Future Release Change Orders

Updated On: ~~03/07/~~04/04/01

Change Order List
without Weighted Averages

Table of Change Orders for NPAC SMS Release 5.0 (winter of 2001/2002) sorted in order of cumulative SP priority (i.e., weighted average). The weighted average is based on the summary of a priority vote by each SP at the July 00 LNPAWG meeting, then divided by the number of voting SPs. 1.00 is the highest possible priority and 11.00 is the lowest possible priority.

Note: During the July 00 LNPA WG meeting NANC 87 was removed from consideration for R5.0. This changed the number of change orders to 10, making 10.00 the lowest possible priority.

January 2001: During the January 2001 LNPA WG meeting it was decided that this package would no longer be referred to as the Release 5.0 package. All of the change orders that were submitted in the Release 4.0 package may not be included in the Release 4.0. The ones that are not included will need to be considered again with all remaining accepted change orders. Therefore, it was decided that the weighted averages would be removed from the table below, all accepted change orders would be included in this package, and work on requirements would continue under the title "Future Release Change Orders".

Change Order #	Description	NPAC Effort	SOA/LSMS	Weighted Avg
NANC 169	Delta Download File Creation by Time Range for SVs	Med	N/A / Med /Low	
NANC 246	NPA-NXX Filters for Bulk Data Download files of SVs	Low	N/A / N/A	
NANC 322	Clean Up of Failed SP List based on Service Provider BDD Response File	???	N/A / N/A	
NANC 300	Resend Exclusion for Number Pooling	Med	Med/Low / Med/Low	
NANC 151	TN Addition to Attribute Value Change Notification	Low	Low / N/A	
NANC 193	TN Processing during NPAC SMS NPA Split Processing	High +	Low-Med / Low-Med	
ILL 5	Round-Robin Broadcasts across LSMS Associations	Low	Low-High / Low-High	
NANC 312	Different User Levels on the LTI	Med	N/A / N/A	

NANC 319	NPAC Edit to Ensure NPA-NXX of LRN is in Same LATA as NPA-NXX of Ported TN	???	N/A / N/A	
NANC 321	Regional NPAC NPA Edit of Service Provider Network Data – NPA-NXX Data	???	N/A / N/A	

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Clarifications

Note: Change Orders that have been clarifications to previously documented Release 5 change orders have been merged in this document as indicated in the table below and will not be referenced separately as Release 5 change orders.

Change Order Retained	Change Order Merged and Removed
NANC 169	NANC 246 (This change order was broken out into a separate change order during discussions at December 2000 meeting. See notes in the Change Order text.)

Rejections

Change Orders rejected/withdrawn for Release 5.0.

Change Order Number	Change Order Description
ILL 23	Detailed Integrity Sample Results Report
NANC 87	RR5-39 Requirement Modification for Viewing of Cancelled SV
NANC 103	Increase of OSI Selector Size
NANC 122	Enhanced Key Expiration Strategy
NANC 147	Version ID Rollover Strategy
NANC 299	NPAC Monitoring of SOA and LSMS Associations via Heartbeat
NANC 307	Change BDD Format for NPA-NXX and NPA-NXX-X Files
NANC 310	Time Reference in the NPAC SMS
NANC 311	Query Message of SP Association Status

Origination Date: 5/23/97

Change Order Number: NANC 169

Description: Delta Download File Creation by Time Range for SVs

Cumulative SP Priority, Weighted Average:

Pure Backwards Compatible: YES (May have operational impacts since this is optional functionality and not over the NPAC to LSMS interface. Also, may have an LSMS impact if the LSMS is currently designed to only accept a download reason of "new1".)

IMPACT/CHANGE ASSESSMENT

FRS	IIS	GDMO	ASN.1	NPAC	SOA	LSMS
Y				Med	N/A	Med-Low

Business Need:

Currently the NPAC does not have the ability to create a delta bulk data download file by date and time range. This change order is expected to help with an SP's capability to 'catch-up' faster after an extended outage, as porting volume increases. The ability to create a delta bulk data download file by date and time range (downloading only the actual data required) reduces the work effort of the SP while getting the SP back in-sync with the NPAC in a more timely manner which in turn facilitates proper call routing.

Description of Change:

It has been requested that requirements be added to the FRS to allow for creation of a delta download file by date and time range, for SVs.

Need to change functionality when requesting SV BDD with a time range. Currently, the NPAC provides all "active" SVs based on Activation Broadcast Timestamp. This creates an issue for modification, or mass updates that are within the specified time range window, but the Activation was prior to the specified time range. There is also an issue for Activation Failures.

Additional proposed changes to handle two issues, include:

1. Incorporate the start and end time ranges into the file name.
2. Need to capture all SV activity (activation, modification, disconnect) into the file, when doing time range.

The start and end timestamps are NOT embedded in the filename. Update documentation to state Activation Broadcast Timestamp is used for comparison. The proposal is to use the Broadcast Timestamp attribute in the SV, to determine whether or not an SV fits in the specified time range.

Requirements:

Req 1 Subscription Version Information Bulk Download File Creation – Subscription Versions

NPAC SMS shall allow NPAC personnel to request a bulk data download file for Subscription Version data via the NPAC Administrative Interface. (existing NPAC SMS functionality)

Req 2 Subscription Version Information Bulk Download File Creation – Selection Criteria

NPAC SMS shall include the Requesting Service Provider, Active/Disconnect Pending/Partial Failure Subscription Versions Only or Latest View of Subscription Version Activity Choice, Time Range in GMT and TN Range as Selection Criteria fields for the Subscription Version bulk data download file via the NPAC Administrative Interface.

Req 3 Subscription Version Information Bulk Download File Creation – Active/Disconnect Pending/Partial Failure Subscription Versions Only or Latest View of Subscription Version Activity Choice

NPAC SMS shall allow NPAC Personnel to select either *Active/Disconnect Pending/Partial Failure Subscription Versions Only* or *Latest View of Subscription Version Activity*, and shall use the selected choice, for Subscription Version data.

Req 4 Subscription Version Information Bulk Download File Creation – Data in Active/Disconnect Pending/Partial Failure Subscription Versions Only Choice

NPAC SMS shall use the *Active/Disconnect Pending/Partial Failure Subscription Versions Only* selection to only include Subscription Versions with a status of either Active, Disconnect Pending or Partial Failure in the Subscription Version Bulk Data Download file.

Req 5 Subscription Version Information Bulk Download File Creation – Data in Latest View of Subscription Version Activity Choice

NPAC SMS shall use the *Latest View of Subscription Version Activity* selection to include all Subscription Versions, regardless of status, in order to capture activation, modification, and deletion transactions for Subscription Version data, but only include the latest instance of the TN in the Subscription Version Bulk Data Download file, for a given NPA-NXX, when a Subscription Version has more than one activity (e.g., addition, then modification) within the specified time range.

Note to Service Providers – The format of the BDD file doesn't change based on the status of the SV but some of the fields may be blank. Example: Creates and modifies would have all the attributes specified but disconnect and deletes would have many fields null.

Req 6 Subscription Version Information Bulk Download File Creation – Time Range Fields

NPAC SMS shall use the Start Time Range entry field as an inclusive start range in GMT, and the End Time Range entry field as an inclusive ending range in GMT, for Subscription Version data that were broadcast during the specified Time Range.

Req 7 Subscription Version Information Bulk Download File Creation – Time Range Fields and SV Data Model

NPAC SMS shall use the Start and End Time Range entry fields to include Subscription Version data, based on the Activation Broadcast Time Stamp, Modify Broadcast Time Stamp, and Disconnect Broadcast Time Stamp, in the NPAC's Subscription Version Data Model, when generating the file for the *Latest View of Subscription Version Activity* selection.

Req 8 Subscription Version Information Bulk Download File Creation – TN Range Fields

NPAC SMS shall use the first TN Range entry field as an inclusive start range, and the second TN Range entry field as an inclusive ending range, for Subscription Version data.

Req 9 Subscription Version Information Bulk Download File Creation – Selection Criteria Combinations

NPAC SMS shall edit the selection criteria combination as shown in the table below:

	Time Range	TN Range
Active/Disconnect Pending/Partial Failure SVs Only	Rejected	Optional
Latest View of SV Activity	Required	Optional

Such that a combination of:

- Active with a Time Range shall be rejected.
- Latest View shall require a Time Range.
- TN Range shall be optional for both Active and Latest View.

Req 10 Subscription Version Information Bulk Data Download – Subscription Version Results

NPAC SMS shall provide a bulk data download file, based on the selection criteria, that contains all Subscription Versions in the NPAC SMS.

Req 11 Subscription Version Information Bulk Data Download – Subscription Version Results Sort Order

NPAC SMS shall sort the Subscription Version Bulk Data Download file, in ascending order based on the value in the TN attribute.

