range

SOA/NPAC sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
	<p>Perform appropriate validation on sub-block (request must be for current sub-block that exists on NPAC).</p> <p>If error is encountered, Provide error message (need to have M&P to resolve issue). This includes the existence of the sub-block on the NPAC, validation that it belongs to the requesting SPID, etc. Send error to SOA when SOA Origination = TRUE. Exit the process.</p> <p>Else, Update sub-block and SV data on the NPAC (sending status). For SV data, loop through 1000 TNs. If SV contains type POOL, update SV with new routing data. Else, skip. Endif. End loop. Send appropriate data to LSMSs. If successful to LSMSs, Update sub-block and SV data (active status). Else, Update sub-block and SV data (active, with a failed SP List). Endif. Send sub-block update to SOA when SOA Origination = TRUE. Suppress SV data updates to SOA.</p> <p>Endif.</p> <p>In the case where a broadcast fails to an SP, the sub-block assumes an “all or nothing” perspective. Therefore, a broadcast failure to an SP for either the block object, or one or more SVs, is considered a failure to the SP, and is returned to the originating SP.</p>	<p>for each TN in the 1K range that currently contain LNPTType = POOL, in the Sub-Block.</p>	<p>of TNs in the Sub-Block.</p>
Disconnect Sub-Block	N/A (no such message exists)	N/A	N/A

Scenario: Subscription Version Behavior, Pre-Effective Date for the Block in the Block Holder Table

The table below shows the SOA/NPAC message sent, and the behavior of the NPAC based on the sent message, for a TN within the 1K Pooled Block.

SOA/NPAC sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create SV, LSPP	Previous SV exists → BAU.	BAU	BAU
	Previous SV does not exist → reject request.	N/A	N/A
Create SV, LISP	See table below.		
Create SV, PTO	Reject message, send error back to SOA/NPAC.	N/A	N/A
Create SV, POOL	Reject message, send error back to SOA/NPAC.	N/A	N/A
Modify Pending SV, LSPP	BAU	N/A	N/A
Modify Pending SV, LISP	BAU	N/A	N/A
Modify Pending SV, PTO	N/A	N/A	N/A
Modify Pending SV, POOL	N/A	N/A	N/A
Activate SV, LSPP	BAU	BAU	BAU
Activate SV, LISP	BAU	BAU	BAU
Activate SV, PTO	N/A	N/A	N/A
Activate SV, POOL	N/A	N/A	N/A
Modify Active SV, LSPP	BAU	BAU	BAU
Modify Active SV, LISP	BAU	BAU	BAU
Modify Active SV, POOL	N/A	N/A	N/A
Disconnect SV, LSPP	BAU	BAU	BAU
Disconnect SV, LISP	BAU	BAU	BAU
Disconnect SV, POOL	N/A	N/A	N/A

SOA sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create SV, LISP	Previous SV exists → BAU.	BAU	BAU
	Previous SV does not exist → reject request.	N/A	N/A

NPAC sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create SV, LISP	Previous SV exists → BAU. Previous SV does not exist → BAU. This functionality will remain to allow a code holder to intra-port working numbers that were missed during the initial clean up process, prior to block donation. It was determined by the sub-committee to only allow this to be performed by NPAC personnel, once the block has been created in the block holder table, regardless of effective date.	BAU BAU	BAU BAU

Scenario: Subscription Version Behavior, Post-Effective Date, but Pre-Activation Date for the Block in the Block Holder Table

The table below shows the SOA/NPAC message sent, and the behavior of the NPAC based on the sent message, for a TN within the 1K Pooled Block.

