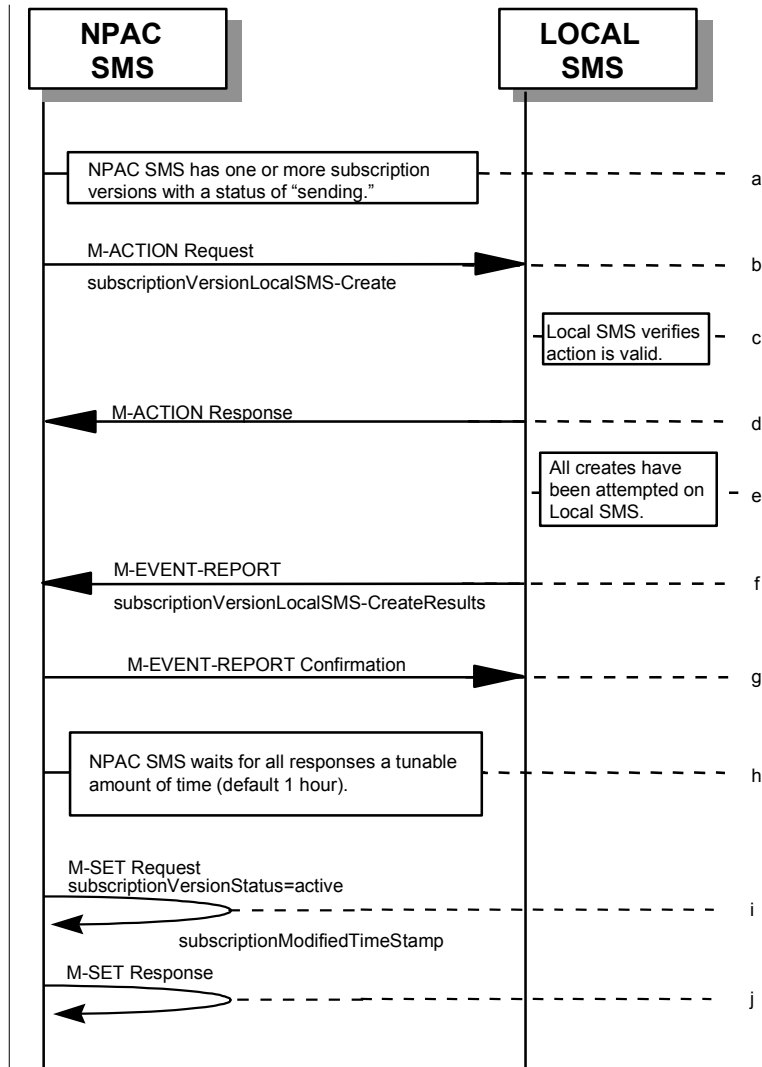# Activate Scenarios

Active Subscription Version(s) Create on Local SMS with LNP Type "POOL": Success

The NPAC personnel can port a block of TN's to a block holder. The LNP type of the numbers being ported is "POOL". In this scenario, the Number Pooling Block information has been entered into the NPAC SMS and the NPAC personnel have initiated the port of the block of TN's.
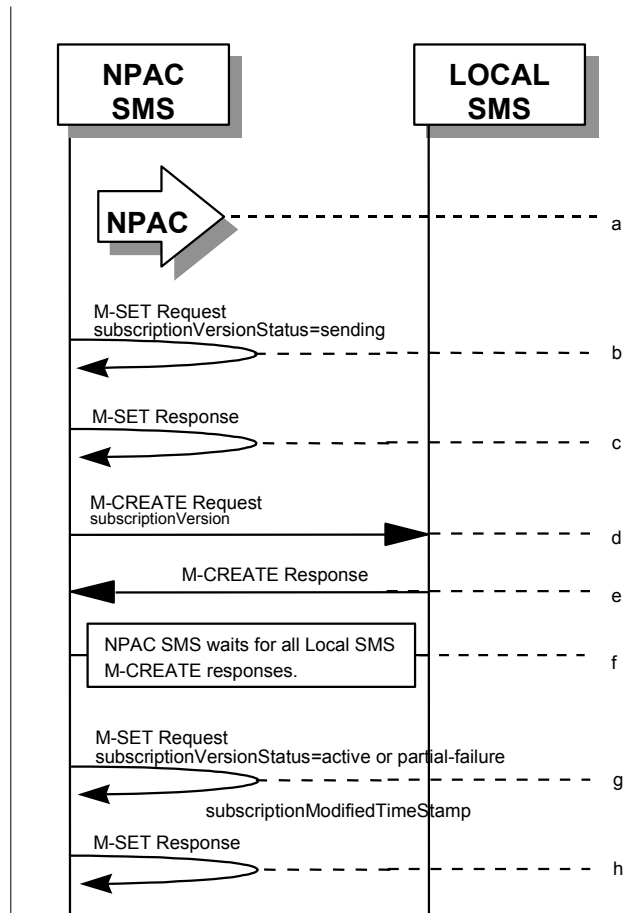
a. NPAC SMS has one or more subscription versions with a status of "sending " that have been activated by the NPAC SMS Personnel as a result of a port of a block of pooled numbers to the block holder.

b. NPAC SMS issues the subscriptionVersionLocalSMS-Create action to the Local SMS, if it is accepting downloads for the NPA-NXX of the subscriptionVersion. This action contains all data necessary to create the subscription version. The start and stop TN range will be included in the data sent to the LSMS. This field is not included on any other subscriptionVersionLocalSMS-Create action.

c.   The Local SMS verifies the action is valid, but does not attempt to create the subscription version(s).

d.   The Local SMS responds to the M-ACTION.

e.   The Local SMS proceeds to execute all the creates specified by the action.

f.   The Local SMS sends to the NPAC SMS the M-EVENT-REPORT specifying the success or failure of the creates.

g.   NPAC SMS confirms the M-EVENT-REPORT.

h.   NPAC SMS waits for all responses a tunable amount of time. The default is 1 hour.

i.   The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "active", and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC.

j.   NPAC SMS response to the M-SET.

k.

l.   NPAC personnel will handle failures if Local SMSs do not respond.

m.

Create Subscription Version with LNP Type "POOL": Resend Successful to Local SMS Action

This scenario shows the successful resend of a subscription version create with an LNP Type of "POOL". The resend of a failed subscription version create can only be performed by authorized NPAC personnel.
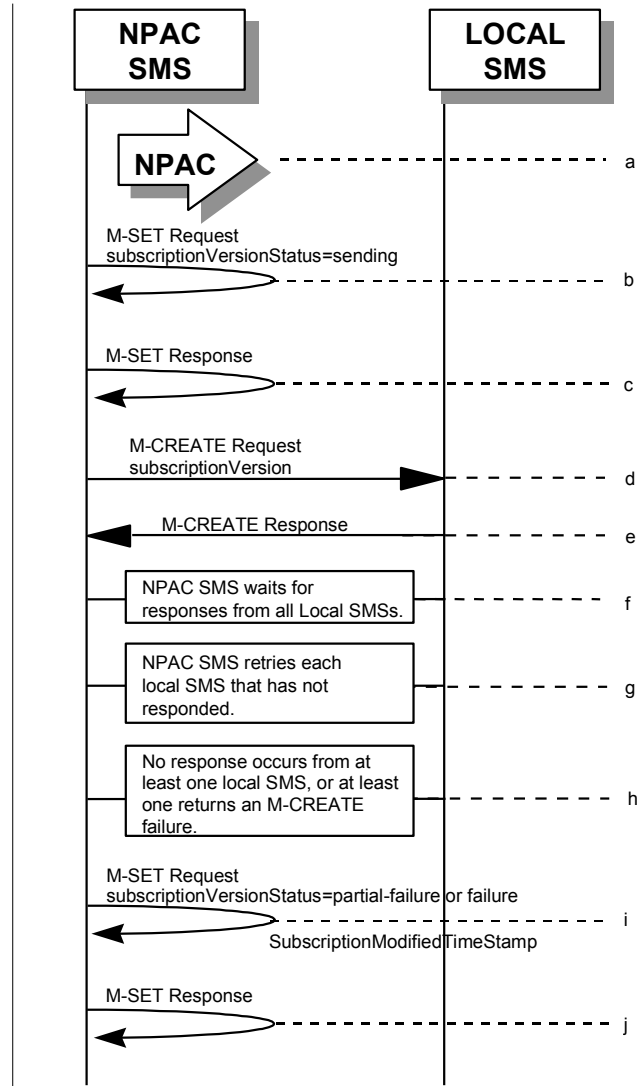

a. NPAC personnel take action to resend a failed subscriptionVersion create for a subscription version with an LNP Type of "POOL".

b. NPAC SMS issues M-SET to the subscriptionVersionNPAC. The subscriptionVersionStatus is updated to "sending".

c. NPAC SMS issues M-SET response indicating success or failure.

d. The NPAC SMS issues an M-CREATE for the subscriptionVersion to each of the Local SMSs that previously failed, and is accepting downloads for the NPA-NXX of the subscriptionVersion.

e. Each Local SMS will reply to the M-CREATE.

f. NPAC SMS waits for all Local SMSs to report successful subscription version creation.

g. The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "active" or "partial-failure" (along with subscriptionFailed-SP-List), and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC.

h.   NPAC SMS response to the M-SET.

Subscription Version with LNP Type of POOL: Resend Failure to Local SMS

> This scenario shows a failure on a resend of a Subscription Version with an LNP Type of "POOL" to a Local SMS. The resend of a failed create ~~modified active~~ version can only be performed by authorized NPAC SMS personnel.

