NATIONAL NUMBER POOLING

IIS FLOWS

October 22~~September 28~~, 1998

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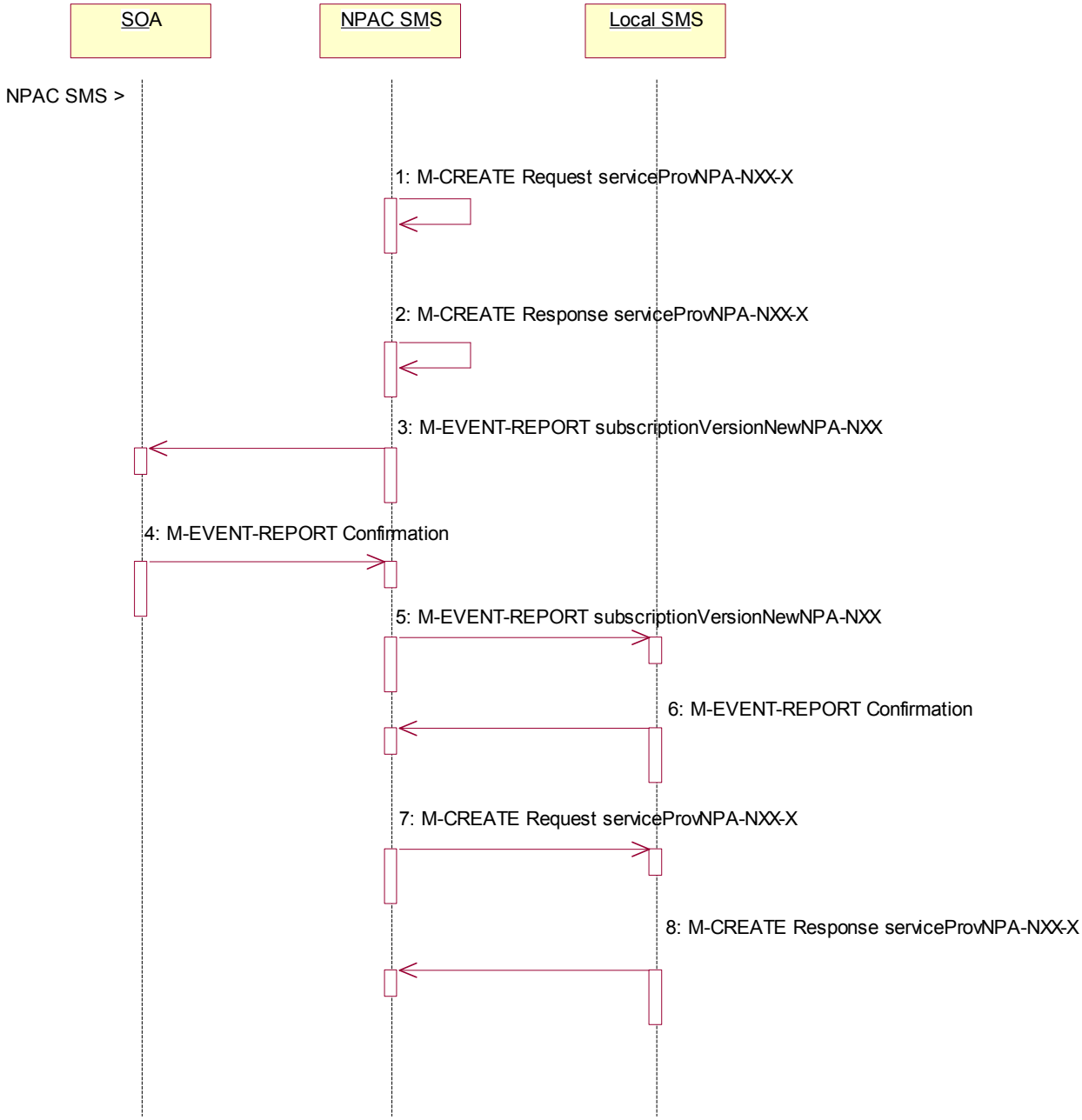
1 Service Provider NPA-NXX-X

This section contains the flows that demonstrate service provider NPA-NXX-X creation, modification, deletion and query.

1.1 ~~DELETED~~

1.2 Service Provider NPA-NXX-X Create by NPAC SMS

In this scenario, the NPAC SMS creates the serviceProvNPA-NXX-X ~~object at the request of the number pool administrator~~ object at the request of the number pool administrator.



Action is taken by NPAC SMS personnel to create the serviceProvNPA-NXX-X object.

1. The NPAC SMS sends an M-CREATE request to itself in order to create a local serviceProvNPA-NXX-X object. The NPAC SMS provides the following attributes:

   servicеProvNPA-NXX-X-Value
   servicеProvNPA-NXXEffectiveTimeStamp
   Block holder SPID

   The NPAC SMS validates the following:

   NPA-NXX of the servicеProvNPA-NXX-X-value is an existing NPA-NXX.
   The effective date is greater than or equal to the effective date of the serviceProNPA-NXX-X and the effective date tunable number of days.
   Verify no servicеProvNPA-NXX-X object exists with this NPA-NXX-X value.

   The NPAC SMS rejects the request if any subscriptionVersionNPAC objects exist with a status of pending, conflict, cancel-pending or failed for a TN specified by the servicеProvNPA-NXX-X-value and an active subscriptionVersionNPAC object does not exist for that TN or the subscription vers ion is a Port-To-Original request.The following attributes are required:

   ~~servicеProvNPA-NXX-X-Start~~
   ~~servicеProvNPA-NXX-X-End~~
   ~~servicеProvNPA-NXX-X-EffectiveTimeStamp~~

   ~~The following attributes must be present:~~
   ~~servicеProvNPA-NXX-X-ID~~
   ~~servicеProvNPA-NXX-X-CreationTimeStamp~~
   ~~servicеProvNPA-NXX-X-DownloadReason~~

2. The NPAC SMS receives the M-CREATE request and sets the servicеProvNPA-NXX-X-ID and servicеProvNPA-NXX-X-CreationTimeStamp. The NPAC SMS then issues a response indicating whether the servicеProvNPA-NXX-X object was successfully created.
3. If the servicеProvNPA-NXX-X object was successfully created and this is the first usage of the NPA-NXX, the NPAC SMS sends the subscriptionVersionNewNPA-NXX notification to all SOAs.
4. The SOAs confirm the subscriptionVersionNewNPA-NXX M-EVENT-REPORT.
5. If the servicеProvNPA-NXX-X object was succesfully created and this is the first usage of the NPA-NXX, the NPAC SMS sends the subscriptionVersionNewNPA-NXX notification to all Local SMSs.
6. The Local SMSs confirm the subscriptionVersionNewNPA-NXX M-EVENT-REPORT.
7. If the servicеProvNPA-NXX-X object was successfully created, the NPAC SMS sends an M-CREATE request to all Local SMS for the servicеProvNPA-NXX-X who support the object with the following attributes:

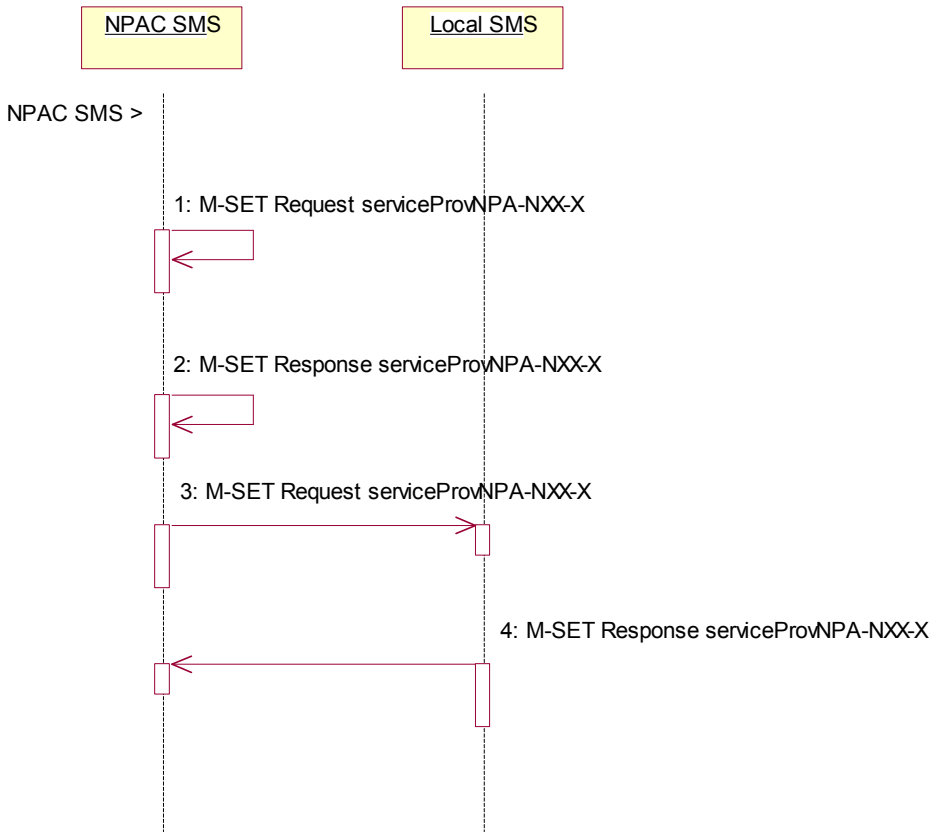
   servicеProvNPA-NXX-X-ID
   servicеProvNPA-NXX-X-Start
   servicеProvNPA-NXX-X-End
   servicеProvNPA-NXX-X-CreationTimeStamp
   servicеProvNPA-NXX-X-EffectiveTimeStamp
   servicеProvNPA-NXX-X-DownloadReason

8. The Local SMS responds by sending the M-CREATE response indicating whether the servicеProvNPA-NXX-X object was created successfully.

1.3 ~~DELETED~~

1.4 Service Provider NPA-NXX-X Modification by NPAC SMS

In this scenario, the NPAC SMS modifies the serviceProvNPA-NXX-X object at the request of the number pool administrator.

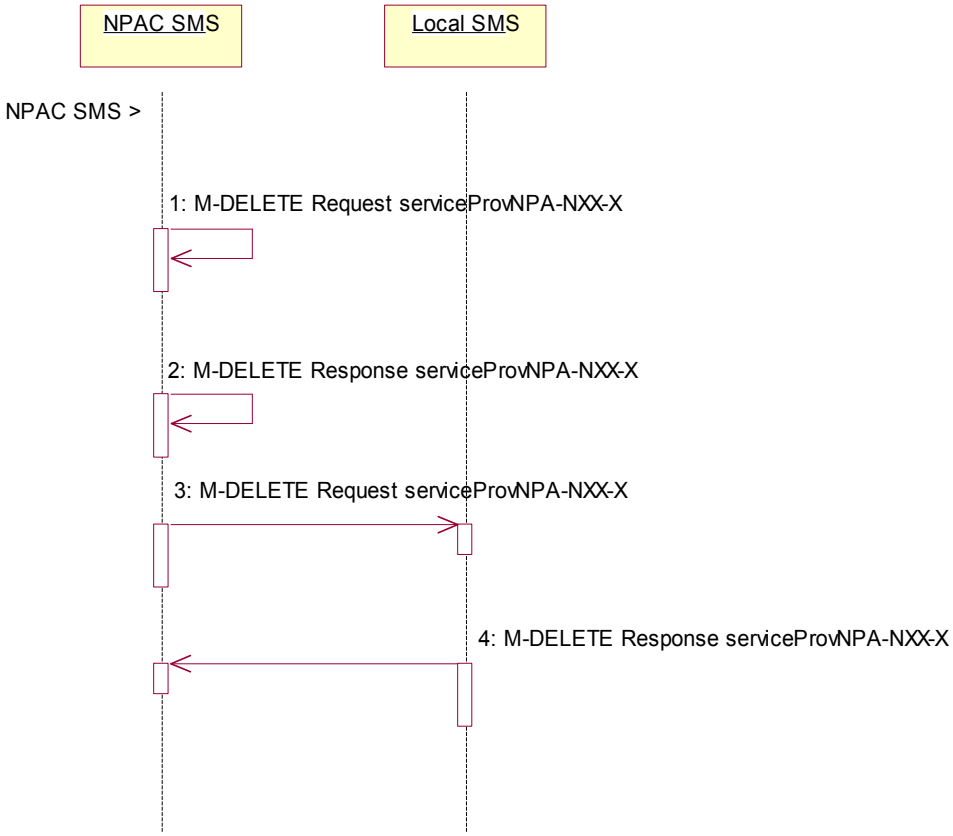


Action is taken by NPAC SMS personnel to initiate a modification to the serviceProvNPA-NXX-X object.

1. NPAC SMS sends the M-SET request to itself to update the serviceProvNPA-NXX-X-EffectiveTimeStamp.
2. NPAC SMS responds indicating whether the modification was successful. The update request will fail if the effective timestamp is within the Block Holder Effective Date Window's tunable number of days to the creation timestamp of the object or if the current date is greater than or equal to the object's current effective timestamp.
3. NPAC SMS sends the M-SET request to update the serviceProvNPA-NXX-X to all Local SMS that support the object.
4. Local SMS respond to the M-SET indicating whether the modification was successful.

1.5 Service Provider NPA-NXX-X Deletion by NPAC SMS

In this scenario, the NPAC SMS deletes the serviceProviderNPA-NXX-X object at the request of the number pool administrator. This deletion takes place either prior to the effective date or after the effective date, but prior to the number pool block object being created for the NPA-NXX-X value.

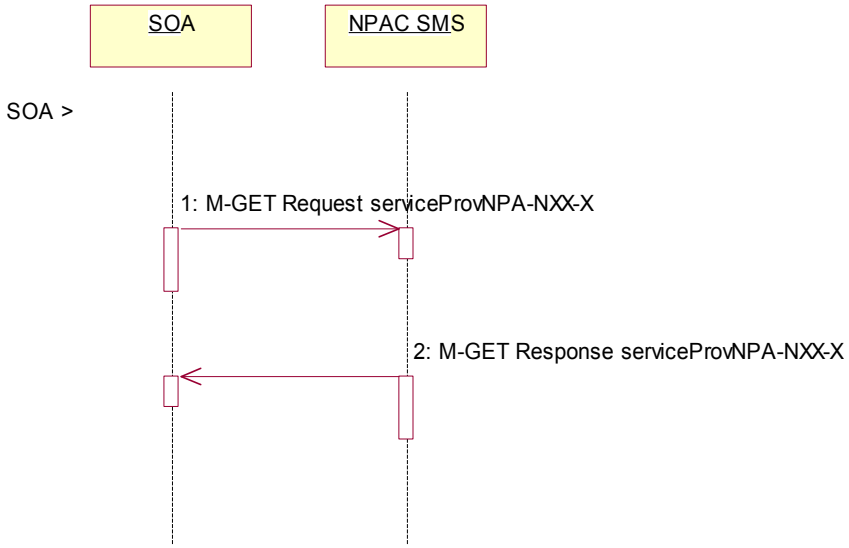


Action is taken by NPAC SMS personnel to delete a serviceProvNPA-NXX-X object.

1. The NPAC SMS sends an M-DELETE request to itself in order to delete the local serviceProvNPA-NXX-X object.
2. The NPAC SMS receives the M-DELETE response indicating whether the serviceProvNPA-NXX-X object was successfully deleted.
3. If the serviceProvNPA-NXX-X object was deleted, the NPAC SMS sends the M-DELETE request to all Local SMS for the serviceProvNPA-NXX-X object who support that object.
4. The Local SMS responds by sending the M-DELETE responds indicating whether the serviceProvNPA-NXX-X object was deleted successfully.

1.6 Service Provider NPA-NXX-X Query by SOA

In this scenario, the service provider SOA queries the NPAC SMS for one or more serviceProvNPA-NXX-X object.



SOA Personnel take action to query the NPAC SMS for one or more serviceProvNPA-NXX-X objects.

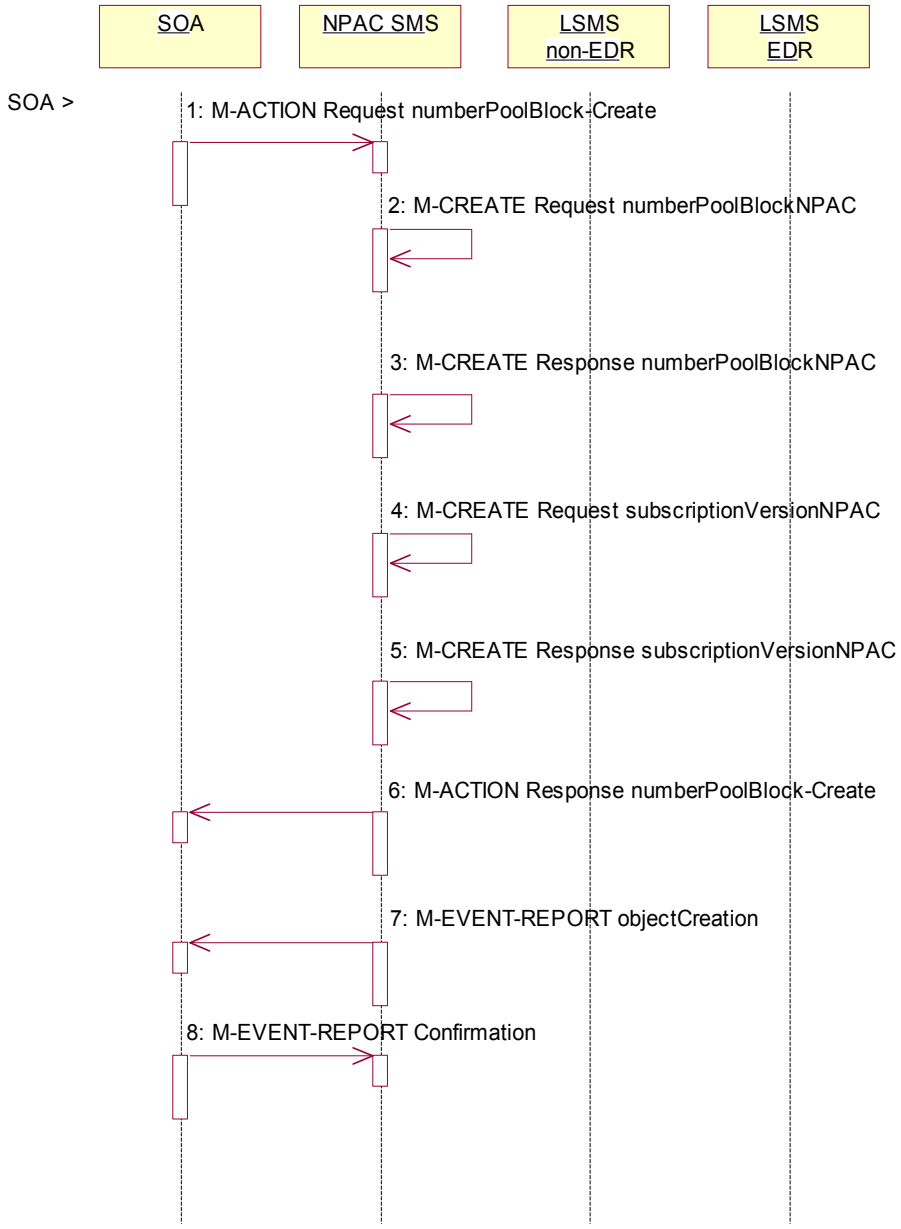
1. SOA sends a M-GET for a single serviceProvNPA-NXX-X object by serviceProvNPA-NXX-X-ID or a scope and filtered M-GET for one or more serviceProvNPA-NXX-X objects.
2. If the NPAC SMS finds one or more serviceProvNPA-NXX-X objects that match the input criteria, the NPAC SMS responds with the single or linked reply of serviceProvNPA-NXX-X object(s). Otherwise it returns an empty result.

2 Number Pool Block

This section contains the flows that demonstrate number pool block creation, modification and deletion.

2.1 Number Pool Block Create by SOA

In this scenario, the block holder service provider sends in the M-CREATE for the number pool block to be created.



Action is taken by the block holder service provider SOA to create a number pool block.

1. The block holder service provider SOA sends the M-ACTION~~CREATE for the~~ number PoolBlock-Create to the NPAC SMS. The block holder service provider must provide the following attributes:

~~N~~numberPoolBlockNPA-NXX-X~~StartTN~~
~~numberPoolBlockEndTN~~
~~numberPoolBlockSPI~~ ~~D~~
n~~N~~umberPoolBlockLRN
numberPoolBlockSPID

The following attributes are optional:

numberPoolBlockCLASS-DPC
numberPoolBlockCLASS-SSN
numberPoolBlockCNAM-DPC
numberPoolBlockCNAM-SSN
numberPoolBlockISVM-DPC
numberPoolBlockISVM-SSN
numberPoolBlockLIDB-DPC
numberPoolBlockLIDB-SSN
~~numberPoolBlockEndUserLocationValue~~
~~numberPoolBlockEndUserLocationType~~
~~numberPoolBlockBillingID~~
~~numberPoolBlockDownloadReason~~

The NPAC SMS verifies the following and returns the indicated error:

- The requesting SOA is the block-holder SOA (soa-not-authorized)
- The serviceProvNPA-NXX-X object exists for the NPA-NXX-X(no-npa-nxx-x)
- All attributes are valid(invalid-data-values)
- Verifies a numberPoolBlockNPAC object does not already exist for the NPA-NXX-X (number-pool-block-already-exists)
- The current date is greater than or equal to the effectiveTimeStamp (prior-to-effective-date)~~The NPAC SMS verifies~~
- T~~t~~here are no subscription version objects within the given TN range with a status of pending, conflict, cancel-pending or failed (“pending-like”) and no active subscription version for that TN (invalid-subscription-versions) ~~or the “pending” subscription version is a Port-to-Original reque~~

Any other error will be returned as “failed”. If an error is found, the NPAC SMS returns the M-ACTION reply with the error. No further processing occurs.~~st. If such objects exist, the NPAC SMS will reject the block creation with an appropriate error message.~~

~~If no objectionable subscription version exists, the NPAC SMS creates the numberPoolBlockNPAC object. The numberPoolBlockSOA-Origination flag is set to TRUE. The numberPoolBlockCreationTimeStamp, numberPoolBlockBroadcastTimeStamp and numberPoolBlockModifiedTimeStamp are set. The numberPoolBlockStatus is set to “sending”.~~

2. If no objectionable subscription version exists, the NPAC SMS creates the numberPoolBlockNPAC object. The numberPoolBlockSOA-Origination flag is set to TRUE. The numberPoolBlockCreationTimeStamp, numberPoolBlockBroadcastTimeStamp and numberPoolBlockModifiedTimeStamp are set. The numberPoolBlockStatus is set to “sending”.

3. The NPAC SMS responds to the M-CREATE.

4. ~~The NPAC SMS will respond with the M-CREATE response. If any attribute fails validation on the NPAC SMS, an action failure will be returned indicating invalidArgumentValue. Other appropriate errors will also be returned.~~

~~If the M-CREATE is successful, the numberPoolBlockId will be returned in the M-CREATE response.~~

5. If the request is valid, the NPAC SMS will create the corresponding subscriptionVersionNPAC object(s). If an active, partial-failure, sending or disconnect-pending ("active-like") subscription version exists within the block's TN range, no new subscription version will be created for that TN. For the subscription versions created, t~~T~~he subscriptionLNPType will be set to 'POOL', subscriptionVersionStatus will be set to "sending" and the subscriptionModifiedTimeStamp and subscriptionCreationTimeStamp will be set.

6. The NPAC SMS will respond with the M-CREATE response.

7. NPAC SMS responds to the M-CREATE.

8. NPAC SMS sends the M-EVENT-REPORT objectCreation for the numberPoolBlockNPAC to the SOA. The following attributes will be sent in the objectCreation notification:

    numberPoolBlockId
    numberPoolBlockCreationTimeStamp
    numberPoolBlockBroadcastTimeStamp
    numberPoolBlockModifiedTimeStamp
~~numberPoolBlockSOA-OriginationTimeStamp~~
    numberPoolBlockStatus
    numberPoolBlockNPA-NXX-X~~StartTN~~
~~numberPoolBlockEndTN~~
    numberPoolBlockSPID
    numberPoolBlockLRN
    numberPoolBlockCLASS-DPC
    numberPoolBlockCLASS-SSN
    numberPoolBlockCNAM-DPC
    numberPoolBlockCNAM-SSN
    numberPoolBlockISVM-DPC
    numberPoolBlockISVM-SSN
    numberPoolBlockLIDB-DPC
    numberPoolBlockLIDB-SSN

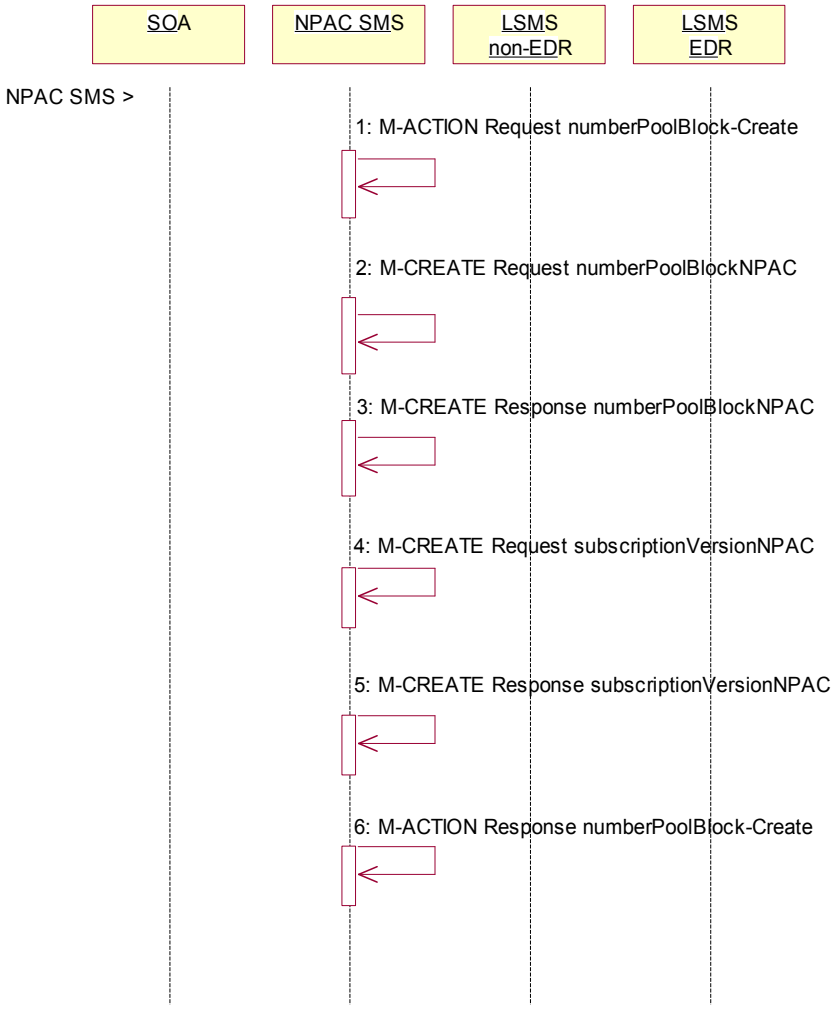
    ~~numberPoolBlockEndUserLocationValue~~
    ~~numberPoolBlockEndUserLocationType~~
    ~~numberPoolBlockBillingID~~
~~numberPoolBlockDownloadReason~~

9. The ~~service provide~~block holder~~r~~ SOA confirms the M-EVENT-REPORT.

The next scenario is 'Number Pool Block Create Broadcast to Local SMS'.

2.2 Number Pool Block Create by NPAC SMS

In this scenario, the NPAC SMS creates the number pool block on or after the effective date of the serviceProvNPA-NXX-X object. Since the SOA does not send in the creation request, all notifications (M-EVENT-REPORTs) to the SOA will be suppressed.



Action is taken by the NPAC SMS to create a number pool block.

1. NPAC SMS personnel M-CREATE the numberPoolBlockNPAC on the NPAC SMS for a service provider block holder. The following attributes are required:

numberPoolBlockNPA-NXX-X~~StartTN~~
~~numberPoolBlockEndTN~~

numberPoolBlockSPID
numberPoolBlockLRN
numberPoolBlockCLASS-DPC
numberPoolBlockCLASS-SSN
numberPoolBlockCNAM-DPC

numberPoolBlockCNAM-SSN
numberPoolBlockISVM-DPC
numberPoolBlockISVM-SSN
numberPoolBlockLIDB-DPC
numberPoolBlockLIDB-SSN
~~numberPoolBlockEndUserLocationValue~~
~~numberPoolBlockEndUserLocationType~~
~~numberPoolBlockBillingID~~
~~numberPoolBlockDownloadReason~~

~~The NPAC SMS verifies there are no subscription version objects within the given TN range with a status of pending, conflict, cancel-pending or failed and no active subscription version for that TN or the "pending" subscription version is a Port-to-Original request. If such objects exist, the NPAC SMS will reject the block creation with an appropriate error message.~~ The NPAC SMS verifies the following and returns the indicated error:

- The serviceProvNPA-NXX-X object exists for the NPA-NXX-X(no-npa-nxx-x)
- All attributes are valid(invalid-data-values)
- Verifies a numberPoolBlockNPAC object does not already exist for the NPA-NXX-X (number-pool-block-already-exists)
- The current date is greater than or equal to the effectiveTimeStamp (prior-to-effective-date)
- There are no subscription version objects within the given TN range with a status of pending, conflict, cancel-pending or failed ("pending-like") and no active subscription version for that TN (invalid-subscription-versions)

Any other error will be returned as "failed". If an error is found, the NPAC SMS returns the M-ACTION reply with the error. No further processing occurs.

~~The numberPoolBlockSOA-Origination flag is set to FALSE. The numberPoolBlockCreationTimeStamp, numberPoolBlockBroadcastTimeStamp and numberPoolBlockModifiedTimeStamp are set. The numberPoolBlockStatus is set to "sending".~~

2. ~~The NPAC SMS responds to the M-CREATE. An appropriate error will be returned if objectionable subscriptions exist, an attribute is invalid or other validation problems occur.~~

3. ~~The NPAC SMS creates the corresponding subscriptionVersionNPAC object. The subscriptionLNPType will be set to 'POOL', the subscriptionVersionStatus will be set to "sending" and the subscriptionModifiedTimeStamp and subscriptionCreationTimeStamp will be set.~~

4. The NPAC SMS creates the numberPoolBlockNPAC object. The numberPoolBlockSOA-Origination flag is set to FALSE. The numberPoolBlockCreationTimeStamp, numberPoolBlockBroadcastTimeStamp and numberPoolBlockModifiedTimeStamp are set. The numberPoolBlockStatus is set to "sending".

5. NPAC SMS responds to the M-CREATE.

6. The NPAC SMS creates the corresponding subscriptionVersionNPAC object.(s). If an active, partial-failure, sending or disconnect-pending (~~"~~"active-like~~"~~") subscription version exists within the block~~'~~'s TN range, no new subscription version will be created for that TN. ~~e"~~ For the subscription version created, t~~T~~he subscriptionLNPType will be set to 'POOL', the subscriptionVersionStatus will be set to "sending" and the subscriptionModifiedTimeStamp and subscriptionCreationTimeStamp will be set.

7. NPAC SMS responds to the M-CREATE.

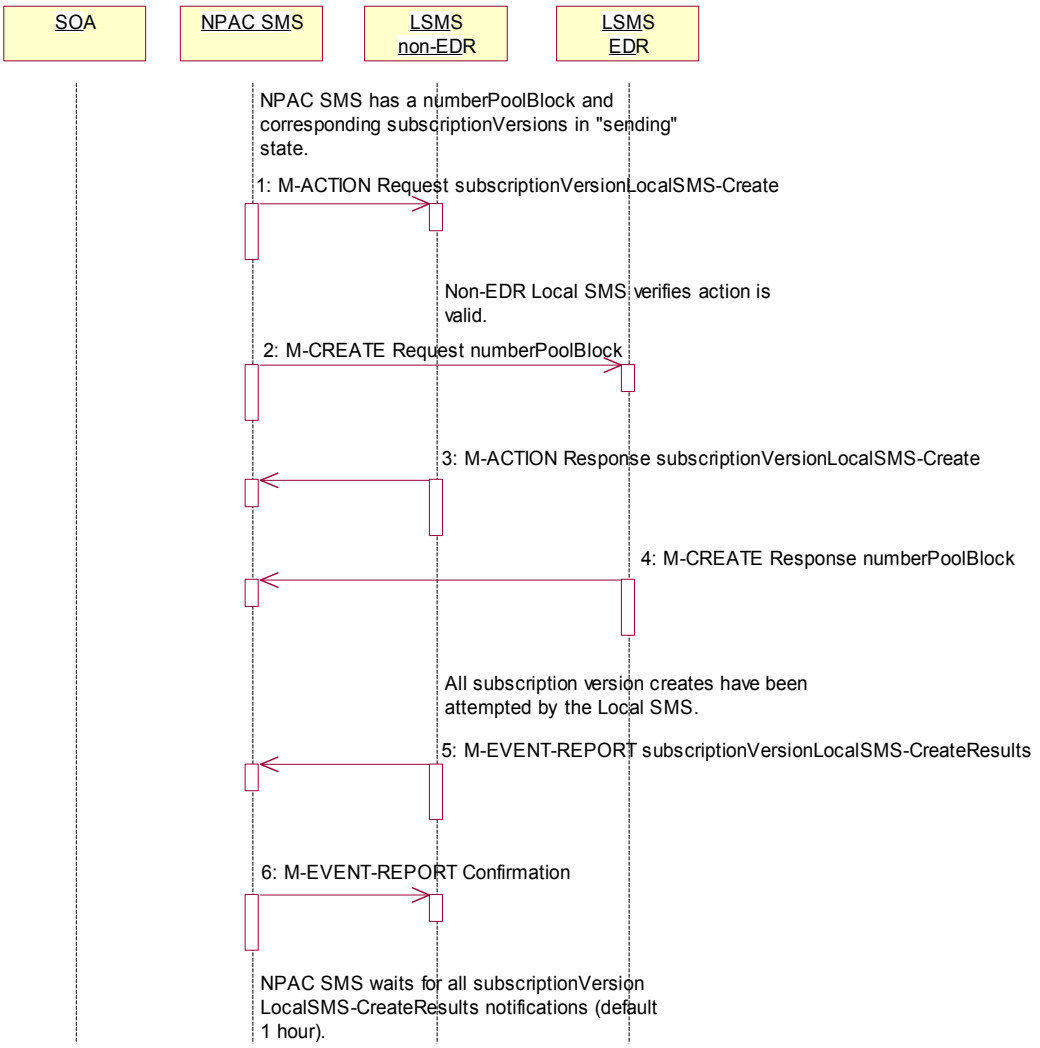
8. NPAC SMS responds to the M-ACTION.

The next scenario is ‘Number Pool Block Create Broadcast to Local SMS’.

2.3 Number Pool Block Create Broadcast: Successful

In this scenario, the number pool block and corresponding subscription versions have been created on the NPAC SMS. The NPAC SMS now begins to broadcast the subscriptionVersions and numberPoolBlock data to the Local SMSs.