SOA sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create SV, LSPP	Previous SV exists → BAU. Previous SV does not exist → reject request.	BAU N/A	BAU N/A
Create SV, LISP	Previous SV exists → BAU. Previous SV does not exist → reject request.	BAU N/A	BAU N/A
Create SV, PTO	Previous SV exists → reject request. Previous SV does not exist → BAU (fail the request).	N/A BAU	N/A BAU
Create SV, POOL	Reject message, send error back to SOA	N/A	N/A
Modify Pending SV, LSPP	BAU	BAU	BAU
Modify Pending SV, LISP	BAU	BAU	BAU
Modify Pending SV, PTO	BAU	BAU	BAU
Modify Pending SV, POOL	N/A	BAU	BAU
Activate SV, LSPP	BAU	BAU	BAU
Activate SV, LISP	BAU	BAU	BAU
Activate SV, PTO	N/A	N/A	N/A
Activate SV, POOL	Reject message, send error back to SOA	N/A	N/A
Modify Active SV, LSPP	BAU	BAU	BAU
Modify Active SV, LISP	BAU	BAU	BAU
Modify Active SV, POOL	N/A	N/A	N/A
Disconnect SV, LSPP	Disconnect notification goes to the Block Holder SOA, not the Code Holder SOA.	BAU	BAU
Disconnect SV, LISP	Disconnect notification goes to the Block Holder SOA, not the Code Holder SOA.	BAU	BAU
Disconnect SV, POOL	N/A	N/A	N/A

Scenario: Subscription Version Behavior, Post-Activation Date for the Block in the Block Holder Table

The table below shows the SOA message sent, and the behavior of the NPAC based on the sent message, for a TN within the 1K Pooled Block.

SOA sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create SV, LSPP	Previous SV exists → BAU. Previous SV does not exist → N/A.	BAU N/A	BAU N/A
Create SV, LISP	Previous SV exists → BAU. Previous SV does not exist → N/A.	BAU N/A	BAU N/A
Create SV, PTO	Previous SV exists → validates that the requesting SP is the Block Holder. Previous SV does not exist → BAU (fail the request).	N/A BAU	N/A BAU
Create SV, POOL	Reject message, send error back to SOA	N/A	N/A
Modify Pending SV, LSPP	BAU	BAU	BAU
Modify Pending SV, LISP	BAU	BAU	BAU
Modify Pending SV, PTO	BAU	BAU	BAU
Modify Pending SV, POOL	N/A	N/A	N/A
Activate SV, LSPP	BAU	BAU	BAU
Activate SV, LISP	BAU	BAU	BAU
Activate SV, PTO	PTO (must be Block Holder) processing will send an M-CREATE instead of today's M-DELETE to the non-EDR LSMSs, and send an M-DELETE to the EDR LSMSs (to remove the SV, and revert back to the sub-block).	Send an M-CREATE for the SV, with type POOL, using the routing data for sub-block holder.	Send an M-DELETE for the SV.
Activate SV, POOL	Reject message, send error back to SOA	N/A	N/A
Modify Active SV, LSPP	BAU	BAU	BAU
Modify Active SV, LISP	BAU	BAU	BAU
Modify Active SV, POOL	Reject message, send error back to SOA	N/A	N/A
Disconnect SV, LSPP	Disconnect processing will send an M-CREATE instead of today's M-DELETE to the non-EDR LSMSs, and send an M-DELETE to the EDR LSMSs (to remove the SV, and revert back to the sub-block). A notification is sent to the Block Holder SOA.	Send an M-CREATE for the SV, with type POOL, using the routing data for sub-block holder.	Send an M-DELETE for the SV.
Disconnect SV, LISP	Disconnect processing will send an M-CREATE instead of today's M-DELETE to the non-EDR LSMSs, and send an M-DELETE to the EDR LSMSs (to remove the SV, and revert back to the sub-block).	Send an M-CREATE for the SV, with type POOL, and routing for	Send an M-DELETE for the SV.

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SOA sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
	A notification is sent to the Block Holder SOA.	sub-block holder.	
Disconnect SV, POOL	Reject message, send error back to SOA	N/A	N/A

Scenario: Sub-Block/Subscription Version Migration Plan

The table below lists the open issues for an SP migrating from the current environment (individual SVs) to the EDR environment (Sub-Blocks representing a Pool of 1000 TNs).

Duplicate TNs. When an SP migrates from a non-EDR to an EDR environment, the existing POOL'ed TNs need to be "cleaned up" (migrated from individual SVs to a single Sub-Block).