

National Number Pooling Requirements

Document Change History:

5/20/98

1. Updated definitions, added “blank directory” and “TN re-assignment” table.
2. Updated section 3, added initial requirements for NPA-NXX and LRN validation. Updated NPAC Customer Data Model (for EDR flag). Also, Number Pooling Block Holder Information Model, and requirements RR3-27.1 through RR3-34.1, RR3-25, and RR3-26. Also added initial requirements for Sub-Block discussion.
3. Updated section 8, issue with audit and notification suppression to SOA, depending on value of ERD flag to LSMS.
4. Updated section 9, consolidated requirements for reports.

6/1/98

1. Updated definition for “vacant number treatment”.
2. Updated Block and Sub-Block sections based on discussion.
3. Added comments to SV section related to discussion in Chicago.

[6/29/98](#)

- ?1 [Re-worked most areas of document, to accommodate new direction \(i.e., sub-blocks over the SOA\).](#)

Number Pooling Requirement Overview

[The National Number Pooling Requirements document](#) provides a set of requirements developed by NANC T&O, as a “target architecture” approach for a national solution to Number Pooling.

The following definitions apply in the requirements that follow:

- Code Holder – The code holder is the LERG owner of the NPA-NXX.
- Block Holder – The recipient [Service Provider](#) of a pool of numbers from the code holder. [Also](#) defined as the NPA-NXX-X holder in the LERG.
- Block – A range of 1000 pooled TNs within the NPA-NXX, beginning with a station of n000, and [ending](#) with n999, where n is a value between 0 and 9.
- Sub-Block – A range of pooled TNs, between size x and 1000 TNs. [Currently, x equals 1000.](#)
- Pre-Port – Porting of an entire block of TN’s from the code holder to the block holder on, or after, the effective date of the pool (the sub-block will be the same size as the block, i.e., 1000 TNs).
- Port on Demand – Porting of a single TN or range of TN’s from the code holder to the block holder at a time desired by the block holder that is on, or after, the effective date of the pool. [Note: this is not used for the current architecture.](#)
- Number Pooling Block Holder Information – Data in the NPAC SMS that contains the range of TN’s, the block holder (service provider), default routing for a block of TNs, and the effective date of the block.
- Number Pooling Sub Block Information – Data in the NPAC SMS that contains the range of TN’s (could be the entire set or a sub-set of the block), default routing for a sub-block of TNs, and the activation date of the TN’s within the range.
- De-Pool – Return of a 1K pooled block to the Number Administrator. Also referred to as “un-allocation of the block”.
- [Vacant Number – A non-working number.](#)
- Vacant Number Treatment – A recorded announcement played to the calling party, when the NPA-NXX of the TN they have dialed is valid, but the 10-digit TN is not a working number.
- Default Routing Restoration – reinstatement of the default routing for the TN as defined in the applicable block/sub-block information, in order to provide [vacant~~blank~~ directory](#) number treatment.
- Snapback – Notification for TN reassignment.
- [Contamination – A working number, within a block, that is active \(for either the code holder or another Service Provider\), prior to the block being donated to the Pooling Administrator.](#)

The following table portrays “**vacant number treatment**” responsibility and “**snapback for TN re-assignment**” notifications throughout each phase of number pooling:

Vacant Number Treatment	Pre effective date	post effective date	post activation date
Contaminated disconnect	Code holder	CodeBlock holder**	Block holder
Non-contaminated	Code holder	Code holder	Block holder
Snapback for TN re-assignment			
Contaminated disconnect	Code holder*	Block holder	Block holder
Non-contaminated	N/A	N/A	Block holder

* = Code Holder receives a notification but CANNOT reassign this TN.

** = [Code Holder CANNOT reassign this TN.](#)

[At the present time, the approach includes the following:](#)

- 0 [Pre-Port 1K blocks to a single switch \(i.e., all 1000 TNs contain same LRN\).](#)
- 1 [EDR \(Efficient Data Representation\) captured through the use of “sub-blocks” in the NPAC, and over the SOA-to-NPAC and NPAC-to-LSMS interfaces.](#)
- 2 [The Block Holder Information in the NPAC is the same as the 1K block managed by the Pooling Administrator, and represented in the LERG.](#)
- 3 [The Block Holder Information is NOT broadcast by the NPAC over the SOA interface or the LSMS interface.](#)
- 4 [The Block Holder Information’s “Effective Date” is the date the LERG, the Pooling Administrator, and the NPAC, consider to be the “ownership switchover” date for the 1K block from the Code Holder \(NPA-NXX owning SP\) to the Block Holder \(NPA-NXX-X owning SP\).](#)
- 5 [The Sub-Block Holder Information in the NPAC is a sub-set of the Block Holder Information. At the present time, they are equal \(i.e., both contain all 1000 TNs\).](#)
- 6 [The Sub-Block Holder Information is conditionally broadcast by the NPAC over the SOA interface or the LSMS interface. The decision is based on the SP’s SOA implementation, and the SP’s LSMS EDR flag in the SP Profile record in the NPAC.](#)
- 7 [The Sub-Block Holder Information’s “Activation Date” is the date the NPAC broadcasts sub-block and SV data to the applicable LSMSs. Only at this point in time are all SPs notified of the “ownership switchover” date for the 1K block from the Code Holder \(NPA-NXX owning SP\) to the Block Holder \(NPA-NXX-X owning SP\).](#)

Open Issues

1. The Auto Activation Timestamp (Block Holder Data) has been removed from this version of the requirements. This means that either Lockheed Martin will create the Sub-Block or the SP will do this over the SOA. Question: how will this be decided, how will this decision be sent to interested parties, and how will Lockheed handle this if they need to create the Sub-Block? If done by Lockheed, need to add an M&P to define this “two-step process”. This will be the creation of the block(first step), and creation of the Sub-Block (second step). This could be manual or “scheduled” job, to run the auto activation request at the date and time specified in the Number Pooling form/SP contact.

Requirements

Section 3 Modifications

FRS 3.1.2

NPAC CUSTOMER DATA MODEL			
Attribute Name	Type (Size)	Required	Description
NPAC Customer ID	C (4)	√	An alphanumeric code which uniquely identifies an NPAC Customer.
NPAC Customer Name	C (40)	√	A unique NPAC Customer Name.
NPAC Customer Allowable Functions	M	√	Each bit in the mask represents a boolean indicator for the following functional options: <ul style="list-style-type: none"> • SOA Management • SOA Network Data Management • LSMS Network Data Management • LSMS Data Download • LSMS Queries/Audits
<ul style="list-style-type: none"> • NPAC Customer LSMS EDR Indicator 	B	√	A boolean that indicates whether the NPAC Customer utilizes Efficient Data Representation (EDR) on the LSMS. The default value is False.

RR3-15 Service Provider EDR Indicator

NPAC SMS shall provide a mechanism for the Service Provider to indicate whether or not they maintain Efficient Data Representation, and want Number Pooling Sub-Block Information downloaded to their Local SMS via the NPAC SMS to Local SMS Interface, using the Number Pooling Sub-Block Object.

RR3-16 Service Provider EDR Indicator – Default

NPAC SMS shall default the EDR Indicator to OFF.

RR3-16 Service Provider EDR Indicator – Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the EDR Indicator.

FRS 3.1.3

SUBSCRIPTION VERSION DATA MODEL			
Attribute Name	Type (Size)	Required	Description
Version ID	N	√	A unique sequential number assigned upon creation of the Subscription Version.
LRN	TN	√	The LRN is an identifier for the switch on which portable NPA-NXX-XXXX's reside.
Old Service Provider ID	C (4)	√	Old Service Provider ID.
New Service Provider ID	C (4)	√	New Service Provider ID.
TN	TN	√	Subscription Version telephone number.
Local Number Portability Type	E	√	Number Portability Type. Valid enumerated values are: LSPP - Local Service Provider Portability (0) LISP - Local Intra-Service Provider Portability (1) POOL - Pooled Block Number Port (2)
Status	E	√	Status of the Subscription Version. The default value is P for Pending. Valid enumerated values are: X - Conflict (0) A - Active (1) P - Pending (2) S - Sending (3) F - Failed (4) PF - Partial Failure (5) DP - Disconnect Pending (6) O - Old (7) C - Canceled (8) CP - Cancel Pending (9)
CLASS DPC	N (9)	√	DPC for 10-digit GTT for CLASS features.
CLASS SSN	N (3)	√	CLASS SSN for the Subscription Version.