NPAC SMS   **LOCAL SMS**

NPAC — a

M-SET Request
subscriptionVersionStatus=sending — b

M-SET Response — c

M-CREATE Request
subscriptionVersion — d

M-CREATE Response — e

NPAC SMS waits for responses from all Local SMSs. — f

NPAC SMS retries each local SMS that has not responded. — g

No response occurs from at least one local SMS, or at least one returns an M-CREATE failure. — h

M-SET Request
subscriptionVersionStatus=partial-failure or failure
SubscriptionModifiedTimeStamp — i

M-SET Response — j

  i.   The NPAC personnel issues a resend for the failed or partially failed subscriptionVersion.

  j.   NPAC SMS issues M-SET to the subscriptionVersionNPAC. The subscriptionVersionStatus is updated to "sending".

  k.   NPAC SMS issues M-SET response indicating success or failure.

  l.   The NPAC SMS issues an M-CREATE for the subscriptionVersion to each of the Local SMSs for which the M-CREATE previously failed, and is accepting downloads for the NPA-NXX of the subscriptionVersion.

  m.   One or more Local SMSs respond to the M-CREATE.

n. NPAC SMS waits for responses from each Local SMS.

o. NPAC SMS resends, to each unresponsive Local SMS, up to a tunable number of retries at a tunable interval.

p. No responses occur from at least one or all Local SMSs, or one or all Local SMSs return an M-CREATE failure.

q. NPAC SMS issues M-SET to the subscriptionVersionStatus to "partial-failure" or "failed" in the subscriptionVersionNPAC object, subscriptionFailed-SP-List, and the subscriptionModifiedTimeStamp.

r. NPAC SMS issues M-SET response.

s. Modify Scenarios

SubscriptionVersion Modify Active Version with LNP Type of "POOL"

This scenario shows the modification of an active subscription version with an LNP Type of "POOL". NPAC Personnel can only perform the modification of an active subscription version with an LNP Type of "POOL".
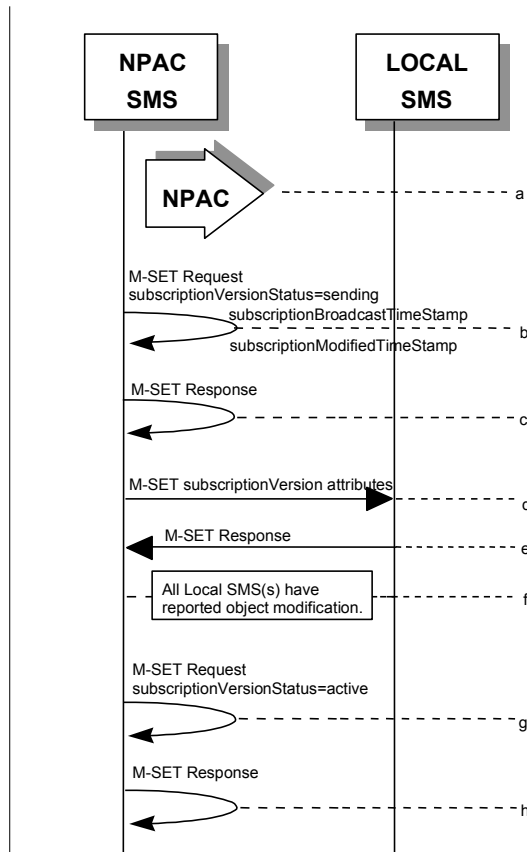
t. Action is by NPAC Personnel to modify an active subscription version with an LNP Type of "POOL". The following attributes can be modified:
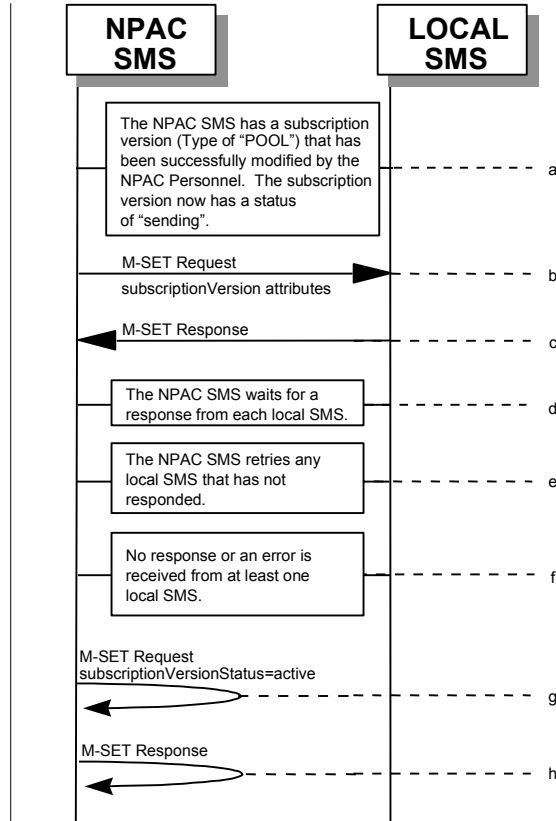
> subscriptionLRN
> subscriptionCLASS-DPC
> subscriptionCLASS-SSN
> subscriptionLIDB-DPC
> subscriptionLIDB-SSN
> subscriptionCNAM-DPC
> subscriptionCNAM-SSN
> subscriptionISVM-DPC
> subscriptionISVM-SSN
> subscriptionEndUserLocationValue
> subscriptionEndUserLocationType
> subscriptionBillingId

u. NPAC SMS issues M-SET to the subscriptionVersionNPAC. The subscriptionVersionStatus is updated to "sending," the subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp are set, and any other modified attributes are updated.

v. NPAC SMS issues M-SET response indicating success or failure.

w. NPAC SMS issues M-SET to all Local SMSs for the updated attributes, that are accepting downloads for the NPA-NXX of the subscriptionVersion. If the update involves multiple subscription version objects, a scoped and filtered request will be sent.

x. Local SMSs reply to M-SET.

y. All Local SMSs have reported the object modification.

z. NPAC SMS issues M-SET to update the current subscriptionVersionNPAC object subscriptionVersionStatus to "active."

aa. NPAC SMS responds to M-SET.
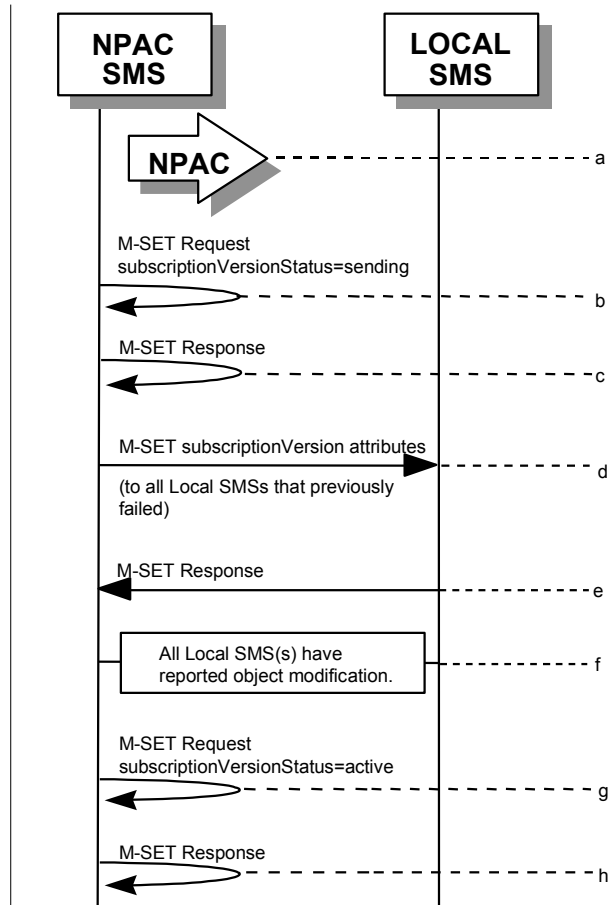
SubscriptionVersion Modify Active: Failure to Local SMS

> This scenario shows the broadcast of a modified active subscription with an LNP Type of "POOL" that fails to one or more of the Local SMSs.

bb. The NPAC SMS has an active subscription version with an LNP Type of "POOL" that has been successfully modified by the NPAC Personnel. The subscription version now has a status of "sending".

cc. The NPAC SMS issues M-SET to all Local SMSs for the updated attributes, that are accepting downloads for the NPA-NXX of the subscriptionVersion.

dd. Local SMSs should respond successfully to the M-SET.

ee. NPAC SMS waits for responses from each Local SMS.

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

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

hh. NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "active" from "sending". It will also update the subscriptionFailed-SP-List with the service provider ID and name of the Local SMS that failed to successfully receive the broadcast.

ii. NPAC SMS responds to the M-SET.

Subscription Version Modify Active: Resend Successful to Local SMS

> This scenario shows the successful resend of a modification of an active subscription with an LNP Type of "POOL". The resend of a failed modified active version can only be performed by authorized NPAC personnel.

jj. Action is taken by NPAC personnel to resend the failed modified active version with an LNP TYPE of "POOL".

kk. NPAC SMS issues M-SET to the subscriptionVersionNPAC. The subscriptionVersionStatus is updated to "sending".

ll. NPAC SMS issues M-SET response indicating success or failure.

mm. NPAC SMS issues M-SET to all Local SMSs that previously failed for the updated attributes, and are accepting downloads for the NPA-NXX of the subscriptionVersion.

nn. Local SMSs reply to M-SET.

oo. All Local SMSs have reported the object modification.

pp. NPAC SMS issues M-SET to update the current subscriptionVersionNPAC object subscriptionVersionStatus to "active."

qq. NPAC SMS responds to M-SET.

Subscription Version Modify Active: Resend Failure to Local SMS

This scenario shows a failure on a resend of a modified active subscription with an LNP Type of "POOL" that failed previously to one or more of the Local SMSs. Authorized NPAC personnel can only perform the resend of a failed modified active version.
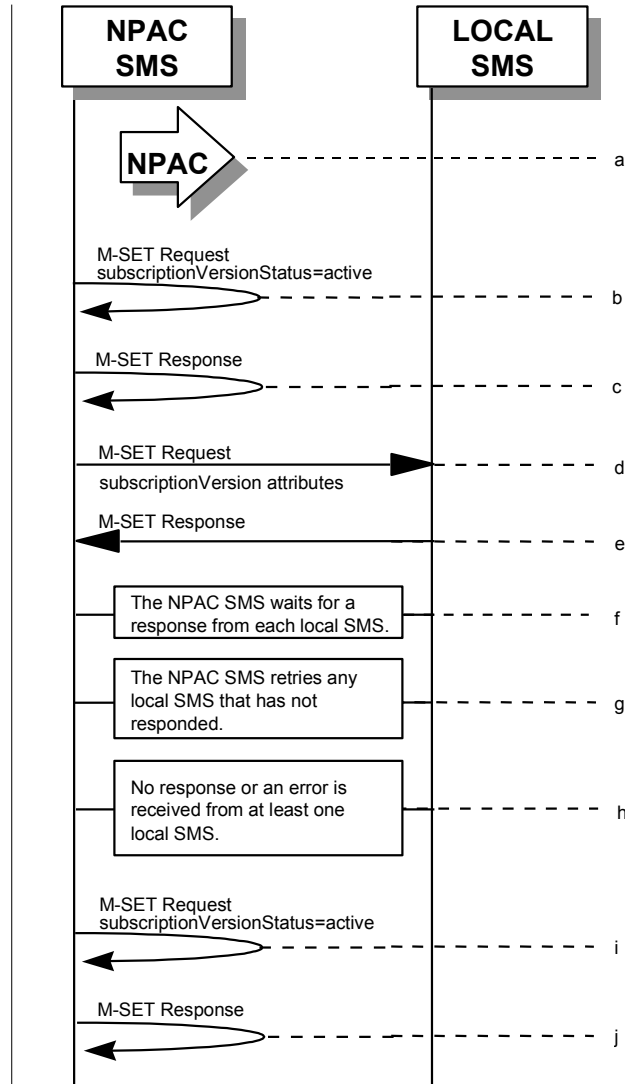
rr. The NPAC SMS has an active subscription version with an LNP Type of "POOL" that has been unsuccessfully modified by the current service provider. The NPAC personnel issues a resend for the failed modified version and the subscription version now has a status of "sending".

ss. NPAC SMS issues M-SET to the subscriptionVersionNPAC. The subscriptionVersionStatus is updated to "sending".

tt. NPAC SMS issues M-SET response indicating success or failure.

uu. The NPAC SMS issues M-SET to all Local SMSs that previously failed for the updated attributes, and are accepting downloads for the NPA-NXX of the subscriptionVersion.

vv. Local SMSs should respond successfully to the M-SET.

ww. NPAC SMS waits for responses from each Local SMS.