Req 12 Subscription Version Information Bulk Data Download – Filters for Subscription Versions

NPAC SMS shall apply NPA-NXX Filters to Subscription Versions in the creation of bulk data download files.

Req 13 Subscription Version Information Bulk Data Download – EDR LSMSs

NPAC SMS shall use the Service Provider's profile (EDR Flag True or False) to determine if it should include Pooled SVs in the bulk data download file.

Req 14 Subscription Version Information Bulk Data Download – FTP Sub-Directory

NPAC SMS shall automatically put the bulk data download file into the FTP sub-directory of the Service Provider, based on SPID, that requested the creation of the bulk data download file.

IIS

No Change Required

GDMO

No Change Required

ASN.1

No Change Required

M&P

Yes – Need to add a section for Subscription Version Bulk Data Downloads.

Creating a Bulk Data Download File for Subscription Versions

To create a Bulk Data Download File for Subscription Version Information the following actions will be taken:

1. Service Provider personnel will contact NPAC personnel with a request for a Bulk Data Download file for Subscription Version Information. Service Provider personnel are responsible for specifying the following information for the file:
    - Requesting Service Provider
    - Active, Disconnect Pending and Partial Failure Subscription Versions Only or Latest View of Subscription Version Activity
    - Time Range in GMT
    - TN Range

2. NPAC personnel will enter the requested information for the Bulk Data Download File for Subscription Version Information via the NPAC OP GUI. This file will be generated based on SPID. When this file is created it will automatically be placed in the correct directory for the respective Service Provider on the NPAC SMS server. NPAC personnel do not have to take further action to FTP the file to the SP's directory.

3. NPAC personnel will notify the requesting service provider when the file is ready to be FTP'd.

Origination Date: 12/13/00

Originator: LNPA WG

Change Order Number: NANC 246

Description: NPA-NXX Filters for Bulk Data Download files of SVs

Cumulative SP Priority, Weighted Average:

Pure Backwards Compatible: YES

IMPACT/CHANGE ASSESSMENT

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

Business Need:

During discussion of change order NANC 169 at the December 2000 LNPA WG it was decided to break change order NANC 246 out into a separate change order again and use it to apply filters to the Bulk Data Download file. Filters are applied to the Delta Bulk Data Download files in NANC 169.

Description of Change:

It has been requested that requirements be added to the FRS to allow for filters to be applied to the Bulk Data Download files. This would ensure that the BDD file would not contain SVs for NPA-NXXs that had the Service Provider filtered.

Requirements:

Req 1 Subscription Version Information Bulk Data Download – Filters for Subscription Versions

NPAC SMS shall apply NPA-NXX Filters to Subscription Versions in the creation of bulk data download files.

IIS

No Change Required

GDMO

No Change Required

ASN.1

No Change Required

M&P

TBD (~~check if notes need to be added~~Currently the M&Ps do not address ~~about~~ use of filters in BDDs)

Origination Date: 12/13/00

Originator: LNPA WG

Change Order Number: NANC 322

Description: Clean Up of Failed SP Lists based on Service Provider BDD Response File

Cumulative SP Priority, Weighted Average:

Pure Backwards Compatible: YES

IMPACT/CHANGE ASSESSMENT

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

Business Need:

During discussion of change order NANC 169 at the December 2000 LNPA WG meeting it was decided to write a new change order to address the clean up of Failed SP Lists once a service provider received and processed a Bulk Data Download File or a Delta Bulk Data Download File ~~for Subscription Versions~~ and responded to the NPAC with its Service Provider BDD Response File.

Description of Change:

It has been requested that NPAC clean up Failed SP Lists using data received in the Service Provider BDD Response File resulting from the processing of a Bulk Data Download File or a Delta Bulk Data Download File.

Requirements:

Req 1 **Processing of the Service Provider BDD Response File for Subscription Versions**

NPAC SMS shall process the Service Provider BDD Response File, containing positive responses, received from a Service Provider's ftp site as a result of the Service Provider receiving and processing a Bulk Data Download File or a Delta Bulk Data Download File for Subscription Versions.

Req 2 Processing of the Service Provider BDD Response File for Number Pooling Blocks

NPAC SMS shall process the Service Provider BDD Response File, containing positive responses, received from a Service Provider's ftp site as a result of the Service Provider receiving and processing a Bulk Data Download File or a Delta Bulk Data Download File for Number Pooling Blocks.

Req 3~~2~~ Removing a Service Provider from a Subscription Version Failed SP List

NPAC SMS shall remove a Service Provider from a Subscription Version Failed SP List based on the SVID contained in the Service Provider BDD Response File and the timestamp in the file name being ~~less~~ greater than or equal to the broadcast timestamp.

Req 4 Removing a Service Provider from a Number Pooling Block Failed SP List

NPAC SMS shall remove a Service Provider from a Number Pooling Block Failed SP List based on the BlockID contained in the Service Provider BDD Response File and the timestamp in the file name being greater than or equal to the broadcast timestamp.

Req 3~~5~~ Service Provider Not Found on the ~~Subscription Version~~ Failed SP List

NPAC SMS shall continue processing the Service Provider BDD Response File after finding that the SPID for one of the data items in the Service Provider BDD Response File does not match a SPID on the ~~Subscription Version~~ Failed SP List.

Req 4~~6~~ Validation of SPID in the Service Provider BDD Response File Against SPID of the FTP Directory

NPAC SMS shall validate the SPID of the FTP directory against the SPID in the Service Provider BDD Response File it is retrieving.

Req 5~~7~~ File Name Format for Service Provider BDD Response File

NPAC SMS shall require the file name format of the Service Provider BDD Response File to be the original BDD file name with a dash and the SPID appended at the end.

Example: Subscription Versions BDD File for SPID 4768

BDD File Name	NPANXX-NPANXX.DD-MM-YYYYHH24MISS
Service Provider BDD Response File Name	NPANXX-NPANXX.DD-MM-YYYYHH24MISS-4768

Note: We need to discuss what the Service Provider BDD Response File should look like (what data it should contain).

Contents of file (separate files for Subscription Versions and Number Pooling Blocks):

- Pipe delimited fields

- New line at end of each record
- First field SVID/BlockID

Add example files and table for Appendix E

IIS

No Change Required

GDMO

No Change Required

ASN.1

No Change Required

M&P

TBD (need to cover how NPAC is notified that the SP BDD Response File has been placed in the ftp site; recommend that the response file not be generated by a SP who has processed a BDD file that contains the complete database dump)

Origination Date: 12/6/99

Change Order Number: NANC 300

Description: Resend Exclusion for Number Pooling

Cumulative SP Priority, Weighted Average:

Functional Backwards Compatible: NO

IMPACT/CHANGE ASSESSMENT

FRS	IIS	GDMO	ASN.1	NPAC	SOA	LSMS
Y	Y	Y		Med	Med/Low	Med/Low

Business Need:

When information about ported (or pooled) numbers is broadcast, no changes in this information can be subsequently broadcast until all service providers' LSMSs have acknowledged successful receipt of the original broadcast. That is, no changes can be made to SVs in a "partial failure" condition. This limitation is being corrected for ported telephone numbers in NPAC Release 4.0. However, a ported pooled thousands block remains subject to this restriction. Change Order NANC 300, proposed for NPAC release 5.0, effectively removes the restriction and allows changes to be made to ported pooled thousands blocks in a partial failure condition.

The business need for this change is the need to promptly correct erroneous NPAC broadcast information about ported pooled blocks. For example, there may be an error in the LRN associated with the pooled thousands block; this would render the block's thousand numbers unusable until the correct LRN information could be modified and broadcast by NPAC. This is less serious a problem than the inability to change an existing ported customer's SV, at least if the error is discovered before numbers from the pooled block are assigned to end-users. However, even if no numbers are yet assigned to end-users, it is important to be able to correct errors promptly rather than being held hostage to a particular service provider's inability to receive or acknowledge broadcasts when the original pooled block broadcast was made. An LSMS can be off line for days during which time no numbers from the block could be used. INC guidelines state that the pooled numbers can be used the following day, which would make it imperative that the block be able to be modified.

An additional need for this change order is contaminated working numbers missed by the code holder at the time of block donation, that need to be intra-service provider ported for a Number Pool Block, that contains a Partial Failure status (which currently cannot be performed until the Number Pool Block is Active).

A process is available that could be implemented by NPAC personnel for such situations – using NPA-NXX filters – but the process is risky and very likely to cause greater problems. A higher definition filter therefore is necessary to avoid the problems introduced by use of existing NPA-NXX filter. The 10-digit filter provided in release 4.0 is not feasible for addressing the problem

of pooled thousands blocks. Hence this change order which proposes a 7-digit (NPA-NXX-X) filter.