SUBSCRIPTION VERSION DATA MODEL

Attribute Name	Type (Size)	Required	Description
LIDB DPC	N (9)	√	DPC for 10-digit GTT for LIDB features.
LIDB SSN	N (3)	√	LIDB SSN for the Subscription Version.
CNAM DPC	N (9)	√	DPC for 10-digit GTT for CNAM features.
CNAM SSN	N (3)	√	CNAM SSN for the Subscription Version.
ISVM DPC	N (9)	√	DPC for 10-digit GTT for ISVM features.
ISVM SSN	N (3)	√	ISVM SSN for the Subscription Version.
New Service Provider Due Date	T	√	The due date planned by the new Service Provider for Subscription Version Transfer.
Old Service Provider Due Date	T		The due date planned by the old Service Provider for Subscription Version Transfer.
Old Service Provider Authorization	B		A boolean indicator set by the old Service Provider to indicate authorization or denial of Transfer of Service for the Subscription Version to the new Service Provider.
New Service Provider Create Time Stamp	T		The date and time that the New Service Provider authorized Transfer of Service of the Subscription Version.
Old Service Provider Authorization Time Stamp	T		The date and time that the old Service Provider authorized Transfer of Service for the Subscription Version.
Activation Request Time Stamp	T		The date and time that the Subscription Version activation request was made by the new Service Provider.
Activation Broadcast Date	T		The date and time that broadcasting began to all local SMS systems for the activation of the Subscription Version.
Activation Broadcast Complete Time Stamp	T		The date and time that at least one Local SMS system successfully acknowledged the broadcast or the retries were exhausted for the activate.
Disconnect Request Time Stamp	T		The date and time that the Subscription Version disconnect request was made by the local Service

SUBSCRIPTION VERSION DATA MODEL

Attribute Name	Type (Size)	Required	Description
			Provider.
Disconnect Broadcast Time Stamp	T		The date and time that broadcasting began to all local SMS systems for the disconnect of the Subscription Version.
Disconnect Broadcast Complete Time Stamp	T		The date and time that at least one Local SMS system successfully acknowledged the broadcast or the retries were exhausted for the disconnect.
Effective Release Date	T		The date that the Subscription Version is to be deleted from all Local SMS systems.
Customer Disconnect Date	T		The date that the Customer's service was disconnected.
Pre-Cancellation Status	E		Status of the Subscription Version prior to cancellation. Valid enumerated values are: X - Conflict (0) P - Pending (2) DP - Disconnect Pending (6)
Old Service Provider Cancellation Time Stamp	T		The date and time that the Old Service Provider acknowledged that the Subscription Version be canceled.
New Service Provider Cancellation Time Stamp	T		The date and time that the New Service Provider acknowledged that the Subscription Version be canceled.
Cancellation Time Stamp	T		The date and time that the Subscription Version became canceled.
Old Time Stamp	T		The date and time that the Subscription Version became old.
Conflict Time Stamp	T		The date and time that the Subscription Version was last placed in conflict.
Conflict Resolution Time Stamp	T		The date and time that the resolution of a Subscription Version in conflict is acknowledged.
Create Time Stamp	T	√	The date and time that this Subscription Version record was created.

SUBSCRIPTION VERSION DATA MODEL			
Attribute Name	Type (Size)	Required	Description
Modified Time Stamp	T	√	The date and time that this Subscription Version record was last modified. The default value is the Create Time Stamp.
Porting to Original	B	√	A boolean that indicates whether the Subscription Version created is to be ported back to the original Service Provider. The default value is False.
End User Location Value	C (12)		For future use.
End User Location Value Type	C (2)		For future use.
Modify Request Timestamp	T		The date and time that the Subscription Version Modify request was made.
Modify Broadcast Timestamp	T		The date and time that broadcasting began to all local SMS systems for the modification of the Subscription Version.
Modify Broadcast Complete Timestamp	T		The date and time that all local SMS systems successfully acknowledged or the retries were exhausted for the modification of the Subscription Version
Billing ID	C (4)		For future use. The default value is the Facilities Based Service Provider ID.
Status Change Cause Code	N (2)		Used to specify reason for conflict when old Service Provider Authorization is set to False, or to indicate NPAC SMS initiated cancellation. Valid values are: No value General Conflict LSR Not Received FOC Not Issued Due Date Mismatch Vacant Number Port NPAC SMS Automatic Conflict from Cancellation NPAC SMS Automatic Cancellation

Table 0-1 Subscription Version Data Model

RX3-3.1 Service Provider NPA-NXX Data Deletion

NPAC SMS shall allow Service Providers to delete their NPA- NXX data via the NPAC SMS to Local SMS interface or the SOA to NPAC SMS interface provided the changes do not cause any updates to the Subscription Versions, Number Pooling Block or Sub-Block Information.

RR4-3 Removal of NPA-NXX

NPAC SMS shall allow removal of an NPA-NXX by NPAC personnel only if no Subscription Versions, except Old or Canceled Subscription Versions, Number Pooling Block or Sub-Block Information, are associated with the NPA-NXX.

RX3-3.2 Service Provider LRN Data Deletion

NPAC SMS shall allow Service Providers to delete their LRN data via the NPAC SMS to Local SMS interface or the SOA to NPAC SMS interface provided the changes do not cause any updates to the Subscription Versions, Number Pooling Block or Sub-Block Information.

RR4-4.2 Removal of LRN

NPAC SMS shall allow removal of an LRN by NPAC personnel only if no Subscription Versions, except Old or Canceled Subscription Versions, Number Pooling Block or Sub-Block Information, are associated with the LRN.

RR3-17 Scope of Extract File Creation

NPAC SMS shall allow NPAC personnel to specify an NPA-NXX for database extract file creation [of active Subscription Versions](#).

Section 3 New Requirements

NUMBER POOLING BLOCK HOLDER INFORMATION DATA MODEL			
Attribute Name	Type (Size)	Required	Description
Block Holder SPID	C(4)	√	The Service Provider Id of the block holder.
TN Range Start	TN	√	Telephone number at the start of the pool.
TN Range End	N(4)	√	Last four (4) digits of telephone number Station that indicates the end of the TN range for the pool.
LRN	TN	√	The LRN is an identifier for the switch on which pooled portable -NPA-NXX-XXXX resides.
CLASS DPC	N (9)	√	DPC for 10-digit GTT for CLASS features.
CLASS SSN	N (3)	√	CLASS SSN for the Subscription Versions.
LIDB DPC	N (9)	√	DPC for 10-digit GTT for LIDB features.
LIDB SSN	N (3)	√	LIDB SSN for the Subscription Version.
CNAM DPC	N (9)	√	DPC for 10-digit GTT for CNAM features.
CNAM SSN	N (3)	√	CNAM SSN for the Subscription Version.
ISVM DPC	N (9)	√	DPC for 10-digit GTT for ISVM features.
ISVM SSN	N (3)	√	ISVM SSN for the Subscription Version
Effective Date	T	√	The effective date of the pool. The time for this field will be stored in GMT, but equivalent to 00:00:00 network data time CST (consistent with current functionality of NPA Splits).
Status	E	√	Status of the Block. The default value is A for Active. Valid enumerated values are: A - Active (0) O - Old (1)

NOTE: The Block Holder Information Data, can only be performed by NPAC Personnel, and no notifications will be sent to either the SOA or LSMS.

RR3-27.1.1 Number Pool Block Holder Information – NPA-NXX Validation

NPAC SMS shall validate that the NPA-NXX specified in the addition of Number Pooling Block Holder information is a valid NPA-NXX defined in the NPAC SMS.

RR3-27.1.2 Number Pool Block Holder Information – NPA-NXX Effective Date

NPAC SMS shall validate that the effective date of the block is equal to, or greater than, the effective date of the NPA-NXX as defined in the NPAC SMS.

RR3-27.2 Number Pool Block Holder Information – LRN Validation

NPAC SMS shall validate that the LRN specified in the addition or modification of Number Pooling Block Holder information is a valid LRN defined in the NPAC SMS for the block holder.