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

yy. No response or an error is received from at least one or all Local SMSs.

zz. NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "active" from "sending". It will also update the subscriptionFailed-SP-List with the service provider ID and name of the Local SMSs that failed to successfully receive the broadcast.

aaa. NPAC SMS responds to the M-SET.

bbb.Port-To-Original Scenarios

Port to Original for a Pooled Number: Success

| New SOA | Old SOA | NPAC SMS | LOCAL SMS |

M-ACTION request subscriptionVersionActivate → a

Activate SV2 Port-to-Original

M-SET Request
(subscriptionVersionStatus=sending on SV2) ← b

subscriptionBroadcastTimeStamp
subscriptionModifiedTimeStamp

M-SET Response ← c

M-ACTION subscriptionVersionActivate response ← d

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange ← e

(subscriptionVersionStatus=sending on SV2

M-EVENT-REPORT Confirmation → f

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange ← g

(subscriptionVersionStatus=sending on SV2

M-EVENT-REPORT Confirmation → h

M-SET Request
(subscriptionVersionStatus=sending on SV1) ← i

subscriptionBroadcastTimeStamp
subscriptionModifiedTimeStamp

M-SET Response ← j

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange ← k

(subscriptionVersionStatus=sending on SV1

M-EVENT-REPORT Confirmation → l

M-CREATE request
subscriptionVersion (SV3) → m

M-CREATE response ← n

All Local SMSs have responded
successfully. o

M-SET Request
subscriptionVersionStatus=active on SV3 ← p

M-SET Response ← q

(continued on next page)

SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

ccc. 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.

ddd. The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV2.

eee. NPAC SMS response to the M-SET.

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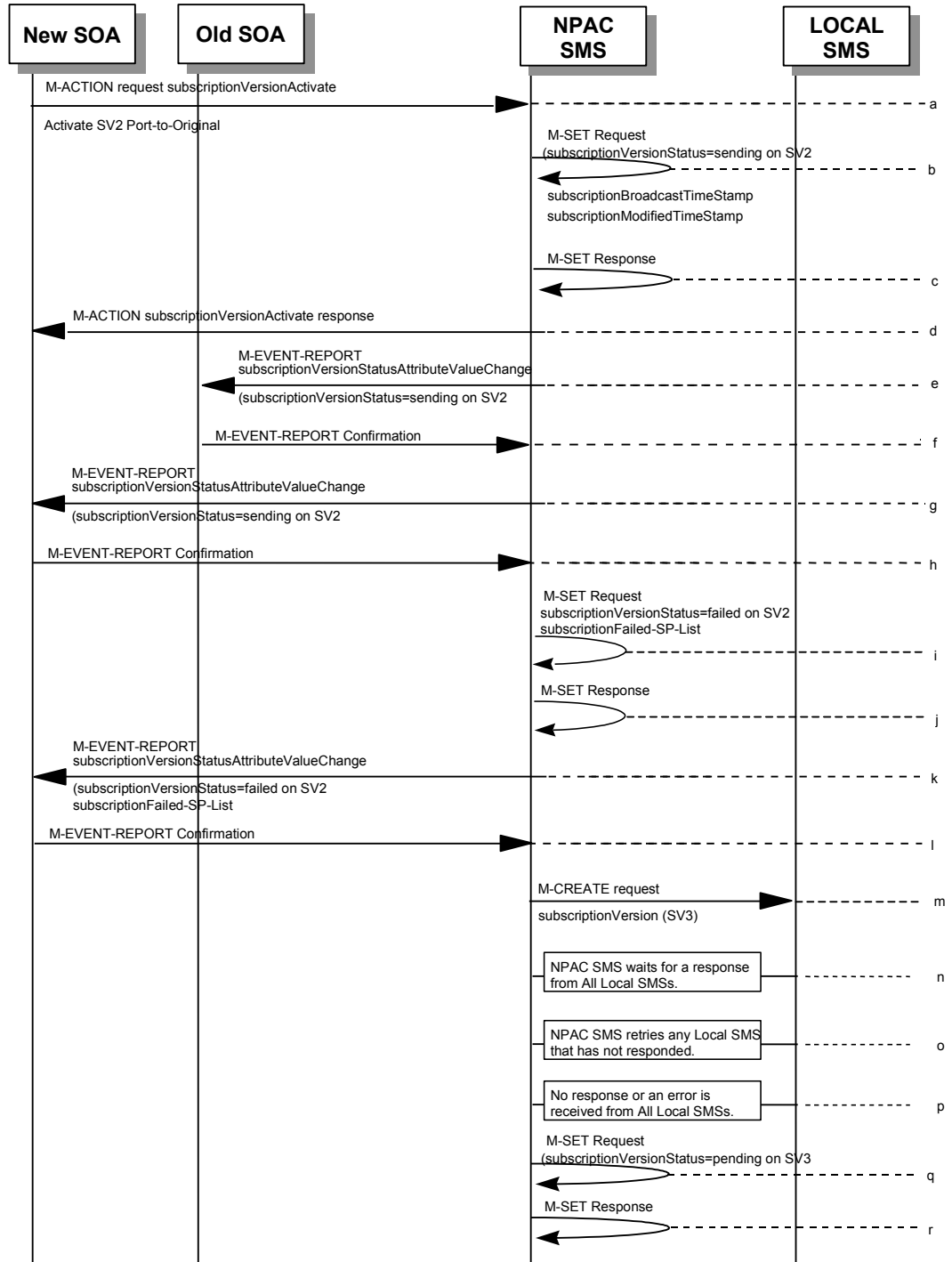
ggg. If the M-ACTION was successful, the NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV2.

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

iii. 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.

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

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

lll. NPAC SMS response to the M-SET.

mmm. 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 SV1.

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

ooo. NPAC SMS sends out an M-CREATE on the subscription Version SV3~~2~~ to all Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV3~~2~~. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation will be sent. The SV3~~2~~ created on the 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~~2~~ in the NPAC SMS for a the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface.

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

qqq. All Local SMSs respond successfully.

rrr. NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV3~~2~~ to active.

sss. NPAC SMS responds to the M-SET.

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

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

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

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

xxx. ~~—~~NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 to old. It also sets the subscriptionModifiedTimeStamp.

yyy. NPAC SMS responds to the M-SET.

zzz. The NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV1.

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

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

cccc. NPAC SMS responds to the M-SET.

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

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

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

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

hhhh. After a tunable amount of days, the subscription version SV1 is purged by the NPAC SMS housekeeping process.

Port to Original for a Pooled Number: Failure to All Local SMSs

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

New SOA	Old SOA		NPAC SMS	LOCAL SMS	

M-ACTION request subscriptionVersionActivate → a

Activate SV2 Port-to-Original

M-SET Request
(subscriptionVersionStatus=sending on SV2 → b

subscriptionBroadcastTimeStamp
subscriptionModifiedTimeStamp

M-SET Response → c

M-ACTION subscriptionVersionActivate response → d

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange
(subscriptionVersionStatus=sending on SV2 → e

M-EVENT-REPORT Confirmation → f

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange
(subscriptionVersionStatus=sending on SV2 → g

M-EVENT-REPORT Confirmation → h

M-SET Request
subscriptionVersionStatus=failed on SV2
subscriptionFailed-SP-List → i

M-SET Response → j

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange
(subscriptionVersionStatus=failed on SV2
subscriptionFailed-SP-List → k

M-EVENT-REPORT Confirmation → l

M-CREATE request
subscriptionVersion (SV3) → m

NPAC SMS waits for a response
from All Local SMSs. → n

NPAC SMS retries any Local SMS
that has not responded. → o

No response or an error is
received from All Local SMSs. → p

M-SET Request
(subscriptionVersionStatus=pending on SV3 → q

M-SET Response → r

SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

iiii. 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.

jjjj. The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV2.

kkkk. NPAC SMS response to the M-SET.

llll. 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.

mmmm. 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.

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

oooo. 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.

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

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

rrrr. NPAC SMS response to the M-SET.

ssss. 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 SV1.

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

uuuu. NPAC SMS sends out an M-CREATE on the subscription Version SV3 to all 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 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 a the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface.

vvvv. NPAC SMS waits for a response from each Local SMS.

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

xxxx. No response or an error is received from all Local SMSs.

yyyy. NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "pending", for SV3.

zzzz. NPAC SMS responds to the M-SET.

aaaaa. NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "active" from "sending", for SV1.

bbbbb. NPAC SMS responds to the M-SET.

ccccc. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to active on SV1.

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

eeeee. NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "failed" from "sending", for SV2. It will also update the subscriptionFailed-SP-List with the service provider ID and name of all the Local SMSs.

fffff. NPAC SMS responds to the M-SET.

ggggg. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to failed on SV2, along with the subscriptionFailed-SP-List.

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

iiiii. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to failed on SV2, along with the subscriptionFailed-SP-List.