2.3.1 Number Pool Block Create Broadcast to Local SMS



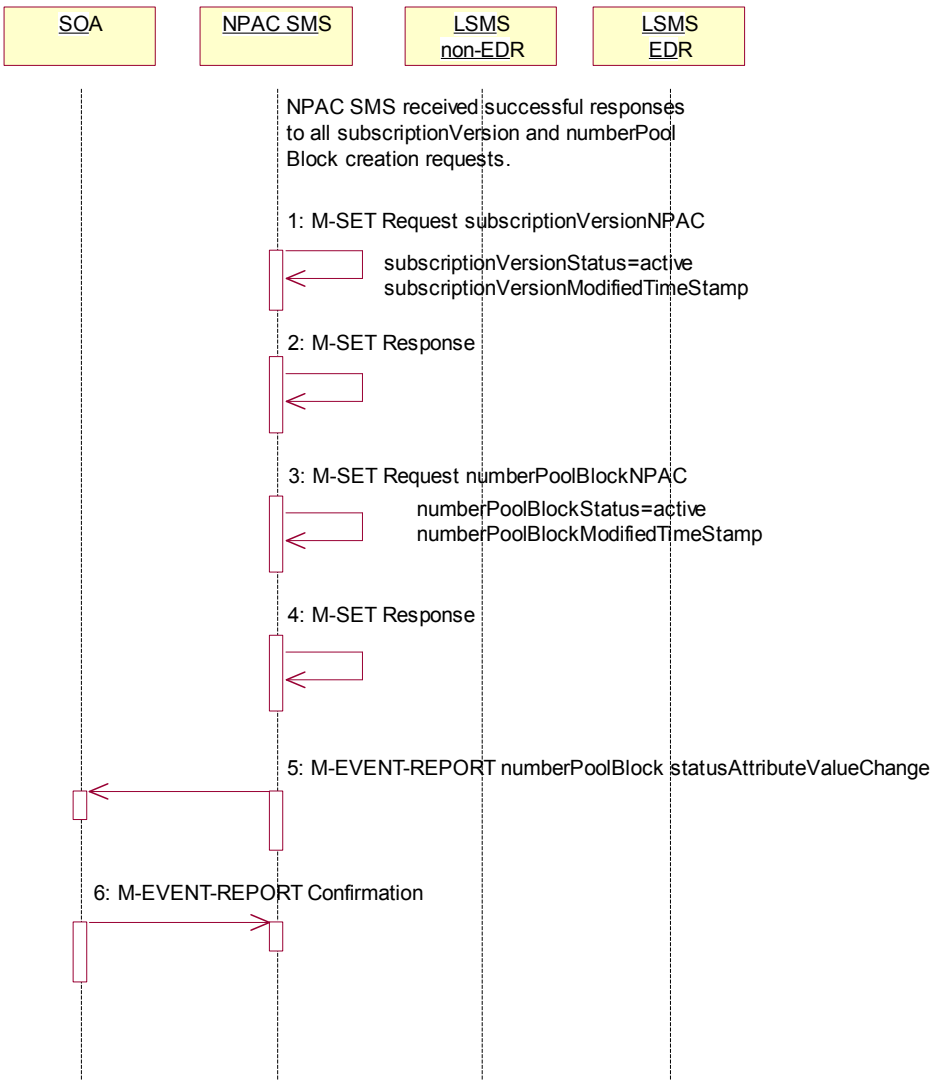
1. NPAC SMS issues the subscriptionVersionLocalSMS-Create action to the non-EDR Local SMS, if it is accepting downloads for the NPA-NXX of the subscription versions. This action contains all data required to create the subscription versions with the subscriptionLNPType of 'POOL'.
2. At the same time as step 1, the NPAC SMS sends the M-CREATE for the numberPoolBlock to the EDR Local SMS.

3. The non-EDR Local SMS verifies the action is valid and returns the M-ACTION reply. If the non-EDR Local SMS does not respond to the M-ACTION request, the NPAC SMS will retry the request a tunable amount of time.~~an acknowledgmen t.~~
4. The EDR Local SMS sends to the NPAC SMS the results of the M-CREATE. If the EDR Local SMS fails to respond, the NPAC SMS will retry the M-CREATE request a tunable amount of times.
5. The non-EDR Local SMS proceeds to execute all the creates specified by the action. The non-EDR Local SMS sends to the NPAC SMS the M-EVENT-REPORT specifying the success or failure of the subscription version creates.
6. ~~NPAC SMS confirms the M-EVENT-REPORT.~~
7. ~~NPAC SMS sends the M-CREATE for the numberPoolBlock to the EDR Local SMS.~~
8. ~~The EDR Local SMS sends to the NPAC SMS the results of the M-CREATE.~~
9. NPAC SMS confirms the M-EVENT-REPORT.

The NPAC SMS now waits for all the subscriptionVersionLocalSMS-CreateResults M-EVENT-REPORTs~~responses~~ a tunable amount of time (default 1 hours).

2.3.2 Number Pool Block Create: Successful Broadcast

In this scenario, the NPAC SMS has just completed the successful broadcast of a numberPoolBlock and corresponding subscriptionVersions.

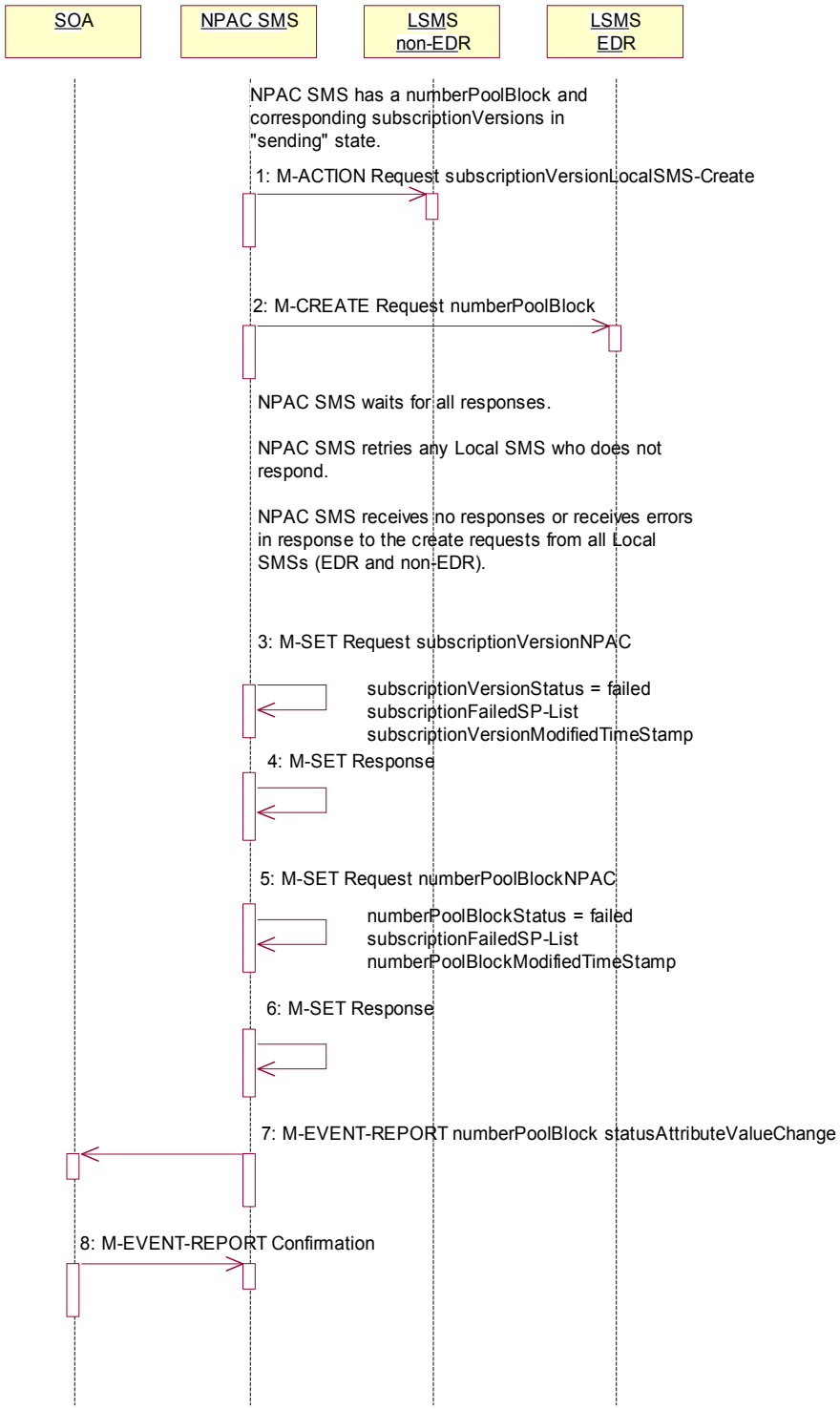


1. NPAC SMS updates all the subscriptionVersionNPACs that were broadcasted by setting the subscriptionVersionStatus to 'active' and setting the subscriptionVersionModifiedTimeStamp to the current date and time.
2. NPAC SMS responds to the M-SET.

3. NPAC SMS updates the numberPoolBlock by setting the numberPoolBlockStatus to ‘active’ and setting the numberPoolBlockModifiedTimeStamp and ~~numberPoolBlockBroadcastCompleteTimeStamp~~ to the current date and time.
4. NPAC SMS responds to the M-SET.
5. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT for the status attribute value change to the block holder SOA. The attribute value change would contain the numberPoolBlockStatus set to ‘active’.
6. Block holder SOA confirms the M-EVENT-REPORT.

2.4 Number Pool Block Create Broadcast to Local SMS: Failure

In this scenario, the NPAC SMS has a numberPoolBlock and corresponding subscriptionVersions in 'sending' state for creation to the Local SMSs and no Local SMS will respond successfully to the broadcast.



1. NPAC SMS sends the M-ACTION subscriptionVersionLocalSMS-Create request to all the non-EDR Local SMSs.
2. At the same time as step 1, NPAC SMS sends the M-CREATE numberPoolBlock request to all the EDR Local SMSs.

NPAC SMS waits for all the responses.

NPAC SMS retries any Local SMS who does not respond.

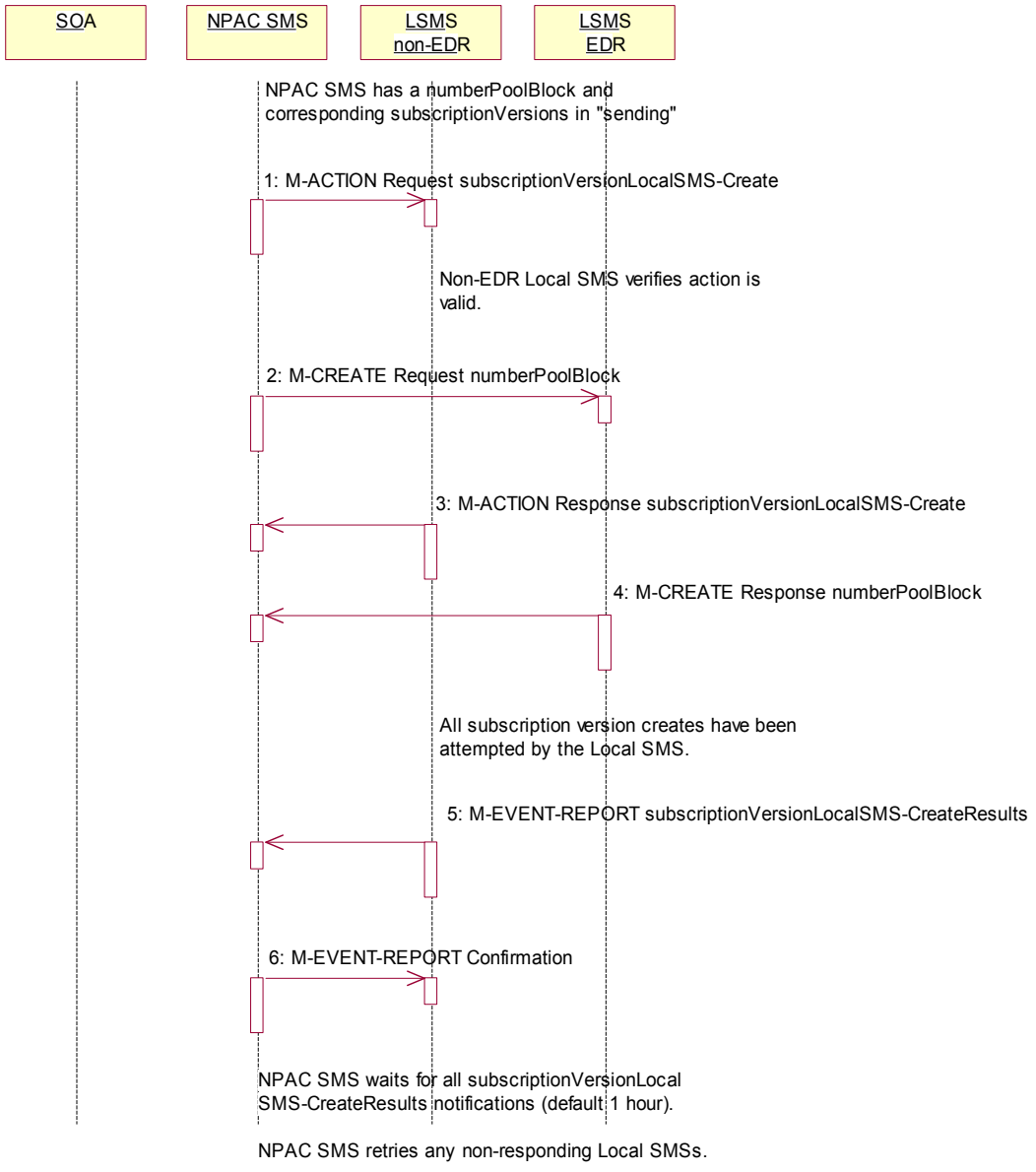
NPAC SMS receives no responds or receives errors in response to the create requests from all Local SMSs (EDR and non-EDR).

3. NPAC SMS sets the subscriptionVersionNPAC's subscriptionVersionStatus to 'failed'. The subscriptionFailedSP-List gets updated with the failed service providers and the subscriptionVersionModifiedTimeStamp gets set.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS sets the numberPoolBlock's numberPoolBlockStatus to 'failed'. The subscirptionFailedSP-List gets updated with the failed service providers and the subscriptionVersionModifiedTimeStamp gets set.
6. NPAC SMS responds to the M-SET.
7. If the numberPoolBlock's SOA Origination flag is set to 'true', the NPAC SMS sends the M-EVENT-REPORT for the numberPoolBlock with the numberPoolBlockStatus set to 'failed' and the subscriptionFailedSP-List to the originating SOA.
8. The SOA confirms the M-EVENT-REPORT.

2.5 Number Pool Block Create Broadcast to Local SMS: Partial Failure

In this scenario, the NPAC SMS has a numberPoolBlock and corresponding subscriptionVersions in 'sending' state for creation to the Local SMSs and some but not all Local SMS will respond successfully to the broadcast resulting in a state of "partial-failure" for one or more of the subscription versions and the number pool block.

2.5.1 Broadcast to Local SMSs



1. NPAC SMS issues the subscriptionVersionLocalSMS-Create action to the non-EDR Local SMS, if it is accepting downloads for the NPA-NXX of the subscription versions. This action contains all data required to create the subscription versions with the subscriptionLNPType of 'POOL'.
2. At the same time as step 1, NPAC SMS sends the M-CREATE for the numberPoolBlock to the EDR Local SMS.
3. The non-EDR Local SMS verifies the action is valid and returns an acknowledgment. If the non-EDR Local SMS fails to respond, the NPAC SMS will retry the M-CREATE request a tunable amount of times.
4. The EDR Local SMS sends to the NPAC SMS the results of the M-CREATE. If the EDR Local SMS fails to respond, the NPAC SMS will retry the M-CREATE request a tunable amount of times.
5. The non-EDR Local SMS proceeds to execute all the creates specified by the action. The non-EDR Local SMS sends to the NPAC SMS the M-EVENT-REPORT specifying the success or failure of the creates.
6. NPAC SMS confirms the M-EVENT-REPORT.The non-EDR Local SMS verifies the action is valid and returns an acknowledgmen

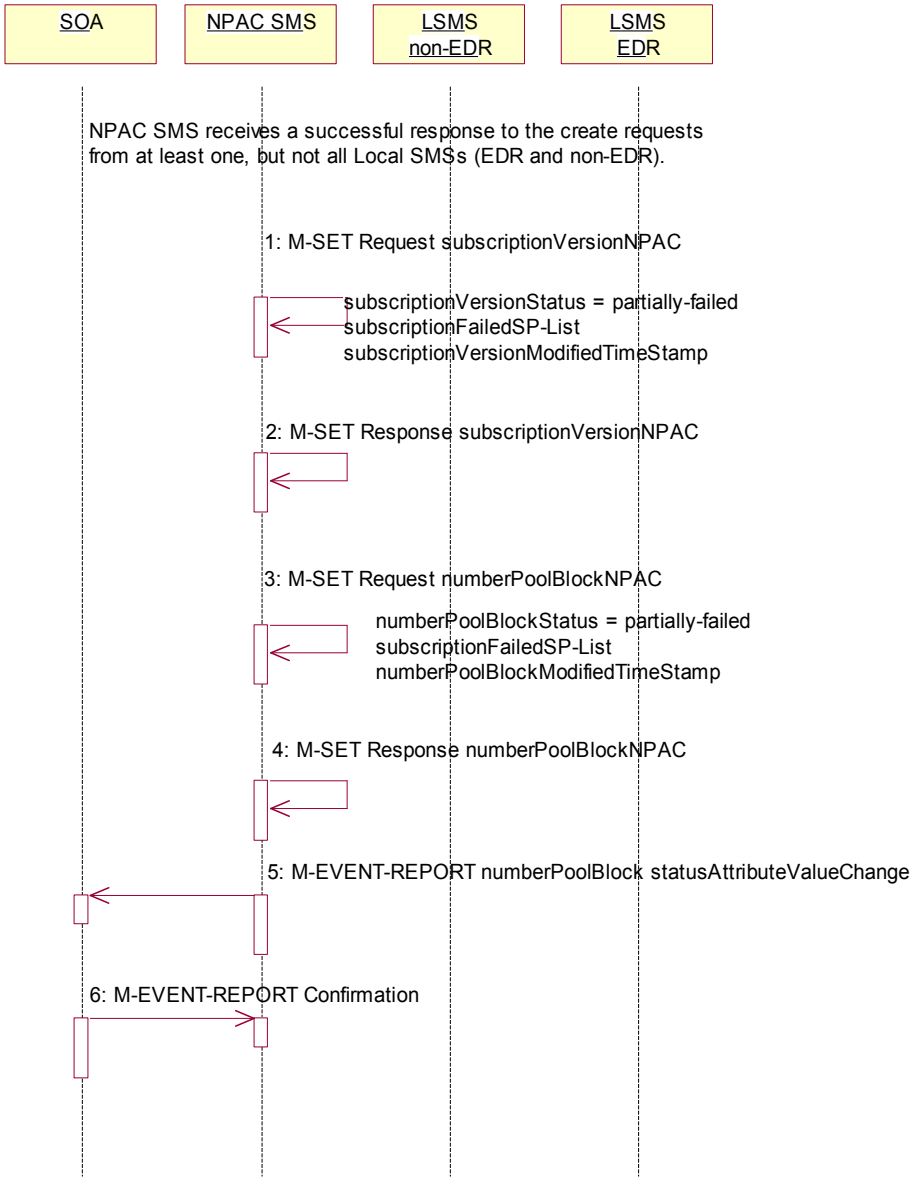
~~The non-EDR Local SMS proceeds to execute all the creates specified by the action. The non-EDR Local SMS sends to the NPAC SMS the M-EVENT-REPORT specifying the success or failure of the creates.~~

1. ~~NPAC SMS confirms the M-EVENT-REPORNPAC SMS sends the M-CREATE for the numberPoolBlock to the EDR Local SMS.~~
7. ~~The EDR Local SMS sends to the NPAC SMS the results of the M-CREATE.~~

The NPAC SMS now waits for all the subscriptionVersionLocalSMS-CreateResults M-EVENT-REPORTs responses a tunable amount of time (default 1 hours~~)) and retries any non-responding Local SMSs~~.

2.5.2 Broadcast Partially Failed

All retries have been exhausted and the time for the subscriptionVersionLocalSMS-CreatResults to be received has expired for a broadcast of a number pool block create broadcast.



NPAC SMS receives a successful response to the create request from at least one, but not all, Local SMSs (EDR and non-EDR).

The NPAC SMS must now set the numberPoolBlock and subscriptionVersion objects to partial-failure. If an EDR Local SMS failed, the numberPoolBlock and ALL subscriptionVersions broadcast, will be set to partial-failure. If a non-EDR Local SMS failed all the creates, the numberPoolBlock and ALL subscriptionVersion broadcast will be set to partial-failure. If a non-EDR Local SMS fails only some of the

subscriptionVersion creates, the numberPoolBlock will be set to partial-failure along with the subscriptionVersions the non-EDR Local SMS failed.

The partial-failure status will be removed from both objects when all subscriptionVersions and numberPoolBlocks are successfully resent or recovered.

1. NPAC SMS issues an M-SET to the subscriptionVersionNPAC(s) setting the subscriptionVersionStatus to 'partially-failed' and setting the subscriptionFailedSP-List to the list of failed service providers. The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to the M-SET.
3. NPAC SMS issues an M-SET to the number PoolBlockNPAC setting the numberPoolBlockStatus to 'partially-failed' and setting the subscriptionFailedSP-List to the lissit of failed service providers. The numberPoolBlockModifiedTimeStamp is also set.
4. NPAC SMS responds to the M-SET.
5. If the numberPoolBlockSOA-Origination flag is set to 'true', the NPAC SMS sends the originating, block holder SOA the M-EVENT-REPORT statusAattributeValueChange for the numberPoolBlockStatus set to 'partially-failed' and the subscriptionFailedSP-List.
6. The oOriginating, block holder SOA confirms the M-EVENT-REPORT.

2.6 Number Pool Block Modify by NPAC SMS

This scenario shows the modification of a number pool block object by NPAC ~~Personnel at the request of the number pool administrator~~.

Personnel at the request of the block holder service provider.

Action is taken by NPAC personnel to modify the data on a number pool block.

1. NPAC SMS issues the M-SET to modify attribute data on the numberPoolBlock. The following attributes can be modified:

   numberPoolBlockLRN
   numberPoolBlockCLASS-DPC
   numberPoolBlockCLASS-SSN

numberPoolBlockCNAM-DPC
numberPoolBlockCNAM-SSN
numberPoolBlockISVM-DPC
numberPoolBlockISVM-SSN
numberPoolBlockLIDB-DPC
numberPoolBlockLIDB-SSN
~~numberPoolBlockEndUserLocationValue~~
~~numberPoolBlockEndUserLocationType~~
~~numberPoolBlockBillingID~~
~~numberPoolBlockDownloadReason~~

In addition, the numberPoolBlockStatus gets set to 'sending' and the numberPoolBlockBroadcastTimeStamp gets set.

2. NPAC SMS responds to the M-SET.

3. NPAC SMS issues the M-SET to modify the attribute data on the corresponding subscriptionVersionNPAC object(s). Only the following attribute can be modified:

   subscriptionVersionLRN
   subscriptionVersionCLASS-DPC
   subscriptionVersionCLASS-SSN
   subscriptionVersionCNAM-DPC
   subscriptionVersionCNAM-SSN
   subscriptionVersionISVM-DPC
   subscriptionVersionISVM-SSN
   subscriptionVersionLIDB-DPC
   subscriptionVersionLIDB-SSN
   ~~subscriptionVersionEndUserLocationValue~~
   ~~subscriptionVersionEndUserLocationType~~
   ~~subscriptionVersionBillingID~~
   ~~subscriptionVersionDownloadReason~~

   In addition, the NPAC SMS sets the subscriptionVersionStatus.

4. NPAC SMS responds to the M-SET.

5. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT, ~~for the~~ status attribute value change, to the block holder SOA. The status attribute value change would contain the numberPoolBlockStatus set to 'sending'.

6. Block holder SOA confirms the M-EVENT-REPORT.

7. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT, attribute value change, to the block holder SOA. The attribute value change would include any of the following attributes that were updates:

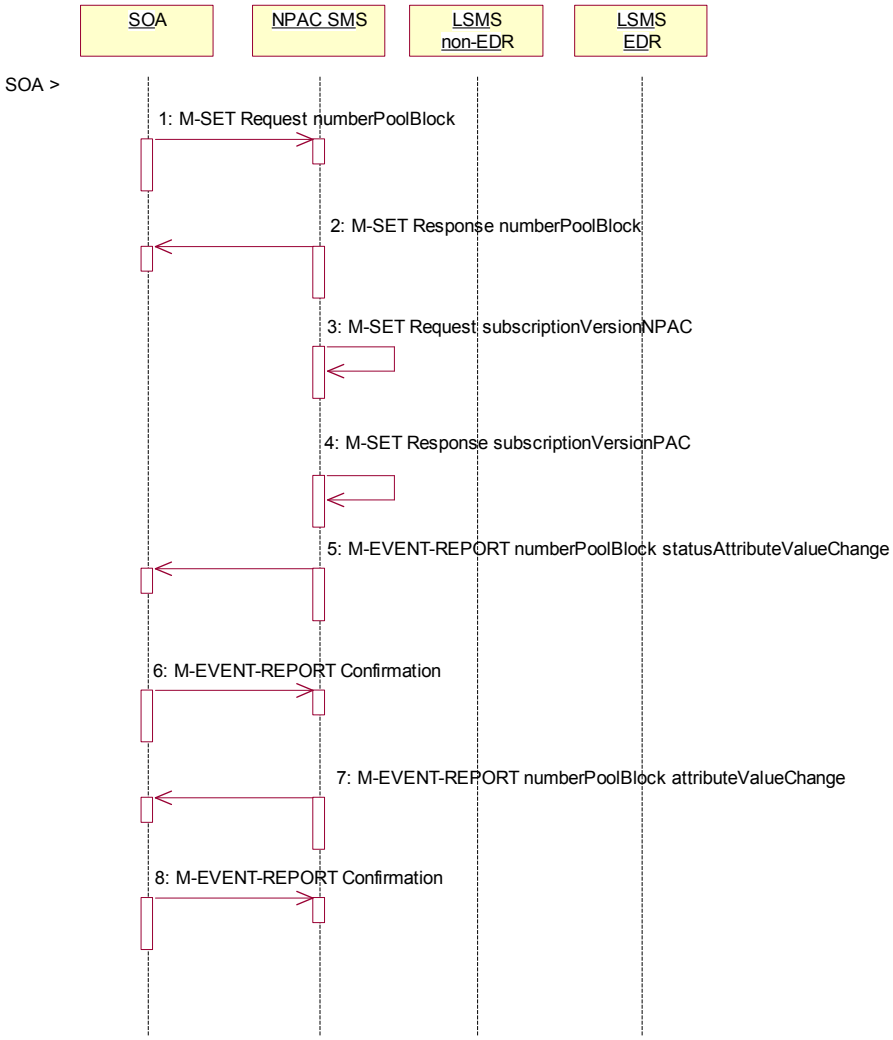
   subscriptionVersionLRN
   subscriptionVersionCLASS-DPC
   subscriptionVersionCLASS-SSN
   subscriptionVersionCNAM-DPC
   subscriptionVersionCNAM-SSN
   subscriptionVersionISVM-DPC
   subscriptionVersionISVM-SSN
   subscriptionVersionLIDB-DPC
   subscriptionVersionLIDB-SSN

8. Block holder SOA confirms the M-EVENT-REPORT.

The next scenario is ‘Number Pool Block Modify Broadcast to Local SMS Success’.

2.7 Number Pool Block Modify by Block Holder SOA

This scenario shows the modification of a number pool block object by the block holder SOA Personnel.



1. Block holder SOA issues the M-SET to modify attribute data on the numberPoolBlock. The following attributes can be modified:

   numberPoolBlockLRN
   numberPoolBlockCLASS-DPC
   numberPoolBlockCLASS-SSN
   numberPoolBlockCNAM-DPC
   numberPoolBlockCNAM-SSN
   numberPoolBlockISVM-DPC
   numberPoolBlockISVM-SSN
   numberPoolBlockLIDB-DPC
   numberPoolBlockLIDB-SSN

In addition, the numberPoolBlockStatus gets set to 'sending' and the numberPoolBlockBroadcastTimeStamp gets set.

2. NPAC SMS responds to the M-SET.

3. NPAC SMS issues the M-SET to modify the attribute data on the corresponding subscriptionVersionNPAC object(s). Only the following attribute can be modified:

   subscriptionVersionLRN
   subscriptionVersionCLASS-DPC
   subscriptionVersionCLASS-SSN
   subscriptionVersionCNAM-DPC
   subscriptionVersionCNAM-SSN
   subscriptionVersionISVM-DPC
   subscriptionVersionISVM-SSN
   subscriptionVersionLIDB-DPC
   subscriptionVersionLIDB-SSN

   In addition, the NPAC SMS sets the subscriptionVersionStatus.

4. NPAC SMS responds to the M-SET.

5. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT, status attribute value change, to the block holder SOA. The status attribute value change would contain the numberPoolBlockStatus set to 'sending'.

6. Block holder SOA confirms the M-EVENT-REPORT.

7. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT, attribute value change, to the block holder SOA. The attribute value change would include any of the following attributes that were updates:

   subscriptionVersionLRN
   subscriptionVersionCLASS-DPC
   subscriptionVersionCLASS-SSN
   subscriptionVersionCNAM-DPC
   subscriptionVersionCNAM-SSN
   subscriptionVersionISVM-DPC
   subscriptionVersionISVM-SSN
   subscriptionVersionLIDB-DPC
   subscriptionVersionLIDB-SSN

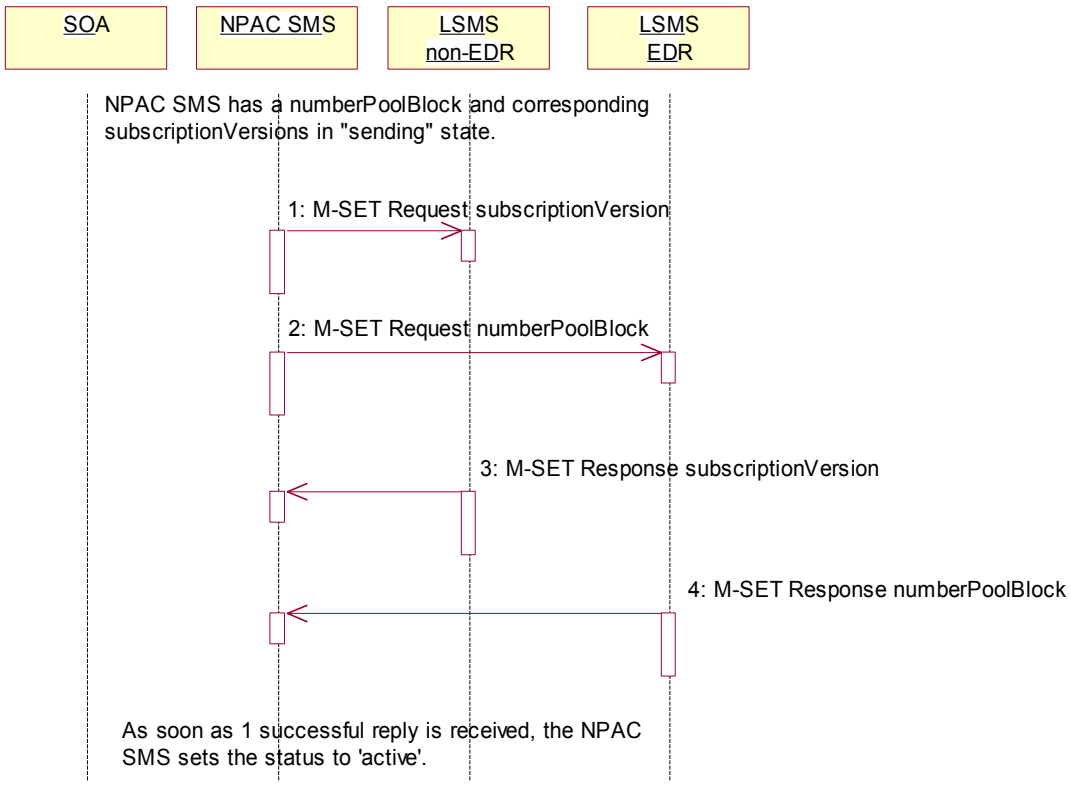
8. Block holder SOA confirms the M-EVENT-REPORT.

The next scenario is 'Number Pool Block Modify Broadcast to Local SMS Success'.

2.8 Number Pool Block Modify Broadcast to Local SMS Success

In this scenario, the NPAC SMS has made a modification to a number pool block object and is about to broadcast the data to the Local SMS.

2.8.1 Broadcast to Local SMS



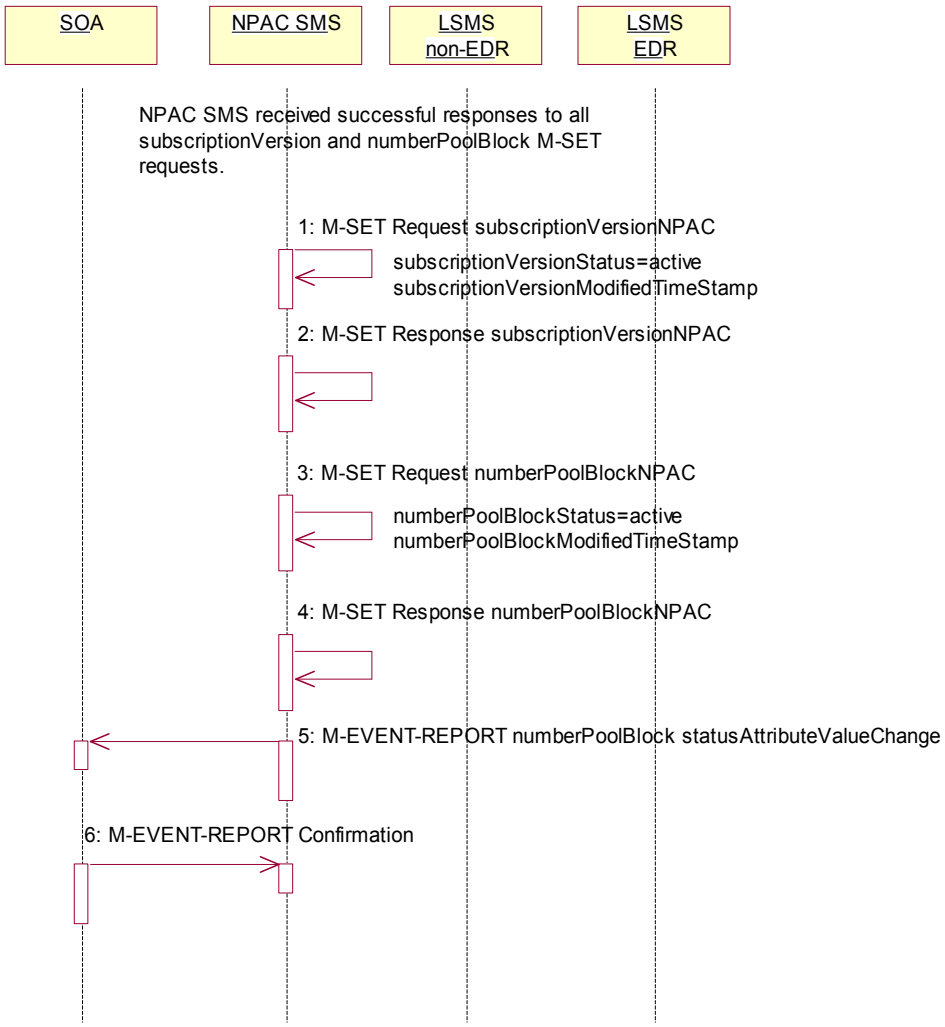
The NPAC SMS has a number pool block object and corresponding subscription version objects in a state of 'sending'.

1. NPAC SMS sends the M-SET for the updated attributes on the subscription version object(s) to the non-EDR Local SMS who are accepting downloads for the NPA-NXX.
2. At the same time, the NPAC SMS sends the M-SET for the updated attributes on the number pool block object to the EDR Local SMS. ~~Non-EDR Local SMS responds to the M-SET.~~
3. Non-EDR Local SMS responds to the M-SET.
4. EDR Local SMS responds to the M-SET. ~~NPAC SMS sends the M-SET for the updated attributes on the number pool block object to the EDR Local SMS.~~

As soon as 1 successful response is received to either M-SET, the status of the subscriptionVersionNPAC and numberPoolBlockNPAC object goes to 'active'. ~~EDR Local SMS responds to the M-SET~~

2.8.2 Broadcast Successful

In this scenario, the NPAC SMS has received successful M-SET responses from all the Local SMS for the numberPoolBlock and corresponding subscriptionVersions.