Description of Change:

This is an extension of NANC 227. During the Dec 99 LNPA-WG meeting, it was proposed to remove Number Pooling functionality from NANC 227, and create a new change order for this functionality. This functionality was removed from NANC 227 because it was too much for Release 4.0.

The NPAC SMS currently rejects a request to "modify active" or "disconnect" a Number Pool Block or SVs of LNP type POOL that has a partial failure status. Nothing can be done to the Block/SV until the discrepant LSMS(s) come back on line, and either recover the broadcast, or accept a re-send from the NPAC SMS.

Similar to NANC 227 for non-pooled SVs, the NPAC should provide a mechanism that allows activity (modify, disconnect, subsequent port) on the Block/SV, regardless of the Failed SP List. This will be done via the resend exclusion functionality (defined in NANC 227), which is a mechanism that allows a Service Provider to be removed from a Failed SP List.

Jun 99: during the Pooling Assumptions walk-thru, four SV requirements were modified, and the functionality was moved into this change order. Basically, the "partial failure/failed" text is moved to this change order. The affected requirements are listed below:

SV-230 Modification of Number Pooling Subscription Version Information – Subscription Data

SV-240 Modification of Number Pooling Subscription Version Information – Status Update to Sending

SV-270 Modification of Number Pooling Subscription Version Information – Status Update

SV-280 Modification of Number Pooling Subscription Version Information – Failed SP List

May 00: using the resend exclusion functionality eliminates the need to update the above four requirements. Other requirements will need to be written to define the functionality.

Requirements:

Req 1 Number Pool Block Failed SP List – Exclusion of a Service Provider from Resend

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to request that a Service Provider be excluded from the Number Pool Block Failed SP List when resending a number pool block and the associated subscription version(s) of LNP type POOL, and not broadcast to the Service Provider that is excluded.

Req 2 Number Pool Block Failed SP List – Logging of an Excluded Service Provider

NPAC SMS shall log the following information when a Service Provider is excluded from the Failed SP List based on a request by NPAC Personnel via the NPAC Administrative Interface: date, time, excluded SPID, Blockholder SPID, NPA-NXX-X, Number Pool Block ID.

Req 3 Number Pool Block Failed SP List – Recovery of Excluded Service Provider Subscription Versions

NPAC SMS shall, for a recovery of number pool block data, in instances where the NPAC SMS excluded the Service Provider from the Failed SP List based on a request by NPAC Personnel via the NPAC Administrative Interface, allow the Local SMS to recover a Number Pool Block or its associated pool-type subscription versions with all current attributes, even though the Service Provider is no longer on the Failed SP List.

Req 4 Number Pool Block Failed SP List – Excluded Service Provider Log Data Availability for the Excluded Service Provider Report

NPAC SMS shall allow the Excluded Service Provider log data to be available for the Excluded Service Provider Report.

Req 5 Number Pool Block Failed SP List –Resend Excluded Service Provider Report by Current SPID/Blockholder SPID via OpGUI

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to generate the Resend Excluded Service Provider Report by Current SPID/Blockholder SPID on Excluded Service Provider log data.

Req 6 Number Pool Block Failed SP List – Resend Excluded Service Provider Report Request by Current SPID/Blockholder SPID

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to specify time range and Current SPID/Blockholder SPID option (of either an individual SPID or all SPIDs) when generating the Resend Excluded Service Provider Report by Current SPID/Blockholder SPID on Excluded Service Provider log data.

Req 7 Number Pool Block Failed SP List – Resend Excluded Service Provider Report by Current SPID/Blockholder SPID Request Sort Criteria

NPAC SMS shall use the following sort order when generating the Resend Excluded Service Provider Report by Current SPID/Blockholder SPID on Excluded Service Provider log data:

1. Current SPID/Blockholder SPID (ascending)
2. TN/NPA-NXX-X (ascending)
3. date/time (earliest date/time to latest date/time)
4. excluded SPID (ascending)
5. SVID/Number Pool Block -ID (ascending)

Req 8 Number Pool Block Failed SP List –Resend Excluded Service Provider Report by Excluded SPID via OpGUI

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to generate the Resend Excluded Service Provider Report by Excluded SPID on Excluded Service Provider log data.

Req 9 Number Pool Block Failed SP List – Resend Excluded Service Provider Report by Excluded SPID Request

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to specify time range and excluded SPID option (of either an individual SPID or all SPIDs) when generating the Resend Excluded Service Provider Report by Excluded SPID on Excluded Service Provider log data.

Req 10 Number Pool Block Failed SP List –Resend Excluded Service Provider Report by Excluded SPID Request Sort Criteria

NPAC SMS shall use the following sort order when generating the Excluded Service Provider Report on Excluded Service Provider log data:

1. excluded SPID (ascending)
2. TN/NPA-NXX-X (ascending)
3. date/time (earliest date/time to latest date/time)
4. Current SPID/Blockholder SPID (ascending)
5. SVID/Number Pool Block -ID (ascending)

Note: The TN and SVID attributes were added to requirements 7 & 10 in this change order because of the corresponding change order (NANC 227/254) for SVs in Release 4.0.

IIS

No change required.

GDMO

```
-- 30.0 Number Pool Block NPAC Data Managed Object Class

numberPoolBlockNPAC MANAGED OBJECT CLASS
…
numberPoolBlockNPAC-Behavior BEHAVIOUR
    DEFINED AS !
…
```

Insert at the end of the section:

If NPAC Personnel via the NPAC Administrative Interface, exclude a Service Provider from the numberPoolBlockFailed-SP-List, the list of Service Providers will not accurately reflect those Local SMSs

that successfully processed this number pool block.

…

```
-- 1.0 LNP Download Action

lnpDownload ACTION
    BEHAVIOUR
        lnpDownloadDefinition,
        lnpDownloadBehavior;
    MODE CONFIRMED;
    WITH INFORMATION SYNTAX LNP-ASN1.DownloadAction;
    WITH REPLY SYNTAX LNP-ASN1.DownloadReply;
    REGISTERED AS {LNP-OIDS.lnp-action 1};

lnpDownloadDefinition BEHAVIOUR
    DEFINED AS !
        The lnpDownload action is the action that is used by the Local SMS
        and SOA to specify the objects to be downloaded from the NPAC SMS.
    !;

lnpDownloadBehavior BEHAVIOUR
    DEFINED AS !
        Preconditions: This action is issued from an lnpSubscriptions
        or an lnpNetwork object and all objects to be downloaded
        are specified in the action request.

        Postconditions: After this action has been executed by the Local
        SMS or SOA specifying which objects to download, the NPAC SMS will
        determine which objects satisfy the download request and return
        them in the download action reply. Creation, deletion, and
        modification information will be included in the reply.  All data
        for objects that have been modified is downloaded not just the
        information that was modified. The download reason is set to
        'new1' for a new object, 'delete1' for a deleted object
        and 'modified' for a modified object.

        An LSMS may receive subscription or number pool block data during
        recovery, where more_than one activity occurred for a given subscription
        version or number pool block during the time the LSMS was not available.
        This will occur when NPAC Personnel via the OpGUI, exclude a Service
        Provider from the Failed SP List to allow the current Service Provider to
        perform some type of subsequent activity on that subscription version or
        number pool block.  Hence, when the LSMS performs recovery, the recovered
        data will contain data for the both activities (all current attributes).
        So, if the recovering LSMS is recovering a modified subscription version
        or number pool block for which it did not receive the initial M-CREATE,
        the download reason is set to 'modified' for this subscription version
        or number pool block object.

        …
    !;
```

ASN.1

No change required

M&P

No change required

Origination Date: 9/4/97

Change Order Number: NANC 151

Description: TN and Number Pool Block Addition to Notifications

Cumulative SP Priority, Weighted Average:

Functional Backwards Compatible: ~~NO~~Pure Backwards Compatible with Sunset

IMPACT/CHANGE ASSESSMENT

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

Business Need:

This change order saves research time for SOA operational staff when they receive a notification for a subscription version that has inadvertently been removed from their local database or was never received. Currently, only the NPAC subscription version id (SVID) is included in the notification message. If the SOA missed the subscription version create message ("object creation", which includes both TN and SVID), any subsequent notification that the NPAC sends cannot be associated with the TN, since those subsequent notifications currently do not include the TN.

Description of Change:

It has been requested that the TN for the subscription version be added to all notifications that currently contain SVID but not TN from the NPAC SMS. It is possible for a SOA in a disconnect or modify-active situation, to not have the SV record in their database. Therefore, when the attribute/status change notification comes from the NPAC SMS, there is no way to correlate its version id with the TN on the disconnect or modify request in SOA.

This would be a deviation from the standard since the TN would not have been an attribute that was changed.

Additionally, the same type of change should be done for Number Pool Block (i.e., add the NPA-NXX-X to all notifications that currently contain Block-ID but not NPA-NXX-X).