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

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

←

Port to Original for a Pooled Number: Partial Failure to one or more Local SMSs

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

(continued on next page)

New SOA	Old SOA	NPAC SMS	LOCAL SMS

M-SET Request
(subscriptionVersionStatus=pending on SV3

r

M-SET Response

s

M-SET Request
(subscriptionVersionStatus=old on SV1

t

M-SET Response

u

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=old on SV1

v

M-EVENT-REPORT Confirmation

w

M-SET Request
subscriptionVersionStatus=partially failed on SV2
subscriptionFailed-SP-List

x

M-SET Response

y

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

z

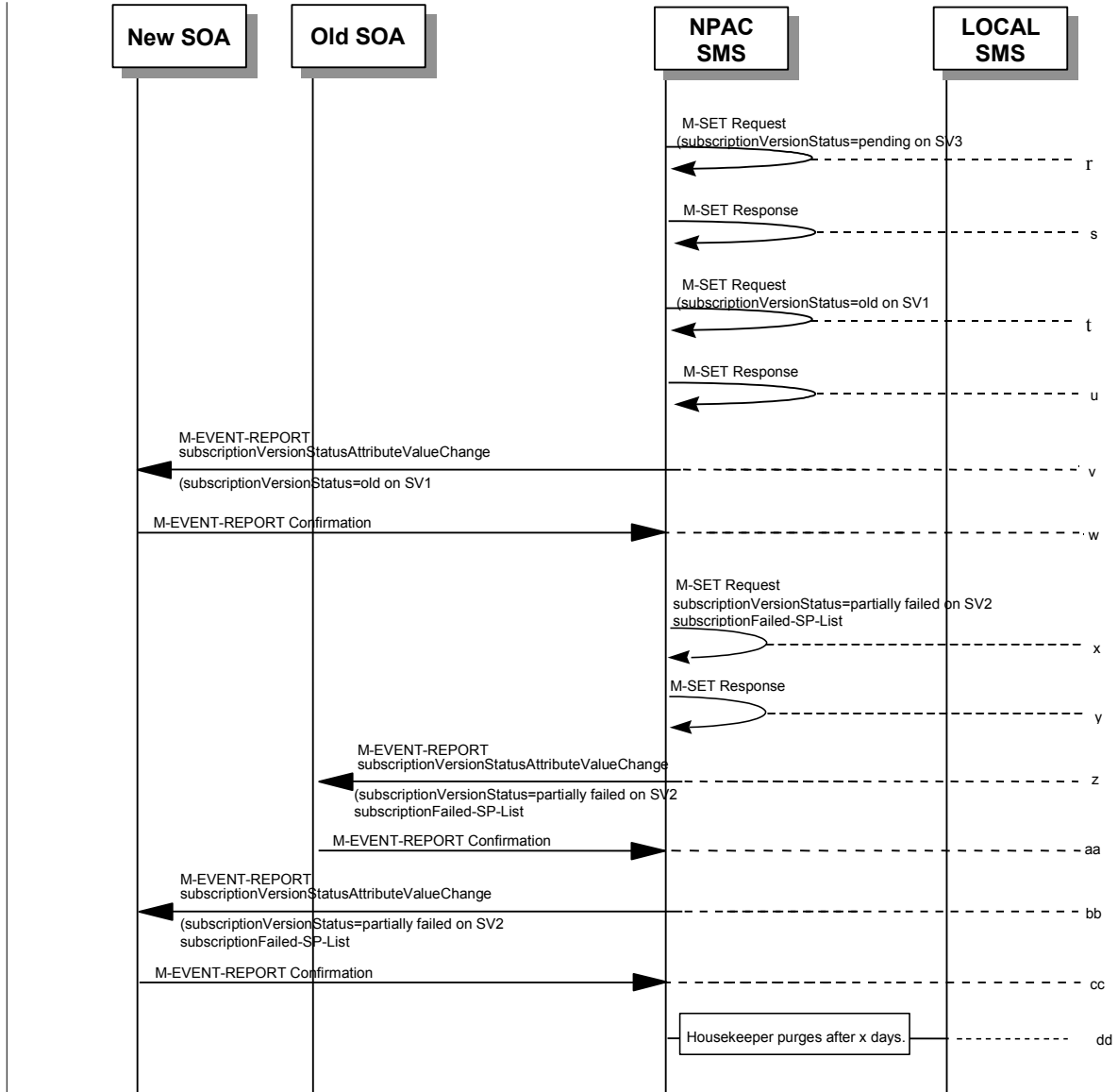(subscriptionVersionStatus=partially failed on SV2
subscriptionFailed-SP-List

M-EVENT-REPORT Confirmation

aa

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

bb

(subscriptionVersionStatus=partially failed on SV2
subscriptionFailed-SP-List

M-EVENT-REPORT Confirmation

cc

Housekeeper purges after x days.

dd

SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

lllll. 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.

mmmmm.The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending", subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC on SV2.

nnnnn.NPAC SMS response to the M-SET.

ooooo.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.

ppppp.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.

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

rrrrr.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.

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

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

uuuuu.NPAC SMS response to the M-SET.

vvvvv.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 SV1.

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

xxxxx.NPAC SMS sends out an M-CREATE on the subscription Version SV32 to all Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV32. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation will be sent. The SV32 created on the Local SMS systems contains the default block routing information and has an LNP Type of "POOL".   The NPAC SMS would put this information on SV32 in the NPAC SMS for a the port since no routing information is sent for this type of port (POOL) over the SOA to NPAC SMS interface.

yyyyy.Local SMSs should respond successfully to the M-CREATE.

zzzzz.NPAC SMS waits for a response from each Local SMS.

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

bbbbbb.No response or an error is received from all Local SMSs.

cccccc.The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "old", on the subscriptionVersionNPAC on SV1.

dddddd.NPAC SMS response to the M-SET.

eeeeee.If the M-ACTION was successful, the NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV1.

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

gggggg.The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "pending", on the subscriptionVersionNPAC on SV3.

hhhhhh.NPAC SMS response to the M-SET.

iiiiii.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "failed" from "sending", for SV2. It will also update the subscriptionFailed-SP-List with the service provider ID and name of all the Local SMSs.

jjjjjj.NPAC SMS responds to the M-SET.

kkkkkk.The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to failed on SV2, along with the subscriptionFailed-SP-List.

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

mmmmmm.The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to failed on SV2, along with the subscriptionFailed-SP-List.

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

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

pppppp.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "old", for SV1.

qqqqqq.NPAC SMS responds to the M-SET.

rrrrrr.The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV1.

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

tttttt.The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV1.

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

←

1.1.1.1

Port to Original for a Pooled Number: Resend Successful

This scenario shows how a port-to-original (resend) port of a pooled number is processed.

| New SOA | Old SOA | NPAC SMS | LOCAL SMS |

NPAC

a

M-SET Request
(subscriptionVersionStatus=sending on SV1

b

M-SET Response

c

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=sending on SV1

d

M-EVENT-REPORT Confirmation

e

M-SET Request
(subscriptionVersionStatus=sending on SV2

f

M-SET Response

g

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=sending on SV2

h

M-EVENT-REPORT Confirmation

i

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=sending on SV2

j

M-EVENT-REPORT Confirmation

k

M-CREATE request
(subscriptionVersion (SV3)

l

M-CREATE response

m

All previously failed Local SMSs
have responded successfully.

n

M-SET Request
(subscriptionVersionStatus=active on SV3

o

M-SET Response

p

(continued on next page)

New SOA	**Old SOA**	**NPAC SMS**	**LOCAL SMS**

M-SET Request
subscriptionVersionStatus=old on SV1

q

subscriptionModifiedTimeStamp
subscriptionDisconnectCompleteTimeStamp

M-SET Response

r

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=old on SV1

s

M-EVENT-REPORT Confirmation

t

M-SET Request

subscriptionVersionStatus=old on SV2

u

subscriptionModifiedTimeStamp

M-SET Response

v

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=old on SV2

w

M-EVENT-REPORT Confirmation

x

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=old on SV2

y

M-EVENT-REPORT Confirmation

z

Housekeeper purges after x days.

aa

SV 1 is the currently active Subscription Version.

SV 2 is the current pending Subscription Version.

vvvvvv.NPAC personnel take action to resend a failed port-to-original for a subscription version.

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

xxxxxx.NPAC SMS response to the M-SET.

yyyyyy.The NPAC SMS sends to the new/current service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to sending on SV1.

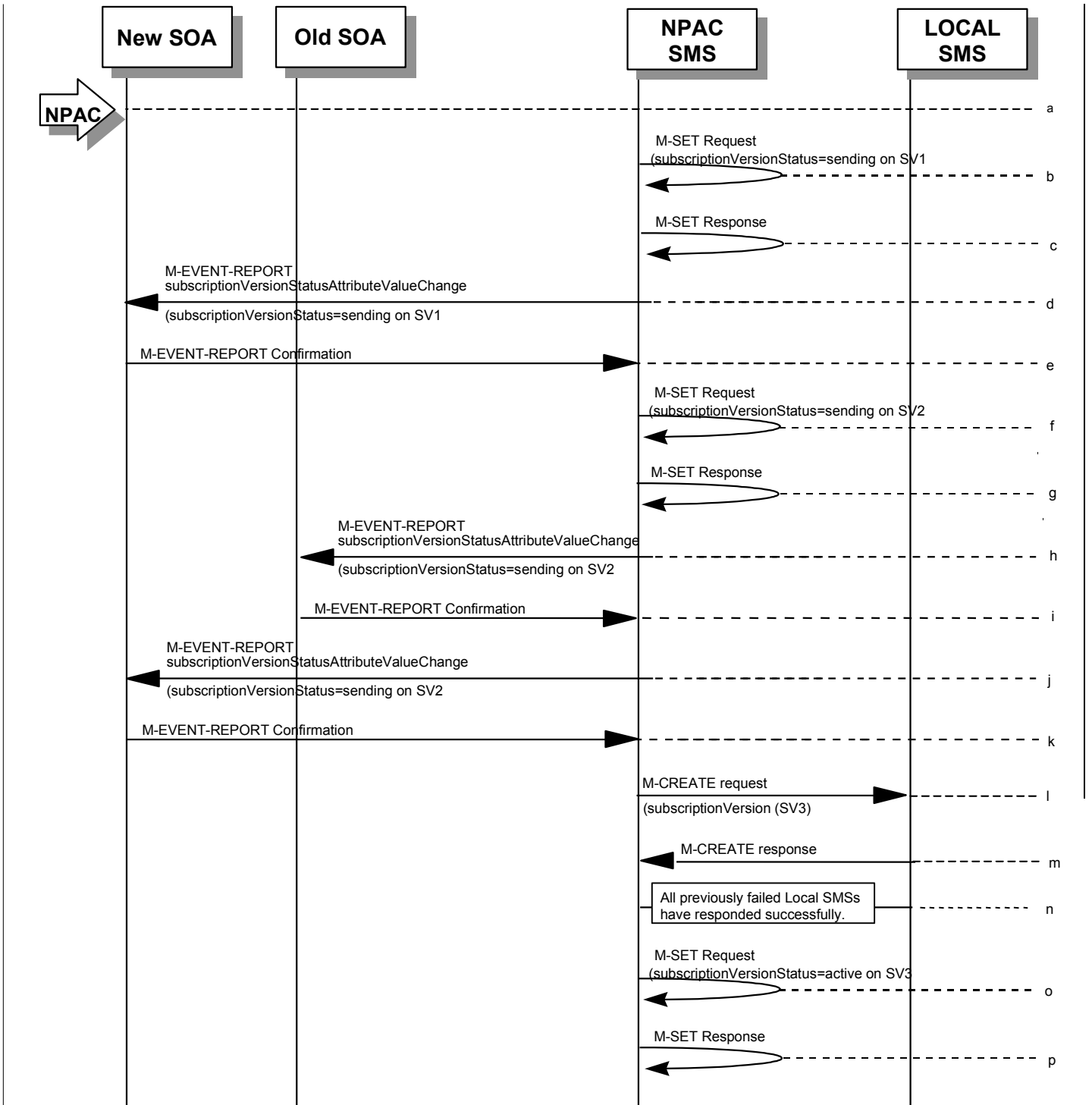zzzzzz.The new/current service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

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

bbbbbbb.NPAC SMS response to the M-SET.