RR3-28.1 Number Pool Block Holder Information – No Overlapping Block Validation

NPAC SMS shall validate that the TN range specified in the addition or modification of Number Pooling Block Holder information does not overlap with a TN in a range for another entry in the Number Pooling Block Holder Information Table.

RR3-28.2 Number Pool Block Holder Information – Block in one NPA-NXX

NPAC SMS shall validate that the range specified for a block of numbers to be pooled is contained in one NPA-NXX-X, where the range begins with n000 and end with n999, where n is a value between 0 and 9.

RR3-29 Number Pool Block Holder Information – Validation Error

NPAC SMS shall report an error to the user and reject the addition or modification of Number Pooling Block Holder information if validation errors occur as defined in RR3-27.1, RR3-27.2, RR3-28.1, RR3-28.2, RR3-31.1.1, RR3-30.1.2, RR3-30.1.3, RR3-31.2, RR3-31.3, and RR3-31.4. **CMA to update numbers once requirements are finalized.**

NOTE: need to add procedures within M&Ps to define steps that should be taken by the NPAC personnel when validation errors are encountered.

RR3-30.1 Addition of Number Pooling Block Holder Information

NPAC SMS shall require NPAC personnel to specify the Service Provider Id, the TN range, the effective date and the initial routing information, as defined in the Number pooling Block Holder Information data model.

RR3-30.2 Use of Number Pool Default Routing Information – Contaminated with No Sub-Block

The NPAC SMS shall use the default routing restoration information in the Number Pooling Block Holder Information as the block holder default routing when a ~~contaminated pooled number is disconnected~~ or port to original port (block holder) is initiated and returns the TN(s) to the block on, or after the effective date of the number pool, provided no Number Pooling Sub-Block Information exists.

Note to Reader: “contaminated pooled number” was deleted because this is BAU, and not block default routing restoration.

~~**RR3-30.3 Use of Number Pool Default Routing Information – Non-Contaminated with No Sub-Block**~~

~~The NPAC SMS shall use the default routing restoration information in the Number Pooling Block Holder Information as the block holder default routing when a non-contaminated pooled number is disconnected or port to original port and returns the TN(s) to the block on or after the effective date of the number pool, provided no Number Pooling Sub-Block Information exists.~~

~~Note to Reader: deleted because this is not a valid scenario, sub-block for this is covered in 3-47.~~

RR3-31.1 Modification of Number Pool Block Holder Information

NPAC SMS shall allow NPAC personnel to modify the block holder default routing information (LRN, DPC(s), and SSN(s)), and the effective date for a pool of numbers as stored in the NPAC SMS.

NOTE: The modification (RR3-31-1) needs an associated M&P to state that approval for this change must be coordinated with the Pooling Administrator.

RR3-31.2 Modification of Number Pool Block Holder Information - Effective Date

NPAC SMS shall allow the NPAC personnel to modify the effective date for a pool of numbers if the current date is less than the effective date for the pool, and the new effective date is equal to or greater than the current date.

RR3-31.3 Modification of Effective Date – Tunable Parameter

NPAC SMS shall provide a Block Holder Effective Date tunable parameter which is defined as the minimum length of time that must be added to the current date to determine a new effective date.

RR3-31.4 Modification of Effective Date – Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the Block Holder Effective Date tunable parameter.

RR3-31.5 Modification of Effective Date – Tunable Parameter Default

NPAC SMS shall default the Block Holder Effective Date tunable parameter to five (5) days.

~~NOTE: Since we're deleting this requirement for auto-activation, via processing and scheduling in the NPAC, we need to add an M&P that the NPAC personnel can modify the activation date in the "script", but that it must be modified to something equal to or greater than the effective date.~~

RR3-31.4 Modification of Number Pool Block Holder Information – Existing Sub-Block(s)

NPAC SMS shall update any associated Sub-Block Holder Information when modifying Block Holder Information in the NPAC SMS, if the sub-block is the only one within the block, and contains the full 1K block of TNs.

RR3-32 Deletion of Number Pool Block Holder Information – Block Data

NPAC SMS shall allow NPAC personnel to delete the block holder ~~default routing~~ information for a pool of numbers as stored in the NPAC SMS ~~if there are no pooled Subscription Versions or Sub-Blocks in the block.~~

RR3-32 Deletion of Number Pool Block Holder Information – Sub-Block and Subscription Version Data

NPAC SMS shall process a block delete request, by deleting all subordinate subscription versions with LNP Type of POOL, and all subordinate Sub-Blocks.

RR3-32 Deletion of Number Pool Block Holder Information – Broadcast of Sub-Block or Subscription Data

NPAC SMS shall broadcast Pooled data deletes via the NPAC SMS to Local SMS Interface.

RR3-46 Deletion of Number Pooling Block Holder Information – Old Status Update to Sub-Block and Subscription Versions

NPAC SMS shall update the status of the Sub-Block and Subscription Versions upon successful completion of the broadcast to ALL Local SMSs, from a sending status to an old status.

RR3-46 Deletion of Number Pooling Block Holder Information – Failed Status Update

NPAC SMS shall update the status of the Sub-Block and Subscription Versions upon successful completion of the broadcast to NONE of the Local SMSs, from a sending status to an active status.

RR3-46 Deletion of Number Pooling Block Holder Information – Subscription Version Broadcast Failure to Local SMS

NPAC SMS shall consider a non-EDR Local SMS to be discrepant, and on the failed SP List, for the Sub-Block, if one or more subscription version disconnect broadcasts were unsuccessful.

RR3-46 Deletion of Number Pooling Block Holder Information – Sub-Block Broadcast Failure to Local SMS

NPAC SMS shall consider an EDR Local SMS to be discrepant, and on the failed SP List, for the Sub-Block and ALL subscription versions, if the Sub-Block disconnect broadcast was unsuccessful.

RR3-46 Deletion of Number Pooling Block Holder Information – Block Status Update

NPAC SMS shall update the status of the Block upon status update completion to the subordinate Sub-Blocks and Subscription Versions, to an active/old status.

RR3-46 Deletion of Number Pooling Block Holder Information – Block Holder Notification

NPAC SMS shall send a notification to the Block Holder to update the status of the Sub-Block on the SOA.

RR3-46 Deletion of Number Pooling Block Holder Information – Code Holder Notification

NPAC SMS shall send a “de-pool” notification to the Code Holder to indicate that the block has been de-pooled, and the Code Holder should reinstate default routing for the block, but not consider this to be a notification for potential TN re-assignment.

RR3-33.1 NPA Splits and the Number Pool Block Holder Information – ~~Table~~ Modification

NPAC SMS shall upon the start of permissive dialing for an NPA Split convert the old NPA-NXX to the new NPA-NXX in the Number Pooling Block Information if appropriate.

NOTE: need to update M&P to let everyone know that this is automated at the NPAC, and that all SPs need to deal with the new NPA from this point on.

RR3-33.2 NPA Splits and the Number Pool Block Holder Information Table – NXX Removal from Split

NPAC SMS shall upon the removal of an NPA-NXX from an NPA Split after the start of permissive dialing shall reinstate the original NPA for the NXX in the Block Holder Information.

RR3-33.3 NPA Splits and the Number Pool Block Holder Information Table – Addition of an NPA-NXX involved in an NPA Split

NPAC SMS shall convert the old NPA-NXX to the new NPA-NXX for an NPA-NXX involved in an NPA Split upon entry into the Number Pooling Block Holder Information, if the old NPA-NXX is currently in permissive dialing.

~~NOTE: need to update M&P so that NPAC personnel do the conversion of old to new, even if the form contains old.~~

RR3-34 Number Pool Block Holder information notification of First Port

NPAC SMS shall upon creation of the Number Pooling Block Holder Information send a notification of the planned first port for the NPA-NXX if there have not been any previous ports for the NPA-NXX.

NOTE: Should check the Portable NPA-NXX Data Model to see if a notification had previously been sent (“NPA-NXX has been Ported” attribute).

Need to add an M&P for provisioning flow, box 8, to state that NPAC personnel will reject the pooled request back to the Pooling Administrator.