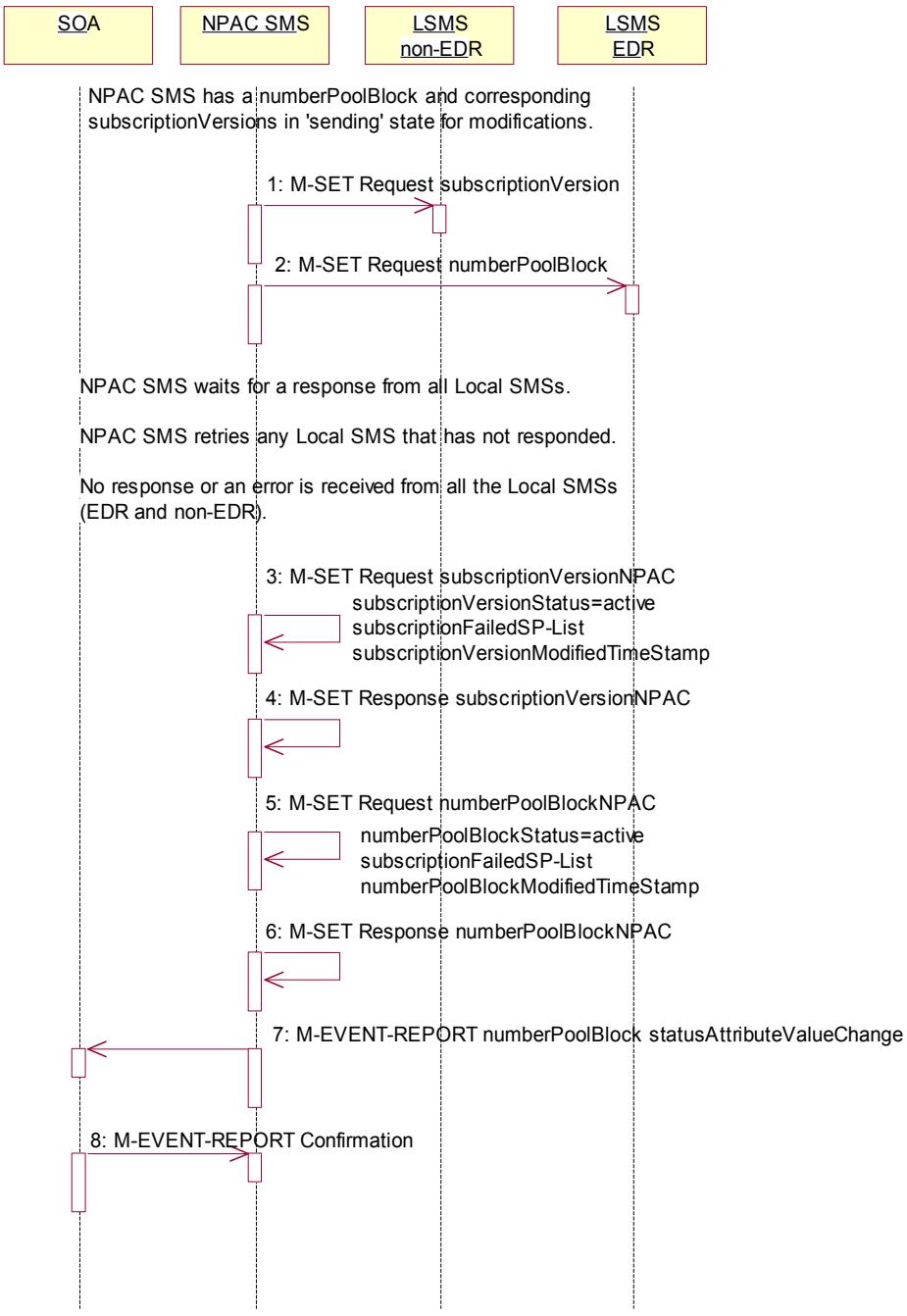
As soon as the first successful response is received, the NPAC SMS sets the status of the subscriptionVersionNPAC objects and numberPoolBlockNPAC object to 'active'. The statusA~~a~~ttributeValueChange, however, is not sent out until all replies have been received or the retries have been exhausted.

1. NPAC SMS updates all the subscriptionVersionNPACs that were broadcasted by setting the subscriptionVersionStatus to 'active' and setting the subscriptionVersionModifiedTimeStamp to the current date and time.
2. NPAC SMS responds to the M-SET.
3. NPAC SMS updates the numberPoolBlock by setting the numberPoolBlockStatus to 'active' and setting the numberPoolBlockModifiedTimeStamp ~~and numberPoolBlockBroadcastCompleteTimeStamp~~ to the current date and time.

4. NPAC SMS responds to the M-SET.
5. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT for the status attribute value change to the block holder SOA. The status attribute value change would contain the numberPoolBlockStatus.
6. Block holder SOA confirms the M-EVENT-REPORT.

2.9 Number Pool Block Modify Broadcast to Local SMS Failure

NPAC SMS has a numberPoolBlock and corresponding subscriptionVersion in 'sending' state for modifications. In this scenario, no Local SMSs will respond successfully to the M-SET requests.



1. NPAC SMS sends the M-SET with the modifications for the subscriptionVersion to the non-EDR Local SMS.
2. At the same time as step 1, NPAC SMS sends the M-SET with the modifications for the numberPoolBlock to the EDR Local SMS.

NPAC SMS waits for a response from all Local SMSs.

NPAC SMS retries any Local SMS that has not responded.

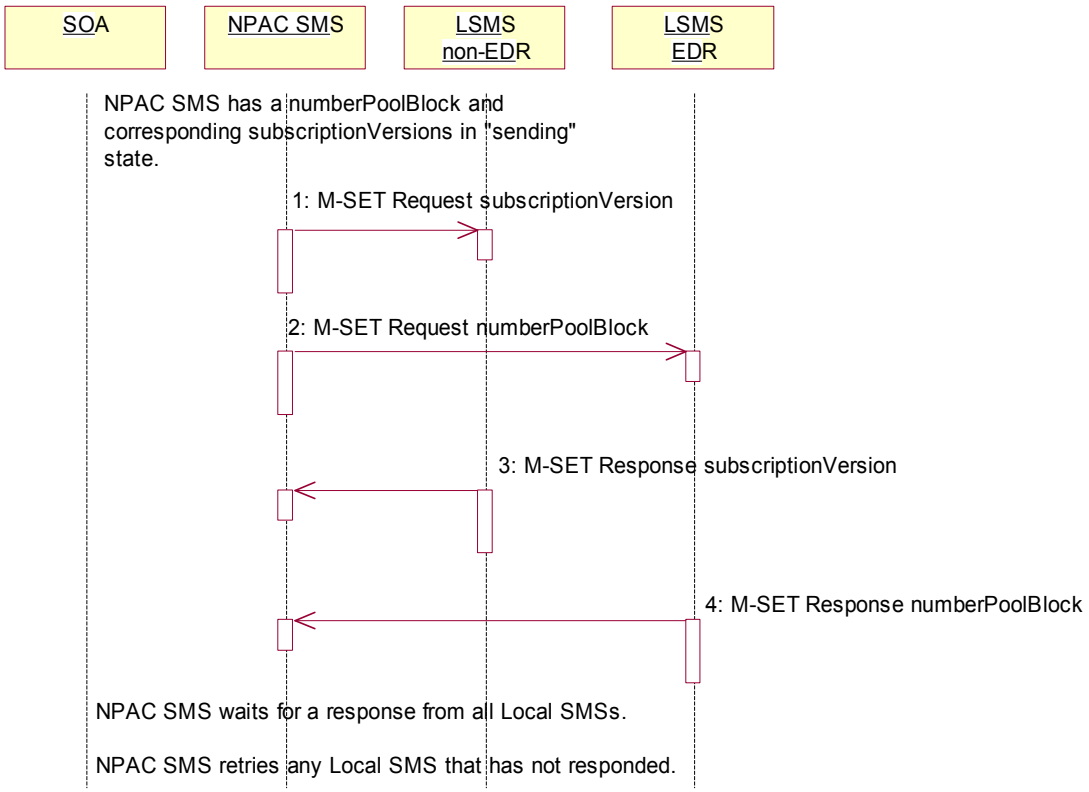
No response or a n error is received from all the Local SMSs (EDR and non-EDR).

3. NPAC SMS returnssets the subscriptionVersionStatus to 'active', sets the subscriptionFailedSP-List to the list of failed service providers and sets the subscriptionVersionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS returnssets the numberPoolBlockStatus to 'active' and sets the subscriptionFailedSP-List to the list of failed service providers. The numberPoolBlockModifiedTimeStamp also gets set.
6. NPAC SMS responds to the M-SET.
7. If the numberPoolBlockSOA-Origination flag is set to 'true', the NPAC SMS sends the originating SOA the M-EVENT-REPORT statusAattributeValueChange with the numberPoolBlockStatus and subscriptionFailedSP-List.
8. SOA confirms M-EVENT-REPORT.

2.10 Number Pool Block Modify Broadcast to Local SMS Partial Failure

In this scenario, the NPAC SMS has a numberPoolBlock and corresponding subscriptionVersion object(s) in a state of 'sending' for a modification to the Local SMS. The broadcast, however, will result in a partial-failure state for both the numberPoolBlock and corresponding subscriptionVersions.

2.10.1 Broadcast to Local SMSs



The NPAC SMS has a number pool block object and corresponding subscription version objects in a state of 'sending'.

1. NPAC SMS sends the M-SET for the updated attributes on the subscription version object(s) to the non-EDR Local SMS who are accepting downloads for the NPA-NXX.
2. At the same time as step 1, NPAC SMS sends the M-SET for the updated attributes on the number pool block object to the EDR Local SMS.
3. Non-EDR Local SMS responds successfully to the M-SET.
4. EDR Local SMS responds successfully to the M-SET.
5. ~~Non-EDR Local SMS responds to the M-SET.~~

~~NPAC SMS sends the M-SET for the updated attributes on the number pool block object to the EDR Local SMS.~~

6. ~~EDR Local SMS responds to the M-SET.~~

NPAC SMS waits for a response from all Local SMSs.

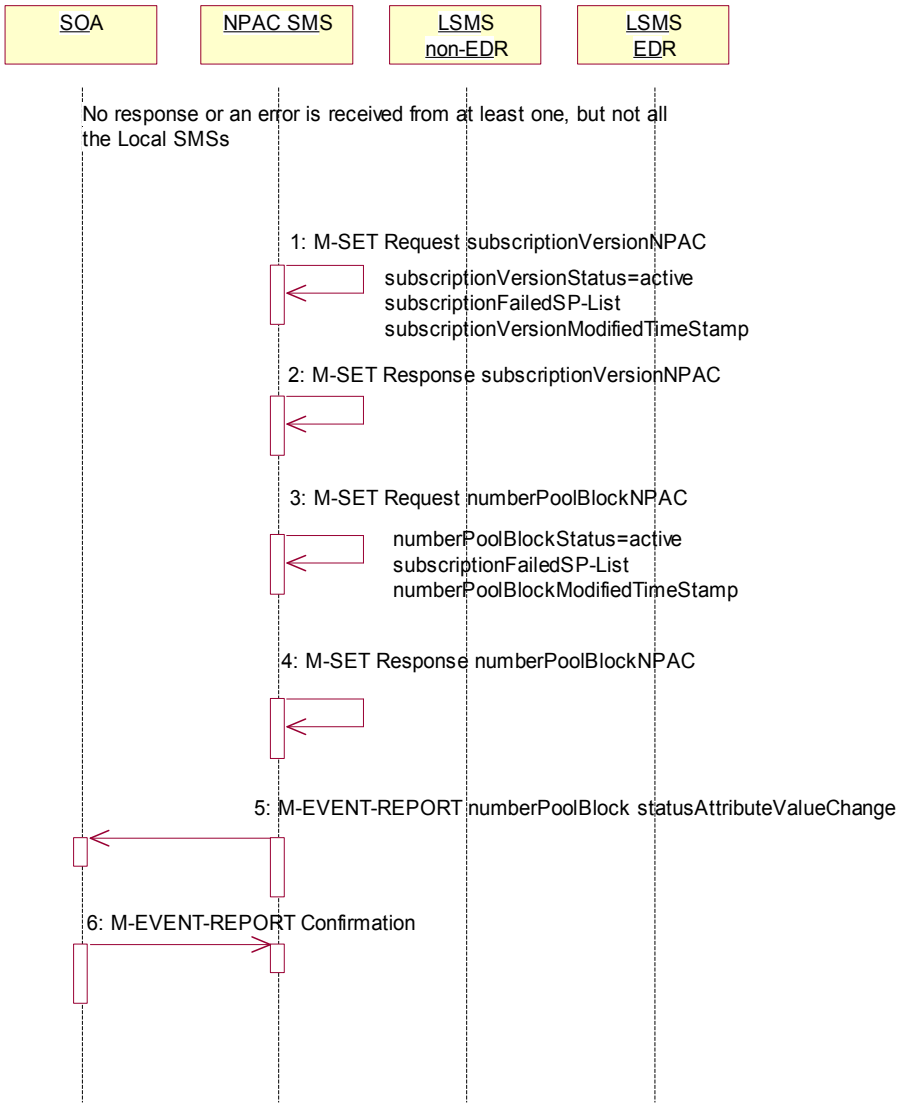
NPAC SMS retries any Local SMS that has not responded.

2.10.2

2.10.3

2.10.4 Broadcast Partial Failure Updates

The NPAC SMS has attempted to broadcast the number pool block modification to the Local SMSs. However, at least 1, but not all Local SMSs have responded successfully to the M-SETs.



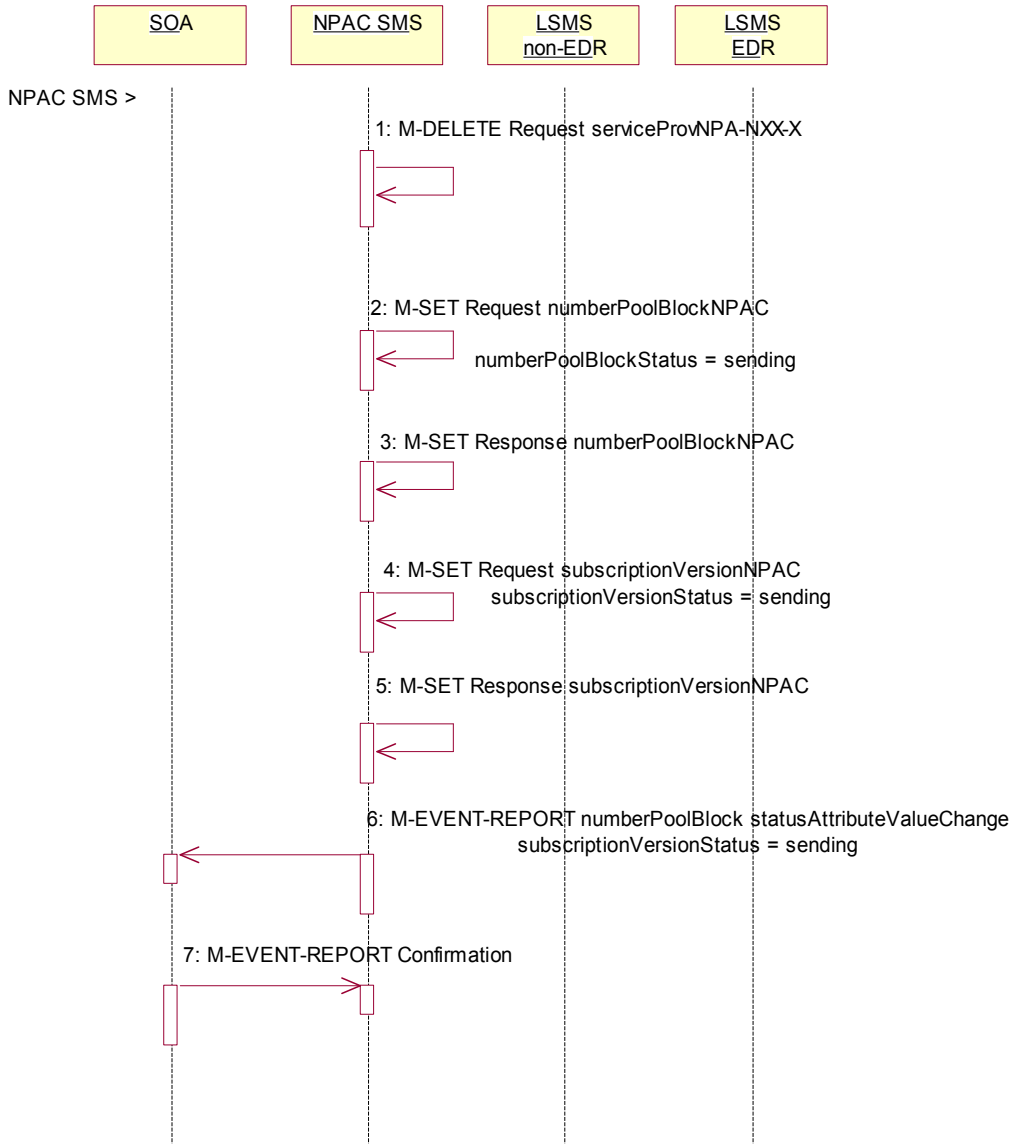
Once the first successful M-SET response is received, the NPAC SMS sets the status to 'active' for the numberPoolBlock and subscriptionVersion objects. Once all retries are exhausted, the NPAC SMS sets the subscriptionFailedSP-List and sends the status attribute value change.

1. NPAC SMS updates all the subscriptionVersionNPACs that were broadcasted by setting the subscriptionVersionStatus to 'active' and updating the subscriptionFailedSP-List to the list of failed service providers. The subscriptionVersionModifiedTimeStamp is set to the current date and time.

2. NPAC SMS responds to the M-SET.
3. NPAC SMS updates the numberPoolBlock by setting the numberPoolBlockStatus to ‘active’ and setting the subscriptionFailedSP-List to the list of currently failed service providers. It also sets the numberPoolBlockModifiedTimeStamp and numberPoolBlockBroadcastCompleteTimeStamp to the current date and time.
4. NPAC SMS responds to the M-SET.
5. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT for the status attribute value change to the block holder SOA. The status attribute value change would contain the numberPoolBlockStatus set to ‘active’ and the subscriptionFailedSP-List.
6. Block holder SOA confirms the M-EVENT-REPORT.

2.11 Number Pool Block De-Pool by NPAC SMS

This scenario reflects the events that occur when a block is "De-Pooled" after becoming effective. Only NPAC Personnel are allowed to remove a number pool block object at the request of the number pool block administrator.~~-~~



Action is taken by NPAC personnel to 'de-pool' a block of TNs.

When the number pool block is to be removed, the serviceProvNPA-NXX-X, numberPoolBlock and all subscriptionVersions within the block range with LNPType of 'pool' are removed. The block is not successfully deleted until all the subscriptionVersions and numberPoolBlock object removals are successfully broadcasted to the Local SMSs.

The NPAC SMS will send the subscription versions and number pool block M-DELETEs. Once a service provider has successfully responded to the M-DELETE for the subscription versions or number pool block, the M-DELETE for the service-prov-npa-nxx-x object will follow.

1. NPAC SMS issues the M-DELETE to remove the serviceProvNPA-NXX-X object. The M-DELETE will fail if any subscriptionVersion exists within the block range that is a port-to-original, where the old service provider ID is equal to the block holder service provider ID or if any subscription versions with a status of pending, conflict, cancel-pending or failed (pending-like). If validation fails, no further processing is performed.
2. NPAC SMS issues the M-SET to update the numberPoolBlockStatus to 'sending' and the numberPoolBlockBroadcastTimeStamp gets set.
3. NPAC SMS responds to the M-SET.
4. NPAC SMS issues the M-SET to update the corresponding subscriptionVersions within the block range with LNPType equal to 'pool' to a status of 'sending' and the subscriptionVersionModifiedTimeStamp gets set.
5. NPAC SMS responds to the M-SET.
6. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT for the status attribute value change to the block holder SOA. The status attribute value change would contain the numberPoolBlockStatus set to 'sending'.
7. Block holder SOA confirms the M-EVENT-REPORT.

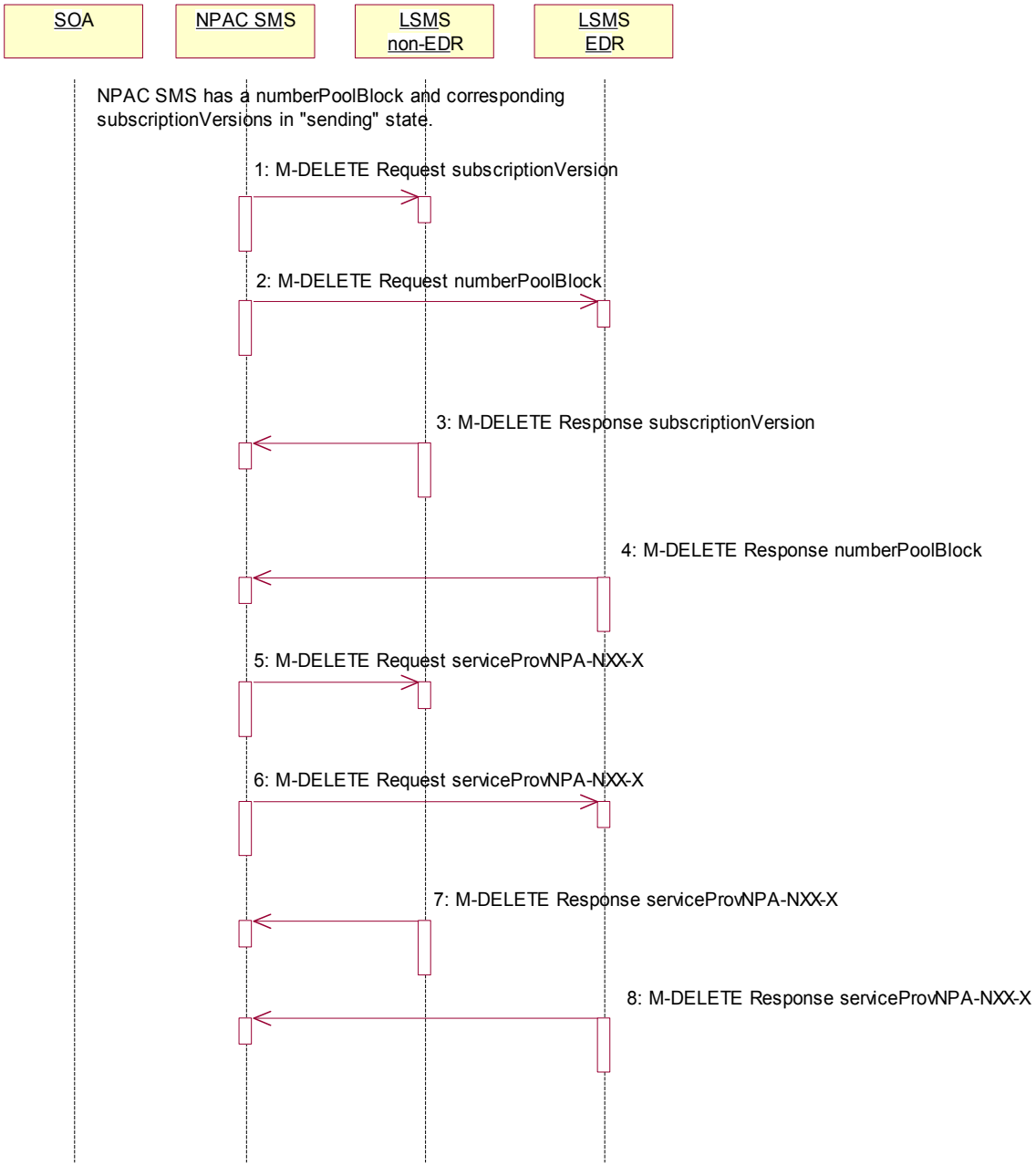
The next scenario is 'Number Pool Block De-Pool Broadcast Success~~to Local SMS~~'.

2.12 Number Pool Block De-Pool Broadcast Success

In this scenario, the NPAC personnel have initiated the "dDe-pPool" of a block of TNs. The NPAC SMS already has the numberPoolBlock and corresponding subscriptionVersions in the "sending" state.

2.12.1 Broadcast to Local SMS

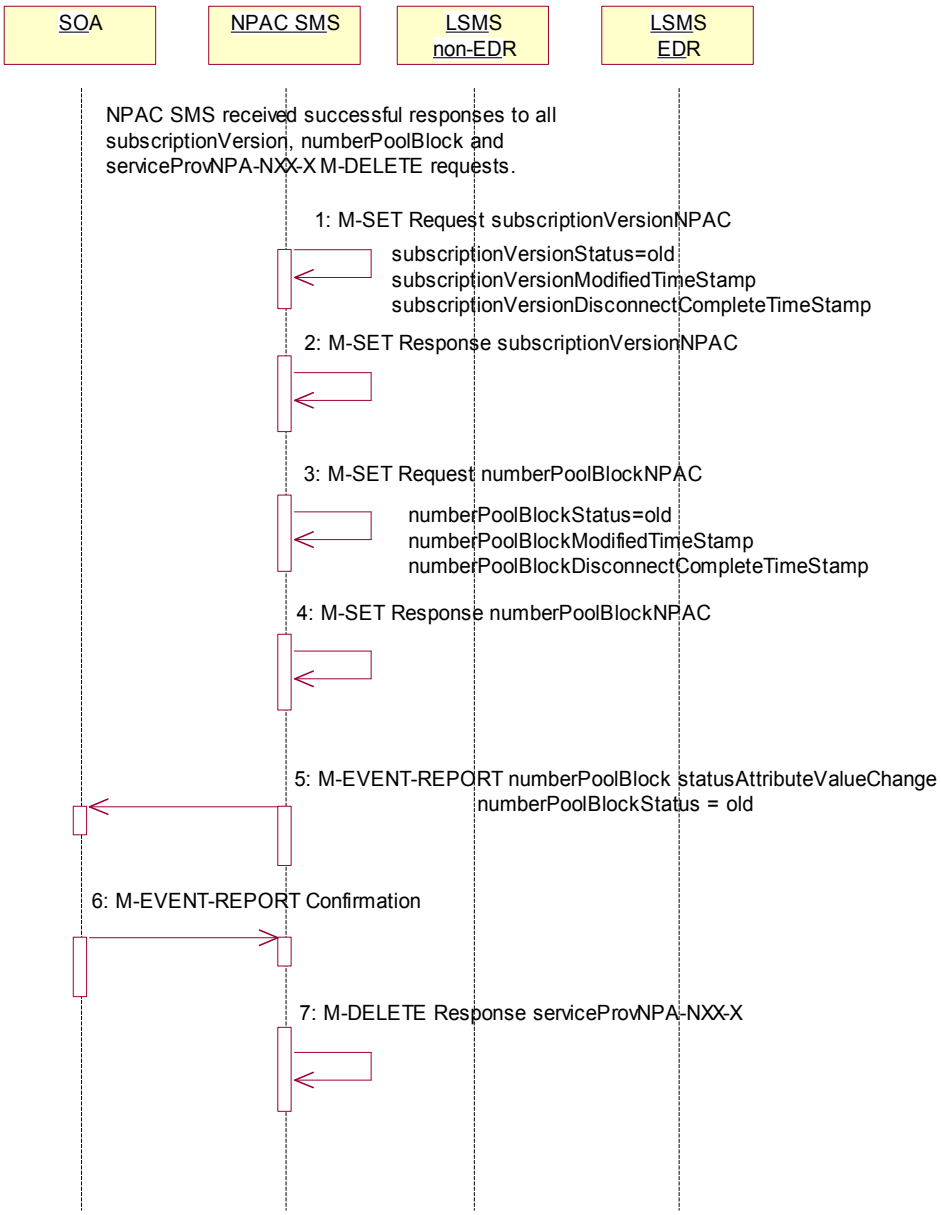
In this scenario, the NPAC SMS will send all the M-DELETE requests to the Local SMSs and get successful replies to all the requests.



The NPAC SMS has a number pool block object and corresponding subscription version objects in a state of 'sending'.

1. NPAC SMS sends the M-DELETE for the subscription version object(s) to the non-EDR Local SMS who are accepting downloads for the NPA-NXX. The subscription version TNs are within the block range and have the LNPType set to 'pool'.
2. ~~Non-EDR Local SMS responds to the M-DELETE.~~
3. At the same time, NPA~~NPA~~C SMS sends the M-DELETE for the number pool block object to the EDR Local SMS.
4. Non-EDR Local SMS respond successfully to the M-DELETE.
5. EDR Local SMS respond successfully~~s~~ to the M-DELETE.
6. Once a non-EDR Local SMS, has responded successfully to the M-DELETE of the subscription version, the NPAC SMS sends the M-DELETE for the serviceProvNPA-NXX-X object to the non-EDR Local SMS~~s~~.
7. Once an EDR Local SMS has responded successfully to the M-DELETE of the number pool block, the ~~At the same time,~~ NPAC SMS sends the M-DELETE for the serviceProvNPA-NXX-X object to the EDR Local SMS~~s~~.
8. Non-EDR Local SMS respond successfully to the M-DELETE.
9. EDR Local SMS respond successfully to the M-DELETE.

2.12.2 Broadcast Successful Updates



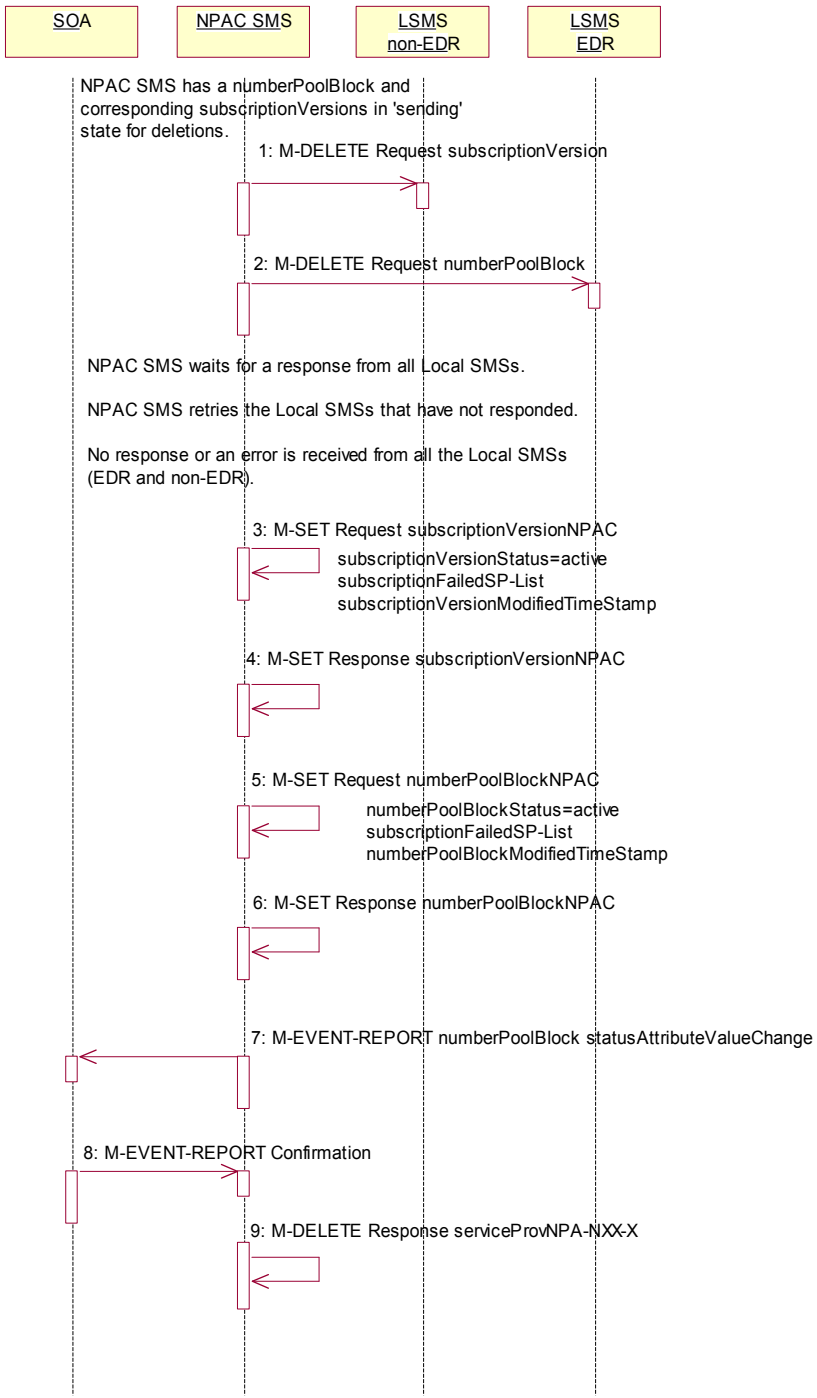
NPAC SMS has received successful responses to all numberPoolBlock and subscriptionVersion M-DELETE requests.

1. NPAC SMS updates all the subscriptionVersionNPACs that were broadcasted by setting the subscriptionVersionStatus to 'old' and setting the subscriptionVersionModifiedTimeStamp to the current date and time.
2. NPAC SMS responds to the M-SET.

3. NPAC SMS updates the numberPoolBlock by setting the numberPoolBlockStatus to ‘old’ and setting the numberPoolBlockModifiedTimeStamp and numberPoolBlockBroadcastCompleteTimeStamp to the current date and time.
4. NPAC SMS responds to the M-SET.
5. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT for the status attribute value change to the block holder SOA. The status attribute value change would contain the numberPoolBlockStatus set to ‘old’.
6. Block holder SOA confirms the M-EVENT-REPORT.
7. NPAC SMS responds successfully to the M-DELETE request for the serviceProvNPA-NXX-X object.

2.13 Number Pool Block De-Pool Broadcast to Local SMS Failure

This scenario shows the failure of a broadcast for a de-pool of a number pool block. The M-DELETE has been issued on the serviceProvNPA-NXX-X object and now the NPAC SMS is attempting to broadcast the all the M-DELETEs associated with the block removal.



1. NPAC SMS sends the M-DELETE with the modifications for the subscriptionVersion to the non-EDR Local SMS.
2. At the same time as step 1, NPAC SMS sends the M-DELETE with the modifications for the numberPoolBlock to the EDR Local SMS.

NPAC SMS waits for a response from all Local SMSs.

NPAC SMS retries the Local SMSs that have not responded.

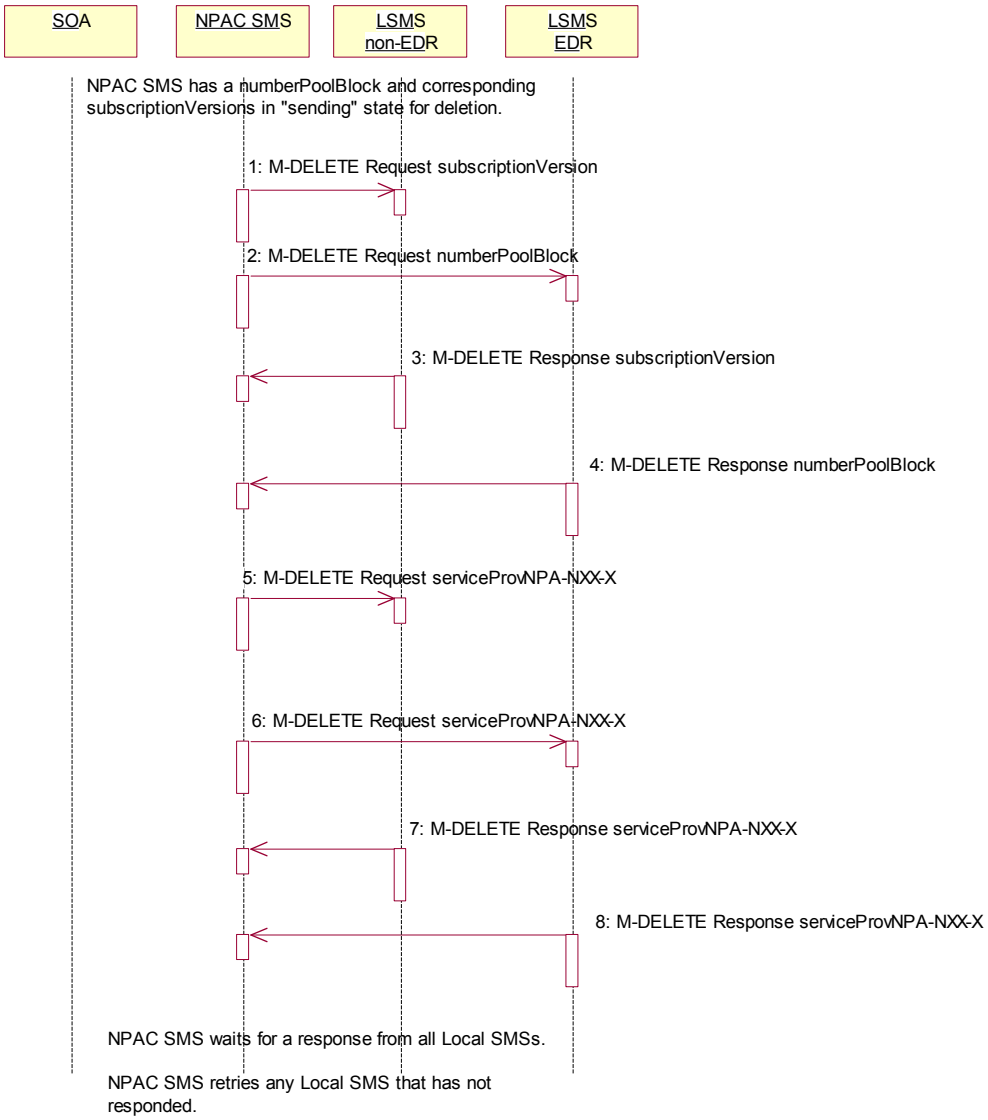
No response or an error is received from all the Local SMSs (EDR and non-EDR).