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

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

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

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

ggggggg.NPAC SMS sends out an M-CREATE on the subscription Version SV1 to all Local SMSs that previously failed, that are accepting downloads for the NPA-NXX of the subscription Version SV3. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation may be sent.

hhhhhhh.Each previously failed Local SMS responds with a successful M-CREATE reply.

iiiiiii.All previously failed Local SMSs respond successfully.

jjjjjjj.The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "active", on the subscriptionVersionNPAC on SV3.

kkkkkkk.NPAC SMS response to the M-SET.

lllllll.NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 to old. It also sets the subscriptionModifiedTimeStamp and subscriptionDisconnectCompleteTimeStamp.

mmmmmmm.NPAC SMS responds to the M-SET.

nnnnnnn.The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to old on SV1.

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

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

qqqqqqq.NPAC SMS responds to the M-SET.

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

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

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

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

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

←

1.1.1.2

Port to Original for a Pooled Number: Resend Failure to Local SMS

This scenario shows a failure on a resend of a subscription port to original for a Pooled Number, that failed previously to one or more of the Local SMSs. The resend of a failed port-to-original for a subscription can only be performed by authorized NPAC personnel.

| New SOA | Old SOA | NPAC SMS | LOCAL SMS |

NPAC ─── a

M-SET Request
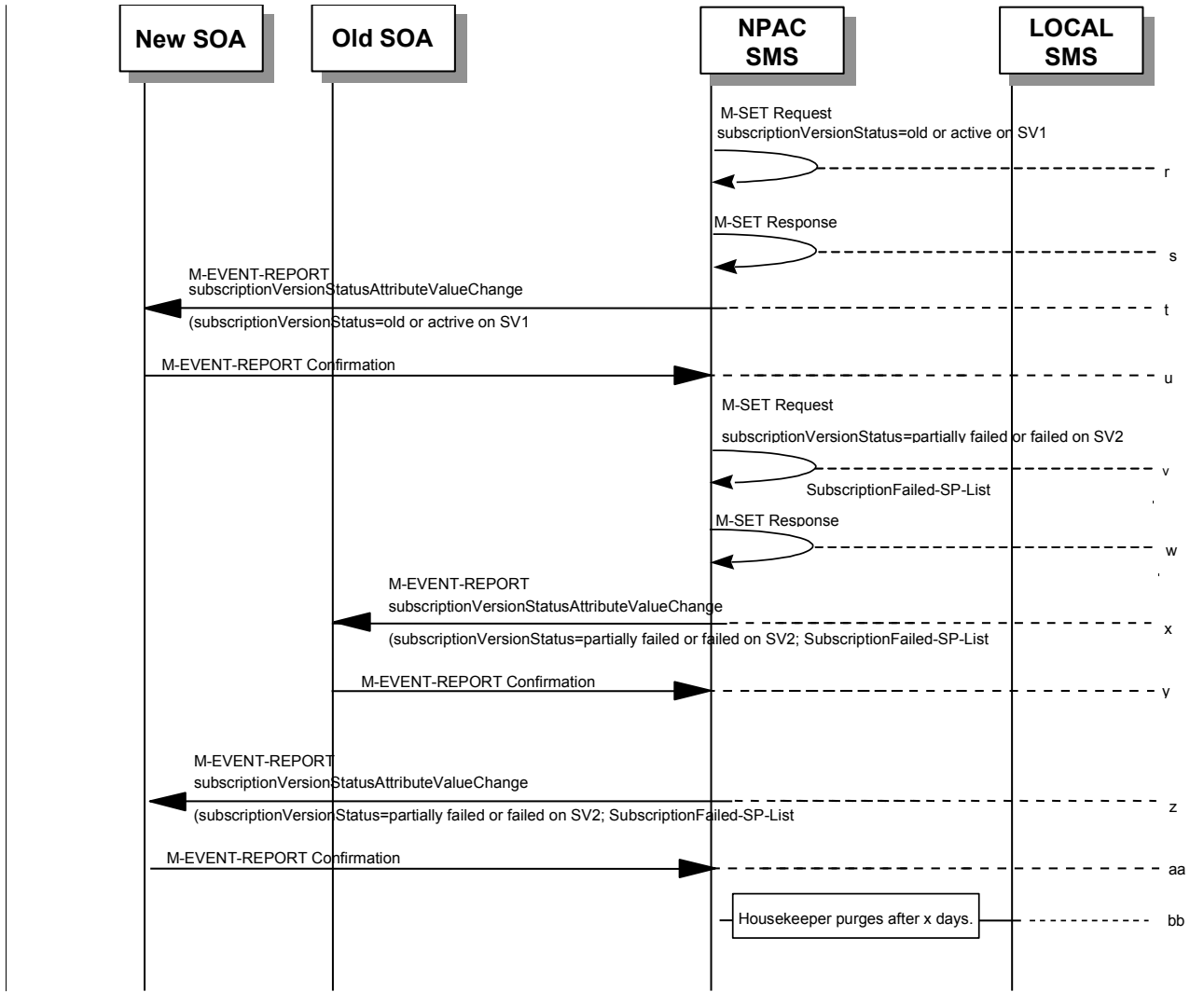(subscriptionVersionStatus=sending on SV1   b

M-SET Response   c

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange   d

(subscriptionVersionStatus=sending on SV1

M-EVENT-REPORT Confirmation   e

M-SET Request
(subscriptionVersionStatus=sending on SV2   f

M-SET Response   g

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange   h

(subscriptionVersionStatus=sending on SV2

M-EVENT-REPORT Confirmation   i

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange   j

(subscriptionVersionStatus=sending on SV2

M-EVENT-REPORT Confirmation   k

M-CREATE request   l

(subscriptionVersion (SV3)

| The NPAC SMS waits for a response from each Local SMS. | m

| The NPAC SMS retries any Local SMS that has not responded | n

| No response or an error is re-ceived from at least one Local SMS. | o

M-SET Request
(subscriptionVersionStatus=pending on SV3   p

M-SET Response   q

(continued on next page)

New SOA

Old SOA

NPAC
SMS

LOCAL
SMS

M-SET Request
subscriptionVersionStatus=old or active or SV1

r

M-SET Response

s

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=old or actrive on SV1

t

M-EVENT-REPORT Confirmation

u

M-SET Request

subscriptionVersionStatus=partially failed or failed on SV2

v

SubscriptionFailed-SP-List

M-SET Response

w

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=partially failed or failed on SV2; SubscriptionFailed-SP-List

x

M-EVENT-REPORT Confirmation

y

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

(subscriptionVersionStatus=partially failed or failed on SV2; SubscriptionFailed-SP-List

z

M-EVENT-REPORT Confirmation

aa

Housekeeper purges after x days.

bb

SV 1 is the currently active Subscription Version.

SV 2 is the current pending Subscription Version.

wwwwwww.NPAC personnel take action to resend a failed port-to-
original for a subscription version.

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

yyyyyyy.NPAC SMS response to the M-SET.

zzzzzzz.The NPAC SMS sends to the new/current service provider
SOA a subscriptionVersionStatusAttributeValueChange for the
subscriptionVersionStatus being set to sending on SV1.

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

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

cccccccc.NPAC SMS response to the M-SET.

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

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

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

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

hhhhhhhh.NPAC SMS sends out an M-CREATE on the subscription Version SV3 to all Local SMSs that previously failed, that are accepting downloads for the NPA-NXX of the subscription Version SV3. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation may be sent.

iiiiiiii.NPAC SMS waits for a response from each Local SMS.

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

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

llllllll.The NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "pending", on the subscriptionVersionNPAC on SV3.

mmmmmmmm.NPAC SMS response to the M-SET.

nnnnnnnn.NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV1 to "old" or "active" (if all Local SMSs accepting download for the NPA-NXX failed) from "sending". It will also update the subscriptionFailed-SP-List with the service provider ID and name of the Local SMSs that failed to successfully receive the broadcast.

oooooooo.NPAC SMS responds to the M-SET.

pppppppp.The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to "old" or "active" on SV1.

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

rrrrrrrr.NPAC SMS issues an M-SET updating the subscriptionVersionStatus of SV2 to partially failed. It also sets the subscriptionFailed-SP-List.

ssssssss.NPAC SMS responds to the M-SET.

tttttttt. The NPAC SMS sends to the old service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to "partially failed" or "failed" on SV2, along with the subscriptionFailed-SP-List.

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

vvvvvvvv. The NPAC SMS sends to the current/new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to "partially failed" or "failed" on SV2, along with the subscriptionFailed-SP-List.