Requirements:

Req 1 Subscription Version Status Attribute Value Change – Send TN

NPAC SMS shall send the Subscription Version TN when sending a Subscription Version Status Attribute Value Change notification.

Req 2 Subscription Version Attribute Value Change – Send TN

NPAC SMS shall send the Subscription Version TN when sending a Subscription Version Attribute Value Change notification.

Req 3 Number Pool Block Status Attribute Value Change – Send NPA-NXX-X

NPAC SMS shall send the Number Pool Block NPA-NXX-X when sending a Number Pool Block Status Attribute Value Change notification.

Req 4 Number Pool Block Attribute Value Change – Send NPA-NXX-X

NPAC SMS shall send the Number Pool Block NPA-NXX-X when sending a Number Pool Block Attribute Value Change notification.

Req 5 Subscription Version TN Attribute Flag Indicator

NPAC SMS shall provide a Subscription Version TN Attribute Flag Indicator, which is defined as an indicator on whether or not the Service Provider supports receipt of the Subscription Version TN attribute in a Subscription Version Status Attribute Value Change notification.

Req 6 Modification of Subscription Version TN Attribute Flag Indicator

NPAC SMS shall allow the NPAC Personnel, via the NPAC Administrative Interface, to modify the Subscription Version TN Attribute Flag Indicator.

Req 7 Subscription Version TN Attribute Flag Indicator Default Value

NPAC SMS shall default the Subscription Version TN Attribute Flag Indicator to **TRUE**.

Req 8 Number Pool Block NPA-NXX-X Attribute Flag Indicator

NPAC SMS shall provide a Number Pool Block NPA-NXX-X Attribute Flag Indicator, which is defined as an indicator on whether or not the Service Provider supports receipt of the Number Pool Block NPA-NXX-X attribute in a Number Pool Block Status Attribute Value Change notification.

Req 9 Modification of Number Pool Block NPA-NXX-X Attribute Flag Indicator

NPAC SMS shall allow the NPAC Personnel, via the NPAC Administrative Interface, to modify the Number Pool Block NPA-NXX-X Attribute Flag Indicator.

Req 10 Number Pool Block NPA-NXX-X Attribute Flag Indicator Default Value

NPAC SMS shall default the Number Pool Block NPA-NXX-X Attribute flag Indicator to **TRUE**.

~~**Note: Service Providers concerned about having to force the SOAs to do a flash cut.**~~

~~**** Discussed with Kayla. Flash cut should not be necessary. Can use existing structures with one new attribute added to the generic list of the attribute value change definition. May need to add a service provider profile flag to indicate whether or not they supported the TN field. See GDMO and ASN.1 info provided below. Note that the regular Attribute Value Change (AVC) is from the CMIP standards. The ASN.1 used for the AVC and inherited from the Status AVC's is included for clarity.**~~

IIS

~~TBD~~No Changes Required

GDMO

```
-- 11.0 LNP Subscription Version Status Attribute Value Change Notification
subscriptionVersionStatusAttributeValueChange NOTIFICATION
  BEHAVIOUR subscriptionVersionStatusAttributeValueChangeBehavior;
  WITH INFORMATION SYNTAX LNP-ASN1.VersionStatusAttributeValueChange
  AND ATTRIBUTE IDS
    value-change-info subscriptionVersionAttributeValueChangeInfo,
    failed-service-provs subscriptionFailed-SP-List,
    status-change-cause-code subscriptionStatusChangeCauseCode,
    subscription-tn subscriptionTN,
    access-control accessControl;
  REGISTERED AS {LNP-OIDS.lnp-notification 11};
subscriptionVersionStatusAttributeValueChangeBehavior BEHAVIOUR
  DEFINED AS !
    This notification type is used to report changes to the
    subscriptionVersionStatus field. It is identical to an
    attribute value change notification as defined in M.3100
    except for the addition of the list of failed service
    providers in cases where the version status is active, failed or
    partial failure and the subscriptionStatusChangeCauseCode if
    it is set.
    Failed lists will also be potentially sent for subscription versions
    with statuses of active, failed, partial failure, and old.

    If the service provider's <> indicator is set in their service provider profile,
    the subcriptionTN is provided.
  !;

-- 13.0 LNP Number Pool Block Status Attribute Value Change Notification
numberPoolBlockStatusAttributeValueChange NOTIFICATION
  BEHAVIOUR numberPoolBlockStatusAttributeValueChangeBehavior;
  WITH INFORMATION SYNTAX
LNP-ASN1.NumberPoolBlockStatusAttributeValueChange
  AND ATTRIBUTE IDS
    value-change-info subscriptionVersionAttributeValueChangeInfo,
```

failed-service-provs numberPoolBlockFailed-SP-List,
access-control accessControl,
npa-nxx-x numberPoolBlockNPA-NXX-X;
REGISTERED AS {LNP-OIDS.lnp-notification 13};
numberPoolBlockStatusAttributeValueChangeBehavior BEHAVIOUR
DEFINED AS !
This notification is used to report changes to the
numberPoolBlockStatus field. It is identical
to an attribute value change notification as defined in M.3100
except for the addition of the list of failed service
providers.
The failed service provider list reflects the EDR service
providers who failed to receive the number pool block and any non-EDR
service provider who failed to receive the corresponding subscription
versions of LNP type equal to 'pool'.
Failed lists will be potentially sent for number pool blocks
with statuses of active, failed, partial failure and old. This
notification will be sent to the SOAs when the
numberPoolBlockSOA-Origination is true for the number pool block
object.

If the service provider's <> indicator is set in their service provider profile,
the numberPoolBlockNPA-NXX-X is provided.
!;

~~-- 11.0 LNP Subscription Version Status Attribute Value Change Notification~~

~~subscriptionVersionStatusAttributeValueChange NOTIFICATION~~
~~BEHAVIOUR subscriptionVersionStatusAttributeValueChangeBehavior;~~
~~WITH INFORMATION SYNTAX LNP-ASN1.VersionStatusAttributeValueChange~~
~~AND ATTRIBUTE IDS~~
~~value-change-info subscriptionVersionAttributeValueChangeInfo,~~
~~failed-service-provs subscriptionFailed-SP-List,~~
~~status-change-cause-code subscriptionStatusChangeCauseCode,~~
~~access-control accessControl;~~
~~REGISTERED AS {LNP-OIDS.lnp-notification 11};~~

~~subscriptionVersionStatusAttributeValueChangeBehavior BEHAVIOUR~~
~~DEFINED AS !~~
~~This notification type is used to report changes to the~~
~~subscriptionVersionStatus field. It is identical to an~~
~~attribute value change notification as defined in M.3100~~
~~except for the addition of the list of failed service~~
~~providers in cases where the version status is active, failed or~~
~~partial failure and the subscriptionStatusChangeCauseCode if~~
~~it is set.~~

~~Failed lists will also be potentially sent for subscription versions with statuses of active, failed, partial failure, and old.~~

~~**If the service provider's <> indicator is in their service provider profile, the subcriptionTN is provided on the AttributeValueChangeDefinition of the AttributeValueChangeInfo.**~~

~~!;~~

~~-- 13.0 LNP Number Pool Block Status Attribute Value Change Notification~~

~~numberPoolBlockStatusAttributeValueChange NOTIFICATION~~
~~BEHAVIOUR numberPoolBlockStatusAttributeValueChangeBehavior;~~
~~WITH INFORMATION SYNTAX~~
~~LNP-ASN1.NumberPoolBlockStatusAttributeValueChange~~
~~AND ATTRIBUTE IDS~~
~~value-change-info subscriptionVersionAttributeValueChangeInfo,~~
~~failed-service-provs numberPoolBlockFailed-SP-List,~~
~~access-control accessControl;~~
~~REGISTERED AS {LNP-OIDS.lnp-notification 13};~~

~~numberPoolBlockStatusAttributeValueChangeBehavior BEHAVIOUR~~
~~DEFINED AS !~~
~~This notification is used to report changes to the numberPoolBlockStatus field. It is identical to an attribute value change notification as defined in M.3100 except for the addition of the list of failed service providers.~~

~~The failed service provider list reflects the EDR service providers who failed to receive the number pool block and any non-EDR service provider who failed to receive the corresponding subscription versions of LNP type equal to 'pool'.~~

~~Failed lists will be potentially sent for number pool blocks with statuses of active, failed, partial failure and old. This notification will be sent to the SOAs when the numberPoolBlockSOA-Origination is true for the number pool block object.~~

~~**If the service provider's <> indicator is in their service provider profile, the numberPoolBlockNPA-NXX-X is provided on the AttributeValueChangeDefinition of the AttributeValueChangeInfo.**~~

