8/17/98

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: <u>Pre-Effective Date</u> 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.

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	N/A	N/A
Modify 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
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: <u>On or After Effective Date</u> 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.

SOA/NPAC sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create/Activate Sub-Block	New NPAC functionality. Perform appropriate validation on sub-block. If error is encountered, provide error message (need to have M&P to resolve issue). Exit the process. If successful, create sub-block and SV data on the NPAC (sending status). Send appropriate data to LSMSs. Update sub-block and SV data. (active status). 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. If one or more individual SVs fail, the originating SOA will NOT know the specific TNs that failed to the non-EDR SP.	Individual SVs with type POOL, for each TN (non-contaminated) in the Sub-Block. Contaminated includes, active, partial failure, disconnect pending, sending.	A single sub-block object for the range of TNs in the Sub-Block.
Modify Sub-Block	Functionality Not Required	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. Perform appropriate validation on sub-block (request must be for current sub-block that exists on NPAC). If successful, update sub-block and SV data on the NPAC (sending status). Send appropriate data to LSMSs. Update sub-block and SV data (active status). 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.	Individual SVs, for each TN in the range that currently contain LNPType = POOL, in the Sub-Block.	A single sub-block object for the range of TNs in the Sub-Block.
Disconnect Sub-Block	N/A (no such message exists)	N/A	N/A

Scenario: 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.

SOA/NPAC sends to NPAC	NPAC internal processing	NPAC sends to non-EDR LSMS	NPAC sends to EDR LSMS
Create SV, LSPP	BAU	N/A	N/A
Create SV, LISP	BAU	N/A	N/A
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	BAU	BAU
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

Scenario: <u>Post-Effective Date, but Pre-Activation Date</u> 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.

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.	N/A N/A	N/A N/A
Create SV, LISP	Previous SV exists → BAU. Previous SV does not exist → reject request.	N/A N/A	N/A 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 N/A	N/A N/A
Create SV, POOL	Reject message, send error back to SOA	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	BAU	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	PTO (must be Block Holder) processing will send an M-CREATE instead of today's M-DELETE to the LSMSs.	Send an M-CREATE for the SV, with type LSPP, using the routing data that is contained in the Block.	Send an M-CREATE for the SV, with type LSPP, using the routing data that is contained in the Block.
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: <u>Post-Activation Date</u> 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.

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.	N/A N/A	N/A N/A
Create SV, LISP	Previous SV exists → BAU. Previous SV does not exist → N/A.	N/A N/A	N/A 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 N/A	N/A N/A
Create SV, POOL	Reject message, send error back to SOA	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	BAU	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	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). A notification is sent to the Block Holder SOA.	Send an M-CREATE for the SV, with type POOL, and routing for sub-block holder.	Send an M-DELETE for the SV.
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).