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

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

yyyyyyyy. NOTE: SV1 may exist as an old SV that may be associated with SV2 that is in a "partially failed" state for a port to original port. In this case, the housekeeping process should not purge SV1 unless SV2 is also being purged.

zzzzzzzz. NOTE: SV1 and SV2 should be updated to the NPA-NXX for a NPA Split if SV2 is in a "failed" or "partially failed" state.
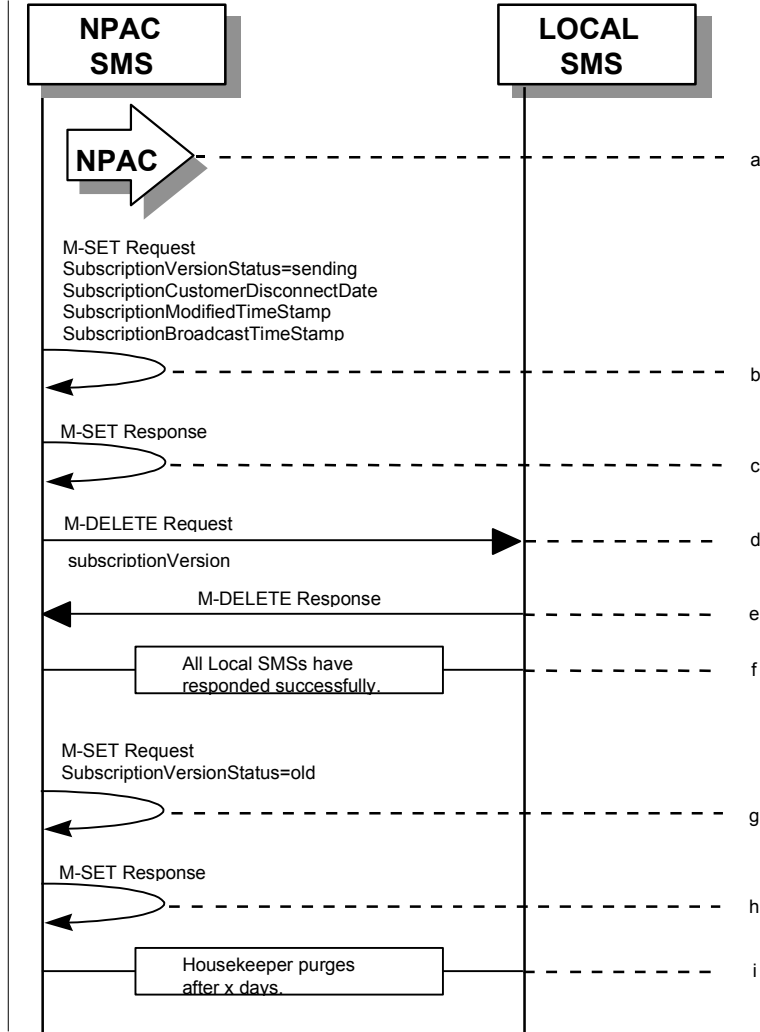
←

←

aaaaaaaaa.Disconnect Scenarios

SubscriptionVersion Disconnect of a Subscription Version with an LNP TYPE of "POOL"

NPAC personnel in case of errors in block porting can remove pooled TN's that have not been ported away from the block holder.

In this scenario, the NPAC personnel disconnect the Pooled TN. The disconnect is always immediate.

bbbbbbbbb.NPAC personnel take action to disconnect a subscription version with an LNP Type of "POOL".

ccccccccc.NPAC SMS issues an M-SET to set the subscriptionCustomerDisconnectDate to the current date. The subscriptionVersionStatus goes to "sending " and the subscriptionModifiedTimeStamp and the subscriptionBroadcastTimeStamp are both set accordingly.

ddddddddd.NPAC SMS responds to whether M-SET was successful.

eeeeeeeee.NPAC SMS sends out an M-DELETE on the subscriptionVersion to all Local SMSs, that are accepting downloads for the NPA-NXX of the subscriptionVersion. If the M-DELETE is for multiple subscription versions, a scoped and filtered operation will be sent.

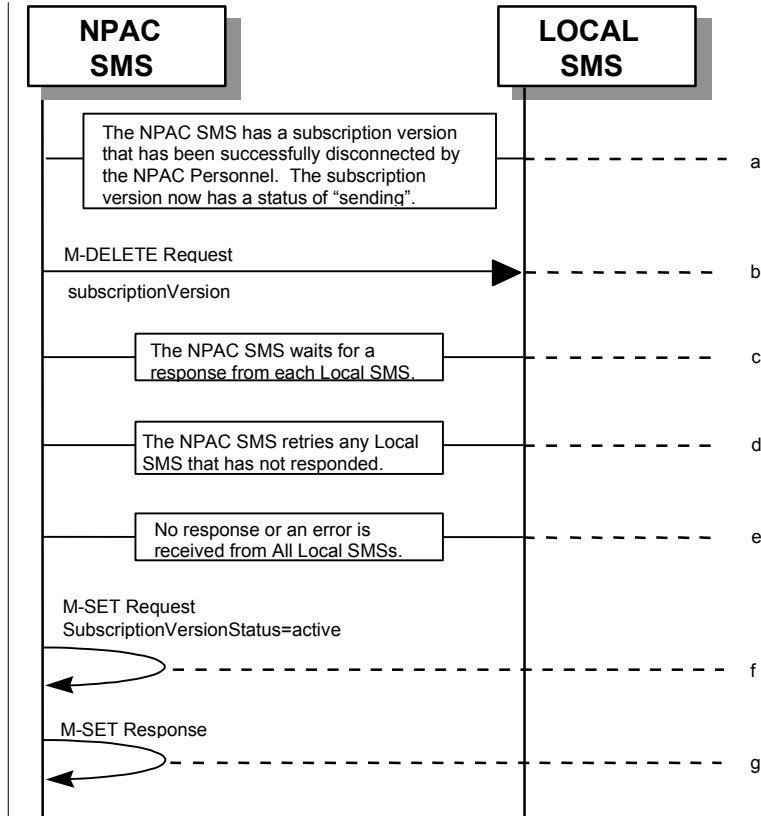ffffffffff.Each Local SMS responds with a successful M-DELETE reply.

gggggggggg.All Local SMSs respond successfully.

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

iiiiiiiii.NPAC SMS responds to M-SET.

jjjjjjjjj.After a tunable amount of days, the subscription version is purged by the NPAC SMS housekeeping process.

SubscriptionVersion Disconnect: Failure to Local SMS for Subscription Version with LNP Type of "POOL"

This scenario shows the broadcast of a disconnected subscription with an LNP Type of "POOL" that fails to all of the Local SMSs.

```
        NPAC                          LOCAL
        SMS                           SMS

        ┌──────────────────────────┐
        │ The NPAC SMS has a       │
        │ subscription version     │
        │ that has been            │                    a
        │ successfully disconnected │ ─ ─ ─ ─ ─ ─ ─
        │ by the NPAC Personnel.   │
        │ The subscription version │
        │ now has a status of      │
        │ "sending".               │
        └──────────────────────────┘

  M-DELETE Request
                              ──────►  ─ ─ ─ ─ ─ ─ ─     b
    subscriptionVersion

        ┌──────────────────────────┐
        │ The NPAC SMS waits for a │ ─ ─ ─ ─ ─ ─ ─     c
        │ response from each Local │
        │ SMS.                     │
        └──────────────────────────┘

        ┌──────────────────────────┐
        │ The NPAC SMS retries any │ ─ ─ ─ ─ ─ ─ ─     d
        │ Local SMS that has not   │
        │ responded.               │
        └──────────────────────────┘

        ┌──────────────────────────┐
        │ No response or an error  │ ─ ─ ─ ─ ─ ─ ─     e
        │ is received from All     │
        │ Local SMSs.              │
        └──────────────────────────┘

  M-SET Request
  SubscriptionVersionStatus=active
              ◄────── ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─     f

  M-SET Response
              ◄────── ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─     g
```

kkkkkkkkk.The NPAC SMS has an active subscription version with an LNP Type of "POOL" that has been successfully disconnected by the NPAC Personnel. The subscription version now has a status of "sending".

lllllllll.NPAC SMS issues the M-DELETE to all Local SMSs for the subscriptionVersion, that are accepting downloads for the NPA-NXX of the subscriptionVersion.

mmmmmmmmm.NPAC SMS waits for a response from each Local SMS.

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

ooooooooo.No response or an error is received from all Local SMSs.

ppppppppp.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "active" from "sending". It will also update the subscriptionFailed-SP-List with the service provider ID and name of all the Local SMSs.

qqqqqqqqq.NPAC SMS responds to the M-SET.

rrrrrrrrr.

sssssssss.SubscriptionVersion Disconnect: Partial Failure to Local SMS for a Subscription Version with LNP Type of "POOL"

This scenario shows the broadcast of a disconnected subscription with LNP Type of "POOL" that fails to one or more, but not all, of the Local SMSs.
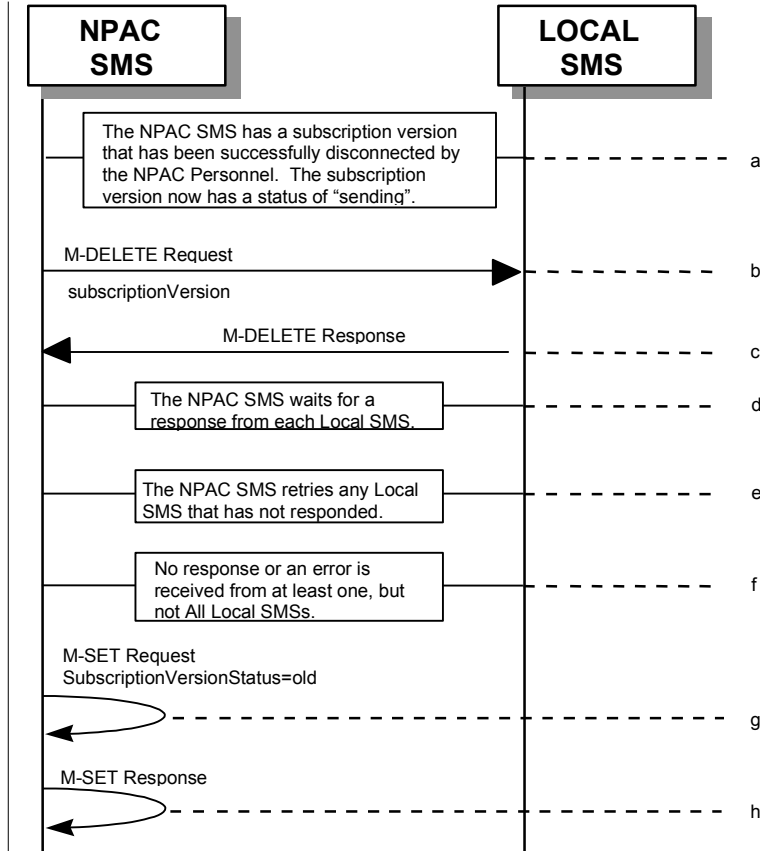
ttttttttt.The NPAC SMS has an active subscription version that has been successfully disconnected by the current service provider using the subscriptionVersionDisconnect action. The subscription version now has a status of "sending".

uuuuuuuuu.NPAC SMS issues the M-DELETE to all Local SMSs for the subscriptionVersion, that are accepting downloads for the NPA-NXX of the subscriptionVersion.

vvvvvvvvv.Local SMSs should respond successfully to the M-DELETE.

wwwwwwwww.NPAC SMS waits for a response from each Local SMS.

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

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

zzzzzzzzz.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "old" from "sending". It will also update the subscriptionFailed-SP-List with the service provider ID and name of the Local SMSs that failed to successfully receive the broadcast.

aaaaaaaaaa.NPAC SMS responds to the M-SET.