RR3-35 Query of Number Pool Block Holder Information

NPAC SMS shall allow NPAC personnel to query the block holder information for data as listed in the Block Holder Information Data Model, as well as the Creation Date of the Block, for a pool of numbers as stored in the NPAC SMS.

RR3-25 Mass Update of “Pooled Number” Subscription Versions - Notification Suppression

NPAC SMS shall suppress SOA notifications to the current SP (the block holder) for mass updates on Subscription Versions with an LNP Type of POOL, when the Sub-Block SOA Originated attribute indicates that the NPAC created the pooled TNs.

NOTE: This applies to the delete of SVs.

~~NOTE: Need to re-visit this requirement if it is originated on the SOA, since there is an issue with notifications/suppression of “sending”, and whether this is static for the SP or it can be changed on an individual request basis.~~

NUMBER POOLING SUB-BLOCK HOLDER INFORMATION DATA MODEL

Attribute Name	Type (Size)	Required	Description
Block Holder SPID	C(4)	√	The Service Provider Id of the block holder.
TN Range Start	TN	√	Telephone number at the start of the pool.
TN Range End	N(4)	√	Last four (4) digits of the F telephone number at the end of the pool.
LRN	TN	√	The LRN is an identifier for the switch on which pooledportable NPA-NXX-XXXX resides.
CLASS DPC	N (9)	√	DPC for 10-digit GTT for CLASS features.
CLASS SSN	N (3)	√	CLASS SSN for the Subscription Versions.
LIDB DPC	N (9)	√	DPC for 10-digit GTT for LIDB features.
LIDB SSN	N (3)	√	LIDB SSN for the Subscription Version.
CNAM DPC	N (9)	√	DPC for 10-digit GTT for CNAM features.
CNAM SSN	N (3)	√	CNAM SSN for the Subscription Version.
ISVM DPC	N (9)	√	DPC for 10-digit GTT for ISVM features.
ISVM SSN	N (3)	√	ISVM SSN for the Subscription Version
Activation Timestamp	T		Date and time (GMT) of the Activation. This field defines the date and time of the activation request (i.e., the date the NPAC broadcasts to the LSMSs).
Last Modified Timestamp	T		Date and time (GMT) of the Last Modification to the Sub-Block.
SOA Origination	B	√	A boolean that indicates whether or not the Service Provider's SOA initiated the Sub-Block over the SOA to NPAC SMS Interface. This attribute will be set by the NPAC SMS at the time of Sub-Block creation.
Status	E	√	Status of the Sub-Block.

NUMBER POOLING SUB-BLOCK HOLDER INFORMATION DATA MODEL

Attribute Name	Type (Size)	Required	Description
			<p><u>The default value is P for Pending.</u></p> <p><u>Valid enumerated values are:</u></p> <p><u>A - Active (0)</u></p> <p><u>S - Sending (1)</u></p> <p><u>F - Failed (2)</u></p> <p><u>PF - Partial Failure (3)</u></p> <p><u>O - Old (4)</u></p>

NOTE: The Sub-Block Holder Information Data, can be initiated by either NPAC Personnel or over the SOA Interface, and notifications may be sent or suppressed to the SOA or LSMS, depending on the EDR flag value in the SP profile, and the Originator Flag.

~~RR3-15 — Service Provider EDR Indicator~~

~~NPAC SMS shall provide a mechanism for the Service Provider to indicate whether or not they maintain Efficient Data Representation, and want Number Pooling Sub-Block Information downloaded to their Local SMS via the NPAC SMS to Local SMS Interface, using the Number Pooling Block Object.~~

~~RR3-16 — Service Provider EDR Indicator Default~~

~~NPAC SMS shall default the EDR Indicator to **OFF**.~~

RR3-17 Service Provider EDR Indicator Download of Sub-Block Object

NPAC SMS shall download Number Pooling Sub-Block Information, for additions, modifications, and deletions, using the Number Pooling Sub-Block Object, via the NPAC SMS to Local SMS Interface if the EDR indicator is **ON**.

RR3-18 Service Provider EDR Indicator Download of SVs

NPAC SMS shall download Number Pooling Sub-Block Information, for additions, modifications, and deletions, using individual subscription versions with LNP Type of POOL, via the NPAC SMS to Local SMS Interface if the EDR indicator is **OFF**.

RR3-19 Modification of Service Provider EDR Indicator

NPAC SMS shall allow NPAC personnel to modify the EDR Indicator on the NPAC Customer record.

RR3-35 Number Pool Sub-Block Holder Information – Service Provider Validation

NPAC SMS shall validate that the Block Holder SPID in the request for additions, modifications, and deletions, is equal to the SPID making the request in the SOA to NPAC SMS Interface.

RR3-35 Number Pool Sub-Block Holder Information – Block Data Validation

NPAC SMS shall validate that the Block Holder SPID in the Sub-Block is equal to the Block Holder SPID, TN Range Start in the Sub-Block is equal to or greater than the TN Range Start, and the TN Range End in the Sub-Block is equal to or less than the TN Range End, in one of the NPA-NXX specified in the addition of Number Pooling Sub-Block Holder information is a valid Number Pooling Blocks defined in the NPAC SMS.

RR3-36 Number Pool Sub-Block Holder Information – Block Effective Date

NPAC SMS shall reject a request to create or modify a Sub-Block if the current date is prior to validate that the effective date of the sub-block is equal to, or greater than, the effective date of the Number Pooling Block as defined in the NPAC SMS.

RR3-37 Number Pool Sub-Block Holder Information – LRN Validation

NPAC SMS shall validate that the LRN specified in the addition or modification of Number Pooling Sub-Block Holder information is a valid LRN defined in the NPAC SMS for the block holder. May need to change to state exact LRN match from block holder, if we agree on this later.

RR3-38 Number Pool Sub-Block Holder Information – No Overlapping Sub-Block Validation

NPAC SMS shall validate that the TN range specified in the addition or modification of Number Pooling Sub-Block Holder Information does not overlap with a TN in a range for another entry in the Number Pooling Sub-Block Holder Information.

RR3-39 Number Pool Sub-Block Holder Information – Block in one NPA-NXX

NPAC SMS shall validate that the range specified for a sub-block of numbers to be pooled is contained in one NPA-NXX-X, where the range of stations fall between 000 and 999, inclusive.

RR3-40 Number Pool Sub-Block Holder Information – Minimum Sub-Block Size Tunable Parameter

NPAC SMS shall provide a Minimum Sub-Block Size tunable parameter, which is defined as the minimum number of TNs in a sub-block.

RR3-41 Number Pool Sub-Block Holder Information – Minimum Sub-Block Size Tunable Parameter Modification

NPAC SMS shall allow the NPAC SMS Administrator to modify the Minimum Sub-Block Size tunable parameter.

RR3-42 Number Pool Sub-Block Holder Information – Minimum Sub-Block Size Tunable Parameter Default

NPAC SMS shall default the Minimum Sub-Block Size tunable parameter to 1000* TNs.

RR3-43 Number Pool Sub-Block Holder Information – Minimum Sub-Block Size Processing

NPAC SMS shall use the Minimum Sub-Block Size tunable parameter to determine the threshold for processing Sub-Block creation requests, and will reject requests below the minimum size~~broadcasting Sub-Block Holder Information to EDR-compatible SPs, such that sub-blocks of size less than the tunable parameter will invoke individual SV processing, and sub-blocks of size equal to or greater than the tunable parameter will invoke block object processing.~~

RR3-43 Number Pool Sub-Block Holder Information – Originator

NPAC SMS shall set the SOA Originated Indicator based on the origination point for the Sub-Block creation, where this value is TRUE for Sub-Blocks sent over the SOA, and FALSE for Sub-Blocks that were created by NPAC personnel.

RR3-44 Number Pool Sub-Block Holder Information – Validation Error

NPAC SMS shall report an error to the user and reject the addition or modification of Number Pooling Block Holder information if validation errors occur as defined in RR3-35, RR3-36, RR3-37, RR3-38, RR3-39, RR3-40, RR3-41, RR3-42, RR3-43, RR3-44, RR3-46, RR3-47, RR3-48, RR3-49, RR3-50, RR3-51, RR3-52, RR3-53, RR3-54, RR3-55, RR3-56, RR3-57, and RR3-58.