~~!;~~

ASN.1

```
NumberPoolBlockStatusAttributeValueChange ::= SEQUENCE {
   value-change-info [0] AttributeValueChangeInfo,
   failed-service-provs [1] Failed-SP-List OPTIONAL,
   access-control [2] LnpAccessControl,
   block-npa-nxx-x [3] NPA-NXX-X OPTIONAL
}

VersionStatusAttributeValueChange ::= SEQUENCE {
   value-change-info [0] AttributeValueChangeInfo,
   failed-service-provs [1] Failed-SP-List OPTIONAL,
   subscription-status-change-cause-code [2] SubscriptionStatusChangeCauseCode
      OPTIONAL,
   access-control [3] LnpAccessControl ,
   subscription-tn [4] PhoneNumber OPTIONAL

}
```

~~***Provided for clarity only. No updates required.***~~

~~*From smi.asn -- CMIP Standards:*~~

```
AttributeValueChangeDefinition::= SET OF SEQUENCE {
 attributeID      AttributeId,
 oldAttributeValue  [1] ANY DEFINED BY attributeID OPTIONAL,
 newAttributeValue  [2] ANY DEFINED BY attributeID
}

AttributeValueChangeInfo ::= SEQUENCE {
 sourceIndicator  SourceIndicator  OPTIONAL,
 attributeIdentifierList    [1] AttributeIdentifierList  OPTIONAL,
 attributeValueChangeDefinition   AttributeValueChangeDefinition, ***
 notificationIdentifier      NotificationIdentifier OPTIONAL,
 correlatedNotifications    [2] CorrelatedNotifications   OPTIONAL,
 additionalText                AdditionalText OPTIONAL,
 additionalInformation         [3]  AdditionalInformation  OPTIONAL
}

From the NPAC ASN.1:

NumberPoolBlockStatusAttributeValueChange ::= SEQUENCE {
   value-change-info [0] AttributeValueChangeInfo, ***
   failed-service-provs [1] Failed-SP-List OPTIONAL,
   access-control [2] LnpAccessControl
}
```

~~VersionStatusAttributeValueChange ::= SEQUENCE {~~
~~value-change-info [0] AttributeValueChangeInfo, ***~~
~~failed-service-provs [1] Failed-SP-List OPTIONAL,~~
~~subscription-status-change-cause-code [2] SubscriptionStatusChangeCauseCode OPTIONAL,~~
~~access-control [3] LnpAccessControl~~
~~}~~
~~–~~

M&P

~~TBD~~Yes (Will need procedure for setting flags)

To modify the **"Subscription Version TN Attribute**" parameter in a Service Provider Profile the following steps must be followed:

1. Service Provider Personnel will contact NPAC Personnel with a request to modify their "Subscription Version TN Attribute" Parameter. Valid values for this parameter are "True" or "False". The value is automatically defaulted to "True" indicating the Service Provider supports the Subscription Version TN Attribute parameter. If the Service Provider requests a parameter that falls outside the valid range, the request will be denied.

2. NPAC Personnel shall validate the caller's name and authorization code against a list of authorized Service Provider Personnel. If the caller cannot be validated the request is denied. If the caller is validated the request is processed.

3. NPAC Personnel, using the NPAC Administrative Interface, shall navigate to the appropriate Service Provider profile and set the Subscription Version TN Attribute indicator to the value requested by the Service Provider. The NPAC SMS will generate a confirmation message to the screen indicating the change has been made successfully.

To modify the **"Number Pool Block NPA-NXX-X Attribute**" parameter in a Service Provider Profile the following steps must be followed:

1. Service Provider Personnel will contact NPAC Personnel with a request to modify their "Number Pool Block NPA-NXX-X Attribute" Parameter. Valid values for this parameter are "True" or "False". The value is automatically defaulted to "True" indicating the Service Provider supports the Number Pool Block NPA-NXX-X Attribute parameter. If the Service Provider requests a parameter that falls outside the valid range, the request will be denied.

2. NPAC Personnel shall validate the caller's name and authorization code against a list of authorized Service Provider Personnel. If the caller cannot be validated the request is denied. If the caller is validated the request is processed.

3. NPAC Personnel, using the NPAC Administrative Interface, shall navigate to the appropriate Service Provider profile and set the Number Pool Block NPA-NXX-X Attribute indicator to the value requested by the Service Provider. The NPAC SMS will generate a confirmation message to the screen indicating the change has been made successfully.

Origination Date: 1/23/98

Change Order Number: NANC 193

Description: TN Processing during NPAC SMS NPA Split Processing

Cumulative SP Priority, Weighted Average:

Pure Backwards Compatible: YES

IMPACT/CHANGE ASSESSMENT

FRS	IIS	GDMO	ASN.1	NPAC	SOA	LSMS
Y				High +	Low-Med	Low-Med

Business Need:

Currently the NPAC SMS performs NPA Split processing at the start of the Permissive Dial Period (PDP), based on data input on the NPAC OpGUI. This processing only affects data at the NPAC since nothing is broadcast to Service Providers as a result of Split processing. The general understanding of all parties is that NPAC behavior would not change until the start of PDP (i.e., sending out the new NPA-NXX for requests using the old NPA-NXX).

However, since NPA Split processing could take a lengthy period of time to accomplish (in almost all instances thousands of SVs need to be updated), what is the expected NPAC behavior for Service Provider requests that are sent during this Split processing window of time (i.e., before the start of PDP)? Some of the NPAC responses may be processed and returned prior to the start of PDP, while others may be processed and returned shortly after the start of PDP (e.g., several seconds or a minute or more later). Additionally, on the Service Provider side, what is the expected behavior and response for audits that are sent to the LSMS during this NPA Split processing window of time? The same issue applies at the end of PDP.

With this change order, the behavior of the NPAC would be clearly defined for requests that are sent/received/processed/returned during the Split processing window immediately before/during/after the start of PDP and the end of PDP.

Description of Change:

There was group consensus that NPAC behavior would not change until the start of permissive dialing. An example would be an audit that occurred during split processing one-minute before the start of permissive dialing. The NPAC should act as if permissive dialing has not yet started for the audit initiated during split processing. The Split processing should have no effect on operations of the system.

A clarification requirement should be added as follows:

> NPAC SMS shall process requests during split processing prior to the start of permissive dialing as if the split processing has not yet occurred.

Additional clarification requirement:

> NPAC SMS shall in a download request made after permissive dialing start for subscription version data sent prior to permissive dialing start, return the new NPA-NXX for subscription versions involved in an NPA Split.

The following questions need to be answered by vendors:

- What will the SOA do if it sends an old NPA-NXX prior to PDP and the NPAC returns the new SV with the new NPA-NXX? What would happen for a create/audit/query?
- What will LSMS systems do if an audit is sent for new NPA prior to PDP?
- Are there LSMS that will not be able to handle audits on new NPA-NXX right at the start of PDP?
- How long does it take for NPAC/SOA/LSMS to split an NPA-NXX?
- What is the NPAC behavior for recovery spanning time before & after PDP?
- If NPAC splits starting at midnight and SOA sends new NPA-NXX for an NPA-NXX not in split what would happen?

After reviewing the above questions. It was determined that the NPAC should act as if the split had not occurred during split processing prior to permissive dialing.

A matrix of answers received above has been created.

The table describes the behavior for the NPAC SMS as agreed upon for NPA Splits. Service Providers and SOA, LSMS and NPAC Vendors need to evaluate this and insure this is their understanding. We need to insure that this behavior is covered in the requirements and if it is not create requirements. We may want to consider adding this table to the FRS in addition to the existing requirements to provide an overview of the behavior.

Split Scenarios	Prior to PDP Start	During PDP	After PDP Completion
New NPA-NXX SV Create	If a TN create is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split prior to PDP, the NPAC SMS will: • Accept and process the new NPA-NXX port request, storing and returning the SV with the new NPA-NXX, as long as the due date is greater than or equal to the effective date of the NPA-NXX.	If a TN create is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split during PDP, the NPAC SMS will: • Accept and process the new NPA-NXX port request, storing and returning the SV with the new NPA-NXX.	If a TN create is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split after PDP completes, the NPAC SMS will: • Accept and process the request, storing and returning the SV with the new NPA-NXX.
Old NPA-NXX SV Create	If a TN create is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split prior to PDP, the NPAC SMS will: • Accept and process the port request, storing and returning the SV with the old NPA-NXX (normal processing).	If a TN create is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split during PDP, the NPAC SMS will: • Accept and process the port request, storing the SV with the new NPA-NXX and sending the new NPA-NXX in SOA notification messages associated with the SV.	If a TN create is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split after PDP completion, the NPAC SMS will: • Accept and process the old NPA-NXX port, storing and returning the SV with the old NPA-NXX, if the old NPA-NXX is still a valid NPA-NXX that is open for porting.
New NPA-NXX SV Activate, Modify, Modify-Pending, Conflict, Cancel, Disconnect	If a TN request is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split prior to PDP, the NPAC SMS will: Reject the activate, modify, modify-pending, conflict, cancel or disconnect request because the SV would not yet be associated with the new NPA-NXX if it was not created with the new NPA-NXX. If a modify, modify pending, conflict or cancel were sent for a pending TN in the new NPA-	If a TN request is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split during PDP, the NPAC SMS will: Accept and process the request for the activate, modify, modify-pending, conflict, cancel or disconnect for the TN.	If a TN request is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split after PDP completes, the NPAC SMS will: Accept and process the request for activate, modify, modify-pending, conflict, cancel or disconnect for the TN.