3. NPAC SMS sets the subscriptionVersionStatus to 'active', sets the subscriptionFailedSP-List to the list of failed service providers and sets the subscriptionVersionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS sets the numberPoolBlockStatus to 'active' and sets the subscriptionFailedSP-List to the list of failed service providers. The numberPoolBlockModifiedTimeStamp and numberPoolBlockBroadcastCompleteTimeStamp also gets set.
6. NPAC SMS responds to the M-SET.
7. If the numberPoolBlockSOA-Origination flag is set to 'true', the NPAC SMS sends the originating SOA the M-EVENT-REPORT statusA~~a~~ttributeValueChange with the numberPoolBlockStatus and subscriptionFailedSP-List.
8. SOA confirms M-EVENT-REPORT.
9. NPAC SMS responds with the M-DELETE failure for the serviceProvNPA-NXX-X object.

2.14 Number Pool Block De-Pool Broadcast to Local SMS Partial Failure

This scenario shows the processing of a partial-failure for the de-pool of a number pool block. The M-DELETE has been issued on the serviceProvNPA-NXX-X object on the NPAC SMS and now the NPAC SMS is attempting to broadcast the all the M-DELETEs associated with the block removal to the Local SMSs.

2.14.1 Broadcast to Local SMS



The NPAC SMS has a number pool block object and corresponding subscription version objects in a state of 'sending'.

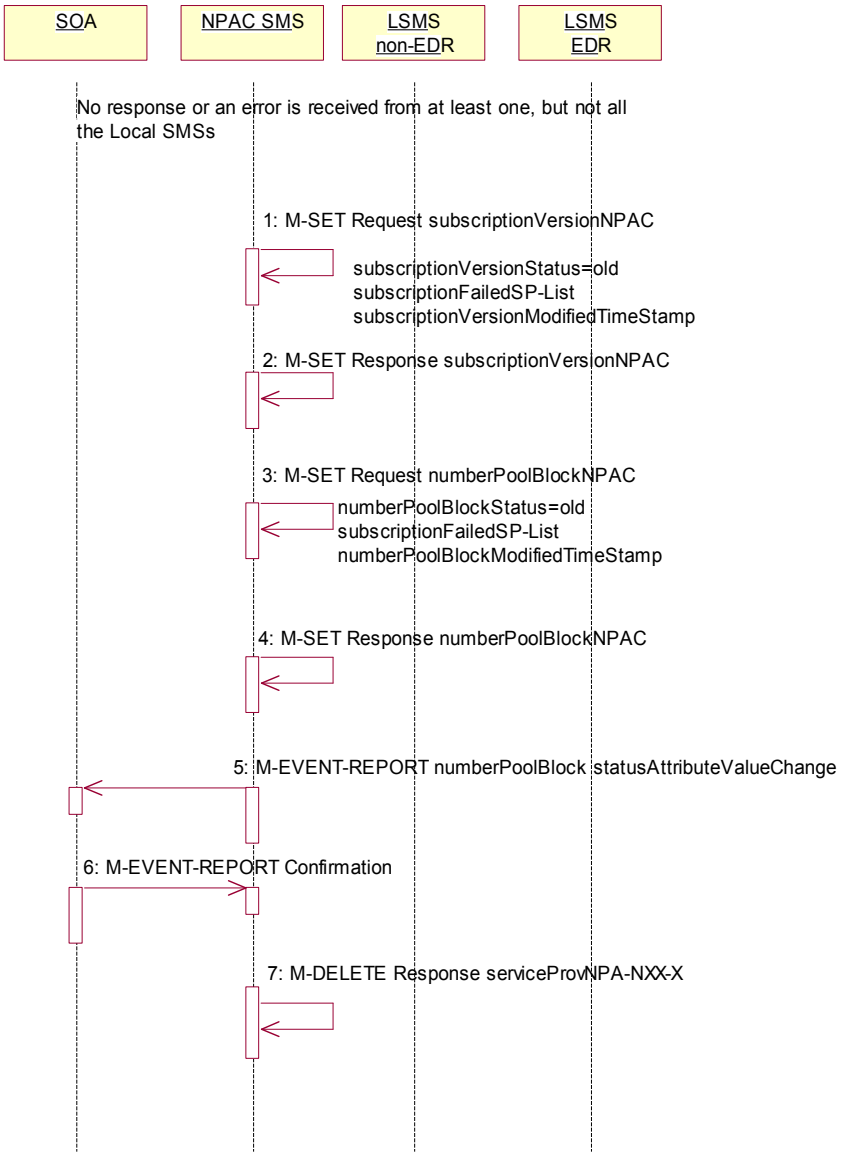
1. NPAC SMS sends the M-DELETE for the subscription version object(s) to the non-EDR Local SMS who are accepting downloads for the NPA-NXX.
2. NPAC SMS sends the M-DELETE for the number pool block object to the EDR Local SMS.
3. ~~NPAC SMS sends the M-DELETE for the serviceProvNPA-NXX-X object to the non-EDR Local SMS.~~
4. Non-EDR Local SMS responds to the M-DELETE for the subscriptionVersion.
5. EDR Local SMS responds to the M-DELETE for the numberPoolBlock.
6. Once a non-EDR Local SMS responds successfully to the M-DELETE of the subscription version, the NPAC SMS sends the M-DELETE for the serviceProvNPA-NXX-X object to the non-EDR Local SMS.
7. Once a non-EDR Local SMS responds succcessfully to the M-DELETE of the number pool block, the NPAC SMS sends the M-DELETE for the serviceProvNPA-NXX-X object to the EDR Local SMS~~s~~.
8. ~~Non-EDR Local SMS responds to the M-DELETE~~ ~~for the subscriptionVersion~~.
9. ~~EDR Local SMS responds to the M-DELETE for the numberPoolBlock.~~~~NPAC SMS sends the M-DELETE for the number pool block object to the EDR Local SMS.~~
10. ~~EDR Local SMS responds to the M-DELETE.~~
11. Non-EDR Local SMS responds to the M-DELETE for the serviceProvNPA-NXX-X.
12. EDR Local SMS responds to the M-DELETE for the serviceProvNPA-NXX-X.

NPAC SMS waits for a response from all Local SMSs.

NPAC SMS retries any Local SMS that has not responded.

2.14.2 Broadcast Partial Failure Updates

The NPAC SMS broadcast of a block deletion partially failed. The NPAC SMS now updates the states of the objects on the NPAC SMS.



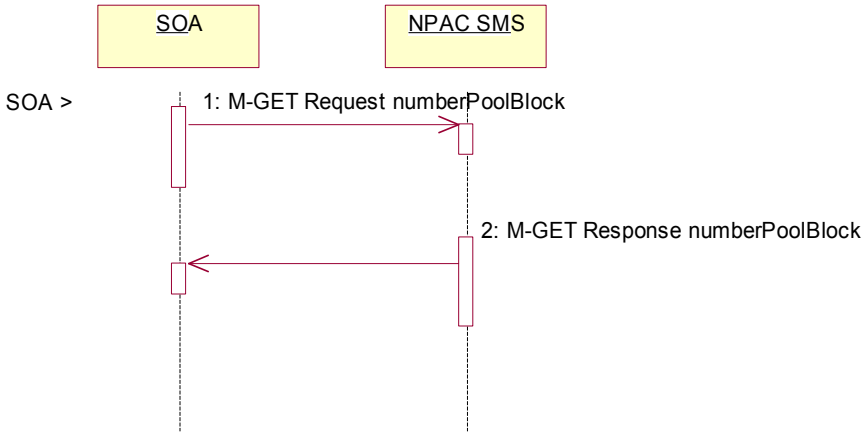
No response or an error is received from at least one Local SMS.

1. NPAC SMS updates all the subscriptionVersionNPACs that were broadcasted by setting the subscriptionVersionStatus to 'old' and updating the subscriptionFailedSP-List to the list of failed service providers. The subscriptionVersionModifiedTimeStamp is set to the current date and time.
2. NPAC SMS responds to the M-SET.

3. NPAC SMS updates the numberPoolBlock by setting the numberPoolBlockStatus to ‘old’ and setting the subscriptionFailedSP-List to the list of currently failed service providers. It also sets the numberPoolBlockModifiedTimeStamp and numberPoolBlockBroadcastCompleteTimeStamp to the current date and time.
4. NPAC SMS responds to the M-SET.
5. If the numberPoolBlockSOA-Origination flag is set to TRUE, the NPAC SMS sends the M-EVENT-REPORT for the status attribute value change to the block holder SOA. The status attribute value change would contain the numberPoolBlockStatus set to ‘old’ and the subscriptionFailedSP-List.
6. Block holder SOA confirms the M-EVENT-REPORT.
7. NPAC SMS responds unsuccessfully to the M-DELETE of the serviceProvNPA-NXX-X object.

2.15 Number Pool Block Query by SOA

In this scenario, the SOA queries for one or more number pool block objects.



Action is taken by SOA Personnel to query one or more numberPoolBlock objects for all attributes.

1. SOA sends the M-GET request either requesting a single numberPoolBlock object by numberPoolBlockId or requesting one or more numberPoolBlock objects using a scope and filtered request.
2. If the requested object(s) exist, the NPAC SMS will respond with a single or linked M-GET reply. If no objects are found, the NPAC SMS will respond with an empty result. All attributes are returned in the query.

3 Port-to-Original Subscription Version Flows

This section contains Port-to-Original flows whose subscription version TNs are part of a pooled block and therefore the behavior of these scenarios isare different than normal LISP or LSSP subscription version processing.

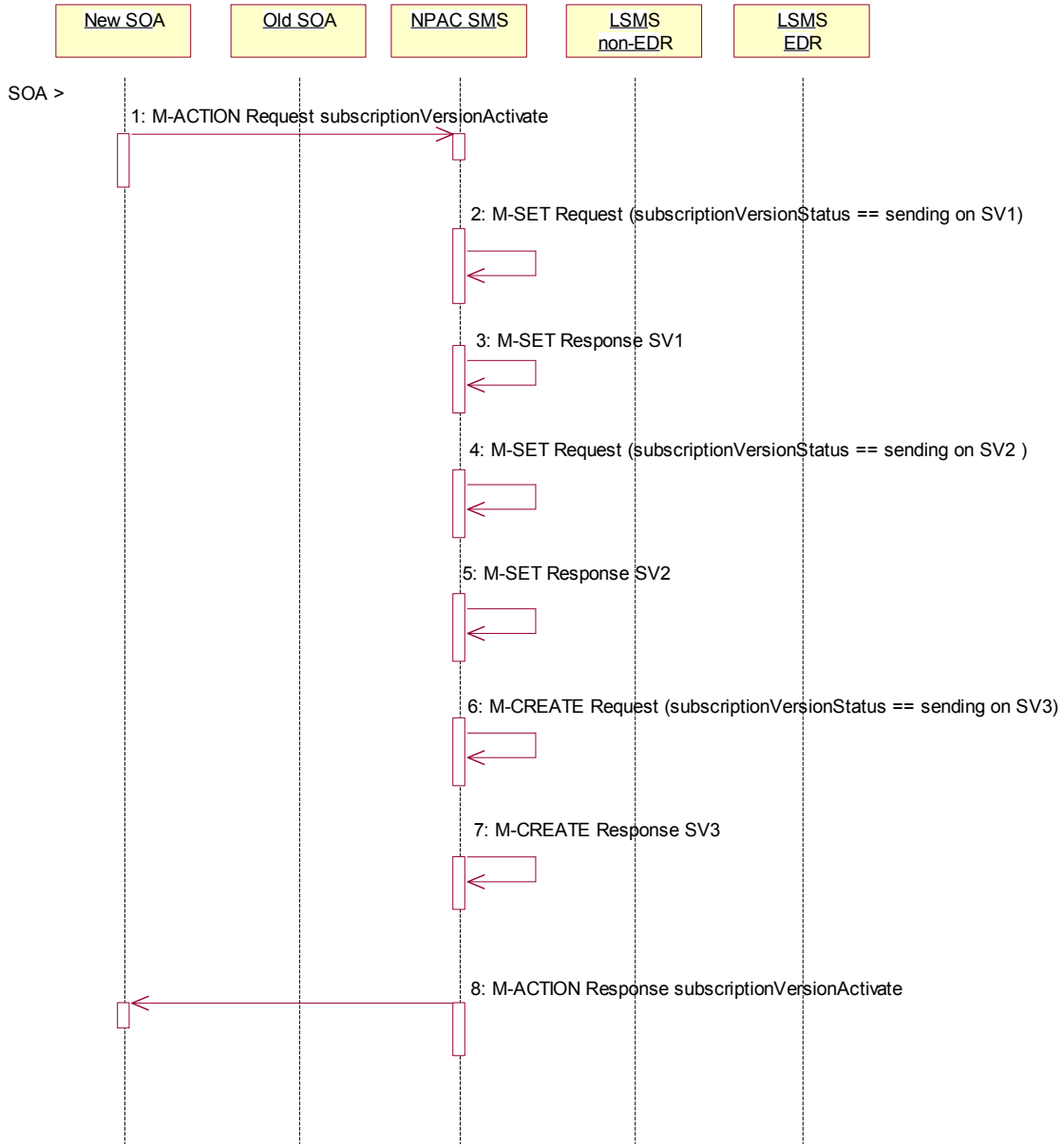
3.1 Subscription Version Port-to-Original of a Ported Pool TN Activation by SOA

The following scenarios show the broadcast of a Port-to-Original subscription version that is successfully sent to all of the Local SMSs. In this scenario:

- SV1 is the currently active Subscription Version.
- SV2 is the current pending Subscription Version with the Port-To-Original flag set to TRUE.
- SV3 is the pool reinstatement Subscription Version with LNPType = Pool that reinstates default routing to the block holder.

3.1.1 Port-to-Original~~SOA~~ Activation ~~and SV2 Set to Sending~~by SOA of a Pooled TN

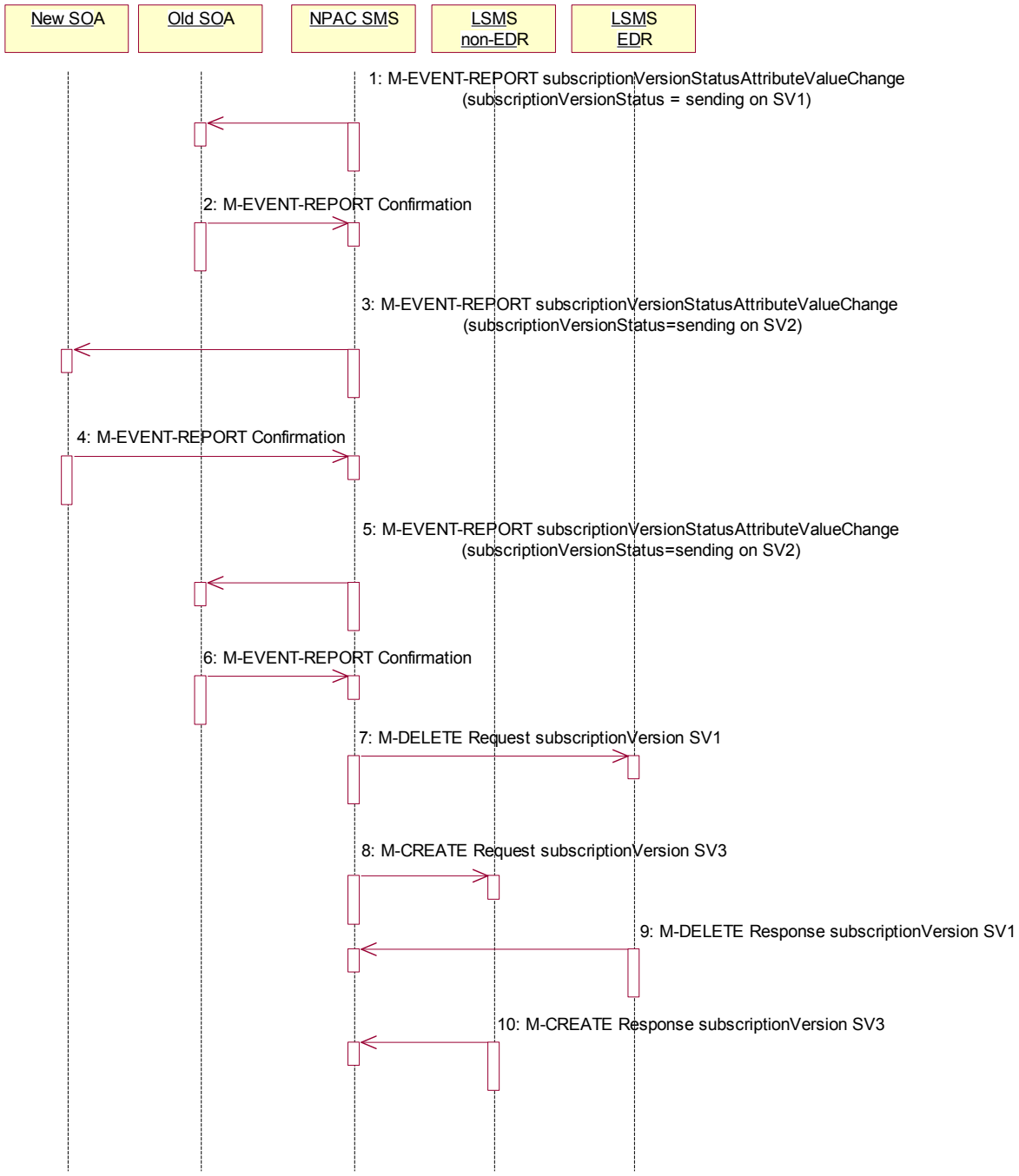
This scenario shows the activation by the new service provider SOA and the update to 'sending' of ~~SV2~~the 3 subscription versions.~~-~~



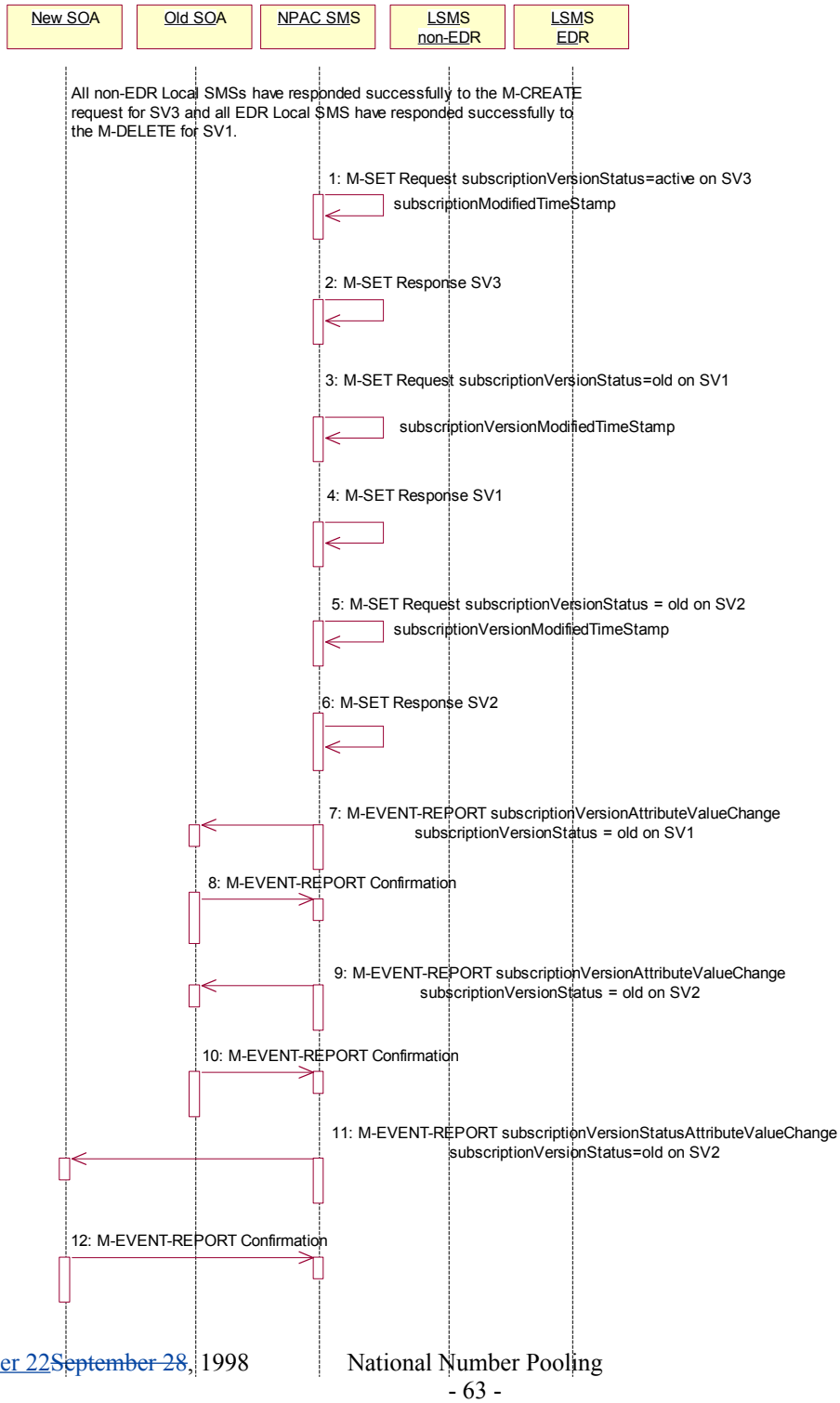
1. The new, block holder service provider SOA issues a subscriptionVersionActivate M-ACTION to the NPAC SMS lnpSubscriptions object to activate the pending subscription version SV2 by specifying the subscription version ID, subscription version TN, or a range of subscription version TNs.
2. The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to “sending”, subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV1~~2~~.
3. NPAC SMS responds to the M-SET.
4. The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to “sending”, subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV2.
5. NPAC SMS responds to the M-SET.
6. The NPAC SMS issues an M-CREATE~~SET~~ request setting the subscriptionVersionStatus to “sending”, subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC, ~~on~~ SV3. All routing information originates from the numberPoolBlock that exists for the specified TN(s).
7. NPAC SMS responds to the M-CREATE~~SET~~.
8. The NPAC SMS responds with the M-ACTION response. An error will be returned if the service provider is not the new service provider (soa-not-authorized~~accessDenied~~) or if there is no version to be activated (no-version-found~~invalidArgumentValue~~) or if any other failures occur (invalid-data-values, failed).
9. ~~If the M-ACTION was successful, the NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
10. ~~The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
11. ~~If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
12. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

3.1.2 Broadcast of Port-to-Original Request~~SV1 Set to Sending~~

The NPAC SMS has the port-to-original request of a pooled TN in sending mode. In this scenario, the broadcasts begin.

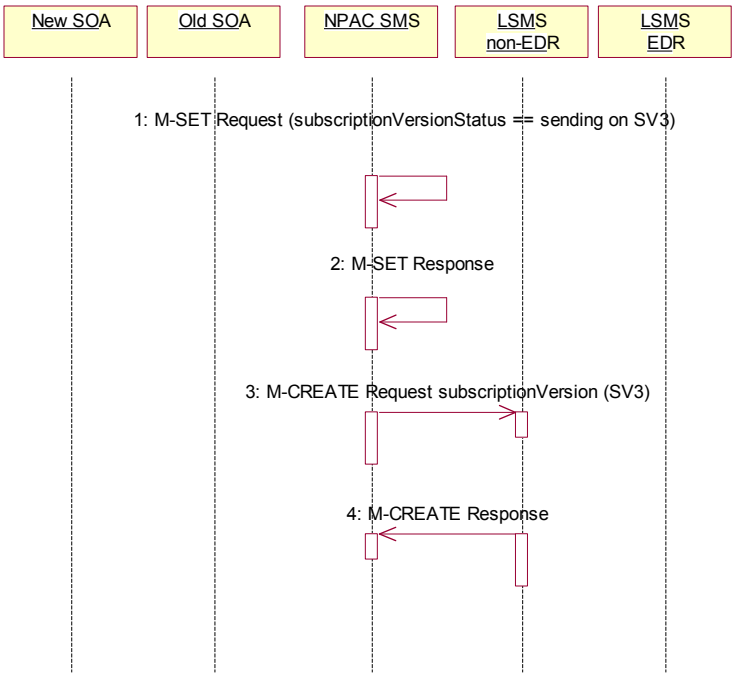


1. ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV1.~~
2. ~~NPAC SMS responds to the M-SET.~~
3. If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.
4. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
5. If the M-ACTION was successful, the NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.
6. ~~NPAC SMS issues the M-DELETE to the EDR Local SMS for the SV1. The EDR Local SMS will revert back to using the routing information in the number pool block object for the TN in the subscription version.~~
7. ~~The EDR Local SMS responds to the M-DELETE.~~
8. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
9. If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.
10. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
11. NPAC SMS issues the M-DELETE to the EDR Local SMS for the SV1. The EDR Local SMS will revert back to using the routing information in the number pool block object for the TN in the subscription version.
12. At the same time as step 7, the NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the create is for multiple subscription versions, the M-ACTION subscriptionVersionLocalSMS-Create will be used instead, The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL".
13. The EDR Local SMS responds to the M-DELETE.
14. Each non-EDR Local SMS responds to the M-CREATE.


New SOA
Old SOA
NPAC SMS
LSMS non-EDR
LSMS EDR
All non-EDR Local SMSs have responded successfully to the M-CREATE request for SV3 and all EDR Local SMS have responded successfully to the M-DELETE for SV1.
1: M-SET Request subscriptionVersionStatus=active on SV3
subscriptionModifiedTimeStamp
2: M-SET Response SV3
3: M-SET Request subscriptionVersionStatus=old on SV1
subscriptionVersionModifiedTimeStamp
4: M-SET Response SV1
5: M-SET Request subscriptionVersionStatus = old on SV2
subscriptionVersionModifiedTimeStamp
6: M-SET Response SV2
7: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = old on SV1
8: M-EVENT-REPORT Confirmation
9: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = old on SV2
10: M-EVENT-REPORT Confirmation
11: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange
subscriptionVersionStatus=old on SV2
12: M-EVENT-REPORT Confirmation

~~SV3 Set to Sending~~

3.1.3



3.1.4 ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV3.~~

3.1.5 ~~NPAC SMS responds to the M-SET.~~

3.1.6 ~~NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation will be sent. The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL". The NPAC SMS would put this information on SV3 in the NPAC SMS for the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface. The NPAC SMS schedules an LSMS Response Timer for each subscription version.~~

3.1.7 ~~Each Local SMS responds to the M-CREATE.~~

3.1.8 Successful BBroadcast Complete Updates for a Port-to-Original Requestete SV1 and SV3 Updates

In this scenario, the NPAC SMS has successfully completed the broadcast of the port-to-original of a pooled TN. The NPAC SMS now updates the status of the subscription versions on the NPAC SMS.
All Local SMSs respond successfully to the port-to-original broadcast of a pooled TN.

1. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV3 to active. The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to the M-SET.
3. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 to old. It also sets the subscriptionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to old. It also sets the subscriptionModifiedTimeStamp.
6. NPAC SMS responds to the M-SET.
7. The NPAC SMS sends to the old service provider SOA, who is the current service provider on SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV1.
8. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
9. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV2.
10. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
11. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV2.
12. The current/new, block holder service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

After a tunable amount of days, the subscription versions SV1 and SV2 are purged by the NPAC SMS housekeeping process.

3.1.9 ~~Broadcast Complete SV2 Updates~~

3.2 ~~NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to old. It also sets the subscriptionModifiedTimeStamp.~~

3.3 ~~NPAC SMS responds to the M-SET.~~

3.4 ~~The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV2.~~

3.5 ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

3.6 ~~The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV2.~~

3.7 ~~The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

3.8 ~~After a tunable amount of days, the subscription versions SV1 and SV2 are purged by the NPAC SMS housekeeping process.~~

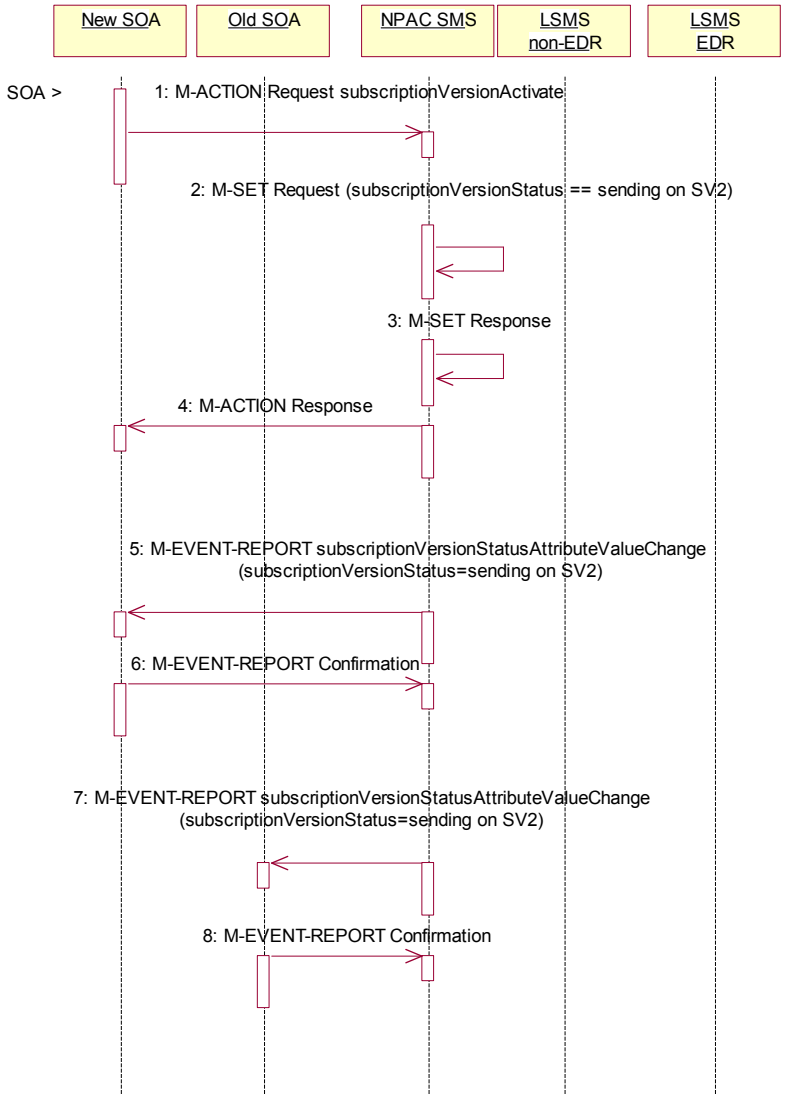
3.9 Subscription Version Create Port-to-Original of a Pool TN: Failure to All Local SMSs

This scenario shows the broadcast of a Port-to-Original subscription version that fails to all of the Local SMSs.

- SV1 is the active Subscription Version.
- SV2 is the pending Subscription Version with the Port to Original flag set to TRUE.
- SV3 is the pool reinstatement Subscription Version with LNPType = Pool that reinstates default routing to the block holder.

3.9.1 ~~SOA Activation and SV2 Set to Sending~~

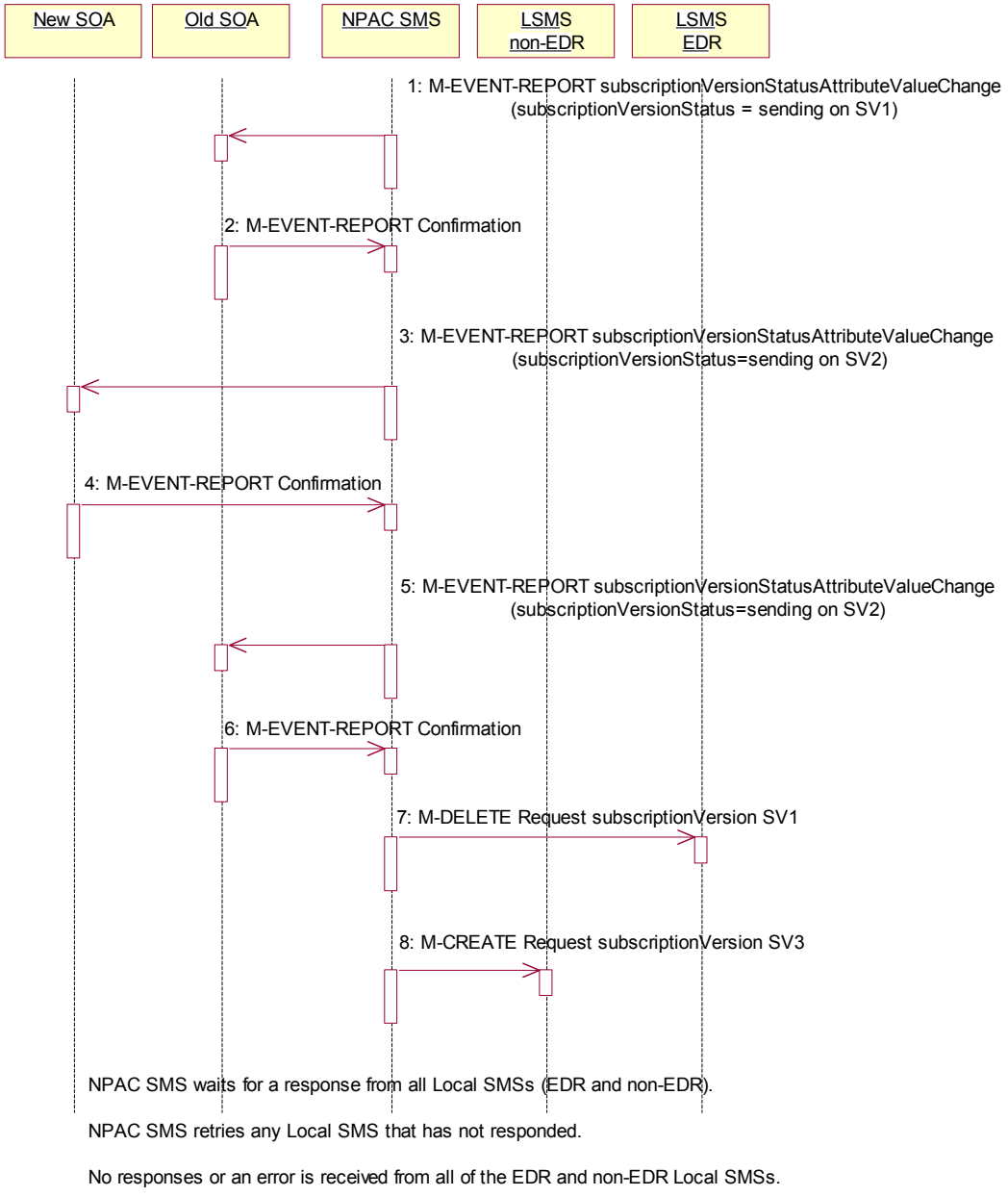
~~This scenario shows the activation by the new service provider SOA and the update to 'sending' of SV2.~~



1. ~~The new service provider SOA issues a subscriptionVersionActivate M-ACTION to the NPAC SMS lnpSubscriptions object to activate the pending subscription version SV2 by specifying the subscription version ID, subscription version TN, or a range of subscription version TNs.~~
2. ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV2.~~
3. ~~NPAC SMS responds to the M-SET.~~
4. ~~The NPAC SMS responds with the M-ACTION response. An error will be returned if the service provider is not the new service provider (accessDenied) or if there is no version to be activated (invalidArgumentValue) or if any other failures occur.~~
5. ~~If the M-ACTION was successful, the NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
6. ~~The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
7. ~~If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
8. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

3.9.2 Broadcast of Port-to-Original Request for Failure Scenario

In this scenario, the NPAC SMS has the required subscription versions in a 'sending' state. The NPAC SMS begins the broadcast.



1. ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV1.~~

2. ~~NPAC SMS responds to the M-SET.~~

3. ~~If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.~~

4. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

5. ~~NPAC SMS issues the M-DELETE to the EDR Local SMS for the SV1. The EDR Local SMS will revert back to using the routing information in the number pool block object for the TN in the subscription version.~~

1. If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.

2. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

3. If the M-ACTION was successful, the NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.

4. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

5. If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.

6. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

7. NPAC SMS issues the M-DELETE to the EDR Local SMS for the SV1. The EDR Local SMS will revert back to using the routing information in the number pool block object for the TN in the subscription version.

8. At the same time as step 7, the NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the create is for multiple subscription versions, the M-ACTION subscriptionVersionLocalSMS-Create will be used instead, The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL".

9. ~~The NPAC SMS would put this information on SV3 in the NPAC SMS for the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface. The NPAC SMS schedules an LSMS Response Timer for each subscription version.~~

10.

The NPAC SMS waits for a response from all Local SMSs (EDR and non-EDR).

The NPAC SMS retries any Local SMS that has not responded.

No response or an error is received from all of the EDR and non-EDR Local SMSs.

3.9.3 Updates to NPAC SMS after Failure of Port-to-Original Broadcast

The NPAC SMS has just completed an unsuccessful broadcast to the LSMSs of a port-to-original of a pooled TN. The NPAC SMS now proceeds to update the status on the NPAC SMS.SV3 Set to Sending

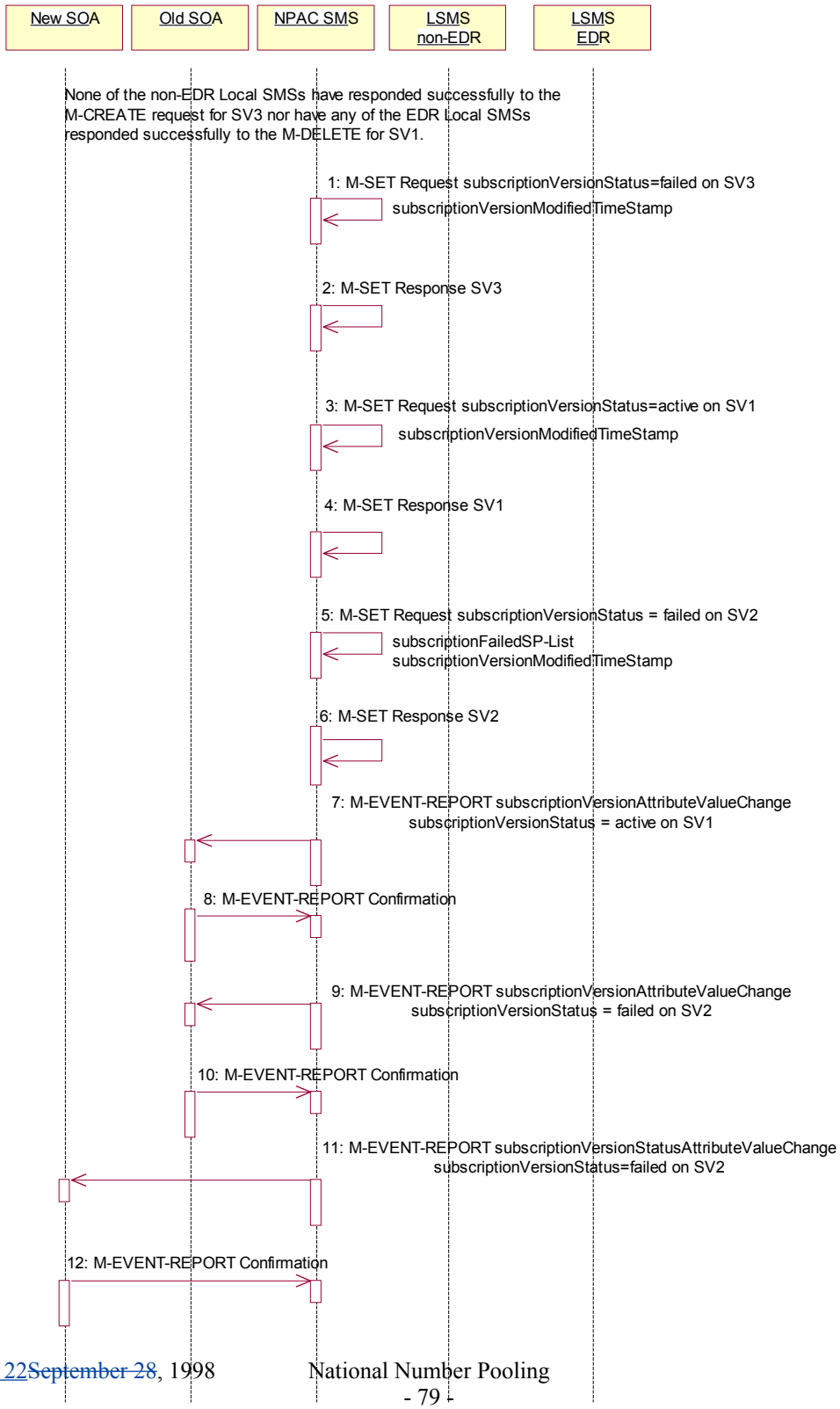
~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV3.~~

1. ~~NPAC SMS responds to the M-SET.~~
2. ~~NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation will be sent. The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL". The NPAC SMS would put this information on SV3 in the NPAC SMS for the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface. The NPAC SMS schedules an LSMS Response Timer for each subscription version.~~

~~The NPAC SMS waits for a response from all Local SMSs (EDR and non-EDR).~~

~~The NPAC SMS retries any Local SMS that has not responded.~~

~~No response or an error is received from all of the EDR and non-EDR Local SMSs.~~


New SOA
Old SOA
NPAC SMS
LSMS non-EDR
LSMS EDR
None of the non-EDR Local SMSs have responded successfully to the M-CREATE request for SV3 nor have any of the EDR Local SMSs responded successfully to the M-DELETE for SV1.
1: M-SET Request subscriptionVersionStatus=failed on SV3
subscriptionVersionModifiedTimeStamp
2: M-SET Response SV3
3: M-SET Request subscriptionVersionStatus=active on SV1
subscriptionVersionModifiedTimeStamp
4: M-SET Response SV1
5: M-SET Request subscriptionVersionStatus = failed on SV2
subscriptionFailedSP-List
subscriptionVersionModifiedTimeStamp
6: M-SET Response SV2
7: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = active on SV1
8: M-EVENT-REPORT Confirmation
9: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = failed on SV2
10: M-EVENT-REPORT Confirmation
11: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange
subscriptionVersionStatus=failed on SV2
12: M-EVENT-REPORT Confirmation

3.9.4 ~~Broadcast Failure SV1 and SV3 Updates~~

None of the non-EDR Local SMSs has responded successfully to the M-CREATE request for SV3 nor have any of the EDR Local SMSs responded succesfully to the M-DELETE for SV1.

1. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV3 to failure. The subscriptionFailedSP-List is set to the list of failed service providers. The failed SP list contains all the Local SMSs, both EDR and non-EDR. The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to the M-SET.
3. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 to active. It also sets the subscriptionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to failed. It also sets the subscriptionModifiedTimeStamp and sets the subscriptionFailedSP-List. The failed SP list contains all the Local SMSs, both EDR and non-EDR.
6. NPAC SMS responds to the M-SET.
7. The NPAC SMS sends to the old service provider SOA, who is the current service provider on SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to active on SV1.
8. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
9. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to failed and the subscriptionFailedSP-List for SV2.
10. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
11. The NPAC SMS sends to the current/new, block holder service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to failed and the subscriptionFailedSP-List for SV2.

~~The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to failed and the subscriptionFailedSP-List for SV2.~~

~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

~~The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to failed and the subscriptionFailedSP-List for SV2. The failed SP list contains all the Local SMSs, both EDR and non-EDR.~~

12. The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

~~Broadcast Failure SV2 Updates~~

~~NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to failed. It also sets the subscriptionModifiedTimeStamp and sets the subscriptionFailedSP-List.~~

1. ~~NPAC SMS responds to the M-SET.~~
2. ~~The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to failed and the subscriptionFailedSP-List for SV2.~~
3. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
4. ~~The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to failed and the subscriptionFailedSP-List for SV2.~~
5. ~~The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

3.10 Subscription Version Create Port-to-Original of a Pool TN: Partial Failure to One or More Local SMSs

This scenario shows the broadcast of a Port-to-Original subscription version that fails to one or more, but not all, of the Local SMSs.

SV1 is the active Subscription Version.

SV2 is the pending Subscription Version with the Port-To-Original flag set to TRUE.

SV3 is the pool reinstatement Subscription Version with LNPType = Pool that reinstates default routing to the block holder.

3.10.1 Port-to-Original Activation Broadcast of a Pooled TN~~SOA Activation and SV2 Set to Sending~~

The NPAC SMS has the port-to-original request of a pooled TN in sending mode. In this scenario, the broadcasts begin that will result in a partial failure.

1. If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.
2. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
3. If the M-ACTION was successful, the NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.
4. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
5. If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.
6. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
7. NPAC SMS issues the M-DELETE to the EDR Local SMS for the SV1. The EDR Local SMS will revert back to using the routing information in the number pool block object for the TN in the subscription version.
8. NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the create is for multiple subscription versions, the M-ACTION subscriptionVersionLocalSMS-Create will be used instead, The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL".
9. The EDR Local SMS responds to the M-DELETE.
10. Each non-EDR Local SMS responds to the M-CREATE.
11. ~~The new service provider SOA issues a subscriptionVersionActivate M-ACTION to the NPAC SMS lnpSubscriptions object to activate the pending subscription version SV2 by specifying the subscription version ID, subscription version TN, or a range of subscription version TNs.~~

1. ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV2.~~
2. ~~NPAC SMS responds to the M-SET.~~
3. ~~The NPAC SMS responds with the M-ACTION response. An error will be returned if the service provider is not the new service provider (accessDenied) or if there is no version to be activated (invalidArgumentValue) or if any other failures occur.~~
4. ~~If the M-ACTION was successful, the NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
5. ~~The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
6. ~~If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
7. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

~~SV1 to Sending~~

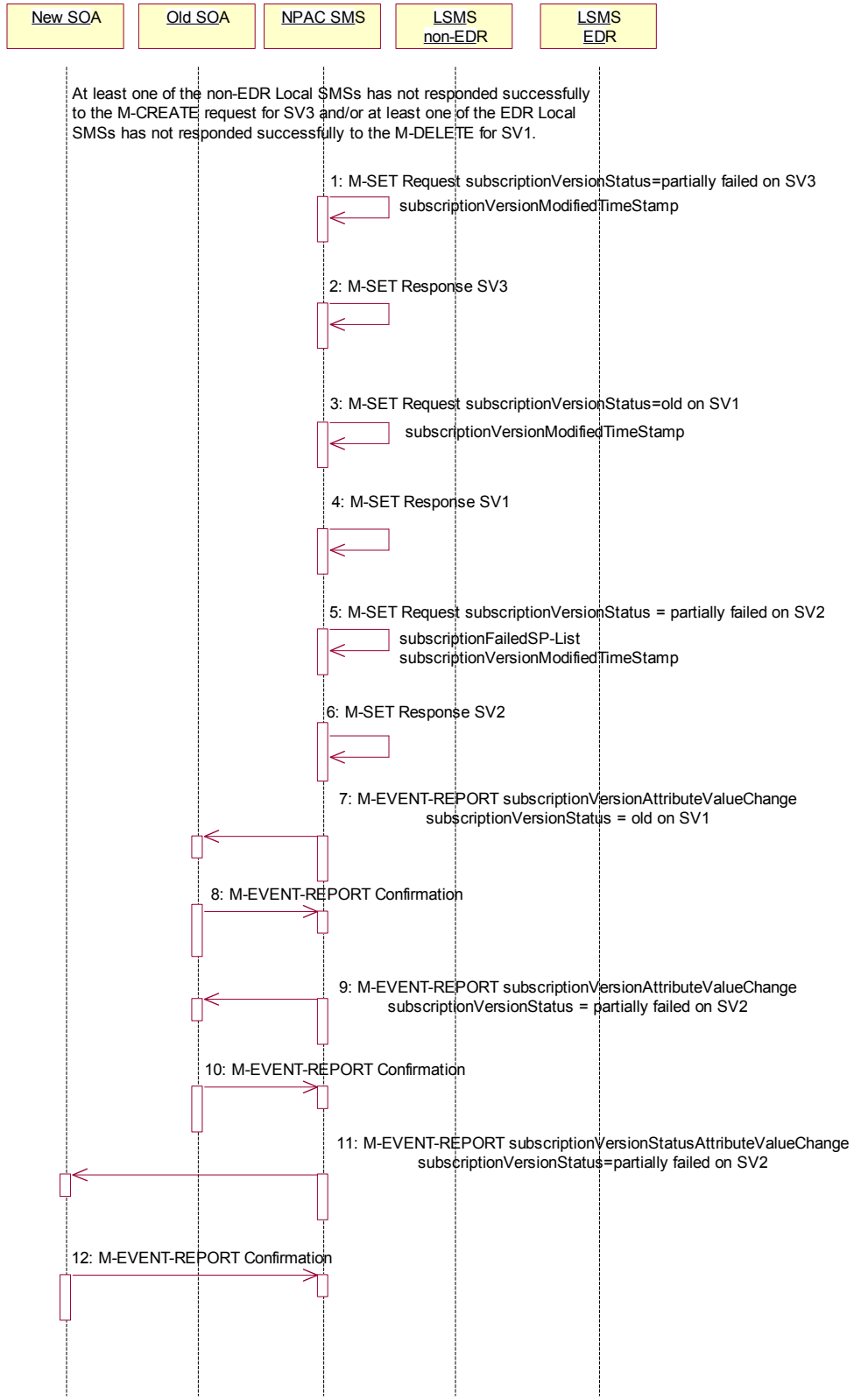
1. ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV1.~~
2. ~~NPAC SMS responds to the M-SET.~~
3. ~~If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.~~
4. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
5. ~~NPAC SMS issues the M-DELETE to the EDR Local SMS for the SV1. The EDR Local SMS will revert back to using the routing information in the number pool block object for the TN in the subscription version.~~
6. ~~The EDR Local SMS responds to the M-DELETE.~~

~~SV3 Set to Sending~~

1. ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV3.~~
2. ~~NPAC SMS responds to the M-SET.~~
3. ~~NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation will be sent. The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL". The NPAC SMS would put this information on SV3 in the NPAC SMS for the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface. The NPAC SMS schedules an LSMS Response Timer for each subscription version.~~
4. ~~Each Local SMS responds to the M-CREATE.~~

3.10.2 Partial-Failure Broadcast Ceomplete ~~SV1 and SV3~~ Updates of a Port-to-Original

In this scenario, the NPAC SMS has already performed the broadcast of the activation of the port-to-original activation. The broadcast resulted in a partial failure status. The NPAC SMS now updates the objects on the NPAC SMS.


New SOA
Old SOA
NPAC SMS
LSMS non-EDR
LSMS EDR
At least one of the non-EDR Local SMSs has not responded successfully to the M-CREATE request for SV3 and/or at least one of the EDR Local SMSs has not responded successfully to the M-DELETE for SV1.
1: M-SET Request subscriptionVersionStatus=partially failed on SV3
subscriptionVersionModifiedTimeStamp
2: M-SET Response SV3
3: M-SET Request subscriptionVersionStatus=old on SV1
subscriptionVersionModifiedTimeStamp
4: M-SET Response SV1
5: M-SET Request subscriptionVersionStatus = partially failed on SV2
subscriptionFailedSP-List
subscriptionVersionModifiedTimeStamp
6: M-SET Response SV2
7: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = old on SV1
8: M-EVENT-REPORT Confirmation
9: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = partially failed on SV2
10: M-EVENT-REPORT Confirmation
11: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange
subscriptionVersionStatus=partially failed on SV2
12: M-EVENT-REPORT Confirmation

At least one of the non-EDR Local SMSs has not responded successfully to the M-CREATE for SV3 and/or at least one of the EDR Local SMSs has not responded successfully to the M-DELETE for SV1.

1. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV3 to partial failure. The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to the M-SET.
3. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 to old. It also sets the subscriptionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to partially failed. It also sets the subscriptionModifiedTimeStamp and sets the subscriptionFailedSP-List.
6. NPAC SMS responds to the M-SET.
7. The NPAC SMS sends to the old service provider SOA, who is the current service provider on SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV1.
8. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
9. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to partially failed and the subscriptionFailedSP-List for SV2.
10. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
11. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to partially failed and the subscriptionFailedSP-List for SV2.
12. The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

3.10.3 Broadcast Complete SV2 Updates

NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to partially failed. It also sets the subscriptionModifiedTimeStamp and sets the subscriptionFailedSP-List.

1. NPAC SMS responds to the M-SET.
2. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to partially failed and the subscriptionFailedSP-List for SV2.
3. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
4. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to partially failed and the subscriptionFailedSP-List for SV2.
5. The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

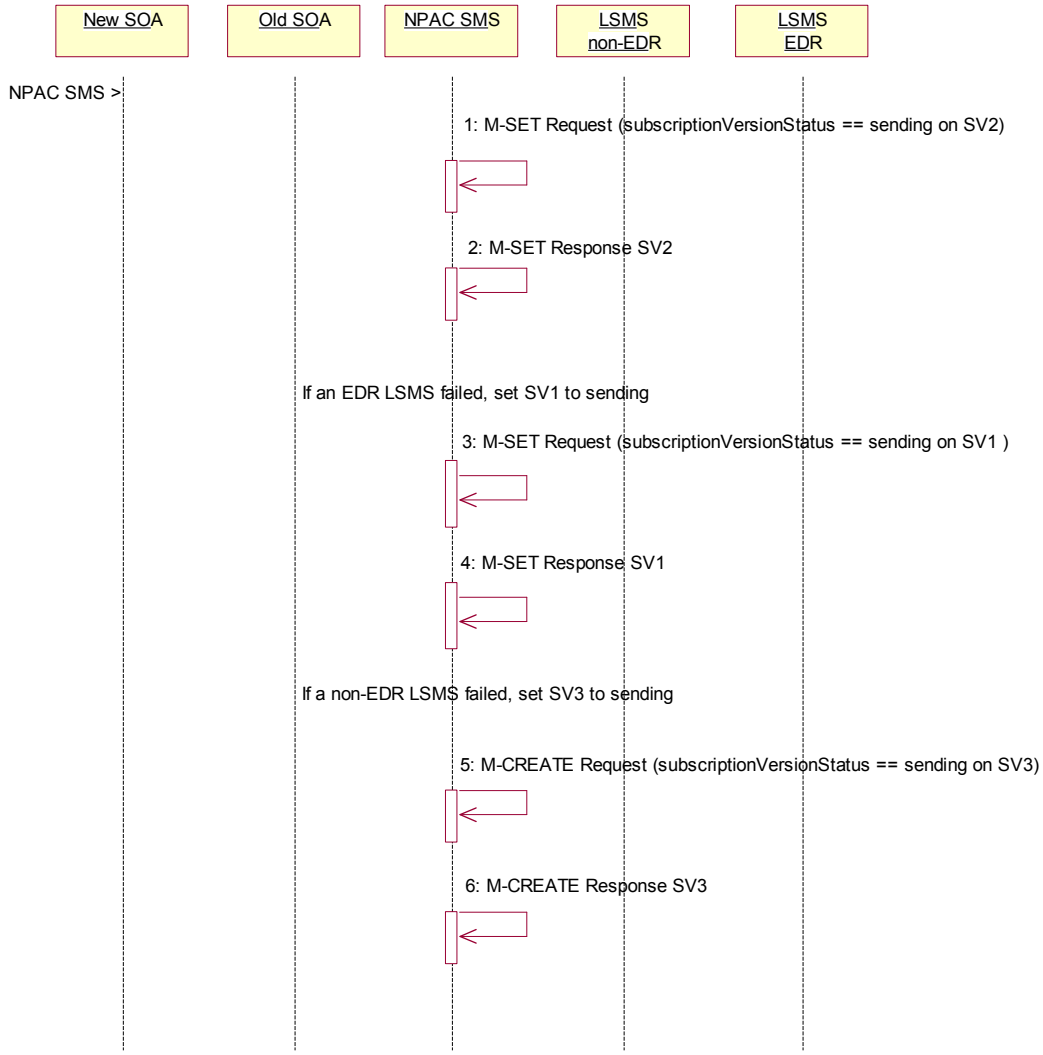
3.11 Subscription Version Create Port-to-Original of a Pool TN: Resend Successful to Local SMS

This scenario shows how the successful resend of a failed port-to-original broadcast is processed. In this scenario the following subscription versions are used:

- SV1 is the active~~active~~ Subscription Version.
- SV2 is the partially failed or failed~~pending~~ Subscription Version with the Port-To-Original flag set to TRUE.
- SV3 is the pool reinstatement Subscription Version with LNPType = Pool that reinstates default routing to the block holder. ~~It is created during the resend.~~

In this scenario, the NPAC SMS must resend the port-to-original request. Either at least 1 EDR LSMS failed to receive the M-DELETE for SV1 or at least 1 non-EDR LSMS failed to receive the M-CREATE for SV3. The NPAC SMS will resend the necessary operations to the failed LSMSs.

3.11.1 NPAC SMS Initiates Resend



1. The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV2~~1~~.
2. NPAC SMS responds to the M-SET.
3. If one of the failed LSMSs is an EDR LSMS, the NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV1~~The NPAC SMS sets the subscriptionVersionStatus to sending on the subscriptionVersionNPAC on SV2~~.
4. NPAC SMS responds to the M-SET.

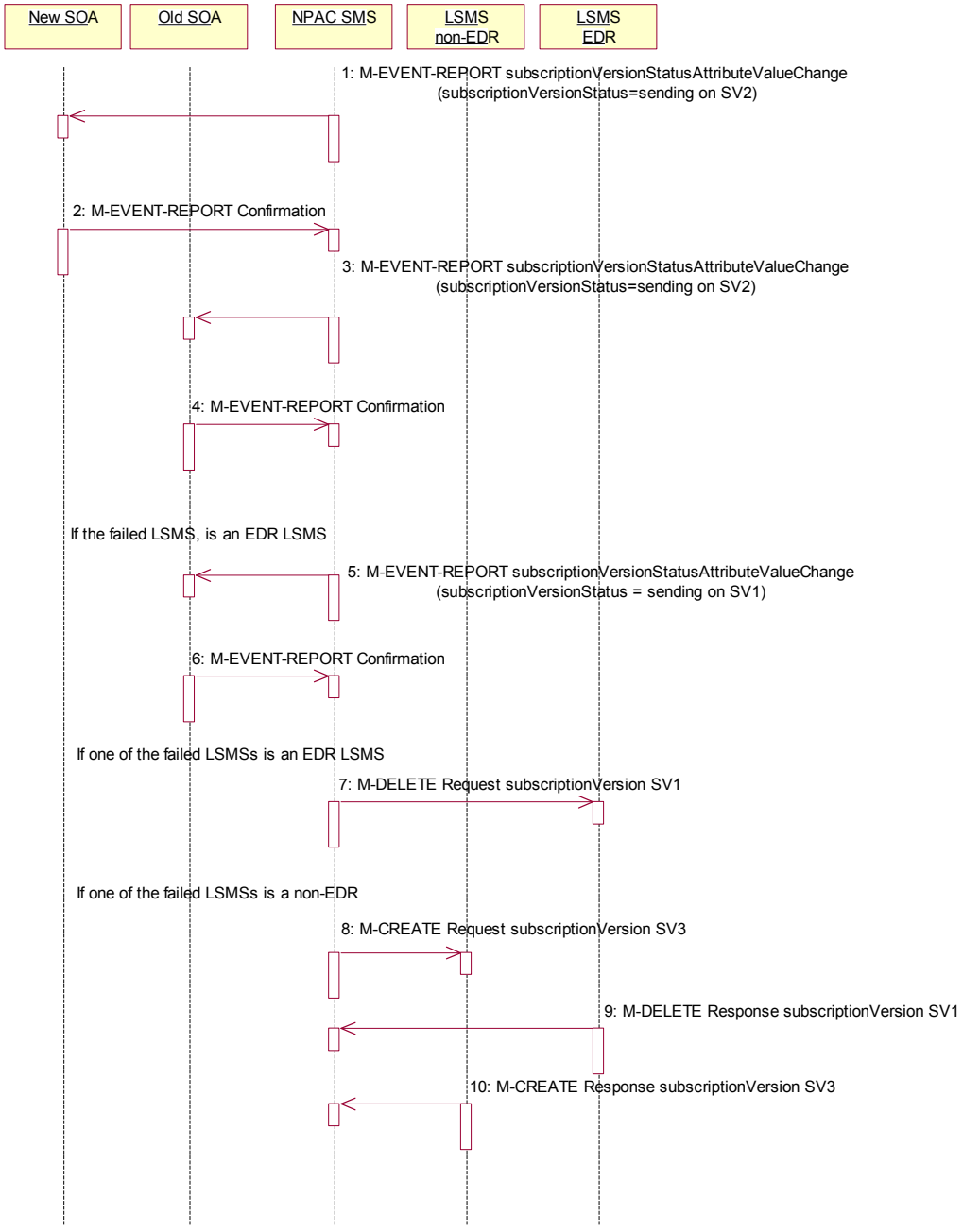
5. If one of the failed LSMSs is a non-EDR LSMS, tThe NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV3.
6. NPAC SMS responds to the M-SET.
7. ~~NPAC SMS responds to the M-SET.~~

~~The NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~

8. ~~The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
9. ~~The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
10. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

3.11.2 Resend Broadcast of a Port-to-Original of a Pooled TN~~SV1 Set to Sending~~

The NPAC SMS has the necessary subscription versions in sending mode. It now broadcasts the data.



~~The NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.~~

1. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
2. The NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.
3. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
4. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.
5. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
6. If one of the failed Local SMSs was an EDR LSMS, the NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.
7. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
8. ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV1.~~
9. ~~NPAC SMS responds to the M-SET.~~
10. ~~If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.~~
11. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
12. ~~N~~If one of the failed Local SMSs is an EDR LSMS, the NPAC SMS issues the M-DELETE to the EDR Local SMS for the SV1. The EDR Local SMS will revert back to using the routing information in the number pool block object for the TN in the subscription version.
13. If one of the failed Local SMSs is a non-EDR LSMS, the NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation will be sent. The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL". The NPAC SMS would put this information on SV3 in the NPAC SMS for the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface. The NPAC SMS schedules an LSMS Response Timer for each subscription version.
14. If a request was sent, t~~T~~he EDR Local SMS responds to the M-DELETE.
15. If a request was sent, the non-EDR Local SMS responds to the M-CREATE.

All previously failed Local SMSs respond successfully.

~~SV3 Set to Sending~~

3.11.3

3.11.4 ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV3.~~

3.11.5 ~~NPAC SMS responds to the M-SET.~~

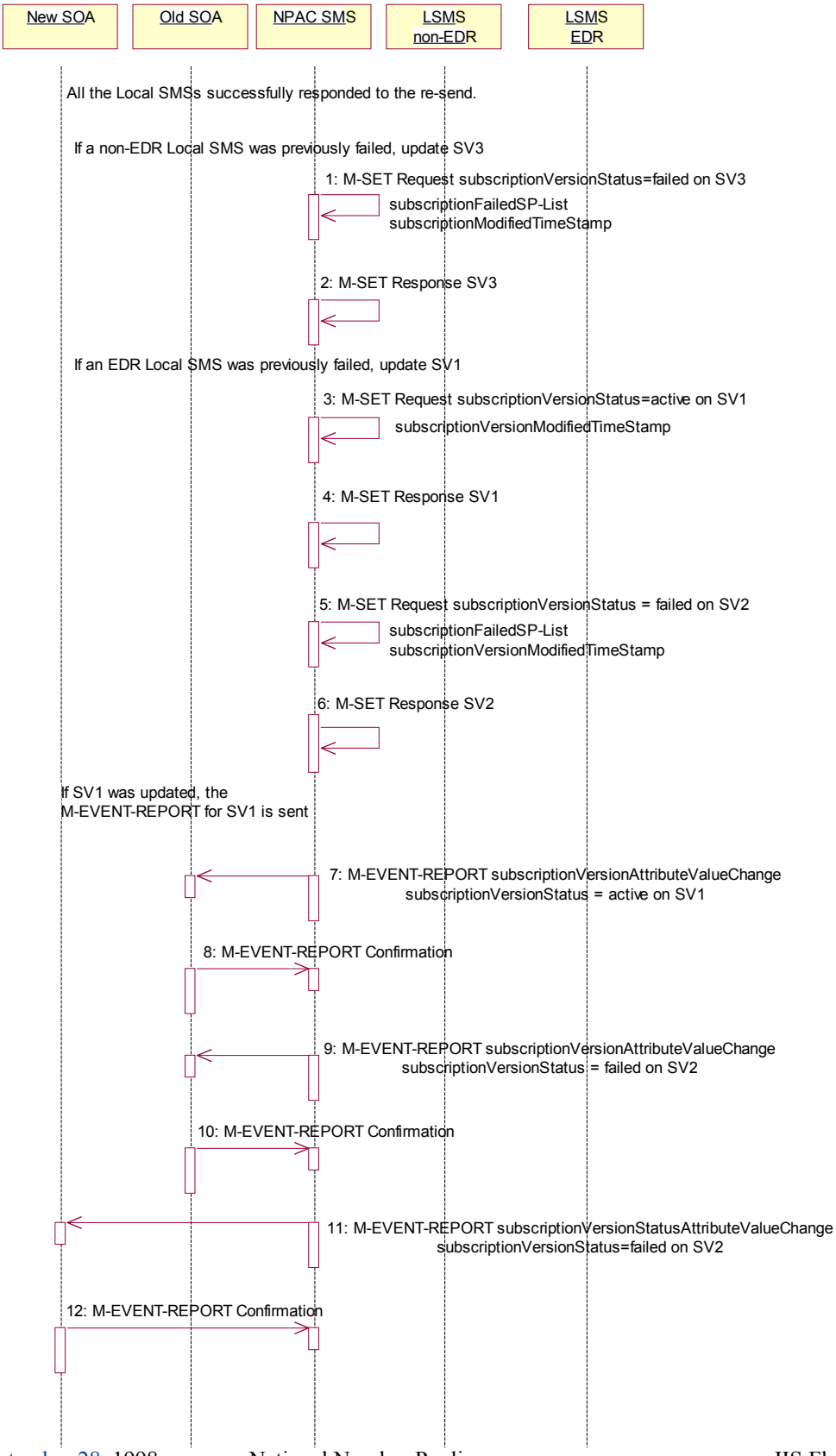
3.11.6 ~~NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation will be sent. The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL". The NPAC SMS would put this information on SV3 in the NPAC SMS for the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface. The NPAC SMS schedules an LSMS Response Timer for each subscription version.~~

~~Each Local SMS responds to the M-CREATE.~~

~~All previously failed EDR and non-EDR Local SMSs have responded successfully.~~

3.11.7 ~~Broadcast Complete SV1 and SV3 Updates~~Updates to NPAC SMS after Successful Re-Broadcast of Port-to-Original Request of a Pooled TN

The NPAC SMS just successfully re-broadcasted the necessary updates to the Local SMS. It now updates the status of the objects on the NPAC SMS.


New SOA
Old SOA
NPAC SMS
LSMS non-EDR
LSMS EDR
All the Local SMSs successfully responded to the re-send.
If a non-EDR Local SMS was previously failed, update SV3
1: M-SET Request subscriptionVersionStatus=failed on SV3
subscriptionFailedSP-List
subscriptionModifiedTimeStamp
2: M-SET Response SV3
If an EDR Local SMS was previously failed, update SV1
3: M-SET Request subscriptionVersionStatus=active on SV1
subscriptionVersionModifiedTimeStamp
4: M-SET Response SV1
5: M-SET Request subscriptionVersionStatus = failed on SV2
subscriptionFailedSP-List
subscriptionVersionModifiedTimeStamp
6: M-SET Response SV2
If SV1 was updated, the
M-EVENT-REPORT for SV1 is sent
7: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = active on SV1
8: M-EVENT-REPORT Confirmation
9: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = failed on SV2
10: M-EVENT-REPORT Confirmation
11: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange
subscriptionVersionStatus=failed on SV2
12: M-EVENT-REPORT Confirmation

1. If a non-EDR Local SMS was successfully re-broadcasted, the NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV3 to active. The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to the M-SET.
3. If an EDR Local SMS was successfully re-broadcasted, the NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 to old. It also sets the subscriptionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to old. It also sets the subscriptionModifiedTimeStamp.
6. NPAC SMS responds to the M-SET.
7. The NPAC SMS sends to the old service provider SOA, who is the current service provider on SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV1.
8. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
9. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV2.
10. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
11. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV2.
12. The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

After a tunable amount of days, the subscription versions SV1 and SV2 are purged by the NPAC SMS housekeeping process.