RR3-46 Number Pooling Sub-Block Holder Information – Status Update Notification

NPAC SMS shall send SOA notifications to the current SP (the block holder) for status updates on Subscription Versions with an LNP Type of POOL, when the Sub-Block SOA Originated attribute indicates that the SOA created the pooled Sub-Block.

RR3-46 Number Pooling Sub-Block Holder Information – Status Update Notification Suppression

NPAC SMS shall suppress SOA notifications to the current SP (the block holder) for status updates on Subscription Versions with an LNP Type of POOL, when the Sub-Block SOA Originated attribute indicates that the NPAC created the pooled Sub-Block.

RR3-46 Number Pooling Sub-Block Holder Information – Failed SP List Update

NPAC SMS shall update the Sub-Block with a Failed SP List, based on an EDR Local SMS failing to process the Sub-Block Object, or a non-EDR Local SMS failing to process one or more Subscription Versions within the Sub-Block.

RR3-46 Number Pooling Sub-Block Holder Information – Failed SP List Broadcast

NPAC SMS shall broadcast a Failed SP List, to the current SP (the block holder) via the SOA to NPAC SMS Interface, along with the SOA notification for status update.

RR3-45 Addition of Number Pooling Sub-Block Holder Information

NPAC SMS shall allow NPAC personnel or Service Provider via the SOA to NPAC SMS interface to request the creation of a Number Pooling Sub-Block.

RR3-45 Addition of Number Pooling Sub-Block Holder Information – Required Data

NPAC SMS shall require NPAC personnel or Service Provider via the SOA to NPAC SMS interface to specify the Service Provider Id, the TN range, and the initial routing information, as defined in the Number Pooling Sub-Block Holder Information data model.

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Optional Data

NPAC SMS shall allow NPAC personnel or Service Provider via the SOA to NPAC SMS interface to optionally specify the activation timestamp (stored in GMT) as defined in the Number Pooling Sub-Block Holder Information data model at the time of initial creation.

~~NOTE: – need to add M&Ps to state that this needs to be converted by the NPAC personnel, and stored in GMT.~~

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Service Provider Data

NPAC SMS shall verify that the Old and New Service Provider IDs exist in the NPAC SMS at the time of initial Sub-Block creation.

Requirement 3 Addition of Number Pooling Sub-Block Holder Information – Field-level Data Validation

NPAC SMS shall perform field-level data validations to ensure that the value formats for the following input data, if supplied, is valid according to the formats specified in Table 3-x upon Sub-Block creation for a Number Pool:

- ?2 Block Holder SPID
- ?3 TN Range Start
- ?4 TN Range End
- ?5 LRN
- ?6 Class DPC
- ?7 Class SSN

- ?8 [LIDB DPC](#)
- ?9 [LIDB SSN](#)
- ?10 [CNAM DPC](#)
- ?11 [CNAM SSN](#)
- ?12 [ISVM DPC](#)
- ?13 [ISVM SSN](#)
- ?14 [Activation Timestamp](#)

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Subscription Data

NPAC SMS shall create individual subscription versions, with LNP Type of POOL, for each TN within a Sub-Block immediately after successfully creating a Number Pooling Sub-Block in the NPAC SMS.

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Broadcast of Sub-Block or Subscription Data

NPAC SMS shall broadcast Pooled data via the NPAC SMS to Local SMS Interface, upon successful creation of the Pooled Sub-Block and Pooled Subscription Versions in the NPAC SMS.

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Active Status Update

NPAC SMS shall update the status of the Sub-Block and Subscription Versions upon successful completion of the broadcast to ALL Local SMSs, from a sending status to an active status.

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Partially Failed Status Update

NPAC SMS shall update the status of the Sub-Block and Subscription Versions upon successful completion of the broadcast to SOME, but not all Local SMSs, from a sending status to a partially failed status.

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Failed Status Update

NPAC SMS shall update the status of the Sub-Block and Subscription Versions upon successful completion of the broadcast to NONE of the Local SMSs, from a sending status to a failed status.

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Subscription Version Broadcast Failure to Local SMS

NPAC SMS shall consider a non-EDR Local SMS to be discrepant, and on the failed SP List, for the Sub-Block, if one or more subscription version activation broadcasts were unsuccessful.

RR3-46 Addition of Number Pooling Sub-Block Holder Information – Sub-Block Broadcast Failure to Local SMS

NPAC SMS shall consider an EDR Local SMS to be discrepant, and on the failed SP List, for the Sub-Block and ALL subscription versions, if the Sub-Block activation broadcast was unsuccessful.

RR3-47 Use of Number Pool Default Routing Information – Existing Sub-Block

The NPAC SMS shall use the default routing restoration information in the Number Pooling Sub-Block Holder Information as the block holder default routing when a ported pooled number is disconnected or port to original port and returns the TN(s) to the block, on or after the activation date of sub-block~~effective date of the number pool, provided Number Pooling Sub-Block Information exists.~~

RR3-48 Modification of Number Pooling Sub-Block Holder Information

NPAC SMS shall allow NPAC personnel or Service Provider via the SOA to NPAC SMS interface to modify the sub-block holder default routing information (LRN, DPC(s), and SSN(s)), for a pool of numbers as stored in the NPAC SMS for default routing restoration~~block holder snap back processing.~~

RR3-46 Modification of Number Pooling Sub-Block Holder Information – Subscription Data

NPAC SMS shall update individual subscription versions, with LNP Type of POOL, for each TN within a Sub-Block immediately after successfully modifying a Number Pooling Sub-Block in the NPAC SMS.

RR3-46 Modification of Number Pooling Sub-Block Holder Information – Broadcast of Sub-Block or Subscription Data

NPAC SMS shall broadcast Pooled data via the NPAC SMS to Local SMS Interface, upon successful modification of the Pooled Sub-Block and Pooled Subscription Versions in the NPAC SMS.

RR3-46 Modification of Number Pooling Sub-Block Holder Information – Active Status Update

NPAC SMS shall update the status of the Sub-Block and Subscription Versions upon completion of the broadcast to ALL Local SMSs, whether or not the broadcasts were successful, from a sending status to an active status.

RR3-46 Modification of Number Pooling Sub-Block Holder Information – Subscription Version Broadcast Failure to Local SMS

NPAC SMS shall consider a non-EDR Local SMS to be discrepant, and on the Failed SP List, for the Sub-Block, if one or more subscription version modify active broadcasts were unsuccessfully.

RR3-46 Modification of Number Pooling Sub-Block Holder Information – Sub-Block Broadcast Failure to Local SMS

NPAC SMS shall consider an EDR Local SMS to be discrepant, and on the Failed SP List, for the Sub-Block and ALL subscription versions, if the Sub-Block modify active broadcast was unsuccessfully.

~~**RR3-49 Modification of Number Pool Sub-Block Holder Information – Activation Timestamp**~~

~~NPAC SMS shall allow the NPAC personnel or Service Provider via the SOA to NPAC SMS interface to modify the activation timestamp if the current date is less than the activation timestamp for the sub-block, and the new activation timestamp is equal to or greater than the current date.~~

RR3-50 Deletion of Number Pool Sub-Block Holder Information

NPAC SMS shall ~~reject a request to delete a Sub-Block by~~ allow NPAC personnel or Service Provider via the SOA to NPAC SMS interface.

~~NOTE: need error messaging, possibly use “processing failure 14018, with string” to delete the sub-block holder default routing information for a sub-block of pooled numbers as stored in the NPAC SMS for return to the block holder if there are no pooled Subscription Versions.~~

~~May need to check to see if sub-block is equal to HK, then maybe auto-delete the parent block, as well.~~

RR3-51 NPA Splits and the Number Pooling Sub-Block Holder Information ~~Table –~~ Modification

NPAC SMS shall upon the start of permissive dialing for an NPA Split convert the old NPA-NXX to the new NPA-NXX in the Number Pooling Sub-Block Information, if appropriate.

RR3-52 NPA Splits and the Number Pooling Sub-Block Holder Information ~~Table –~~ NXX Removal from Split

NPAC SMS shall upon the removal of an NPA-NXX from an NPA Split after the start of permissive dialing shall reinstate the original NPA for the NXX in the Sub-Block Holder Information.