Split Scenarios	Prior to PDP Start	During PDP	After PDP Completion
	NXX it would be accepted and processed. An activate or a disconnect request for a TN in the new NPA-NXX would not be valid since that NPA-NXX would not yet be effective. The effective date of the new NPA-NXX must be the start of permissive dialing per the NPAC SMS requirements.		
Old NPA-NXX SV Activate, Modify, Modify-Pending, Conflict, Cancel, Disconnect	If a TN request is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split prior to PDP, the NPAC SMS will: Accept and process the request for the activate, modify, modify-pending, conflict, cancel or disconnect for the TN.	If a TN request is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split during PDP, the NPAC SMS will: Accept and process the request for the activate, modify, modify-pending, conflict, cancel or disconnect for the new TN.	If a TN request is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split after PDP completion, the NPAC SMS will: The activate, modify, modify-pending, conflict, cancel or disconnect would be rejected unless there was a new pending/active port created in the old NPA-NXX after PDP completion.
New NPA-NXX Audit	If an audit request is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split prior to PDP, the NPAC SMS will: Accept and process the audit request for the New NPA-NXX despite the fact that the NPA-NXX is not yet effective. Note: The NPAC SMS does not, and the LSMSs should not, have subscription versions for the new NPA-NXX.	If an audit request is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split during PDP, the NPAC SMS will: Accept and process the audit request for the New NPA-NXX.	If an audit request is sent to the NPAC SMS with the new NPA for an NPA-NXX that is involved in a split after PDP completes, the NPAC SMS will: Accept and process the audit request for the New NPA-NXX.
Old NPA-NXX Audit	If an audit request is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split prior to PDP, the NPAC SMS will:	If an audit request is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split during PDP, the NPAC SMS will:	If an audit request is sent to the NPAC SMS with the old NPA for an NPA-NXX that is involved in a split after PDP completion, the NPAC SMS will:

Split Scenarios	Prior to PDP Start	During PDP	After PDP Completion
	Accept and process the audit request for the Old NPA-NXX.	Accept and process the audit request for the Old NPA-NXX.	Accept and process the audit request for the Old NPA-NXX if the Old NPA-NXX is still a valid NPA-NXX in the NPAC SMS. Otherwise the audit request would be rejected.
New NPA-NXX LSMS – Creates, Deletes, Modifies	The NPAC SMS will not send any creates, deletes, or modifies to the LSMS for the New NPA-NXX prior to PDP due to the fact that the New NPA-NXX effective date would not be greater than the start of PDP (per the requirements).	If a TN request is sent from the SOA for the New NPA-NXX that is involved in a split during PDP, the NPAC SMS will send the New NPA-NXX to the LSMS.	If a TN request is sent from the SOA for the New NPA-NXX that is involved in a split after PDP, the NPAC SMS will send the new NPA-NXX to the LSMS.
Old NPA – NXX LSMS – Creates, Deletes, Modifies	If a TN request is sent from the SOA for the Old NPA-NXX that is involved in a split prior to PDP, the NPAC SMS will send the old NPA-NXX.	If a TN request is sent from the SOA for the old NPA-NXX that is involved in a split during PDP, the NPAC SMS will always send the new NPA-NXX.	If a TN request is sent from the SOA for an Old NPA-NXX that is involved in a split after PDP, the NPAC SMS will send the Old NPA-NXX, provided that the Old NPA-NXX is still a valid NPA-NXX in the NPAC SMS. If the Old NPA-NXX is not valid, the request will be rejected.
New NPA-NXX LSMS Queries	If a TN query request is sent by the LSMS for the New NPA-NXX that is involved in a split prior to PDP, the NPAC SMS would always return no subscription versions. No subscription versions would be returned due to the fact that there would be no active subscription versions because the new NPA-NXX would not have reached it's effective date.	If a TN request is sent from the LSMS for the New NPA-NXX that is involved in a split during PDP, the NPAC SMS will always return the subscription versions in the new NPA-NXX.	If a TN query request is sent from the LSMS for the New NPA-NXX that is involved in a split after PDP, the NPAC SMS will always return the subscription versions in the new NPA-NXX.
Old NPA – NXX LSMS Queries	If a TN query request is sent from the LSMS for an Old NPA-NXX that is involved in a split prior to PDP, the NPAC SMS will always return the subscription versions in the Old NPA-NXX.	If a TN query request is sent from the LSMS for an Old NPA-NXX that is involved in a split during PDP, the NPAC SMS will always return the subscription versions in the new NPA-NXX except in cases where the query spans multiple NPAs. In cases where a query spans multiple NPAs, the Old NPA-NXXs specified are not	If a TN query request is sent from the LSMS for the Old NPA-NXX that is involved in a split after PDP, the NPAC SMS will always return the subscription versions in the Old NPA-NXX if the Old NPA-NXX is still a valid NPA-NXX in the NPAC SMS. If the Old NPA-NXX is not valid, then the request will be

Split Scenarios	Prior to PDP Start	During PDP	After PDP Completion
		converted to the new NPA-NXX.	rejected.

It was discussed that this clarification requirement would have to be implemented by SOA, LSMS, and NPAC vendors. This requirement would shorten the window when errors could occur for the change of an NPA. It was requested that we review and document on behavior in the following situations: When the NPAC receives a request sent before the split after the split start, how should it respond? Also when an SOA or LSMS receives a request sent before the split after the split start, how should it respond?

IIS flows for error scenarios will be created. If an activate using the new NPA-NXX is received by the NPAC SMS before PDP it will be rejected. If an SV using the old NPA-NXX is received after the end of PDP it will be treated as the old NPA-NXX if that NPA- NXX is still a valid portable NPA-NXX in the NPAC SMS, otherwise it will be rejected. Download requests after the start of PDP for information occurring before PDP should reflect the new NPA- NXX for subscription versions involved in a Port.

Requirements:

Req 1 Request Processing during Split Processing Prior to Permissive Dialing Period Start

NPAC SMS shall process requests during split processing prior to the start of the permissive dialing period as if the split processing has not yet occurred.

Req 2 Download Requests Made After Permissive Dialing Period Start for Subscription Version Data Sent Prior to Permissive Dialing Period Start

NPAC SMS shall, in a download request made after the start of the permissive dialing period, for subscription version data sent prior to permissive dialing start, return the new NPA-NXX for subscription versions involved in a NPA Split.

Subscription Version Processing Prior to Permissive Dialing Start

Req 3 Subscription Version Creates with the New NPA for an NPA-NXX that is Part of a NPA Split Prior to Permissive Dialing Period Start

NPAC SMS shall accept, process, store, and return a Subscription Version create request for a TN that contains the new NPA of an NPA-NXX that is part a NPA split prior to the start of the permissive dialing period as long as the due date is greater than or equal to the effective date of the NPA-NXX.

Req 4 Subscription Version Modify Pending with the New NPA for an NPA-NXX that is Part of a NPA Split Prior to Permissive Dialing Period Start

NPAC SMS shall reject a Subscription Version modify pending request for a TN that contains the new NPA of an NPA-NXX that is part a NPA split prior to the start of the permissive dialing period if the original create request was not made with the new NPA-NXX.

Req 5 Subscription Version Cancel with the New NPA for an NPA-NXX that is Part of a NPA Split Prior to Permissive Dialing Period Start

NPAC SMS shall reject a Subscription Version cancel request for a TN that contains the new NPA of an NPA-NXX that is part a NPA split prior to the start of the permissive dialing period if the original create request was not made with the new NPA-NXX.

Req 6 Subscription Version Activate with the Old NPA for an NPA-NXX that is Part of a NPA Split Prior to Permissive Dialing Period Start

NPAC SMS shall accept a Subscription Version activate request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split prior to the start of the permissive dialing period if the original create request was made with the old NPA-NXX.

Req 7 Subscription Version Modify Activate with the Old NPA for an NPA-NXX that is Part of a NPA Split Prior to Permissive Dialing Period Start

NPAC SMS shall accept a Subscription Version modify activate request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split prior to the start of the permissive dialing period if the original activate request was made with the old NPA-NXX.

Req 8 Subscription Version Modify Pending with the Old NPA for an NPA-NXX that is Part of a NPA Split Prior to Permissive Dialing Period Start

NPAC SMS shall accept a Subscription Version modify pending request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split prior to the start of the permissive dialing period if the original create request was made with the old NPA-NXX.