3.11.8 ~~Broadcast Complete SV2 Updates~~

3.11.9 ~~NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to old. It also sets the subscriptionModifiedTimeStamp.~~

1. ~~NPAC SMS responds to the M-SET.~~
2. ~~The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV2.~~
3. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
4. ~~The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV2.~~
5. ~~The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

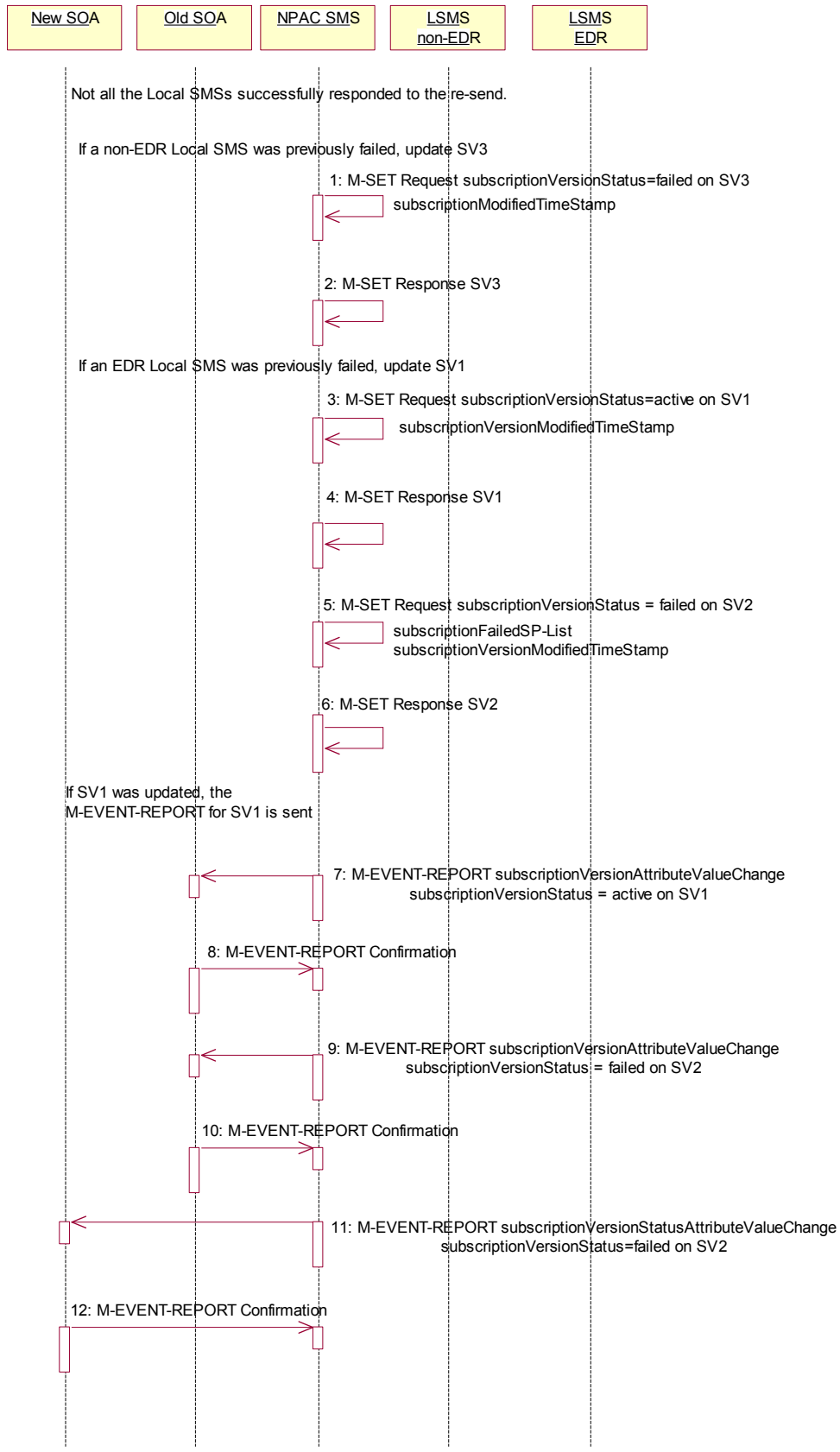
~~After a tunable amount of days, the subscription versions SV1 and SV2 are purged by the NPAC SMS housekeeping process.~~

3.12 Subscription Version Create Port-to-Original of a Pool TN: Resend Failure to Local SMS

This scenario shows how the unsuccessful resend of a failed port-to-original broadcast is processed. In this scenario, the following subscription versions are used:

- SV1 is the active Subscription Version.
- SV2 is the ~~pending~~failed ~~-~~Subscription Version with the Port-To-Original flag set to TRUE.
- SV3 is the pool reinstatement Subscription Version with LNPType = Pool that reinstates default routing to the block holder and its current status is failed.~~-~~

In the following scenario, the NPAC SMS must resend the port-to-original request. All the EDR LSMS failed to receive the M-DELETE for SV1 and all the non-EDR LSMSs failed to receive the M-CREATE for SV3. The NPAC SMS will resend the necessary operations to the failed LSMSs, but the resend will result in total failure again. The scenario would work just as a successful resend, except for when the NPAC SMS sets the final statuses on the NPAC SMS.


New SOA
Old SOA
NPAC SMS
LSMS non-EDR
LSMS EDR
Not all the Local SMSs successfully responded to the re-send.
If a non-EDR Local SMS was previously failed, update SV3
1: M-SET Request subscriptionVersionStatus=failed on SV3
subscriptionModifiedTimeStamp
2: M-SET Response SV3
If an EDR Local SMS was previously failed, update SV1
3: M-SET Request subscriptionVersionStatus=active on SV1
subscriptionVersionModifiedTimeStamp
4: M-SET Response SV1
5: M-SET Request subscriptionVersionStatus = failed on SV2
subscriptionFailedSP-List
subscriptionVersionModifiedTimeStamp
6: M-SET Response SV2
If SV1 was updated, the
M-EVENT-REPORT for SV1 is sent
7: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = active on SV1
8: M-EVENT-REPORT Confirmation
9: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = failed on SV2
10: M-EVENT-REPORT Confirmation
11: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange
subscriptionVersionStatus=failed on SV2
12: M-EVENT-REPORT Confirmation

~~NPAC SMS~~ Initiates Resend

~~The NPAC SMS sets the subscriptionVersionStatus to sending on the subscriptionVersionNPAC on SV2.~~

1. ~~NPAC SMS responds to the M-SET.~~
2. ~~The NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
3. ~~The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
4. ~~The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.~~
5. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

3.12.1 ~~SV1 Set to Sending~~

3.12.2

~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV1.~~

7. ~~NPAC SMS responds to the M-SET.~~
8. ~~If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA, who is the current service provider for SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.~~
9. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~
10. ~~NPAC SMS issues the M-DELETE to the EDR Local SMS for the SV1. The EDR Local SMS will revert back to using the routing information in the number pool block object for the TN in the subscription version.~~
11. ~~The EDR Local SMS responds to the M-DELETE.~~

~~SV3 Set to Sending~~

1. ~~The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV3.~~
2. ~~NPAC SMS responds to the M-SET.~~
3. ~~NPAC SMS sends out an M-CREATE on the subscription version SV3 to all non-EDR Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation will be sent. The SV3 created on the non-EDR Local SMS systems contains the default block routing information and has an LNP Type of "POOL". The NPAC SMS would put this information on SV3 in the NPAC SMS for the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface. The NPAC SMS schedules an LSMS Response Timer for each subscription version.~~
4. ~~Each Local SMS responds to the M-CREATE.~~

~~Resend Broadcast Failure SV1 and SV3 Updates~~

~~At least one of the non-EDR Local SMSs has not responded successfully to the M-CREATE for SV3 and/or at least one of the EDR Local SMSs has not responded successfully to the M-DELETE for SV1.~~

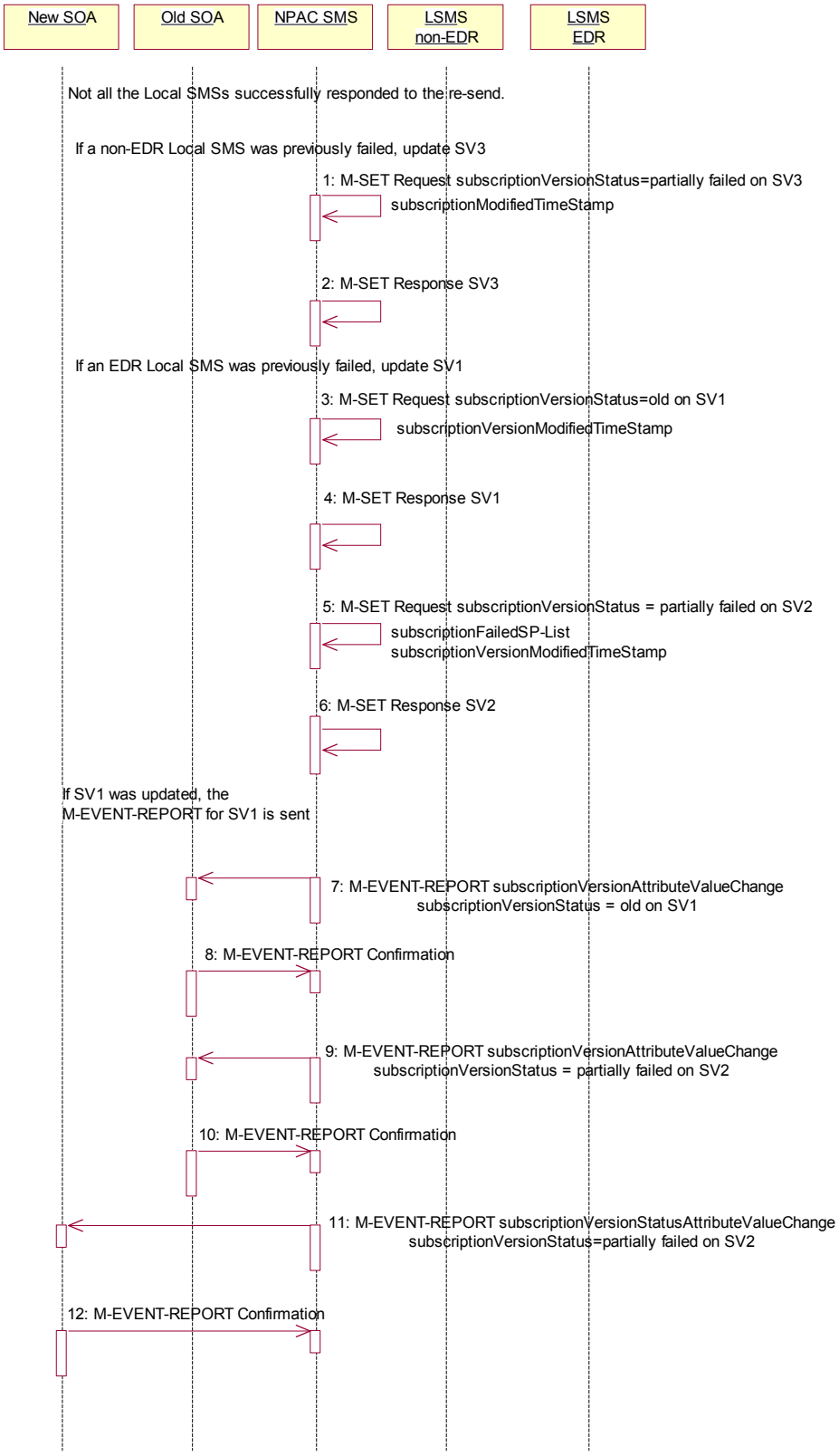
1. ~~NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV3 to partial failure or failure. The subscriptionModifiedTimeStamp, subscriptionBroadcastTimeStamp and subscriptionActivateBroadcastStartTimeStamp are set accordingly.~~
2. ~~NPAC SMS responds to the M-SET.~~
3. ~~NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 to old or active. It also sets the subscriptionModifiedTimeStamp and subscriptionBroadcastTimeStamp.~~
4. ~~NPAC SMS responds to the M-SET.~~
5. ~~The NPAC SMS sends to the old service provider SOA, who is the current service provider on SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old or active on SV1.~~
1. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~ If a non-EDR Local SMS was successfully re-broadcasted, the NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV3 to failed. The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to the M-SET.
3. If an EDR Local SMS was successfully re-broadcasted, the NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 back to active. It also sets the subscriptionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 back to failed and setting the subscriptionVersionFailedSP-List to the list of all the service providers that failed to receive the broadcast succcessfully (EDR and non-EDR). It also sets the subscriptionModifiedTimeStamp.
6. NPAC SMS responds to the M-SET.
7. The NPAC SMS sends to the old service provider SOA, who is the current service provider on SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set back to active on SV1.
8. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
9. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to partially failed on SV2 with the subscriptionVersionFailedSP-List.
10. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
11. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to partially failed on SV2 with the subscriptionVersionFailedSP-List.
12. The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

3.13 Subscription Version Create Port-to-Original of a Pool TN: Resend Partial Failure to Local SMS

This scenario shows how the unsuccessful resend of a partially failed port-to-original broadcast is processed. In this scenario, the following subscription versions are used:

- SV1 is the old Subscription Version.
- SV2 is the partially failed Subscription Version with the Port-To-Original flag set to TRUE.
- SV3 is the pool reinstatement Subscription Version with LNPType = Pool that reinstates default routing to the block holder and its current status is partially failed.

In the following scenario, the NPAC SMS must resend the port-to-original request. At least 1of the EDR LSMSs failed to receive the M-DELETE for SV1 and/or at least 1 of the non-EDR LSMSs failed to receive the M-CREATE for SV3. The NPAC SMS will resend the necessary operations to the failed LSMSs, but the resend will result in partial failure again. The scenario would work just as a successful resend, except for when the NPAC SMS sets the final statuses on the NPAC SMS.


New SOA
Old SOA
NPAC SMS
LSMS non-EDR
LSMS EDR
Not all the Local SMSs successfully responded to the re-send.
If a non-EDR Local SMS was previously failed, update SV3
1: M-SET Request subscriptionVersionStatus=partially failed on SV3
subscriptionModifiedTimeStamp
2: M-SET Response SV3
If an EDR Local SMS was previously failed, update SV1
3: M-SET Request subscriptionVersionStatus=old on SV1
subscriptionVersionModifiedTimeStamp
4: M-SET Response SV1
5: M-SET Request subscriptionVersionStatus = partially failed on SV2
subscriptionFailedSP-List
subscriptionVersionModifiedTimeStamp
6: M-SET Response SV2
If SV1 was updated, the
M-EVENT-REPORT for SV1 is sent
7: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = old on SV1
8: M-EVENT-REPORT Confirmation
9: M-EVENT-REPORT subscriptionVersionAttributeValueChange
subscriptionVersionStatus = partially failed on SV2
10: M-EVENT-REPORT Confirmation
11: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange
subscriptionVersionStatus=partially failed on SV2
12: M-EVENT-REPORT Confirmation

1. If a non-EDR Local SMS was re-broadcasted, the NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV3 to partially failed. The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to the M-SET.
3. If an EDR Local SMS was re-broadcasted, the NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 back to old. It also sets the subscriptionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to partially failed. It also sets the subscriptionModifiedTimeStamp and setting the subscriptionVersionFailedSP-List to the list of all the service providers that failed to receive the broadcast succcessfully (EDR and non-EDR).
6. NPAC SMS responds to the M-SET.
7. If SV1 was updated, ~~T~~the NPAC SMS sends to the old service provider SOA, who is the current service provider on SV1, a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set back to active on SV1.
8. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
9. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to partially failed on SV2 and the subscriptionVersionFailedSP-List.
10. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.
11. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to partially failed on SV2 and the subscriptionVersionFailedSP-List.
12. The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

~~Resend Broadcast Failure SV2 Updates~~

4

5 ~~NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to failed or partially failed. It also sets the subscriptionModifiedTimeStamp and sets the subscriptionFailedSP-List.~~

6 ~~NPAC SMS responds to the M-SET.~~

7 ~~The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to failed or partially failed and the subscriptionFailedSP-List for SV2.~~

8 ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

9 ~~The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange with the subscriptionVersionStatus being set to failed or partially failed and the subscriptionFailedSP-List for SV2.~~

10 ~~The current/new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~

11

12 Disconnect Subscription Version Scenarios

This section contains the flows describing disconnects of subscription versions whose TNs are part of a pooled TN block.

12.1 Subscription Version Immediate Disconnect After the Activation of the Number Pool Block

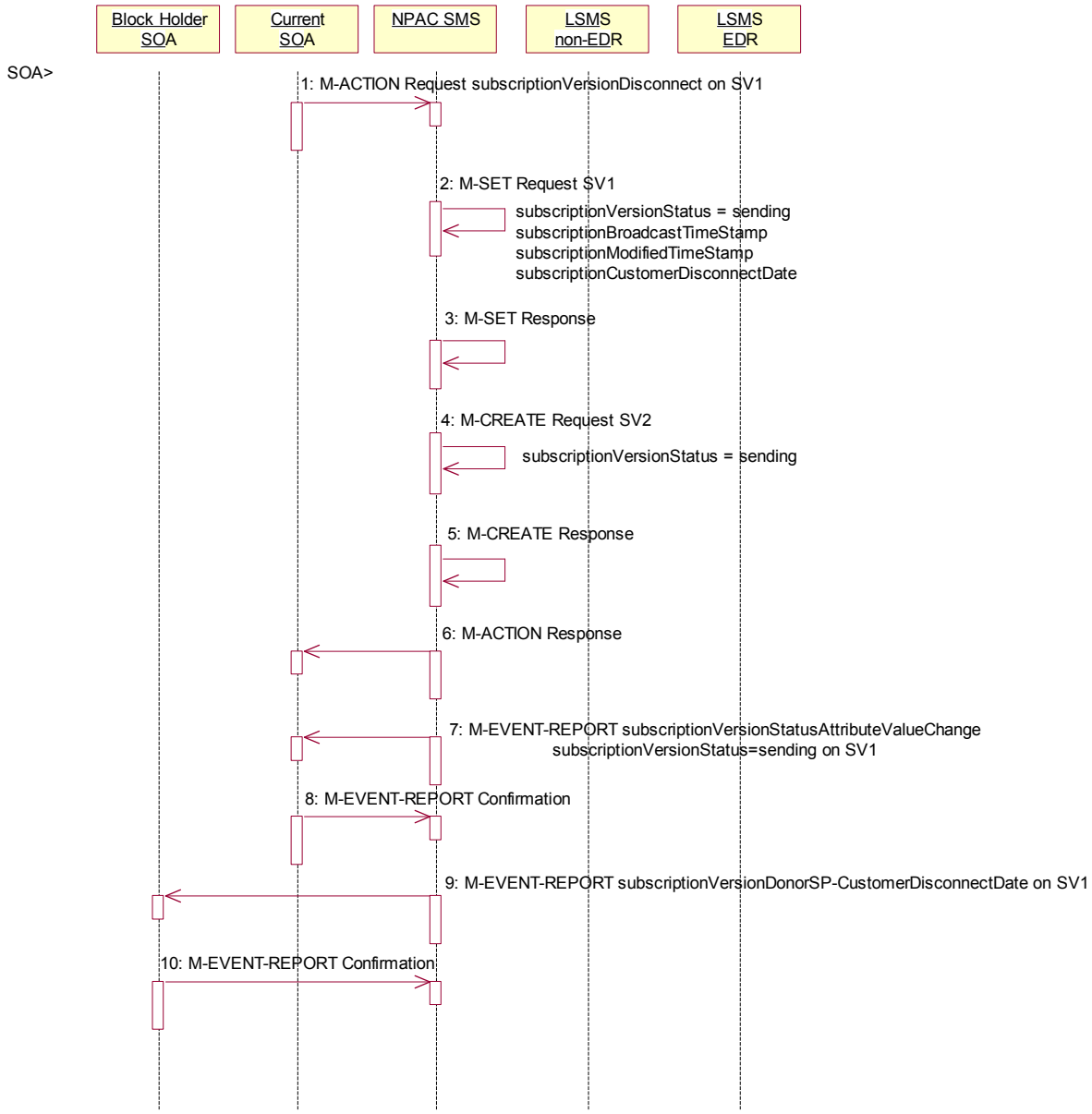
The current service provider can disconnect an active subscription version that will return to the block holder after the number pool block has been activated. In this scenario, the disconnect is immediate where the TN returns to the block holder ~~and the number pool block is active~~ and the number pool block is active. In this scenario:

- SV1 is the currently active Subscription Version that will be disconnected.
- SV2 is the pool reinstatement Subscription Version with LNPType = POOL that reinstates default routing to the block holder.

SV1 will be broadcast to the EDR Local SMSs to disconnect the ported TN and revert to the number pool block routing information. SV2 will be broadcast to the non-EDR Local SMSs with the number pool block routing information.

12.1.1 SOA Initiates Disconnect Request of Pooled TN

In this scenario, the SOA sends in the disconnect action to a pooled TN.



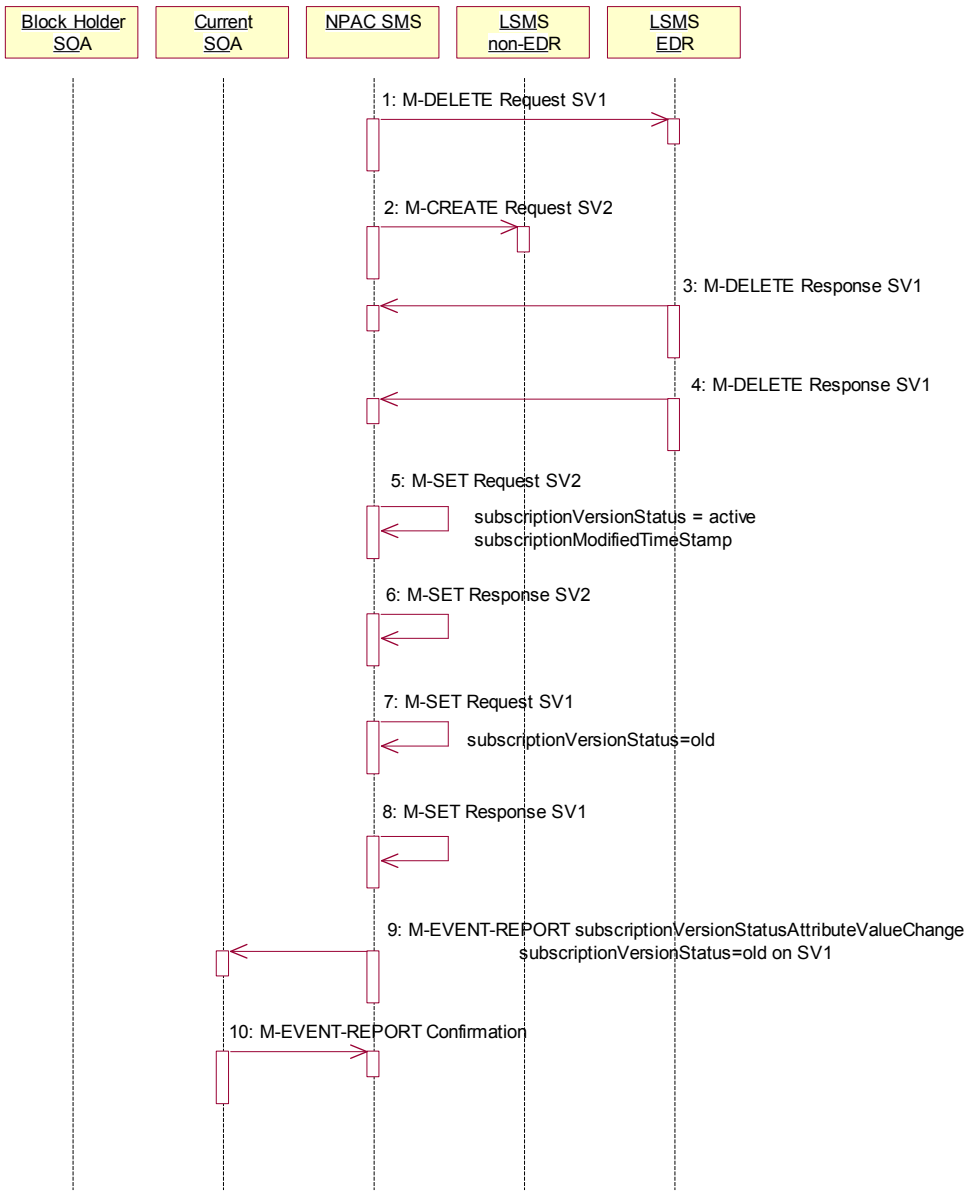
Current service provider SOA personnel take action to disconnect a subscription version.

1. Service provider SOA issues an M-ACTION request to disconnect to the lnpSubscriptions object. The M-ACTION specifies either the subscriptionVersionId, or subscriptionTN or range of TNs, and also has NOT future dated (i.e., used the current date) the subscriptionEffectiveReleaseDate and the subscriptionCustomerDisconnectDate. The subscription version status must be active and no pending, failed, conflict or cancel-pending versions can exist.

2. NPAC SMS issues an M-SET to set the subscriptionCustomerDisconnectDate according to the disconnect action for SV1. The subscriptionVersionStatus for SV1 goes to "sending ". The subscriptionModifiedTimeStamp and, subscriptionBroadcastTimeStamp ~~and customerDisconnectDate~~ are set accordingly.
3. NPAC SMS responds to whether M-SET was successful.
4. NPAC SMS issues M-CREATE to create SV2. The routing information comes from the numberPoolBlock object that contains the TN. The status is set to 'sending'.
5. NPAC SMS responds to M-CREATE.
6. NPAC SMS responds to the M-ACTION. If the action failed, an error will be returned and processing will stop on this flow.
7. NPAC SMS notifies service provider SOA of status change to "sending" for SV1.
8. Service provider SOA confirms event report.
9. NPAC SMS sends the Donor service provider SOA notification that the subscription version is being disconnected with the customer disconnect date. This SOA is the block holder SOA.
10. The d~~D~~onor service provider SOA confirms the M-EVENT-REPORT.
11. ~~NPAC SMS sends the M-DELETE request to the EDR Local SMS to delete the existing subscription version and cause the routing to return to the number pool block.~~
12. ~~EDR Local SMS sends its M-DELETE reply.~~

12.1.2 Successful Broadcast of Disconnect of Pooled TN After Block Activation

The NPAC SMS is ready to broadcast the disconnect of the pooled TN.



1. NPAC SMS sends the M-DELETE request to the EDR Local SMS to delete the existing subscription version and cause the routing to return to the number pool block.

2. At the same time as step 1, the NPAC SMS sends out the M-CREATE of a subscription version to all non-EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscription version for SV2. If the M-CREATE is for multiple subscription versions, the subscriptionVersionLocalSMS-Create M-ACTION will be sent. The subscription version for the TN and has an LNPType of 'pool'.

3.

4. EDR Local SMS sends its M-DELETE reply.

5. ~~NPAC SMS sends out the M-CREATE of a subscription version to all non-EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscription version for SV2. If the M-CREATE is for multiple subscription versions, the subscriptionVersionLocalSMS-Create M-ACTION will be sent. The subscription version for the TN and has an LNPType of 'pool'.~~

6. Each Local SMS responds with a successful M-CREATE reply.

7. NPAC SMS issues M-SET updating the subscriptionVersionStatus to active for subscriptionVersionNPAC objects for SV2. The subscriptionModifiedTimeStamp, and subscriptionActivateBroadcastSuccessTimeStamp (on first successful LSMS response) are set accordingly.

8. NPAC SMS responds to M-SET.

9. NPAC SMS issues M-SET updating the subscriptionVersionStatus to old for subscriptionVersionNPAC objects for SV1. It also sets the subscriptionModifiedTimeStamp and subscriptionDisconnectCompleteTimeStamp.

10. NPAC SMS responds to M-SET.

11. NPAC SMS issues an M-EVENT-REPORT to current service provider SOA of subscriptionVersionStatusAttributeValueChange being set to old on SV1.

12. The current service provider SOA confirms the M-EVENT-REPORT.

~~NPAC SMS issues M-SET updating the subscriptionVersionStatus to sending for subscriptionVersionNPAC objects for SV2.~~

1. ~~NPAC SMS responds to M-SET.~~

~~NPAC SMS sends out an M-CREATE of a subscriptionVersion to all non-EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion for SV2. If the M-CREATE is for multiple subscription versions, the subscriptionVersionLocalSMS-Create M-ACTION will be sent. The subscription version created on the Local SMS systems contains the default block routing information for the TN and has an LNP Type of "POOL". The NPAC SMS schedules an LSMS Response Timer for each subscriptionVersion SV2.~~

~~Each Local SMS responds with a successful M-CREATE reply.~~

~~Broadcast Complete Updates~~

12.2 ~~All Local SMSs respond successfully.~~

12.3 ~~NPAC SMS issues M-SET updating the subscriptionVersionStatus to active for subscriptionVersionNPAC objects for SV2. The subscriptionModifiedTimeStamp, and subscriptionActivateBroadcastSuccessTimeStamp (on first successful LSMS response) are set accordingly.~~

12.4 ~~NPAC SMS responds to M-SET.~~

12.5 ~~NPAC SMS issues M-SET updating the subscriptionVersionStatus to old for subscriptionVersionNPAC objects for SV1. It also sets the subscriptionModifiedTimeStamp and subscriptionDisconnectCompleteTimeStamp.~~

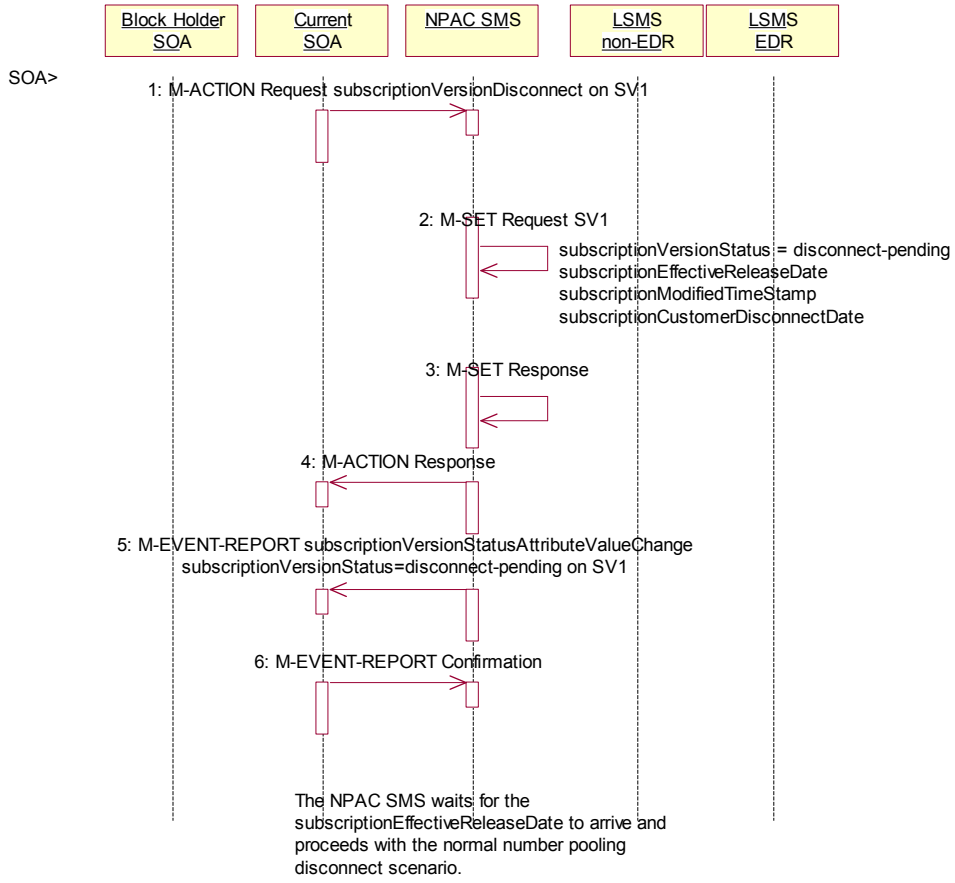
12.6 ~~NPAC SMS responds to M-SET.~~

12.7 ~~NPAC SMS issues an M-EVENT-REPORT to current service provider SOA of subscriptionVersionStatusAttributeValueChange being set to old on SV1.~~

12.8 ~~The current service provider SOA confirms the M-EVENT-REPORT.~~

12.9 Subscription Version Disconnect With Effective Release

In this scenario, a future dated request is submitted to disconnect an active subscription version that will return to the block holder.



Current service provider SOA personnel take action to disconnect a subscription version.

1. Current service provider SOA issues an M-ACTION request to disconnect the lnpSubscriptions object. The M-ACTION specifies either the subscriptionVersionId, or subscriptionTN, or range of TNs, and also has future dated the subscriptionEffectiveReleaseDate and the subscriptionCustomerDisconnectDate. The subscription version status must be active and no pending, failed, conflict, conflict-pending, or cancel-pending versions can exist.

2. NPAC SMS issues an M-SET to set the status to disconnect-pending, and set the subscriptionEffectiveReleaseDate, subscriptionCustomerDisconnectDate and the subscriptionModifiedTimeStamp of the existing subscriptionVersionNPAC.

3. NPAC SMS responds to M-SET.

4. NPAC SMS responds to M-ACTION. If the action fails, no modifications are applied and the processing stops.

5. NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA.

6. The current service provider SOA issues the M-EVENT-REPORT confirmation.

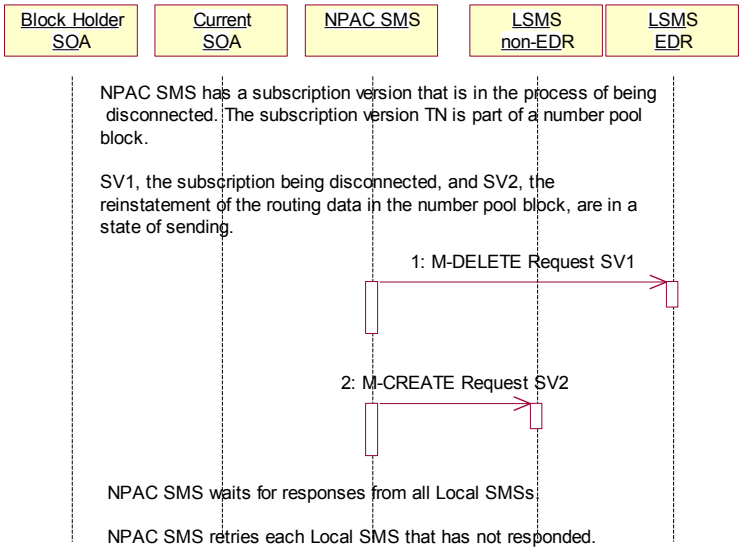
The NPAC SMS waits for the subscriptionEffectiveReleaseDate date to arrive.

12.10 Subscription Version Disconnect After Block Activation: Failure to Local

This scenario shows the broadcast of a disconnect subscription after block activation that fails to all of the Local SMSs. In this scenario:

- SV1 is the currently active Subscription Version.
- SV2 is the pool reinstatement Subscription Version with LNPType = POOL that reinstates default routing to the block holder.

12.10.1 NPAC SMS Sends M-DELETE and M-CREATE requests



NPAC SMS has a subscription version that is in the process of being disconnected. The subscription version TN is part of a number pool block. SV1, the subscription being disconnected, and SV2, the reinstatement of the routing data in the number pool block, are in a state of 'sending'.

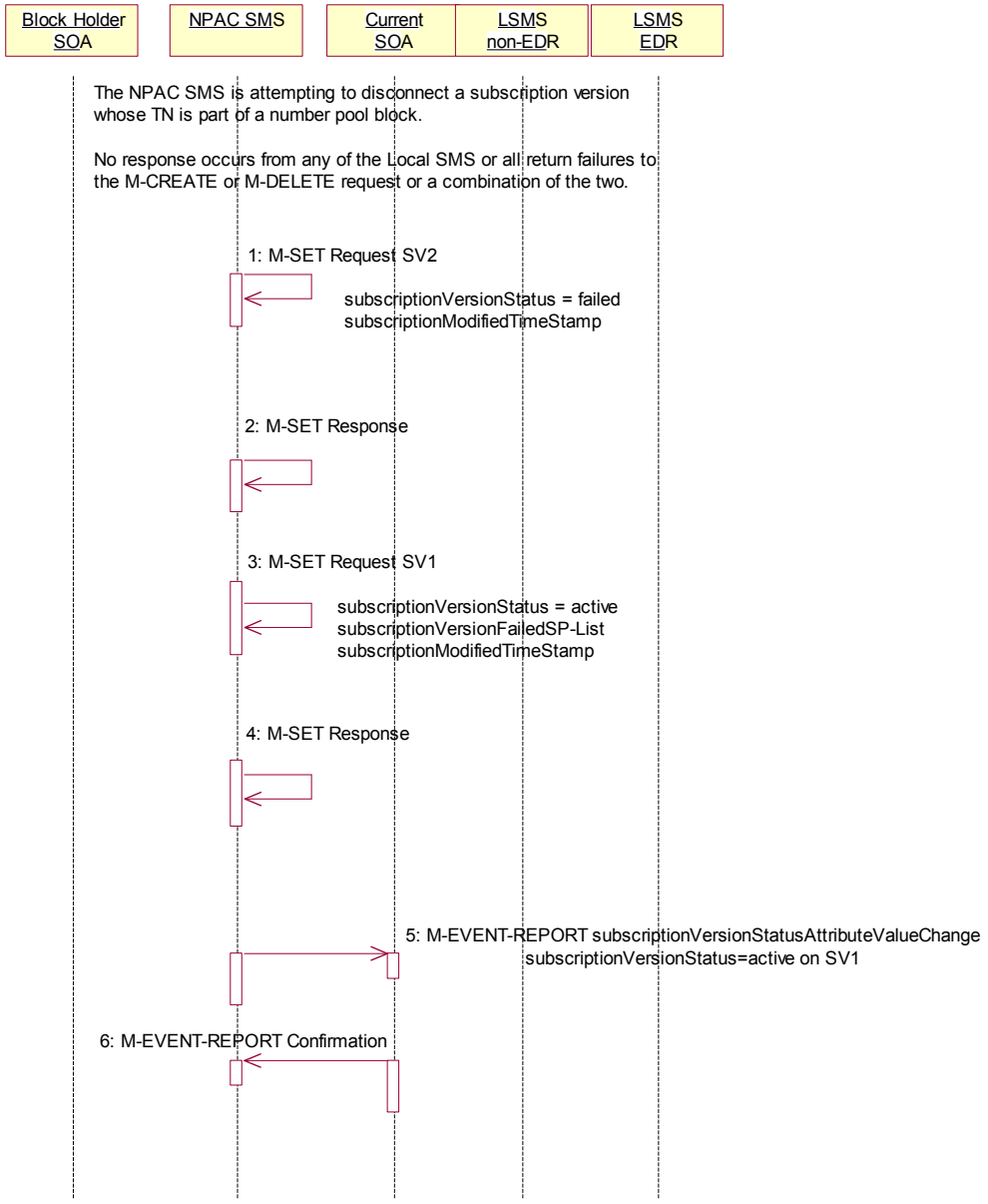
1. NPAC SMS sends the M-DELETE request to the EDR Local SMS for SV1.
2. At the same time as step 1, the NPAC SMS sends the M-CREATE request to the non-EDR Local SMS for SV2.