RR3-53 NPA Splits and the Number Pool Sub-Block Holder Information ~~Table –~~ Addition of an NPA-NXX involved in an NPA Split

NPAC SMS shall convert the old NPA-NXX to the new NPA-NXX for an NPA-NXX involved in an NPA Split upon entry into the Number Pooling Sub-Block Holder Information, if the old NPA-NXX is currently in permissive dialing.

~~**RR3-54 Broadcast of Number Pool Sub-Block Holder Information**~~

~~NPAC SMS shall broadcast addition, modification and deletion of number pool sub-block holder information via the SOA to NPAC SMS and NPAC to Local SMS interfaces.~~

~~NOTE: RR3-58 above, is broadcasting to both SOA and LSMS because of a Release 2 change order (NANC 139), which includes SOAs in broadcasts.~~

~~NOTE: RR3-58 above, needs to look at EDR flag and determine if need to send an M-SET for the new block object, or send M-SETs for all SVs in the range, with a LNPTType equal to POOL.~~

~~NOTE: Need to discuss bulk download of sub-block data, in San Francisco, on 6/22/98.~~

RR3-20 Bulk Database Extracts – Sub-Block

NPAC SMS shall periodically perform NPAC SMS database extracts of active Sub-Blocks on a Service Provider basis to an ASCII file.

RR3-21 Scope of Extract File Creation – Sub-Block

NPAC SMS shall allow NPAC personnel to specify a Service Provider for database extract file creation of active Sub-Blocks.

RR3-22 Parameters of Extract File Creation – Sub-Block

NPAC SMS shall allow NPAC personnel to specify the following parameters for database extract file creation of active Sub-Blocks:

- Block Holder SPID
- TN Range Start
- TN Range End
- LRN
- CLASS DPC
- CLASS SSN
- LIDB DPC
- LIDB SSN
- CNAM DPC
- CNAM SSN
- ISVM DPC
- ISVM SSN
- Activation Timestamp
- Last Modified Timestamp
- SOA Origination

RR3-23 Bulk Download File Creation – Sub-Block

NPAC SMS shall allow NPAC personnel to request a bulk download file for Sub-Block data via the NPAC Administrative Interface.

RR3-24 Resynchronization – Sub-Block

NPAC SMS shall process a Service Provider request to download Sub-Block data over the NPAC SMS to Local SMS Interface, when a Service Provider establishes an association with the resynchronization flag set to TRUE.

Section 5 New Requirements

Subscription Version Creation - Number Pooling Ports – Pre Port

This section provides the Subscription Version Creation requirements for performing a Number Pooling port of a TN. This will cause the pooled numbers to be owned by a new service provider (the block holder) for distribution to their customers.

~~No notifications are sent to the SOA systems of the old service provider or the new service provider (the block holder) as a result of a pooled number port. However, as with existing porting activity, downloads of Subscription Versions to the Local SMS's occur, or depending on the EDR implementation at the NPAC, the broadcast may be the new block object.~~

Requirement 1 Create “Pooled Number” Subscription Version

NPAC SMS shall ~~automatically populate~~ ~~require~~ the following data from ~~the associated Sub-Block~~ ~~NPAC personnel~~ upon Subscription Version creation for a Pooled Number port:

- ?15 Local Number Portability Type - Port Type. This field must be set to “POOL” for an LNP pooled number port.
- ?16 Ported Telephone Numbers - this entry is a continuous range of TNs that identifies a group of Subscription Versions that have not previously been ported.
- ?17 Due Date - date on which transfer of service of a number pool from an old facilities-based Service Provider to new facilities-based Service Provider is initially planned to occur. This field will be set to the current date.
- ?18 New Facilities-based Service Provider ID - the identifier of the new facilities-based Service Provider (the service provider identified in the block holder information table as the new block holder).
- ?19 Old Facilities-based Service Provider ID - the identifier of the old facilities-based Service Provider that is the code holder (i.e. the current owner of the block).
- ?20 Authorization from old facilities-based Service Provider - indication that the ported-from Service Provider authorizes the transfer of the pooled numbers. This value will be set to TRUE by the NPAC SMS and can not be changed.
- ?21 Status Change Cause Code - indication of reason for denial of authorized by the Old Service Provider. This field will be set to “no value” by the NPAC SMS.
- ?22 Porting to Original - flag indicating whether or not this is a “porting to original” port. This flag will be set to “FALSE” for a Pooled Number port by the NPAC SMS.

Requirement 2 Create “Pooled Number” Subscription Version - New Service Provider Optional input data

NPAC SMS shall ~~automatically populate~~ ~~accept~~ the following optional fields ~~from NPAC personnel~~ upon Subscription Version creation for a Pooled Number port:

- ?23 Billing Service Provider ID ~~– This field will be set to “no value” by the NPAC SMS.~~
- ?24 End-User Location - Value ~~– This field will be set to “no value” by the NPAC SMS.~~

?25 End-User Location - Type – This field will be set to “no value” by the NPAC SMS.

Requirement 3 Create “Pooled Number” Subscription Version – Field-level Data Validation

NPAC SMS shall perform field-level data validations to ensure that the value formats for the following input data, if supplied, is valid according to the formats specified in Table 3-5 upon Subscription Version creation for a Pooled Number port:

?26 LNP Type

?27 Ported TNs

?28 Old Service Provider Due Date

?29 New Service Provider Due Date

?30 Old Service Provider ID

?31 New Service Provider ID

?32 Authorization from old facilities-based Service Provider

?33 Status Change Cause Code

?34 Porting to Original

?35 Billing Service Provider ID

?36 End-User Location – Value

?37 End-User Location – Type

Requirement 3.2 Create “Pooled Number” Subscription Version – Routing Information

NPAC SMS shall automatically populate and use the following information from the Number Pool Block information table for the TN range specified:

?38 LRN

?39 Class DPC

?40 Class SSN

?41 LIDB DPC

?42 LIDB SSN

?43 CNAM DPC

?44 CNAM SSN

?45 ISVM DPC

?46 ISVM SSN

Requirement 3.3 Create “Pooled Number” Subscription Version – Range Validation

NPAC SMS shall verify that the range specified in a pooled number port is contained within a block specified in the Number Pool Block information table:

Requirement 4 Create “Pooled Number” Subscription Version – Due Date Validation

NPAC SMS shall verify that the due date is the current date upon Subscription Version creation for a Pooled Number port.

Requirement 5.1 — Create “Pooled Number” Subscription Version – Ported TN Old NPA-NXX Validation

NPAC SMS shall verify that the NPA-NXX to be ported exists as an NPA-NXX in the NPAC SMS system for the old Service Provider upon Subscription Version creation for a Pooled Number port.

Requirement 5.2 — Create “Pooled Number” Subscription Version – Ported TN New NPA-NXX Validation

NPAC SMS shall verify that the NPA-NXX for the range of TN’s to be ported exists in the NPAC SMS Number Pooling Block Holder Information Table for the new Service Provider upon Subscription Version creation for a Pooled Number port.

RR5-6.4.2 Create “Pooled Number” Subscription Version – Due Date Validation for NPA-NXX effective date

NPAC SMS shall verify that the due date is greater than or equal to the NPA-NXX effective date upon Subscription Version creation for a Pooled Number port.

CMA Comment → the above (6.4.2) is not needed, since the requirement below would have already done the NPA-NXX check when the block was added.

RR5-6.4.3 Create “Pooled Number” Subscription Version – Due Date Validation for Pool effective date

NPAC SMS shall verify that the due date is greater than or equal to the pool effective date in the Number Pool Block information table upon Subscription Version creation for a Pooled Number port.

Requirement 6 Create “Pooled Number” Subscription Version – Service Provider ID Validation

NPAC SMS shall verify that the old and new Service Provider IDs exist in the NPAC SMS system upon Subscription Version creation for Pooled Number port.

Requirement 7 – Create “Pooled Number” Subscription Version – Service Provider ID Different Validation

NPAC SMS shall verify that the old and new Service Provider Ids are not the same, upon Subscription Version Creation for a Pooled Number Port.