Req 9 Subscription Version Cancel with the Old NPA for an NPA-NXX that is Part of a NPA Split Prior to Permissive Dialing Period Start

NPAC SMS shall accept a Subscription Version cancel request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split prior to the start of the permissive dialing period if the original create request was made with the old NPA-NXX.

Req 10 Subscription Version Disconnect with the Old NPA for an NPA-NXX that is Part of a NPA Split Prior to Permissive Dialing Period Start

NPAC SMS shall accept a Subscription Version disconnect request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split prior to the start of the permissive dialing period if the original activate request was made with the old NPA-NXX.

Subscription Version Processing After Permissive Dialing Completion

Req 11 Subscription Version Creates with the Old NPA for an NPA-NXX that is Part of a NPA Split After Permissive Dialing Period Completion

NPAC SMS shall accept, process, store, and return a Subscription Version create request for a TN that contains the old NPA of an NPA-NXX that was part a NPA split after the completion of the permissive dialing period as long as the old NPA-NXX is still a valid NPA-NXX that is open for porting.

Req 12 Subscription Version Activate with the Old NPA for an NPA-NXX that is Part of a NPA Split After Permissive Dialing Period Completion

NPAC SMS shall accept a Subscription Version activate request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split after the completion of the permissive dialing period if the original create request was made with the old NPA-NXX.

Req 13 Subscription Version Modify Activate with the Old NPA for an NPA-NXX that is Part of a NPA Split After Permissive Dialing Period Completion

NPAC SMS shall accept a Subscription Version modify activate request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split after the completion of the permissive dialing period if the original activate request was made with the old NPA-NXX.

Req 14 Subscription Version Modify Pending with the Old NPA for an NPA-NXX that is Part of a NPA Split After Permissive Dialing Period Completion

NPAC SMS shall accept a Subscription Version modify pending request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split after the completion of the permissive dialing period if the original create request was made with the old NPA-NXX.

Req 15 Subscription Version Cancel with the Old NPA for an NPA-NXX that is Part of a NPA Split After Permissive Dialing Period Completion

NPAC SMS shall accept a Subscription Version cancel request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split after the completion of the permissive dialing period if the original create request was made with the old NPA-NXX.

Req 16 Subscription Version Disconnect with the Old NPA for an NPA-NXX that is Part of a NPA Split After Permissive Dialing Period Completion

NPAC SMS shall accept a Subscription Version disconnect request for a TN that contains the old NPA of an NPA-NXX that is part a NPA split after the completion of the permissive dialing period if the original activate request was made with the old NPA-NXX.

Audits Prior to Permissive Dialing Period Start

Req 17 Audit Request for the New NPA-NXX Prior to Permissive Dialing Period Start

NPAC SMS shall accept and process an audit request for a new NPA-NXX that is part of a NPA Split prior to the start of the permissive dialing period.

Note: The NPAC SMS does not, and the LSMSs should not, have active subscription versions for the new NPA-NXX that is part of a NPA Split prior to start of the permissive dialing period.

Audits After Permissive Dialing Period Completion

Req 18 Audit Request for the Old NPA-NXX After Permissive Dialing Period Completion

NPAC SMS shall accept and process an audit request for an old NPA-NXX that is part of a NPA Split prior after the completion of the permissive dialing period if the old NPA-NXX is still a valid NPA-NXX in the NPAC SMS.

Queries Prior to Permissive Dialing Period Start

Req 19 Query Request Using the New NPA-NXX Prior to Permissive Dialing Period Start

NPAC SMS shall respond to an LSMS Subscription Version query using the new NPA-NXX that is part of a NPA Split prior to the start of the permissive dialing period with no subscription versions.

Note: No Subscription Versions would be returned due to the fact that there would be no active Subscription Versions because the new NPA-NXX effective date would not have been reached.

Queries After Permissive Dialing Period Completion

Req 20 Query Request Using the Old NPA-NXX After Permissive Dialing Period Completion

NPAC SMS shall respond to an LSMS Subscription Version query using the old NPA-NXX that is part of a NPA Split after the completion of the permissive dialing period with subscription versions in the old NPA-NXX if the old NPA-NXX is still a valid NPA-NXX in the NPAC SMS and active Subscription Versions exist for the old NPA-NXX.

Action Item for Service Providers:

Service Providers to discuss this change order internally and determine if they have experienced porting problems due to NPA Split processing, the consequence, how they resolved the problem, and how they would like to see this change order implemented (i.e. industry quiet period).

IIS

TBD

GDMO

TBD

ASN.1

TBD

M&P

TBD

Origination Date: 10/15/96

Change Order Number: ILL 5

Description: Round-Robin Broadcasts across SOA/LSMS associations

Cumulative SP Priority, Weighted Average:

Pure Backwards Compatible: YES (this is optional functionality for the LSMS)

IMPACT/CHANGE ASSESSMENT

FRS	IIS	GDMO	ASN.1	NPAC	SOA	LSMS
Y	Y			Low	Low-High	Low-High

Business Need:

Currently, most SOAs/LSMSs have one association to the NPAC SMS over which all interface traffic is sent and received. As performance increases over the interface, a SOA/LSMS may need to distribute their interface processing across multiple machines to gain additional memory, processor speed and stack resources. This change order would enable an SOA/LSMS to distribute their interface processing across multiple machines. This change order would also enable the NPAC SMS to accept multiple associations of the same function type from different NSAPs and distribute outbound traffic in a round robin algorithm across the multiple associations.

A benefit of allowing an SP to establish additional associations during heavy activity periods is that if one of the associations goes down, the other association still remains connected, thereby alleviating (in whole or in part) partial failures as a result of the downed association.

Description of Change:

The NPAC SMS would support additional LSMS associations and manage the distribution of transactions in a round robin algorithm across the associations. For example, due to performance conditions a Service Provider may want to start another LSMS association for network/subscription downloads. The NPAC SMS would accept the association, manage security, and distribute network/subscription PDUs across the 2 or more associations using the round robin algorithm (One unique PDU will be sent over one association only.)

Requirements:

Req 1 Multiple Associations of the Same Association Function From different NSAPs

NPAC SMS shall accept multiple associations of the same association function from different Service Provider NSAPs.

Req 2 Security Management of Multiple Associations of the Same Association Function

NPAC SMS shall manage security for multiple associations of the same association function from different Service Provider NSAPs.

Note to Service Providers: Each association with the same association function from different Service Provider NSAPs would need to associate using the same security key.

Req 3 Distribution of PDUs across Multiple Associations of the Same Association Function

NPAC SMS shall distribute transactions for a particular Service Provider across multiple associations of the same association function (when they exist) in a round robin algorithm.

Note: The round robin algorithm means that one unique PDU will be sent over one association only.

Req 4 Treatment of Multiple Associations of the Same Association Function during Congestion

NPAC SMS shall treat multiple associations of the same association function for a particular Service Provider as independent physical CMIP connections for congestion management.

Req 5 Treatment of Multiple Associations of the Same Association Function during Recovery

NPAC SMS shall treat multiple associations of the same association function for a particular Service Provider as one logical CMIP connection for recovery.

Req 6 Treatment of Multiple Associations when there is an Intersection of Association Function

NPAC SMS shall, in the case of an intersection of the association functions on multiple associations for a particular Service Provider, distribute transactions in a round robin algorithm.

Note: This requirement may be impacted by the implementation of NANC 219 in Release 4.0

IIS

Add to the end of Chapter 5:

5.5 Round-Robin Broadcast Across SOA/LSMS Associations

A SOA or LSMS system may connect to the NPAC SMS with multiple associations (different NSAPs) which have the same association function(s) set. The NPAC SMS will distribute transactions across the associations in a round robin algorithm.

The NPAC SMS will treat multiple associations of the same association function for a particular SOA or LSMS system as one logical CMIP connection for recovery. ~~TBD~~

GDMO

~~TBD~~No Change Required

ASN.1

~~TBD~~No Change Required

M&P

TBD

Origination Date: 6/14/00

Change Order Number: NANC 312

Description: Different User Levels on the LTI

Cumulative SP Priority, Weighted Average:

Pure Backwards Compatible: YES

IMPACT/CHANGE ASSESSMENT

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

Business Need:

Currently the NPAC Low-Tech Interface (LTI) does not provide any mechanism that allows a Service Provider to have different user levels for access to the LTI features. The problem is for access to the reports option on the LTI. By limiting the access based on user level, a Service Provider can control the number of users that have access to this chargeable event.

Description of Change:

Provide two user security levels for the LTI. One would have access to the reports option, and the second would not have this access. All other access would be identical for the two user levels.

Requirements:

Req 1 Two User Security Levels for the LTI

NPAC SMS shall provide two user security levels for the LTI.