Subscription Version Disconnect: Resend Successful to Local SMS for a Subscription Version with LNP Type of "POOL"

> This scenario shows a successful resend of a disconnect for a subscription with an LNP Type of "POOL" that fails to one or more of the Local SMSs. The resend of a failed disconnect can only be performed by authorized NPAC personnel.
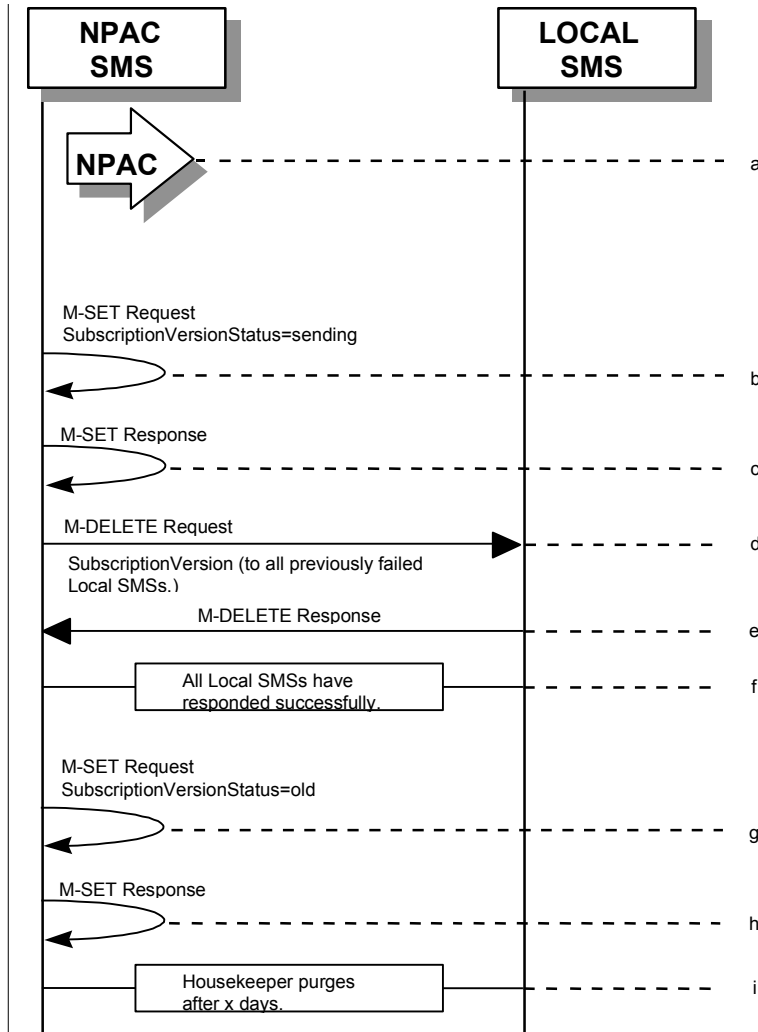
bbbbbbbbbb.NPAC personnel take action to resend a failed disconnect for a subscription version with LNP Type of "POOL".

cccccccccc.NPAC SMS issues an M-SET to the existing subscriptionVersionNPAC object to set the status to "sending".

dddddddddd.NPAC SMS responds to whether M-SET was successful.

eeeeeeeeee.NPAC SMS sends out an M-DELETE on the subscriptionVersion to all previously failed Local SMSs, that are accepting downloads for the NPA-NXX of the subscriptionVersion.

ffffffffff.Each Local SMS responds with a successful M-DELETE reply.

gggggggggg.All Local SMSs respond successfully.

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

iiiiiiiiii.NPAC SMS responds to M-SET.

jjjjjjjjjj.After a tunable amount of days, the subscription version is purged by the NPAC SMS housekeeping process.

Subscription Version Disconnect: Resend Failure to Local SMS for a Subscription Version with LNP Type of "POOL"

This scenario shows a failure on a resend of a subscription version disconnect that failed previously to one or more of the Local SMSs. The resend of a failed disconnect for a subscription with LNP Type of "POOL" can only be performed by authorized NPAC personnel.
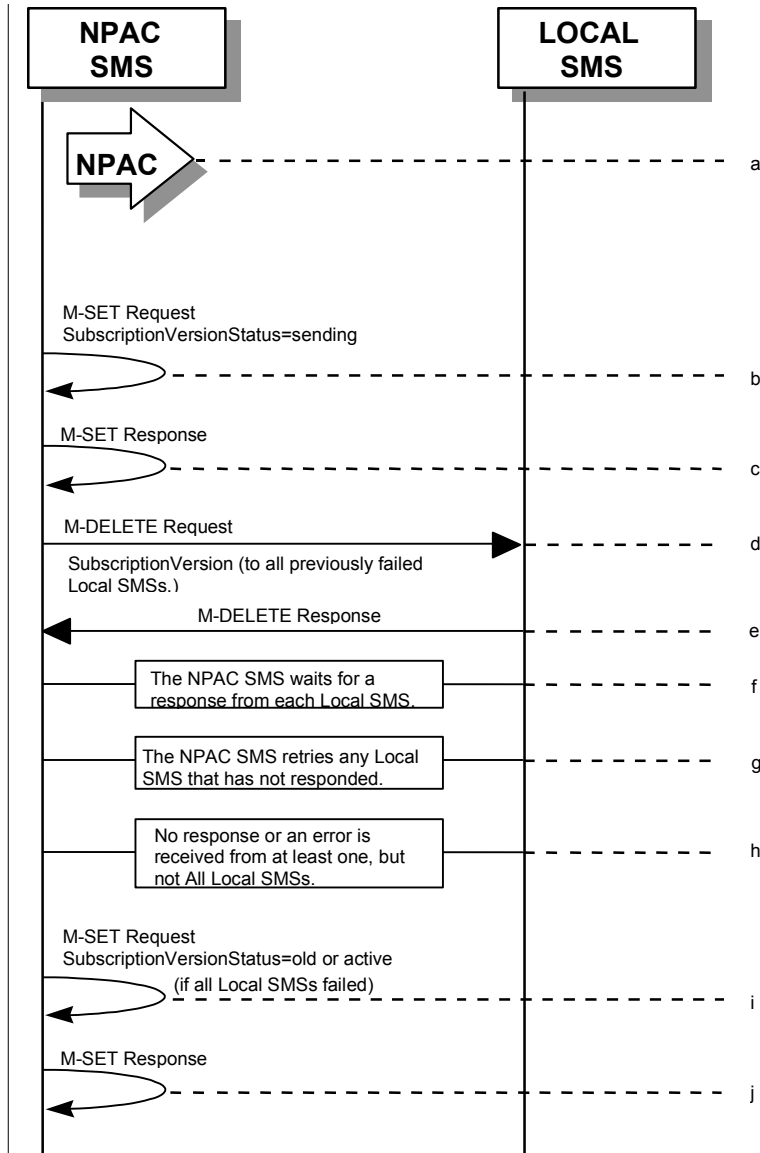
kkkkkkkkkk.NPAC personnel take action to resend a failed disconnect for a subscription version with LNP Type of "POOL".

llllllllll.NPAC SMS issues an M-SET to the existing subscriptionVersionNPAC object to set the status to "sending".

mmmmmmmmmm.NPAC SMS responds to whether M-SET was successful.

nnnnnnnnnn.NPAC SMS issues the M-DELETE to all Local SMSs for which the disconnect previously failed for the subscriptionVersion, and are accepting downloads for the NPA-NXX of the subscriptionVersion.

ooooooooo.Local SMSs should respond successfully to the M-DELETE.

ppppppppp.NPAC SMS waits for a response from each Local SMS.

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

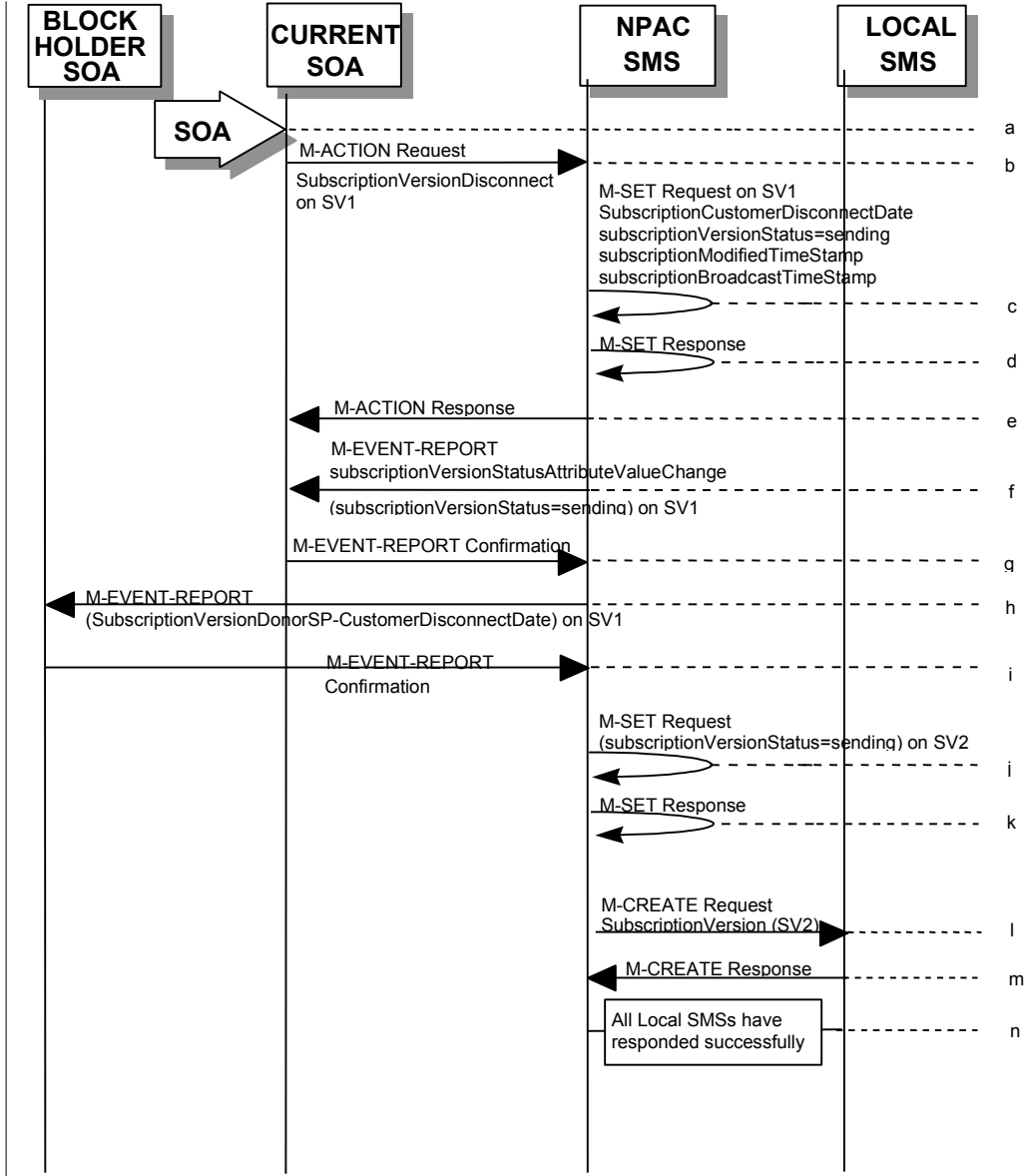rrrrrrrrr.No response or an error is received from at least one or all Local SMSs.

sssssssss.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "old" or "active" (if all Local SMSs failed) from "sending". It will also update the subscriptionFailed-SP-List with the service provider ID and name of the Local SMSs that failed to successfully receive the broadcast.