~~ISSUE: discussion in Chicago (5/20/98) centered on whether or not we should allow a code holder to also be a block holder within any given NPA-NXX. All SPs need to investigate business reasons for this, and provide input at next meeting (6/1/98). This will drive whether the requirement reads "...are not the same..." or "...could be the same...". Update on 6/1/98, all SPs agree that the NPAC should allow the SPIDs to be the same, since the SP could decide to home the pooled block on a switch different from the default switch according to the LERG. Therefore, the CMA proposes to remove this requirement.~~

~~**Requirement 8 Create "Pooled Number" Subscription Version – Originating Service Provider Validation**~~

~~NPAC SMS shall verify that only NPAC Personnel can create Subscription Versions for Pooled Number ports.~~

~~**CMA Comment → the above (8) should be removed since both NPAC Personnel and SP SOAs can create pooled SVs.**~~

Requirement 9 Create "Pooled Number" Subscription Version – Subscription Version Validation

NPAC SMS shall verify that there are no subscription versions with pending, conflict, cancel-pending, or failure status that exist for any of the TN's in the specified Number Pool Block information upon Subscription Version creation for a Pooled Number port.

Requirement 10.1 Create "Pooled Number" Subscription Version – No Override of Existing Subscription Versions

NPAC SMS shall not affect any existing subscription versions with an active, partial failure, disconnect pending, old with a failed LSMS list, or sending status that exist in the number pool for a Pooled Number Port.

Requirement 10.2 Create "Pooled Number" Subscription Version – Bypass of Existing Subscription Versions

NPAC SMS shall upon finding an existing subscription version with an active, partial failure, disconnect pending, old with a failed LSMS list, or sending status in the number pool for a Pooled Number Port will bypass and not alter that TN/subscription version, log an information message, and continue processing.

Requirement 11 Create "Pooled Number" Subscription Version - Validation Failure Notification

NPAC SMS shall send an appropriate error message to the originating NPAC personnel user if any of the validations listed in Requirements 3.3, 4, 5.1, RR5-6.4.2, RR5-6.4.3, 6, 7, 8, 9, 10 fail upon Subscription Version creation for a Pooled Number port.

CMA Comment → need to update requirements list above and below, once numbers are finalized.

Requirement 12 Create “Pooled Number” Subscription Version - Validation Failure - No Create

NPAC SMS shall not create a new Subscription Version, if any of the validations fail listed in Requirements 3.3, 4, 5.1, 5.2, RR5-6.4.2, RR5-6.4.3, 6, 7, 8, 9, 10 upon Subscription Version creation for a Pooled Number port.

Requirement 13 Create “Pooled Number” Subscription Version - Validation Success - Create New

NPAC SMS shall create a new Subscription Version if all validations pass at the time of Subscription Version creation for a Pooled Number port [of Subscription Versions](#).

Requirement 14.1 Create “Pooled Number” Subscription Version - Set to [ActiveSending](#)

NPAC SMS shall set a Subscription Version to [active sending](#) upon successful subscription creation.

Requirement 14.2 Create “Pooled Number” Subscription Versions – No Notifications

NPAC SMS shall suppress all notifications to the old and new service provider SOA systems for Pooled Number ports [of Subscription Versions](#).

~~**ISSUE for 14.2: Do we want to send or suppress notifications for PP and NO auto-activation? For PP with auto activation, we suppress (see 14.2 above).**~~

~~**NOTE for 14.2: For ERD, 14.2 above, these notification are being suppressed at the time of creation, but will be broadcast during the activation process.**~~

Requirement 14.3 Filters for “Pooled Number” Subscription Versions

NPAC SMS shall apply NPA and/or NPA-NXX (Accepted) Filters to subscription versions downloads to the Local SMS(s) for pooled number ports.

~~**Requirement 14.4 – Prevention of Port to Original on “Pooled Number” Subscription Versions**~~

~~NPAC SMS will shall prevent port to original ports for Subscription Versions with an LNP Type of POOL.~~

~~**Requirement 16 – Create for Intra-Service Provider Ported Number Subscription Versions – Number Pooling below size x**~~

~~NPAC SMS shall create an intra-service provider ported subscription version for all pooled SV requests that are below the minimum sub-block size of x.~~

Requirement 17 “Pooled Number” Subscription Version – Reject Messages

NPAC SMS shall reject a message from NPAC personnel or a Service Provider SOA to Create, Modify Pending, Activate, Modify Active, or Disconnect, a Subscription Version with an LNP Type of POOL.

Requirement 17 Create Inter-Service Provider Subscription Version – After Block Effective Date

NPAC SMS shall validate that the Old Service Provider is the Block Holder, in an inter-service provider port, if there are no active Subscription Versions in the NPAC SMS.

Requirement 17 Create Intra-Service Provider Subscription Version – After Block Effective Date

NPAC SMS shall validate that the Old Service Provider is the Block Holder, in an intra-service provider port, if there are no active Subscription Versions in the NPAC SMS.

Requirement 17 Create Inter-Service Provider Port-to-Original Subscription Version – After Block Effective Date

NPAC SMS shall validate that the Old Service Provider is the Block Holder, and the currently active Subscription Version in the NPAC SMS does NOT belong to the Block Holder, in an inter-service provider port-to-original port.

~~*Subscription Version Creation – Number Pooling Ports – Port on Demand*~~

~~***ISSUES for Port on Demand:***~~

- ~~*• **Should notifications be suppressed for the port on demand?***~~
- ~~*• **First Usage Notification will be handled on the first port for port on demand instead of when the number pooling block information table entry is created as is done for pre-porting***~~

~~*CMA refrained from writing requirements until the above issues are resolved. There are some old requirements that could potentially be used depending on the outcome of these issues.*~~

Assumption – Number Pool Lifetime

Once a TN is pooled in the NPAC SMS it will remain in the pool until a subsequent port occurs.

Requirement 16 – Disconnect Subscription Version – Pooled Number Sub-Block Holder Default Routing Restoration

The NPAC SMS shall reinstate the Sub-Block holder default routing, block holder Service Provider Id and the LNP Type to POOL for a subscription version upon a disconnect for a TN belonging to a pool.

Requirement 17 - Disconnect Subscription Version - Customer Disconnect Date Notification for Pooled Number

NPAC SMS shall notify the new Service Provider (the block owner) of the Subscription Version Customer Disconnect Date and Effective Release Date immediately prior to reinstating the default routing.

Requirement 16 – Disconnect Subscription Version – Broadcast of Subscription Data Creation

The NPAC SMS shall broadcast a new Subscription Version Create to a non-EDR Local SMS, upon deleting an inter-ported or intra-ported Subscription Version, where the TN is within the range of a Pooled Block.

Requirement 16 – Disconnect Subscription Version – Broadcast of Subscription Data Deletion

The NPAC SMS shall broadcast a Subscription Version Delete to an EDR Local SMS, upon deleting an inter-ported or intra-ported Subscription Version, where the TN is within the range of a Pooled Block.

Section 5.1.3.2 System Functionality

RR5-44 Query Subscription Version – LNP Type of POOL

NPAC SMS shall on query requests by authorized NPAC personnel, SOA to NPAC SMS interface users, or NPAC SMS to Local SMS interface return subscription versions with LNP Type of POOL that match the query selection criteria.

RR5-44 Query Sub-Block

NPAC SMS shall on query requests by authorized NPAC personnel, or SOA to NPAC SMS interface users, return Sub-Block data that match the query selection criteria.

Section 5 Modified Requirements

Section 5.1.2.2 System Functionality

R5-19.2 Create Subscription Version – Old Service Provider ID Validation – No Active Subscription Version

NPAC SMS shall validate that the old Service Provider in the create message is the Service Provider to which the TN's NPA-NXX is assigned (as stored in the NPAC SMS service provider data tables), or is the Service Provider to which the TN's NPA-NXX-X is assigned (as stored in the NPAC SMS Number Pooling Block Holder data tables), if there is currently no active Subscription Version for the TN in the NPAC SMS.

R5-6.9 Create “Intra-Service Provider Port” Subscription Version – Old Service Provider ID Validation – No Active Subscription Version

NPAC SMS shall validate that the old Service Provider in the create message is the Service Provider to which the TN's NPA-NXX is assigned (as stored in the NPAC SMS service provider data tables), or is the Service Provider to which the TN's NPA-NXX-X is assigned (as stored in the NPAC SMS Number Pooling Block Holder data tables), if there is currently no active Subscription Version for the TN in the NPAC SMS.