Req 2 Normal User Security Level for the LTI

NPAC SMS shall allow LTI users with the normal user security level access to all LTI functionality.

Req 3 Restricted User Security Level for the LTI

NPAC SMS shall ~~not~~ only allow LTI users with ~~restricted~~ normal user security level access to the reports ~~option~~functionality.

IIS

No Change Required

GDMO

No Change Required

ASN.1

No Change Required

M&P

~~TBD~~ Need to modify Section 4.4.1.

4.4.1 To Request a Logon ID:

1) Customer calls 888-NPAC-HEL(P). A USA will tell customer to e-mail him/her with the following information:

a) How many cards they are requesting

b) The name of the user of the SecureID Card

c) The names of the users to be added to the GUI

d) ***The security level of the users (access to all LTI functionality or restricted access (no access to reports))***

e) The **username** (up to 8 characters) of each person to be added (ex. joeuser)

f) The **password** (at least 6, but not more than 8 characters with at least one number (ex. chitown1)

g) The region(s) they want to be added to.

h) The name, address, and phone number of the contact of where the SecureIDs are to be sent

NOTE: Customers are charged a one-time access fee of $1000 for EACH logon they request (a SecurId card is given with the logon ID request). The customer is NOT paying for the SecurID card, they are paying for the GUI logonID.

Origination Date: 10/25/00

Originator: Verizon

Change Order Number: NANC 319

Description: NPAC Edit to Ensure NPA-NXX of LRN is in Same LATA as NPA-NXX of Ported TN

Cumulative SP Priority, Weighted Average:

Pure Backwards Compatible: YES

IMPACT/CHANGE ASSESSMENT

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

Business Need:

Local Number Portability (LNP) standards require that service providers assign at least one Location Routing Number (LRN) per switch per LATA that the switch serves. Post-query LNP call processing in the various switch types requires that the NPA-NXX of an LRN that is returned from the database must be in the same LATA as the NPA-NXX of the dialed number.

Currently, the NPAC does not perform any edits on a New Service Provider CREATE or MODIFY messages in order to ensure that the NPA-NXXs of both the LRN and the ported TN are in the same LATA.

When a call is placed to a ported TN associated with an LRN from an NPA-NXX in a different LATA, the call fails in the originating switch, resulting in a service-affecting condition that is predominantly identified only after customer complaints.

Description of Change:

This proposed Change Order is a request for an NPAC edit on New Service Provider CREATE and MODIFY messages that would reject any CREATE or MODIFY if the NPA-NXXs of the LRN and ported TN contained in the CREATE or MODIFY are not in the same LATA. This edit would eliminate this particular service-affecting condition as well as the expense of trouble-shooting the cause and working with the New Service Provider to modify their LRN.

Currently the NPAC has no concept of a LATA. When a new NPA-NXX is opened the LERG assigns a LATA ID. An NPA can cross LATAs. Every NPA-NXX has a LATA association. It is a 3-digit number. There is one LRN per LATA but there can be multiple NPAs in a LATA and

multiple LATAs in an NPA. This edit would ensure that the NPA-NXX of the TN and the NPA-NXX of the LRN is the same. LATAs can cross NPAC regions. The LERG would be the source of the LATA information rather than the Service Providers. If there is no LATA in the LERG information for the NPA-NXX or the LRN then the NPAC would reject the create request. If there were a modification of an LRN to active SVS or in a Mass Update this edit would have to be applied. This would also apply to Pooled Blocks. LATA should not be criteria for Mass Update.

Requirements:

Req 1 LATA ID Information Source

NPAC SMS shall obtain LATA ID information from the LERG.

Req 2 Association of LATA ID with NPA-NXXs

NPAC SMS shall associate a LATA ID with each NPA-NXX in its database.

Req 3 Association of LATA ID with LRNs

NPAC SMS shall associate a LATA ID with each LRN in its database.

Req 4 LRN – LATA ID Relationship

NPAC SMS shall allow one LRN per LATA ID.

Req 5 NPA-NXX – LATA ID Relationship

NPAC SMS shall allow ??? NPA-NXXs per LATA ID.

Note: Is the LATA ID – NPA-NXX association a one to one relationship also?

Req 6 Validation of LATA ID for Subscription Version Creates

NPAC shall reject Subscription Version Create Requests if the NPA-NXX of the TN and the LRN have different LATA IDs.

Req 7 Validation of LATA ID for Subscription Version Modifies

NPAC shall reject Subscription Version Modify Requests if the NPA-NXX of the TN and the LRN have different LATA IDs.

Req 8 Validation of LATA ID for Number Pool Block Creates

NPAC shall reject Number Pool Block Create Requests if the NPA-NXX of the NPA-NXX-X and the LRN have different LATA IDs.

Req 9 Validation of LATA ID for Number Pool Block Modifies

NPAC shall reject Number Pool Block Modify Requests if the NPA-NXX of the NPA-NXX-X and the LRN have different LATA IDs.

IIS

No Change Required

GDMO

No Change Required

ASN.1

No Change Required

M&P

TBD

Origination Date: 12/13/00

Originator: WorldCom

Change Order Number: NANC 321

Description: Regional NPAC Edit of Service Provider Network Data – NPA-NXX Data

Functional Backwards Compatible: Yes

IMPACT/CHANGE ASSESSMENT

FRS	IIS	GDMO	ASN.1	NPAC	SOA	LSMS
Yes				???	N/A	N/A

Business Need:

When a service provider submits a message to the NPAC in order to create a pending subscription version, the NPAC verifies that the old service provider identified in the message is the current service provider and that the number to be ported is from a portable NPA-NXX. If the telephone number already is a ported number, the NPAC will look at the active SV for that number to determine the identity of the current SP as shown in the active SV. If no active SV exists, then the number is not currently ported and the NPAC determines the current SP instead based on NPA-NXX ownership as shown in the NPAC's network data for each service provider. The NPAC also looks at the network data to confirm that the NPA-NXX has been identified as open to portability.

If a service provider has entered an NPA-NXX in its network data but has done it for its network data associated with the wrong region, then the correct NPAC region, when receiving create messages involving numbers in that NPA-NXX, will be unable to see that the TNs involve a portable NPA-NXX; in this case the create message will be rejected by NPAC. Furthermore, another service provider could erroneously enter the NPA-NXX in its network data for the correct NPAC region. Then the NPAC's portable NPA-NXX validation would pass, but the current service provider validation would fail. In either case the telephone number could not be ported until the service provider network data error were corrected.

It is important therefore to assure that service provider NPA-NXX network data be populated only in the proper NPAC region and to allow only the LERG-assignee to populate the data. The introduction of an NPA edit function, to validate that an NPA-NXX input is to network data associated with the NPAC region encompassing the involved NPA will effectively serve both functions. Such an edit function would not allow a service provider to put its NPA-NXX data in

the wrong NPAC region's database and it consequently would not allow the improper LERG-assignee entries to remain long undetected.

Description of Change:

Service Providers submit Network Data over their SOA interfaces. A provider is required to enter each portable NPA-NXX for which it is the LERG assignee. The NPAC uses this service provider network data to perform certain validation functions of subscription version data -- to confirm current SPID correct and that TN is from portable NXX -- and to determine TN ownership in snap-back situations.

Requirements:

Req 1 Valid NPAs for each NPAC Region

NPAC SMS shall establish a list of valid NPAs for each NPAC region using information obtained from the LERG.

Req 2 Maintaining List of Valid NPAs for Each NPAC Region

NPAC SMS shall maintain the list of valid NPAs for each NPAC region.

Req 3 Updating List of Valid NPAs for Each NPAC Region

NPAC SMS shall update the list of valid NPAs for each NPAC region using information obtained from the LERG.

Req 4 Rejection of NPA-NXXs that Do Not Belong to a Valid NPA for the NPAC Region

NPAC SMS shall reject a Service Provider request to open an NPA-NXX for portability if the associated NPA is not valid for the region.

Req 5 Regional NPAC NPA Edit Flag Indicator

NPAC SMS shall provide a Regional NPA Edit Flag Indicator, which is defined as an indicator on whether or not NPA edits will be enforced by the NPAC SMS for a particular NPAC Region.

Req 6 Regional NPAC NPA Edit Flag Indicator Modification

NPAC SMS shall provide a mechanism for NPAC Personnel to modify the Regional NPA Edit Flag Indicator.

Req 7 Regional NPAC NPA Edit Flag Indicator – Valid Values

NPAC SMS shall use TRUE or FALSE as valid values for the Regional NPA Edit Flag Indicator.

Req 8 Regional NPAC NPA Edit Flag Indicator – Default Value

NPAC SMS shall default the Regional NPA Edit Flag Indicator to **TRUE**.

IIS

No Change Required

GDMO

No Change Required

ASN.1

No Change Required

M&P

TBD