NPAC SMS waits for responses from all Local SMSs.

NPAC SMS retries each Local SMS that has not responded.

12.10.2 Broadcast Failure Updates for a Disconnect of a Pooled TN After Block Activation to SV1 and SV2

NPAC SMS is attempting to disconnect a subscription version whose TN is a part of a number pool block. It has broadcasted the data to the LSMSs.



No response occurs from any of the Local SMS, or all return failures to the M-CREATE or M-DELETE request, or a combination of the two.

1. NPAC SMS issues the M-SET to update the SV2 subscriptionVersionStatus from “sending” to “failed”. ~~It also updates the subscriptionFailed-SPList with the service provider ID and name of all the Local SMSs.~~ The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to the M-SET.
3. NPAC SMS issues the M-SET to update the SV2 subscriptionVersionStatus from “sending” to “active”. It also updates the subscriptionFailed-SPList with the service provider ID and name of all the Local SMSs. The subscriptionModifiedTimeStamp is also set.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS sends the subscriptionVersonStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA with the current status for SV1 along with the subscri~~pp~~tionFailedSP-List.
6. Current service provider SOA issues the M-EVENT-REPORT confirmation.

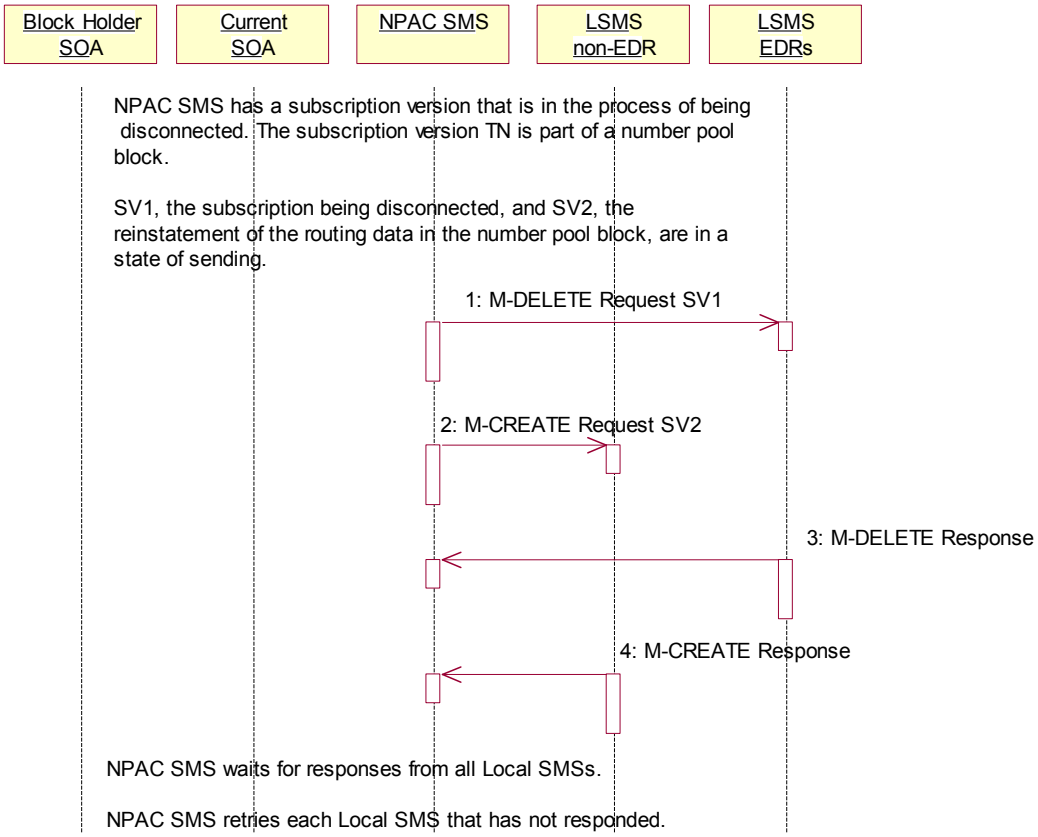
12.11 Subscription Version Disconnect: Partial Failure to Local SMS

This scenario shows the broadcast of a disconnect subscription version after the number pool block activation that fails to one or more, but not all, Local SMSs. In this scenario:

- SV1 is the currently active Subscription Version.
- SV2 is the pool reinstatement Subscription Version with LNPType = POOL that reinstates default routing to the block holder.

12.11.1 NPAC SMS Sends M-CREATE and M-DELETE

NPAC SMS has a subscription version that is in the process of being disconnected. The subscription version TN is part of a number pool block. SV1, the subscription being disconnected, and SV2, the reinstatement of the routing data in the number pool block, are in a state of 'sending'.



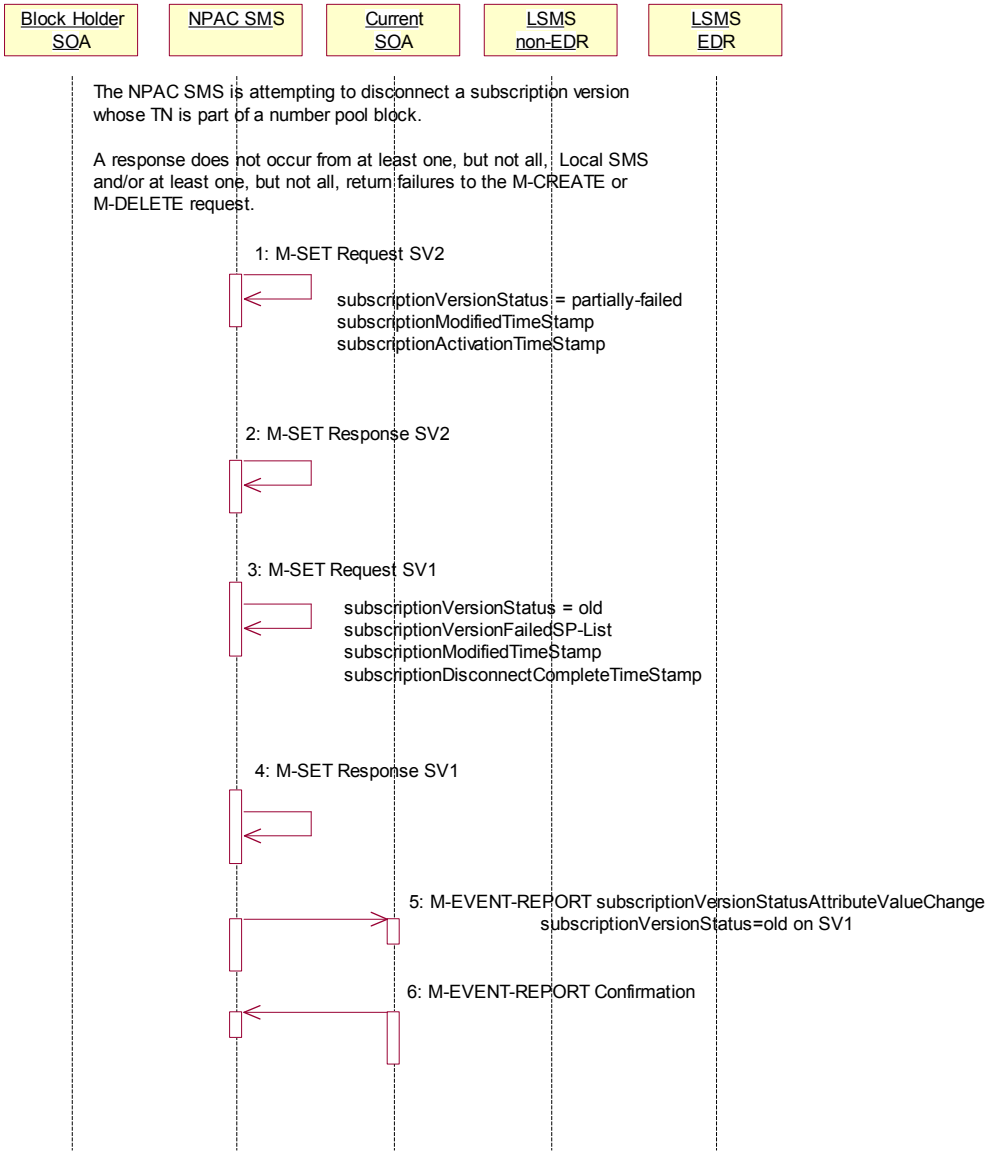
1. NPAC SMS sends the M-DELETE request to the EDR Local SMS for SV1.
2. At the same time as step1, the NPAC SMS sends the M-CREATE request to the non-EDR Local SMS for SV2. ~~TThe EDR Local SMS responds to the M-DELETE.~~
3. ~~NPAC SMS sends the M-CREATE request to the non-EDR Local SMS for SV2.~~
4. The EDR Local SMS responds to the M-DELETE.
5. The non-EDR Local SMS responds to the M-CREATE.

NPAC SMS waits for responses from all Local SMSs.

NPAC SMS retries each Local SMS that has not responded.

12.11.2 ~~Broadcast Failure~~ Updates for a Failed Broadcast of a Disconnect of a Pooled TN ~~to SV1 and SV2~~

NPAC SMS is attempting to disconnect a subscription version whose TN is a part of a number pool block.



A response does not occur from at least one, but not all Local SMSs and/or at least one, but not all, Local SMSs respond with an error to the M-DELETE or M-CREATE request.

1. NPAC SMS issues the M-SET to update the SV2 subscriptionVersionStatus from "sending" to "partially-failed". ~~It also updates the subscriptionFailed-SPList with the service provider ID and name of all the Local SMSs.~~ The subscriptionModifiedTimeStamp and subscriptionActivationTimeStamp are also set.

2. NPAC SMS responds to the M-SET.
3. NPAC SMS issues the M-SET to update the SV12 subscriptionVersionStatus from “sending” to “old”. It also updates the subscriptionFailed-SPList with the service provider ID and name of all the Local SMSs. The subscriptionModifiedTimeStamp and subscriptionDisconnectCompleteTimeStamp are also set.
4. NPAC SMS responds to the M-SET.
5. NPAC SMS sends the subscriptionVersonStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA with the status of ‘old’ for SV1 along with the subscriptionFailedSP-List.
6. Current service provider SOA issues the M-EVENT-REPORT confirmation.

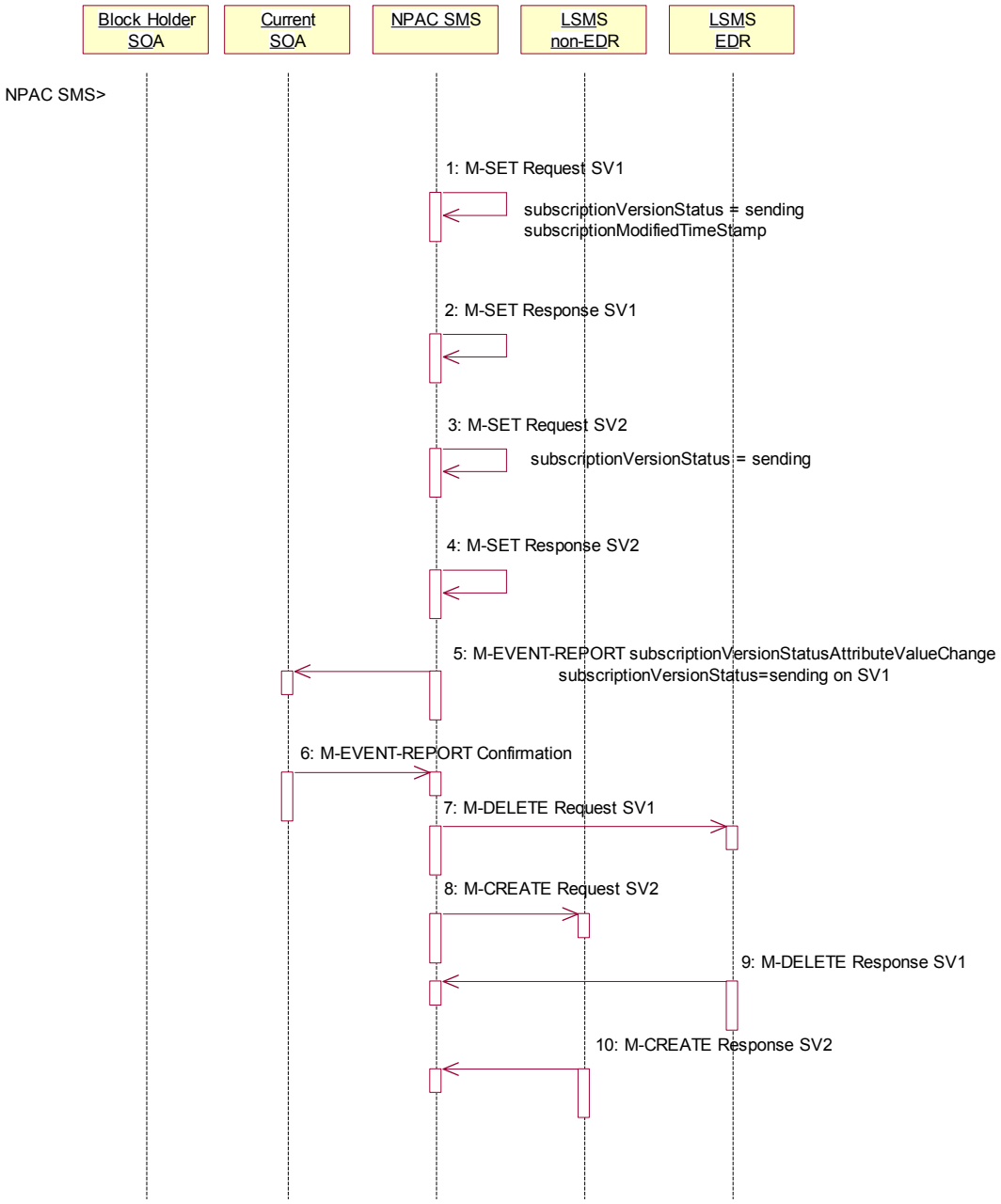
12.12 Subscription Version Disconnect: Resend Successful to Local SMS

This scenario shows a successful resend of a disconnect for a subscription that fails to one or more of the Local SMSs. The resend of a failed disconnect can only be performed by authorized NPAC personnel. In this scenario:

- SV1 is the currently active Subscription Version.
- SV2 is the pool reinstatement Subscription Version with LNPType = POOL that reinstates default routing to the block holder.

12.12.1 NPAC SMS Initiates Resend

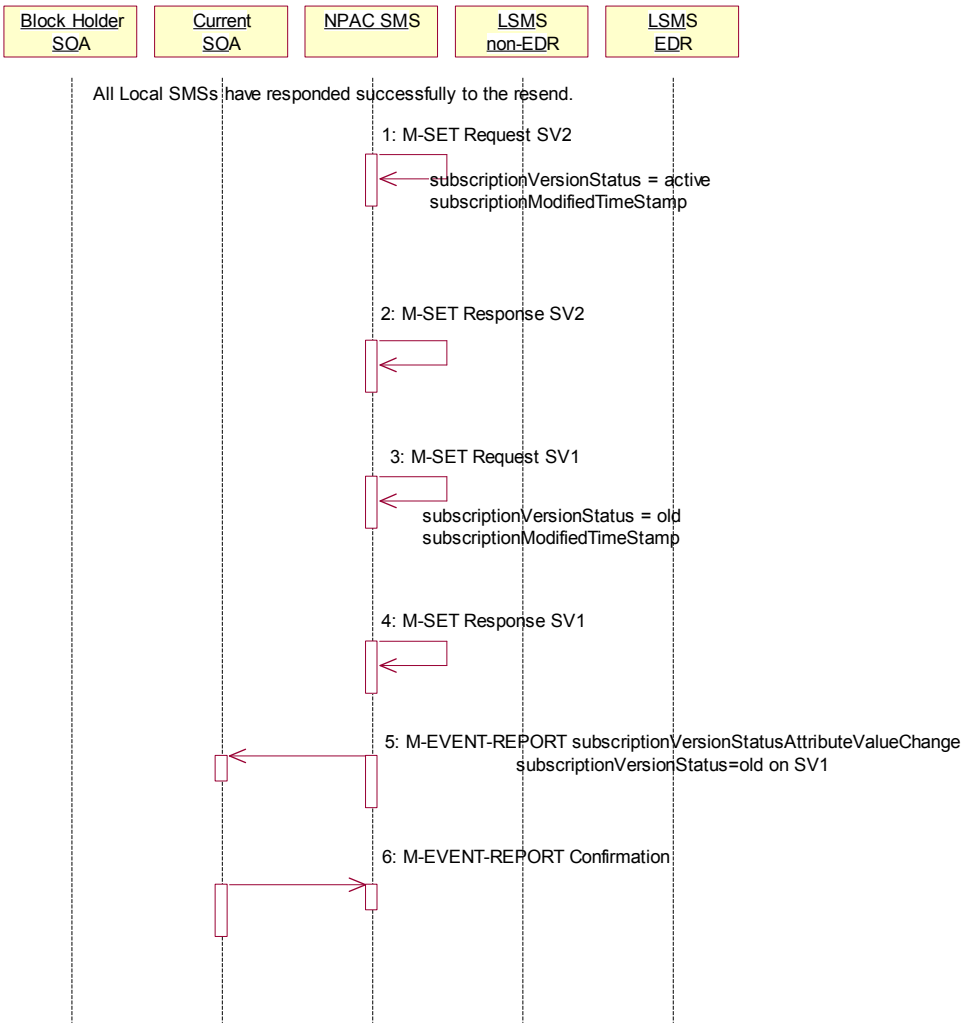
NPAC Personnel take action to resend a failed disconnect for a subscription version (SV1) after took place after the activation of the number pool block.



1. NPAC SMS issues an M-SET to the existing subscriptionVersonNPAC object to set the status to "sending" for SV1~~2~~ and set the subscriptionModifiedTimeStamp.
2. NPAC SMS responds to the M-SET.
3. ~~NPAC SMS issues an M-CREATE on the subscriptionVersion SV2 to all previously failed non-EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion SV2 TN.~~
4. ~~Each non-EDR Local SMS responds successfully to the M-CREATE.~~
5. NPAC SMS issues an M-SET~~SET~~ to ~~the existing~~ update the subscriptionVersionNPAC object for SV2. ~~to set t~~The subscriptionVersion~~s~~Status is set to "sending" for SV2~~1 and the subscriptionModifiedTimeStamp~~ and the modifiedTimeStamp is updated.~~.~~
6. NPAC SMS responds to the M-SET.
7. NPAC SMS issues an M-EVENT-REPORT to the current service provider SOA of status change to "sending" for SV1.
8. Current service provider confirms the M-EVENT-REPORT.
9. NPAC SMS issues an M-DELETE on the subscriptionVersion SV1 to all previously failed EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion SV1 TN.
10. At the same time as step 7, the NPAC SMS issues an M-CREATE on the subscription version SV2 to all previously failed non-EDR Local SMSs.~~EDR Local SMS responds successfully to the M-DELETE.~~
11. EDR Local SMS responds successfully to the M-DELETE on SV1.
12. Each non-EDR Local SMS responds successfully to the M-CREATE on SV2.

12.12.2 Broadcast Success Updates to SV1 and SV2

All non-EDR Local SMSs have responded successfully to the M-CREATE for SV2 and all EDR Local SMSs have responded successfully to the M-DELETE for SV1.



1. NPAC SMS issues M-SET updating the subscriptionVersionStatus to ‘active’ for SV2. The subscriptionModifiedTimeStamp is also set.
2. NPAC SMS responds to M-SET.
3. NPAC SMS issues M-SET updating the subscriptionVersionStatus to ‘old’ for SV1. The subscriptionModifiedTimeStamp is also set.
4. NPAC SMS responds to M-SET.
5. NPAC SMS issues M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange to the current service provider for SV1 with the subscriptionVersionStatus set to ‘old’.
6. Current service provider confirms the M-EVENT-REPORT.

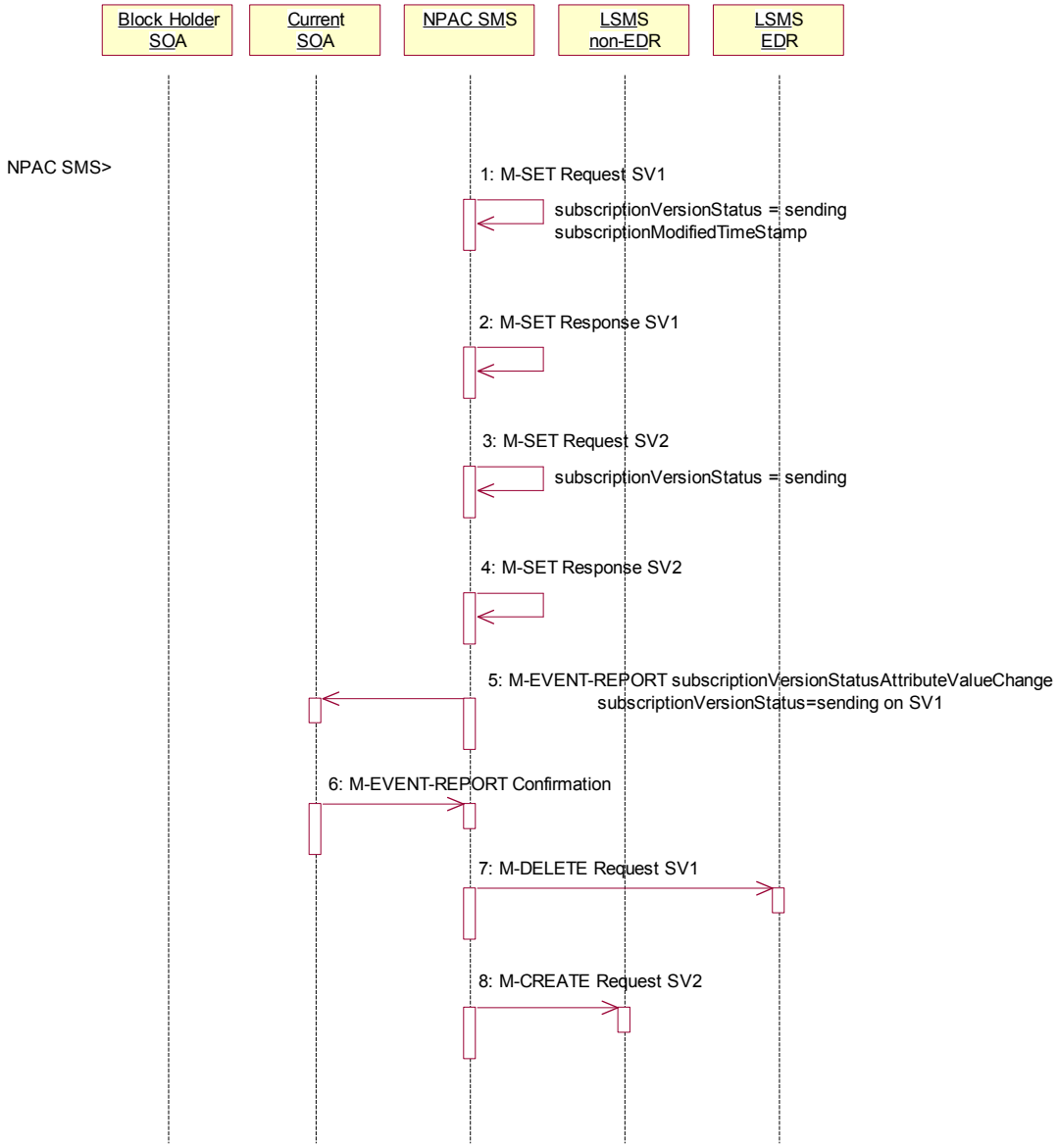
12.13 Subscription Version Disconnect: Resend Failure to Local SMS

This scenario shows an unsuccessful resend of a disconnect for a subscription that fails to one or more of the Local SMSs. the resend of a failed disconnect can only be performed by NPAC personnel. In this scenario:

- SV1 is the currently active Subscription Version.
- SV2 is the pool reinstatement Subscription Version with LNPType = POOL that reinstates default routing to the block holder with a status of failed.

12.13.1 NPAC SMS Initiates Resend

NPAC Personnel take action to resend a failed disconnect for a subscription version (SV1). This rebroadcast will result in failure again.



1. NPAC SMS issues an M-SET to the existing subscriptionVersonNPAC object to set the status to "sending" for SV1~~2~~ and set the subscriptionModifiedTimeStamp.
2. NPAC SMS responds to the M-SET.
3. NPAC SMS issues an M-SET to the existing subscriptionVersionNPAC object to set the status to "sending" for SV2~~1~~ and the subscriptionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.

5. ~~NPAC SMS issues an M-CREATE on the subscriptionVersion SV2 to all previously failed non-EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion SV2 TN.~~
6. ~~NPAC SMS issues an M-SET to the existing subscriptionVersionNPAC object to set the status to "sending" for SV1 and the subscriptionModifiedTimeStamp.~~
7. ~~NPAC SMS responds to the M-SET.~~
8. NPAC SMS issues an M-EVENT-REPORT to the current service provider SOA of status change to "sending" for SV1.
9. Current service provider confirms the M-EVENT-REPORT.
10. ~~NPAC SMS issues an M-CREATE on the subscriptionVersion SV2 to all previously failed non-EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion SV2 TN.~~
11. ~~At the same time as step 7, the~~ NPAC SMS issues an M-DELETE on the subscriptionVersion SV1 to all previously failed EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion SV1 TN.
12. At the same time as step 7, the NPAC SMS issues an M-CREATE on the subscriptionVersion SV2 to all previously failed non-EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion SV2 TN.

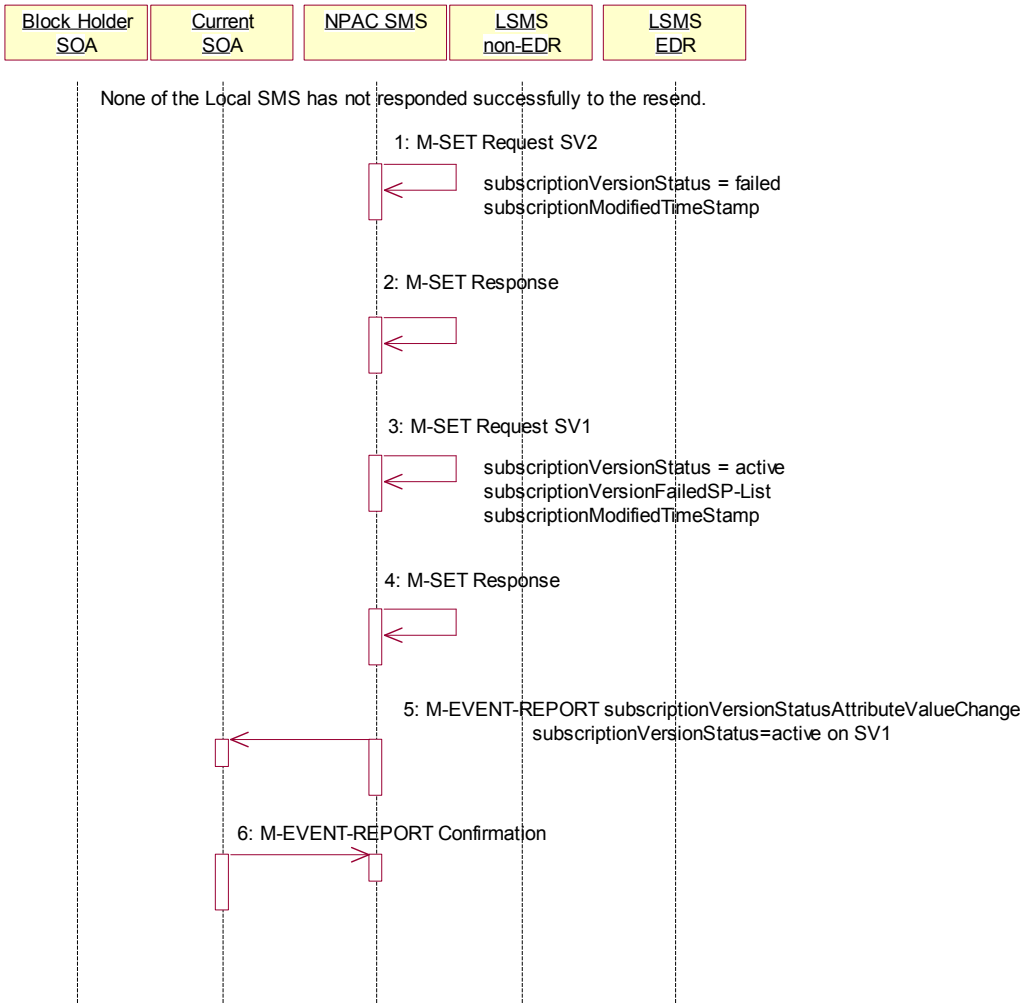
NPAC SMS waits for responses from all Local SMSs.

NPAC SMS retries each Local SMS that has not responded.

12.13.2

12.13.3 Broadcast Failure Updates to SV1 and SV2

None of the~~At least one of either the~~ non-EDR Local SMSs has ~~not~~ responded successfully to the M-CREATE and~~/or at least one of~~ none of the EDR Local SMSs ~~has not~~ responded successfully to the M-DELETE.



1. NPAC SMS issues M-SET updating the subscriptionVersionStatus to failed ~~or partially-failed~~ for SV2. The ~~subscriptionVersionFailedSP-List and~~ subscriptionModifiedTimeStamp is~~are~~ also set.
2. NPAC SMS responds to M-SET.
3. NPAC SMS issues M-SET updating the subscriptionVersionStatus to activ~~ce or old~~ for SV1. The subscriptionVersionFailedSP-List and subscriptionModifiedTimeStamp is also set.
4. NPAC SMS responds to M-SET.
5. NPAC SMS issues the M-EVENT-REPORT subscriptionVersionAttributeValueChange to the current service provider for SV1 with the subscriptionVersionStatus set to 'active~~old~~'. and the subscriptionVersionFailedSP-List.

6. Current service provider confirms the M-EVENT-REPORT.

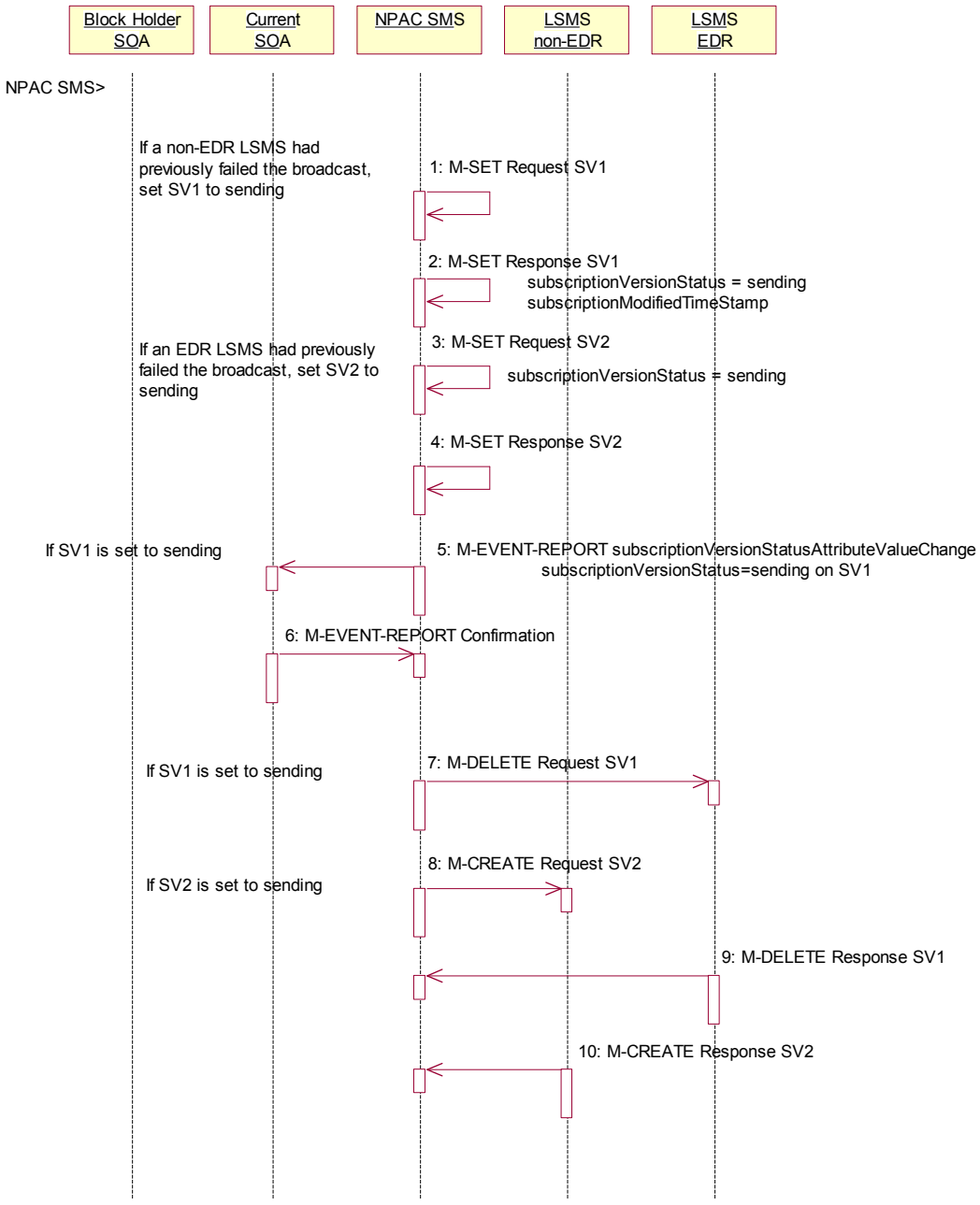
12.14 Subscription Version Disconnect: Resend Partial Failure to Local SMS

This scenario shows an unsuccessful resend of a disconnect for a subscription that fails to one or more of the Local SMSs. the resend of a failed disconnect can only be performed by NPAC personnel. In this scenario:

- SV1 is the previously active Subscription Version now with a status of old.
- SV2 is the pool reinstatement Subscription Version with LNPType = POOL that reinstates default routing to the block holder with a status of partially failed.

12.14.1 NPAC SMS Initiates Resend of a Partially Failed Disconnect of a Pooled TN

The NPAC SMS is initiating the resend of a previously partially failed disconnect of a pooled TN for a number pool block that was active at the time of the initial broadcast.