~~Subscription Version Activation~~

~~R5-57.1 Activate Subscription Version - Send to Local SMSs~~

~~NPAC SMS shall send the activated Subscription Version for an activated Inter-Service Provider, Intra-Service Provider, or Number Pool port via the NPAC SMS to Local SMS Interface to the Local SMSs.~~

~~Subscription Version Disconnect~~

~~Requirement 15.1 – Disconnect Subscription Version – No Service Provider Disconnect of a non-ported Pooled Number~~

~~NPAC SMS shall prevent a disconnect by the Service Provider of a subscription version that has an LNP Type of POOL.~~

~~Requirement 15.2 – Disconnect Subscription Version – NPAC Personnel Disconnect of a non-ported Pooled Number~~

~~NPAC SMS shall allow a disconnect by NPAC personnel of a subscription version that has an LNP Type of POOL.~~

~~Assumption – Number Pool Lifetime~~

~~Once a TN is pooled in the NPAC SMS it will remain in the pool until a subsequent port occurs.~~

~~Requirement 16 – Disconnect Subscription Version – Pooled Number Block holder default routing Restoration~~

~~The NPAC SMS will reinstate the block holder default routing, block holder Service Provider Id and the LNP Type to POOL for a subscription version upon a disconnect for a TN belonging to a pool. NOTE: The reinstatement of the block holder default routing will result in an M-Create to the Local SMS.~~

~~Requirement 17 – Disconnect Subscription Version – Customer Disconnect Date Notification for Pooled Number~~

~~NPAC SMS shall notify the new Service Provider (the block owner) of the Subscription Version Customer Disconnect Date and Effective Release Date immediately prior to reinstating the default routing.~~

~~Section 5.1.3.2 System Functionality~~

~~RR5-44 – Query Subscription Version – LNP Type of POOL~~

~~NPAC SMS shall on query requests by authorized NPAC personnel, SOA to NPAC SMS interface users, or NPAC SMS to Local SMS interface return subscription versions with LNP Type of POOL that match the query selection criteria.~~

Section 6 New Requirements

RR6-15 – Sub-Block Resynchronization Filter Usage

NPAC SMS shall, for a Sub-Block Resynchronization request, over the NPAC SMS to Local SMS Interface, only send Sub-Blocks that are not filtered on the Local SMS.

Section 8 New Requirements

Requirement 18 – Audit Discrepancy and Results Notifications for Pooled Number Subscription Versions

NPAC SMS shall for audits of Subscription Versions with LNP Type of POOL send notifications of discrepancies found and audit results to the requesting SOA. Note: This would mean that a SOA (like today) could potentially get a discrepancy notification for a TN that is not present in the SOA database.

Requirement 19- Audit Status Attribute Value Change Notification Suppress for Pooled Number Subscription Versions.

NPAC SMS shall for audits of Subscription Versions with LNP Type of Pool suppress status changes for discrepancy corrections to the block holder (current SP).

NOTE: The “suppress status changes” approach should work for both EDR and non-EDR SPs. Therefore, the NPAC SMS should suppress these based on the LNPTYPE, and not take into account the value of the EDR flag for the SP.

NOTE: Determination of how audits should be handled for a sub-block needs to be done. Should the LSMS return the block or SV’s. It would be cheaper or NPAC processing if SV’s were returned. The SVID’s might be an issue.

R8-16.1 Flow of Audit Execution – Pooled Numbers to EDR Local SMS

NPAC SMS shall send a query for a Sub-Block and a query for a Subscription Version, resulting from the audit request, to an EDR Local SMS that is accepting Sub-Block and Subscription Version data download for the given NPA-NXX-X via the NPAC SMS to Local SMS interface, as described in the NPAC SMS Interoperable Interface Specification.

Req 19 Ignore missing SVs for Pooled Ports at EDR Local SMS

NPAC SMS shall ignore a query response of a missing Subscription Version from an EDR Local SMS, for a pooled port.

Req 19 Suppress Notifications for Discrepancy Corrections for Pooled Ports at EDR Local SMS

NPAC SMS shall suppress status notifications to the Block Holder SOA for audit discrepancy corrections of Subscription Versions with LNP Type of POOL.

Section 9 New Requirements

RR9-5 Pooled Number Report

NPAC SMS shall support reports that list all numbers in a pooled number block (NPA-NXX-X) for a block holder for NPAC personnel using the NPAC Administrative Interface and Service Provider personnel using the NPAC SOA Low-tech Interface.

RR9-6 Pooled Number Report – Data Elements

NPAC SMS shall support a pooled number report that contains the following data elements:

- TN (primary sort)
- SV id
- LNP Type
- activation date
- LRN

RR9-7 Pooled Number Report – Filters

NPAC SMS shall support a pooled number report that allows filters on LNP Type, to return TNs with either POOL, LSPP, or LISP type.

General Comments

**CONTAMINATED BLOCK HANDLING IS NOT ENFORCED BY THE NPAC.
CONTAMINATED BLOCK ASSIGNMENT IS LEFT TO THE POOLING
ADMINSTRATOR.**

NOTE: ASN, GDMO, and M&P sections below need to be modified when requirements near completion.

ASN.1 Modifications

GDMO Modifications

1. [The GDMO should lists the activation timestamp in the Sub-Block as read-only, and it should be set based on the time the activation occurs.](#)

M&P FOR NUMBER POOLING

~~Creating a Number Pool in the NPAC SMS – PRE-PORTING~~

~~For a pooled-number port the following steps must be followed:~~

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1. The NPAC personnel will be notified by the pool administrator of a planned transfer of a block of numbers and the date that the pooled port is to occur. The day that the pooled port is to occur is expected to be 8 days in the future. Blocks to be pooled will be specified in 1000 TN ranges.

2. The NPAC personnel will enter the number pooling block holder default routing information into the NPAC SMS block holder default routing table. If no ports have previously occurred for the NPA-NXX a subscriptionVersionNewNPA-NXX notification will be sent. This notification will have to be sent off of the NPAC SMS object.

3. Prior to the pooled number port the Service Provider that owns the block of numbers (the code holder) will perform intra-service provider ports for the numbers currently active in the block of numbers to be pooled. This will insure that when the pooled number port occurs the routing information for the currently active numbers will be in place on the LSMS's and will not be affected by the pooled port. Note: Working numbers in the block that are ported using the intra-SP port procedure, will not have the "POOL" indicator attribute included on these subscription versions.

4. The NPAC personnel on the due date for the pooled number port will port the block of numbers to the new block holder as defined in the requirements. A script could be created to automatically do the port at a time on the due date (such as 3:00 a.m.) to prevent operator errors.

Removal of Pooled Subscription Versions from the NPAC SMS (De-Pooling)

To remove subscription versions with an LNP Type of POOL is the responsibility of the block holder to co-ordinate with NPAC Personnel. Only NPAC personnel can remove subscription versions with an LNP Type of POOL. NPAC Personnel will only remove all TNs with an LNP Type of POOL from a pool.

Miscellaneous M&P Issues:

1. The NPAC personnel can modify the activation date (that was originally on the Pooling Form, that is used for NPAC personnel doing the PP of the 1K block [both block and sub-block]) in the "script/schedule", but it must be modified to something equal to or greater than the effective date.
2. Need to add procedures within M&Ps to define steps that should be taken by the NPAC personnel when validation errors are encountered.
3. Need to add M&Ps to state that when NPAC personnel are creating a Sub-Block, and the SP provides an activation date, then the NPAC personnel must convert and store this in GMT.

4. Need an M&P on the Service Provider side to clean up SVs prior to implementing the new Sub-Block Object (this should be done in a migration plan).
5. Need to figure out how NPAC personnel will determine if the sub-block is successful or not for the broadcast.
May need to create the sub-block table when the activation date/time is reached.

POOLING ADMINISTRATOR ISSUES

1. Need to verify that the Number Pooling form contains the “auto activation date” on the form, so that the Lockheed USA knows the date that the auto activation timestamp should be added as a “script/schedule”.