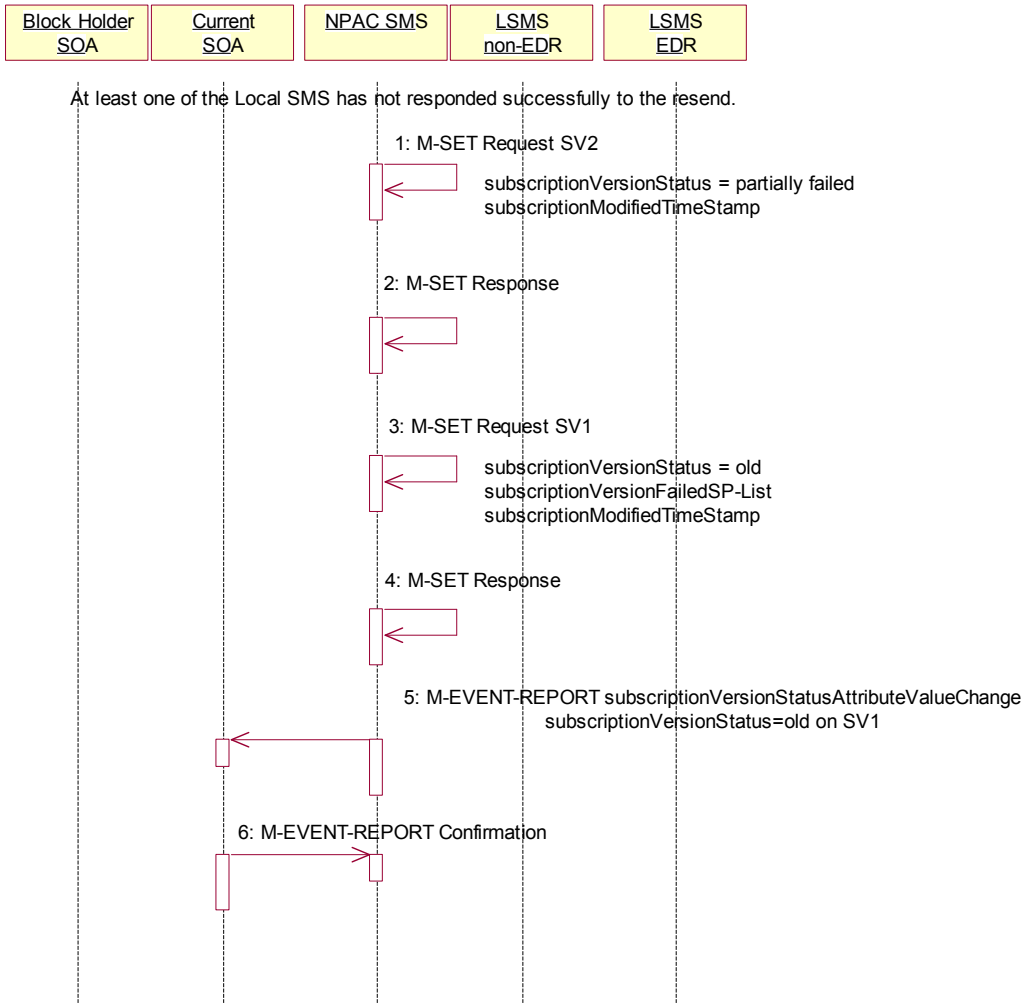
1. If a non-EDR Local SMS failed the broadcast, the NPAC SMS issues an M-SET to the existing subscriptionVersonNPAC object to set the status to "sending" for SV12 and set the subscriptionModifiedTimeStamp.
2. NPAC SMS responds to the M-SET.
3. If an EDR Local SMS failed the broadcast, the NPAC SMS issues an M-SET to the existing subscriptionVersionNPAC object to set the status to "sending" for SV21 and the subscriptionModifiedTimeStamp.
4. NPAC SMS responds to the M-SET.
5. If the status of SV1 is set to sending, the NPAC SMS issues an M-EVENT-REPORT to the current service provider SOA of status change to "sending" for SV1.
6. Current service provider confirms the M-EVENT-REPORT.
7. If the status of SV1 is set to sending, the NPAC SMS issues an M-DELETE on the subscriptionVersion SV1 to all previously failed EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion SV1 TN.
8. IaAt the same time as step 7 and iff the status of SV2 is set to sending, the NPAC SMS issues an M-CREATE on the subscriptionVersion SV2 to all previously failed non-EDR Local SMSs that are accepting downloads for the NPA-NXX of the subscriptionVersion SV2 TN.
9. The EDR Local SMS responds to the M-DELETE request.
10. The non-EDR Local SMS responds to the M-CREATE request.

NPAC SMS waits for responses from all Local SMSs.

NPAC SMS retries each Local SMS that has not responded.

12.14.2 Broadcast Partial Failure Updates to SV1 and SV2

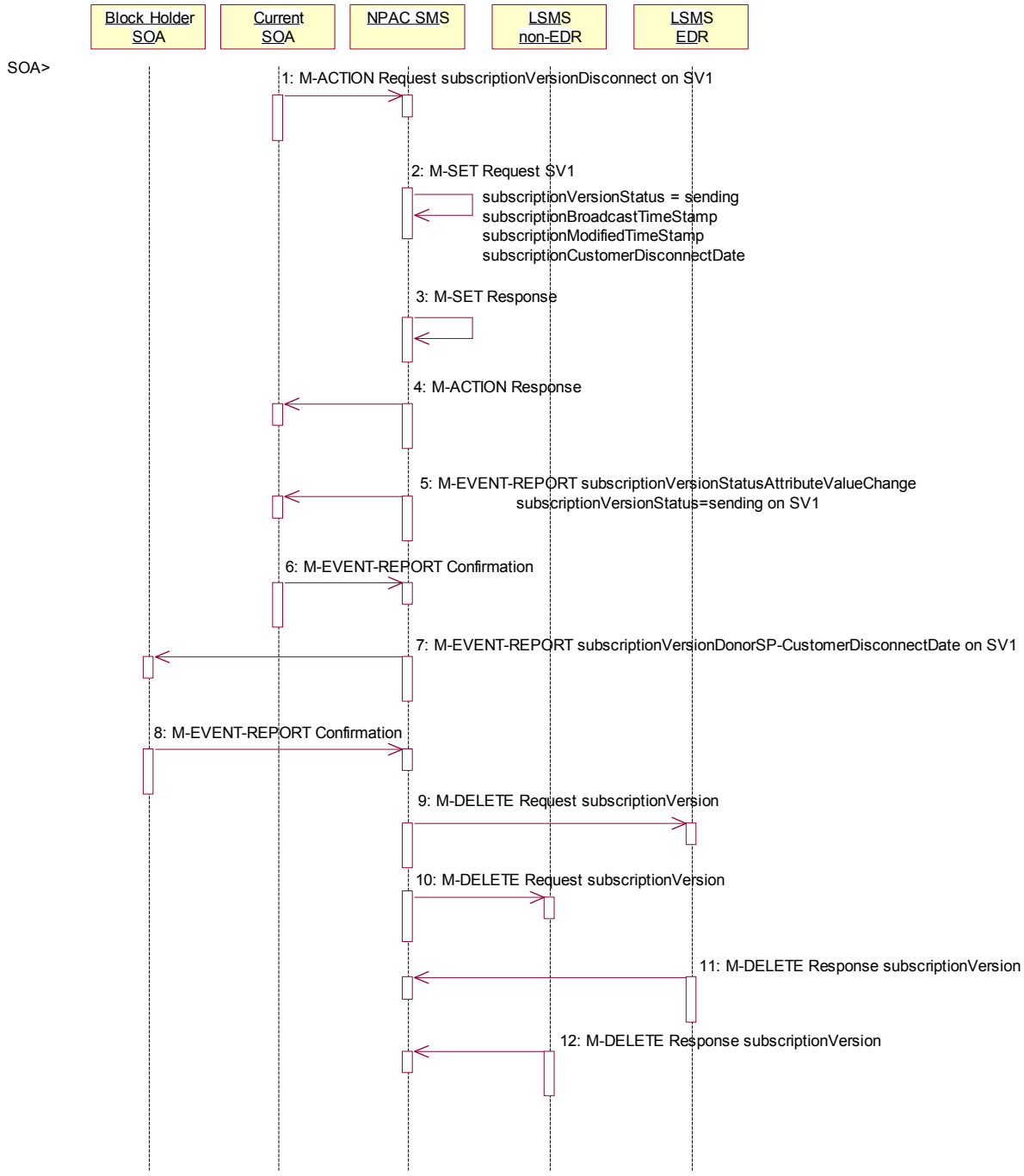
At least one of the non-EDR Local SMSs has not responded successfully to the M-CREATE and/or at least one of the EDR Local SMSs has not responded successfully to the M-DELETE.



1. NPAC SMS issues M-SET updating the subscriptionVersionStatus to partially-failed for SV2. The ~~subscriptionVersionFailedSP-List and~~ subscriptionModifiedTimeStamp ~~is~~are also set.
2. NPAC SMS responds to M-SET.
3. NPAC SMS issues M-SET updating the subscriptionVersionStatus to old for SV1. The subscriptionVersionFailedSP-List and subscriptionModifiedTimeStamp is also set.
4. NPAC SMS responds to M-SET.
5. NPAC SMS issues the M-EVENT-REPORT subscriptionVersionAttributeValueChange to the current service provider for SV1 with the subscriptionVersionStatus set to 'old' along with the subscriptionVersionFailedSP-List.
6. Current service provider confirms the M-EVENT-REPORT.

12.15 Subscription Version Immediate Disconnect of a Pooled TN Prior to Block Activation (after Effective Date)

In this scenario, the current service provider disconnects an active subscription version that will return to the block holder. However, the number pool block is past the effective date, but has not yet been activated.



Current service provider SOA personnel take action to disconnect a subscription version.

1. Service provider SOA issues an M-ACTION request to disconnect to the lnpSubscriptions object. The M-ACTION specifies either the subscriptionVersionId, or subscriptionTN or range of TNs, and also has NOT future dated (i.e., used the current date) the subscriptionEffectiveReleaseDate and the subscriptionCustomerDisconnectDate. The subscription version status must be active and no pending, failed, conflict or cancel-pending versions can exist.

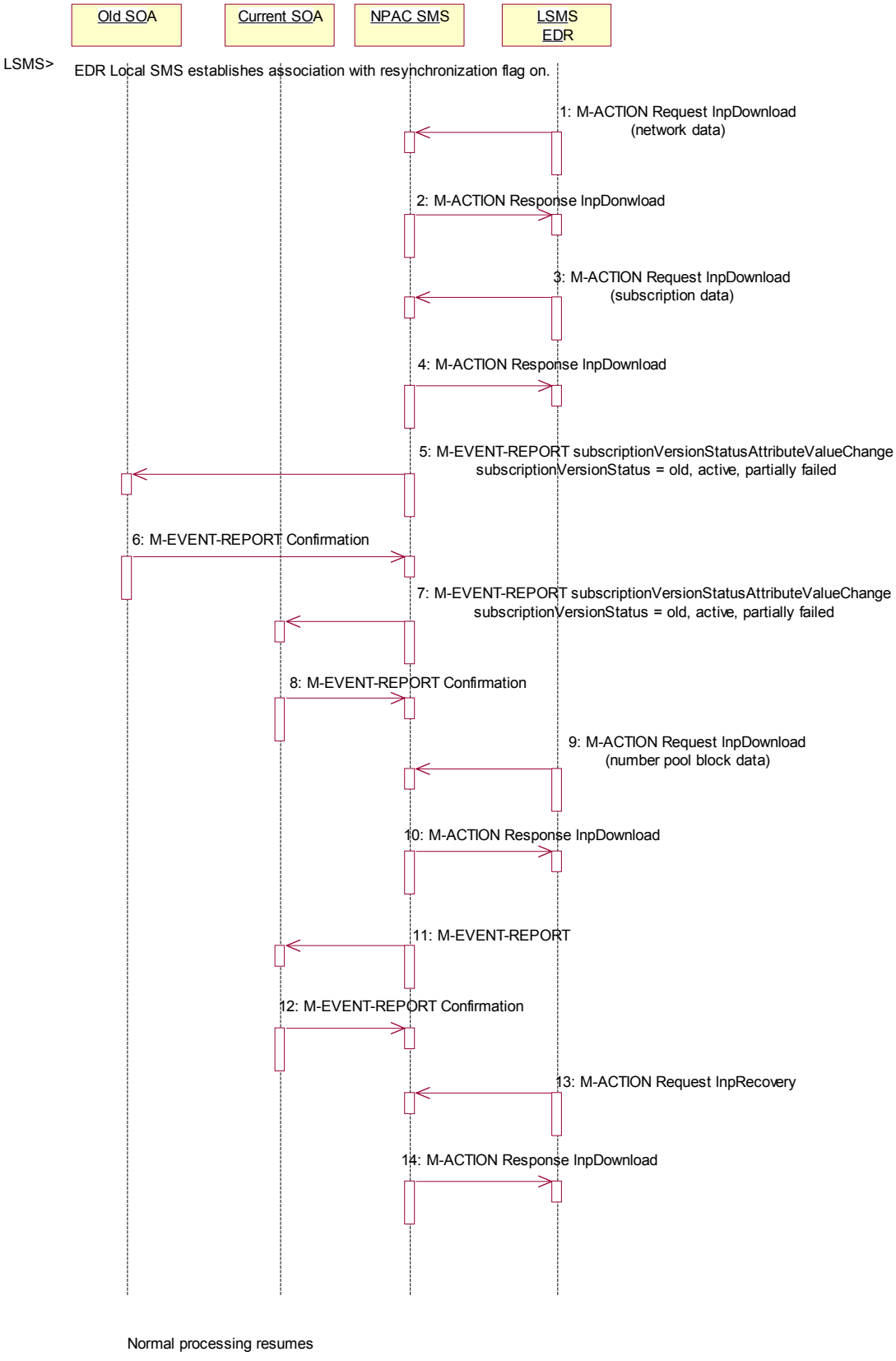
2. NPAC SMS issues an M-SET to set the subscriptionCustomerDisconnectDate according to the disconnect action for SV1. The subscriptionVersionStatus for SV1 goes to "sending ". The subscriptionModifiedTimeStamp and subscriptionBroadcastTimeStamp are set accordingly.
3. NPAC SMS responds to whether M-SET was successful.
4. NPAC SMS responds to the M-ACTION. If the action failed, an error will be returned and processing will stop on this flow.
5. NPAC SMS notifies service provider SOA of status change to "sending" for SV1.
6. Service provider SOA confirms event report.
7. NPAC SMS sends the Donor service provider SOA notification that the subscription version is being disconnected with the customer disconnect date. This SOA is the block holder SOA.
8. The donor service provider SOA confirms the M-EVENT-REPORT.
9. NPAC SMS sends the M-DELETE request to the EDR Local SMS to delete the existing subscription version and cause the routing to return to the number pool block.
10. At the same time as step 9, the NPAC SMS sends the M-DELETE request to the non-EDR Local SMS to delete the existing subscription version and cause the routing to return to the number pool block.
11. EDR Local SMS sends its M-DELETE reply.
12. Non-EDR Local SMS sends its M-DELETE reply.

13 Resynchronization

This section shows the flows related to resynchronization.

13.1 Sequencing of Events on Initialization/Resynchronization of EDR Local SMS

This scenario demonstrates how an EDR Local SMS resynchronizes itself with the NPAC SMS.


Old SOA
Current SOA
NPAC SMS
LSMS EDR
LSMS>
EDR Local SMS establishes association with resynchronization flag on.
1: M-ACTION Request InpDownload (network data)
2: M-ACTION Response InpDonwload
3: M-ACTION Request InpDownload (subscription data)
4: M-ACTION Response InpDownload
5: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange subscriptionVersionStatus = old, active, partially failed
6: M-EVENT-REPORT Confirmation
7: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange subscriptionVersionStatus = old, active, partially failed
8: M-EVENT-REPORT Confirmation
9: M-ACTION Request InpDownload (number pool block data)
10: M-ACTION Response InpDownload
11: M-EVENT-REPORT
12: M-EVENT-REPORT Confirmation
13: M-ACTION Request InpRecovery
14: M-ACTION Response InpDownload
Normal processing resumes

The EDR Local SMS establishes an association to the NPAC SMS with the resynchronization flag on.

1. EDR Local SMS sends M-ACTION to start network data download. The Local SMS specifies the start time.
2. NPAC SMS responds to M-ACTION with updates.
3. EDR Local SMS sends M-ACTION to start subscription data download. The Local SMS specifies the start time.
4. NPAC SMS responds to M-ACTION with updates.
5. If any corrections were issued to the resyncing Local SMS, the NPAC SMS will send M-EVENT-REPORT to the old service provider SOA of the subscriptionVersionStatus change and a list of failed Local SMSs (minus the resyncing Local SMS that no longer contains a discrepancy).
6. The old service provider SOA confirms the M-EVENT-REPORT.
7. If any corrections were issued to the resyncing Local SMS, the NPAC SMS will send M-EVENT-REPORT to the current service provider SOA of the subscriptionVersionStatus change and a list of failed Local SMSs (minus the resyncing Local SMS that no longer contains a discrepancy).
8. The current service provider SOA confirms the M-EVENT-REPORT.
9. ~~NPAC SMS sends the following M-EVENT-REPORTs:~~
   - ~~Tto the new service provider SOAs for any subscription version subscriptionFailedSP-List that was just updated due to the subscription download. The status attribute value change contains the current status and the subscrptionFailedSP-List of the subscription version object.~~
   - ~~To the old service provider SOAs for any subscription version subscriptionFailedSP-List that was just updated due to the subscription download. The status attribute value change contains the current status and the subscrptionFailedSP-List of the subscription version object.~~
10. ~~SNew service provider SOA confirms to the M-EVENT-REPORT.~~
11. ~~NPAC SMS sends the M-EVENT-REPORTs to the old service provider SOAs for any subscription version subscriptionFailedSP-List that was just updated due to the subscription download. The status attribute value change contains the current status and the subscrptionFailedSP-List of the subscription version object.~~
12. ~~Old service provider SOA confirms to the M-EVENT-REPORT.~~
13. EDR Local SMS sends M-ACTION to start number pool block data download. The Local SMS specifies the start time.
14. NPAC SMS responds to M-ACTION with updates.
15. NPAC SMS sends the M-EVENT-REPORTs to the block holder SOAs for any number pool block with the SOA-Origination flag set to true whose subscriptionFailedSP-List was just updated due to the number pool block download. The status attribute value change contains the current status and the subscrptionFailedSP-List of the number pool block object.
16. Block holder SOA confirms to the M-EVENT-REPORT.
17. EDR Local SMS sends M-ACTION to set resynchronization flag off.
18. NPAC SMS replies with data updates since association establishment.

Normal processing resumes.

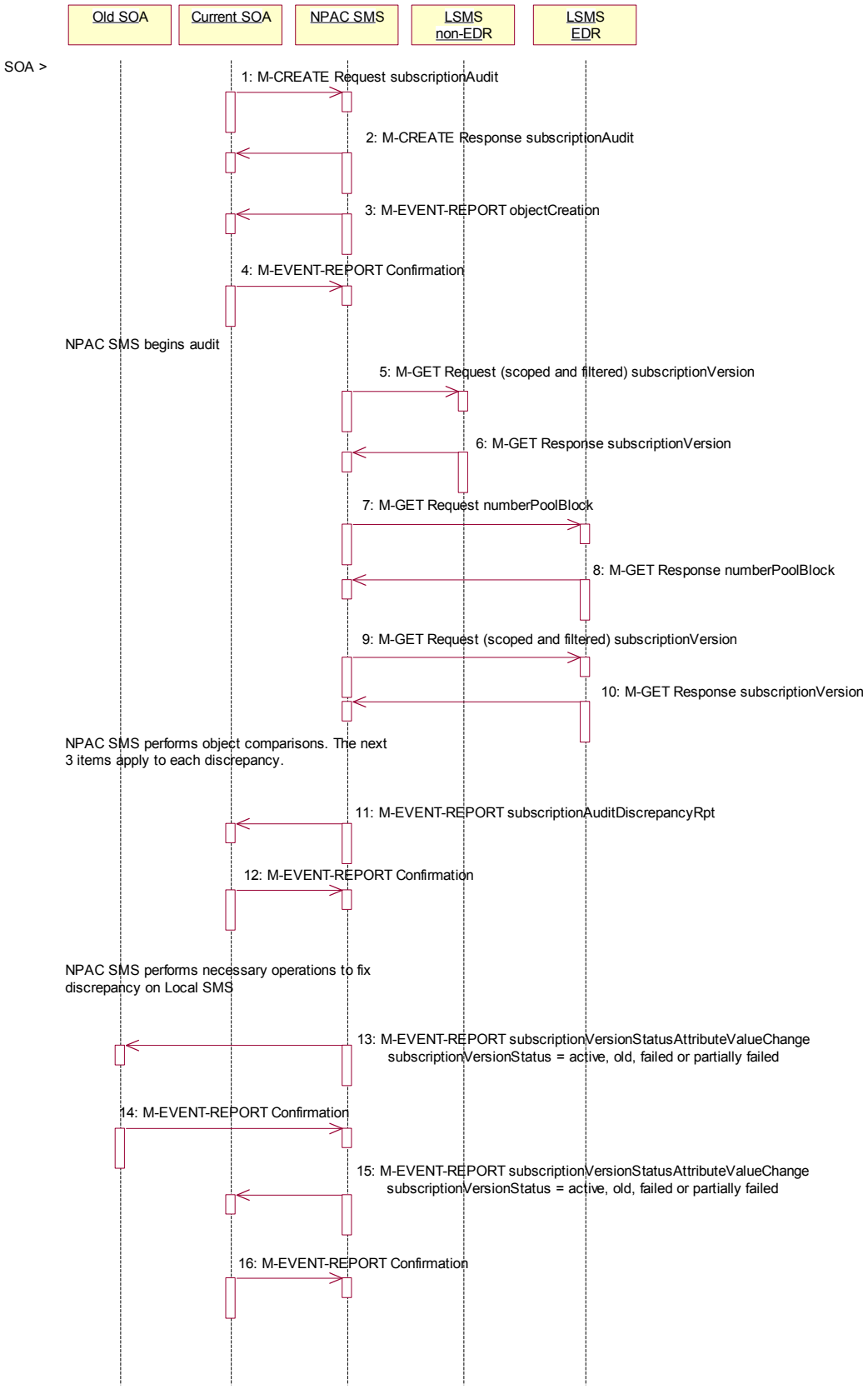
14 Audits

14.1 SOA Audit Create

In this scenario, the SOA initiates the audit of one or more subscription versions that are within the range of a number pool block. For non-EDR Local SMSs, this involves the subscription version objects. For EDR Local SMSs, this involves both subscription version objects and number pool block objects.

If discrepancies are found, the NPAC SMS will create, modify or delete subscription version and number pool objects, as necessary. The NPAC SMS will report to the SOA the discrepancies with subscription version identifiers. Thus, if a numberPoolBlock object is in error, the discrepancy will be reported as all TNs within the audit range. Subscription v~~V~~ersion discrepancies will be reported as usual.

14.1.1 NPAC Performs Audit


Old SOA
Current SOA
NPAC SMS
LSMS non-EDR
LSMS EDR
SOA >
1: M-CREATE Request subscriptionAudit
2: M-CREATE Response subscriptionAudit
3: M-EVENT-REPORT objectCreation
4: M-EVENT-REPORT Confirmation
NPAC SMS begins audit
5: M-GET Request (scoped and filtered) subscriptionVersion
6: M-GET Response subscriptionVersion
7: M-GET Request numberPoolBlock
8: M-GET Response numberPoolBlock
9: M-GET Request (scoped and filtered) subscriptionVersion
10: M-GET Response subscriptionVersion
NPAC SMS performs object comparisons. The next 3 items apply to each discrepancy.
11: M-EVENT-REPORT subscriptionAuditDiscrepancyRpt
12: M-EVENT-REPORT Confirmation
NPAC SMS performs necessary operations to fix discrepancy on Local SMS
13: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange
subscriptionVersionStatus = active, old, failed or partially failed
14: M-EVENT-REPORT Confirmation
15: M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange
subscriptionVersionStatus = active, old, failed or partially failed
16: M-EVENT-REPORT Confirmation

Action is taken by SOA personnel to start an audit due to suspectd network discrepancies.

1. The SOA sends a M-CREATE request to the NPAC SMS requesting an audit. The SOA must specify the following attributes in the request:

   SubscriptionAuditName – English audit name

   SubscriptionAuditRequestingSP – the service provider requesting the audit

   SubscriptionAuditServiceProvIdRange – which service provider or all service providers for audit

   SubscriptionAuditTN-Range – TNs to be audited

   If these attributes are not specifed, then the create will fail with a missingAttributesValue error. The SOA may also specify the following attributes in the request:

   SubscriptionAuditAttributeList – subscription version attributes to be audited

   SubscriptionAuditTN-ActivationRange – time range of activation for subscription versions to be audited.

   The subscriptionAuditId and the subscriptionAuditStatus will be determined by the NPAC SMS. If any values are deemed invalid, an invalidArgumentValue error will be returned. **NOTE**: The subscriptionAuditTN-Range will be limited based on the maximum range size specified in the NPAC SMS. If the limit specified is exceeded, the create request will fail with an invalidAttributeValue error.

2. Once the NPAC SMS creates the audit request object, it sends an M-CREATE response back to the SOA that initiated the request.

3. NPAC SMS sends M-EVENT-REPORT to the service provider SOA for the subscriptionAudit creation.

4. The service provider SOA confirms the M-EVENT-REPORT.

NPAC SMS begins audit.

5. ~~The NPAC SMS responds with an M-CREATE response indicating that the subscriptionAudit was created successfully.~~

6. The NPAC SMS sends an M-GET request to the non-EDR Local SMS to retrieve the subscription data for audit processing. The request uses the CMIP scoping and filtering options to retrieve only the subscriptionVersion objects to be audited.

7. The non-EDR Local SMS responds to the M-GET request by returning the subscription version objects that satisfy the scope and filter data.

8. The NPAC SMS sends an M-GET request to the EDR Local SMS to retrieve the number pool block for audit processing.

9. The EDR Local SMS responds to the M-GET request by returning the number pool object block requested.

10. The NPAC SMS sends an M-GET request to the EDR Local SMS to retrieve the subscription version objects for audit processing. The request uses the CMIP scoping and filtering options to retrieve only the subscriptionVersion objects to be audited. They should not exist.

11. The EDR Local SMS responds to the M-GET request by returning the subscription version objects that satisfy the scope and filter criteria.

The NPAC SMS performs ~~the~~object ~~-~~comparisons. ~~If any discrepancies are found, the NPAC SMS will perform the necessary fix to the Local SMSs.~~ The next 3 items apply to each discrepancy.

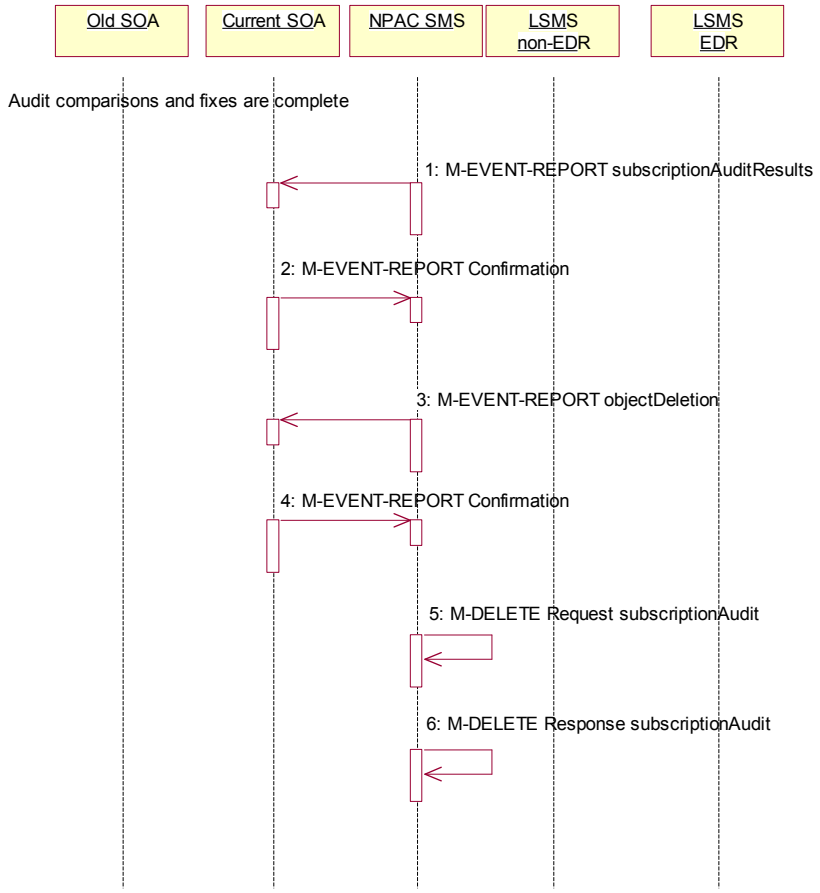
12. ~~The NPAC SMS completes the audit.~~If a discrepancy is found, NPAC SMS issues a subscriptionAuditDiscrepancyRpt M-EVENT-REPORT.
13. Service provider SOA confirms the M-EVENT-REPORT.

NPAC SMS performs necessary operations to fix discrepancy on Local SMS.

14. If any corrections were issued to any Local SMSs, the NPAC SMS will send M-EVENT-REPORT to the service provider SOA of the subscriptionVersionStatus change and a list of failed Local SMSs (minus any recently updated Local SMSs that no longer contains a discrepancy).
15. The service provider SOA confirms the M-EVENT-REPORT.
16. If any corrections were issued to any Local SMSs, the NPAC SMS will send M-EVENT-REPORT to the old service provider SOA of the subscriptionVersionStatus change and a list of failed Local SMSs (minus any recently updated Local SMSs that no longer contains a discrepancy).
17. The old service provider SOA confirms the M-EVENT-REPORT

14.1.2 NPAC Reports Audit Results

The NPAC SMS has completed the audit. It has reported and fixed all discrepancies found. It now sends the final results to the SOA.



Audit comparisons and fixes are complete.

1. NPAC SMS issues the subscriptionAuditResults M-EVENT-REPORT to the service provider SOA.
2. The Service provider SOA confirms the M-EVENT-REPORT.
3. The NPAC SMS then sends an objectDeletion M-EVENT-REPORT to the SOA for the subscriptionAudit object.
4. The service provider SOA confirms the M-EVENT-REPORT.
5. The NPAC SMS issues a local M-DELETE request for the subscriptionAudit object to/from the NPAC SMS. This will attempt to delete the subscriptionAudit object on the NPAC SMS.
6. The M-DELETE response is received on the NPAC SMS indicating whether the subscriptionAudit object was deleted successfully.
18.
19. ~~The NPAC SMS issues an M-DELETE request to remove the subscriptionAudit object from the NPAC SMS.~~

20. ~~The NPAC SMS response is received by the NPAC SMS indicating whether the subscriptionAudit object was deleted successfully.~~

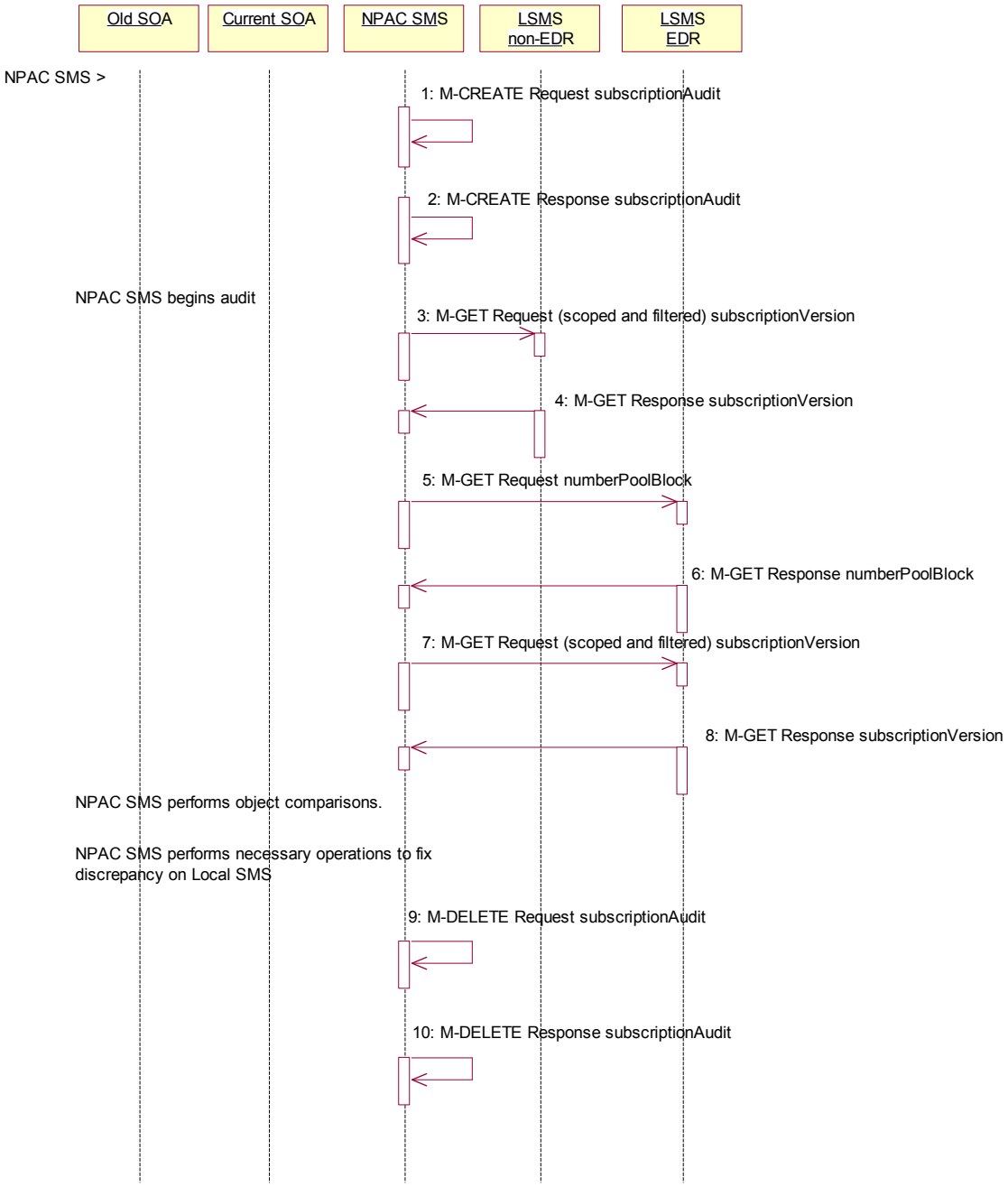
~~Issues need to be resolved before the flow can be implemented. Specifically:~~

1. ~~How to report block discrepancies vs subscription version discrepancies?~~
2. ~~How to report block discrepancies to a non-EDR SOA?~~

14.2 NPAC Audit Create

In this scenario, the NPAC SMS initiates an audit due to suspected subscriber data discrepancies. For non-EDR Local SMSs, this involves the subscription version objects. For EDR Local SMSs, this involves both subscription version objects and number pool block objects.

If discrepancies are found, the NPAC SMS will create, modify or delete subscription version and number pool objects, as necessary.



Action is taken by NPAC personnel to start an audit due to suspected network discrepancies.

1. The NPAC SMS does a Local M-CREATE request for the subscriptionAudit object.
2. The NPAC SMS responds with an M-CREATE response indicating that the subscriptionAudit was created successfully.

NPAC SMS begins audit.

3. The NPAC SMS sends an M-GET request to the non-EDR Local SMS to retrieve the subscription data for audit processing. The request uses the CMIP scoping and filtering options to retrieve only the subscriptionVersion objects to be audited.
4. The non-EDR Local SMS responds to the M-GET request by returning the subscription version objects that satisfy the scope and filter data.
5. The NPAC SMS sends an M-GET request to the EDR Local SMS to retrieve the number pool block for audit processing.
6. The EDR Local SMS responds to the M-GET request by returning the number pool object block requested.
7. The NPAC SMS sends an M-GET request to the EDR Local SMS to retrieve the subscription version objects for audit processing. The request uses the CMIP scoping and filtering options to retrieve only the subscriptionVersion objects to be audited. They should not exist.
8. The EDR Local SMS responds to the M-GET request by returning the subscription version objects that satisfy the scope and filter criteria.

NPAC SMS performs object comparisons.

NPAC SMS~~SM~~ performs necessary operations to fix discrepancy on Local SMS.

9. ~~The NPAC SMS performs the comparisons. If any discrepancies are found, the NPAC SMS will perform the necessary fix to the Local SMSs.~~
10. ~~The NPAC SMS completes the audit.~~
11. The NPAC SMS issues an M-DELETE request to remove the subscriptionAudit object from the NPAC SMS.
12. The NPAC SMS response is received by the NPAC SMS indicating whether the subscriptionAudit object was deleted successfully.