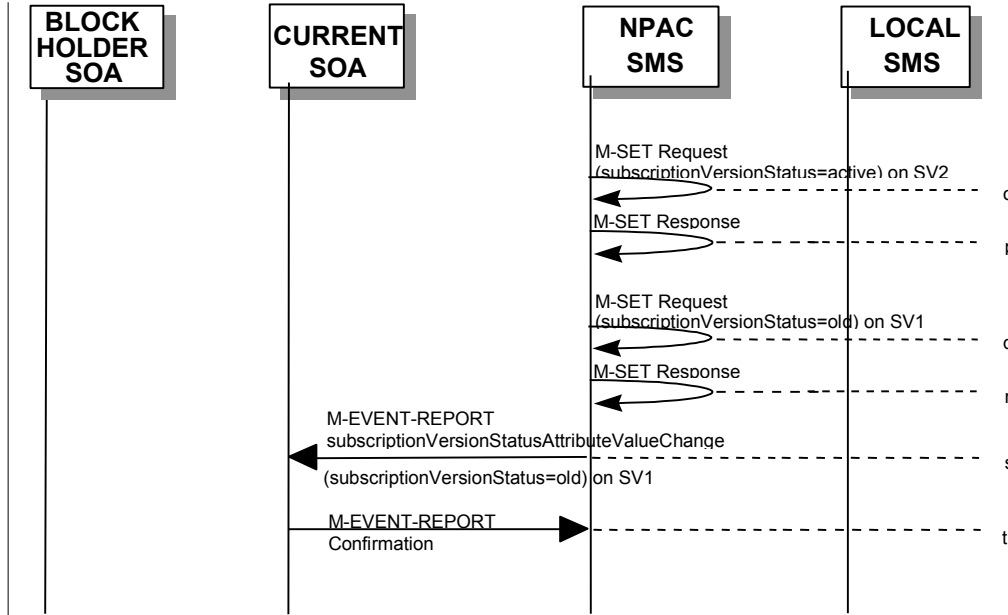ttttttttt.NPAC SMS responds to the M-SET.

uuuuuuuuuu.Disconnect Scenarios (with return to Block Holder)

SubscriptionVersion Immediate Disconnect (with return to Block Holder)

The current service provider can disconnect an active subscription version that will return to the block holder. In this scenario, the disconnect is immediate where the TN returns to the block holder.

```
BLOCK           CURRENT          NPAC            LOCAL
HOLDER            SOA             SMS              SMS
 SOA
```

SOA

- a
- M-ACTION Request   b
  SubscriptionVersionDisconnect   M-SET Request on SV1
  on SV1   SubscriptionCustomerDisconnectDate
                                         subscriptionVersionStatus=sending
                                         subscriptionModifiedTimeStamp
                                         subscriptionBroadcastTimeStamp
                                                                       c
  M-SET Response   d

  M-ACTION Response   e
  M-EVENT-REPORT
  subscriptionVersionStatusAttributeValueChange
  (subscriptionVersionStatus=sending) on SV1   f
  M-EVENT-REPORT Confirmation   g
M-EVENT-REPORT
(SubscriptionVersionDonorSP-CustomerDisconnectDate) on SV1   h
         M-EVENT-REPORT   i
         Confirmation
                                         M-SET Request
                                         (subscriptionVersionStatus=sending) on SV2
                                                                       j
                                         M-SET Response   k

                                         M-CREATE Request
                                         SubscriptionVersion (SV2)   l
                                         M-CREATE Response   m
                                         All Local SMSs have   n
                                         responded successfully

(continued on next page)

BLOCK HOLDER SOA   CURRENT SOA   NPAC SMS   LOCAL SMS

M-SET Request
(subscriptionVersionStatus=active) on SV2   o

M-SET Response   p

M-SET Request
(subscriptionVersionStatus=old) on SV1   q

M-SET Response   r

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange
(subscriptionVersionStatus=old) on SV1   s

M-EVENT-REPORT
Confirmation   t

SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

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

wwwwwwwwww.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.

xxxxxxxxxx.NPAC SMS issues an M-SET to set the subscriptionCustomerDisconnectDate according to the disconnect action. The subscriptionVersionStatus goes to "sending " and the subscriptionModifiedTimeStamp and the subscriptionBroadcastTimeStamp are both set accordingly.

yyyyyyyyyy.NPAC SMS responds to whether M-SET was successful.

zzzzzzzzzz.NPAC SMS responds to the M-ACTION. If the action failed, an error will be returned and processing will stop on this flow.

aaaaaaaaaaa.NPAC SMS notifies service provider SOA of status change to "sending."

bbbbbbbbbbb.Service provider SOA confirms event report.

ccccccccccc.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.

ddddddddddd.The Donor service provider SOA confirms the M-EVENT-REPORT.

eeeeeeeeeee.NPAC SMS issues an M-EVENT-REPORT to current service provider SOA of subscriptionVersionNPAC creation, of SV2, with status of "sending".

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

ggggggggggg.NPAC SMS issues an M-EVENT-REPORT to Donor service provider SOA of subscriptionVersionNPAC creation, of SV2, with status of "sending".

hhhhhhhhhh.The Donor service provider SOA confirms the M-EVENT-REPORT.

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

jjjjjjjjjjj.NPAC SMS responds to M-SET.

kkkkkkkkkkk.NPAC SMS sends out an M-CREATE of a subscriptionVersion to all Local SMSs, that are accepting downloads for the NPA-NXX of the subscriptionVersion. If the M-CREATE is for multiple subscription versions, a scoped and filtered operation 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".

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

mmmmmmmmmmm.All Local SMSs respond successfully.

nnnnnnnnnn.NPAC SMS issues M-SET updating the subscriptionVersionStatus to active for subscriptionVersionNPAC objects for SV2. It also sets the subscriptionModifiedTimeStamp and subscriptionDisconnectCompleteTimeStamp.

oooooooooo.NPAC SMS responds to M-SET.

pppppppppp.NPAC SMS issues an M-EVENT-REPORT to current service provider SOA of subscriptionVersionStatusAttributeValueChange being set to active on SV2.

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

rrrrrrrrrr.NPAC SMS issues an M-EVENT-REPORT to Donor service provider SOA of subscriptionVersionStatusAttributeValueChange being set to active on SV2.

ssssssssss.The Donor service provider SOA confirms the M-EVENT-REPORT.

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

uuuuuuuuuu.NPAC SMS responds to M-SET.

vvvvvvvvvv.NPAC SMS issues an M-EVENT-REPORT to current service provider SOA of subscriptionVersionStatusAttributeValueChange being set to old on SV1.
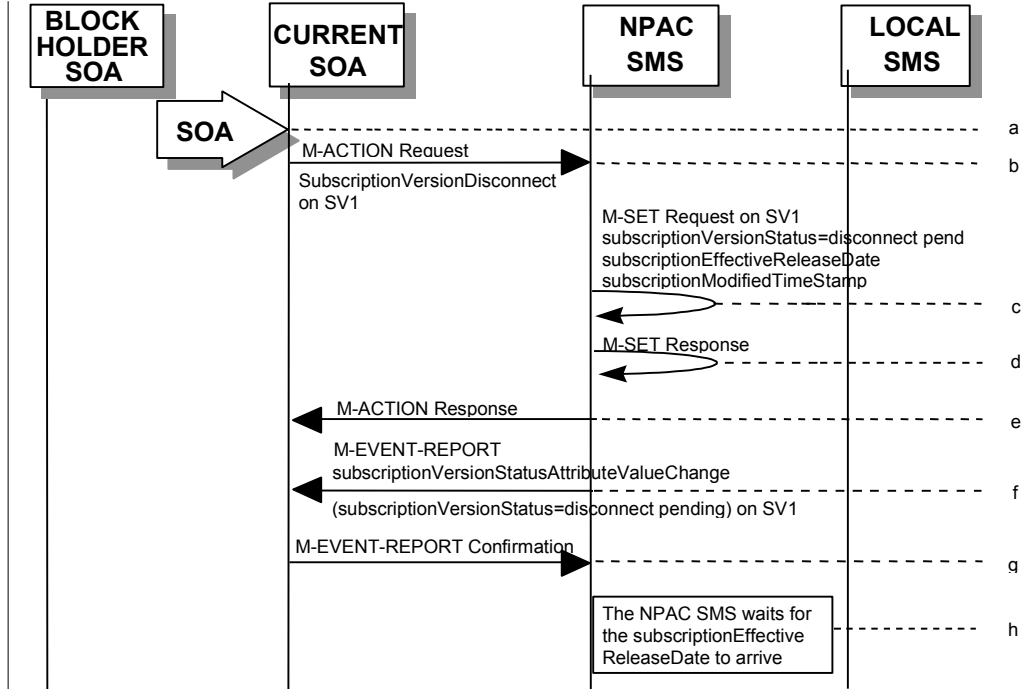
wwwwwwwwww.The current service provider SOA confirms the M-EVENT-REPORT.

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

yyyyyyyyyy.The Donor service provider SOA confirms the M-EVENT-REPORT.

SubscriptionVersion Disconnect With Effective Release Date (with return to Block Holder)

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

SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

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

aaaaaaaaaaaa.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, cancel or cancel-pending versions can exist.

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

cccccccccccc.NPAC SMS responds to M-SET.

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

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

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

gggggggggggg.The NPAC SMS waits for the subscriptionEffectiveReleaseDate date to arrive.

←At this point, the flow follows an immediate disconnect scenario. First the donor service provider's Local SMS is notified of the impending disconnect. The NPAC SMS sets the subscriptionVersionStatus to sending the broadcast timestamp, notifies the service provider SOA of the status change, and proceeds to issue M-CREATE for the subscriptionVersion with LNP TYPE of POOL to the Local SMS.

SubscriptionVersion Disconnect: Failure to Local SMS (with return to Block Holder)

This scenario shows the broadcast of a disconnected subscription that fails to all of the Local SMSs.
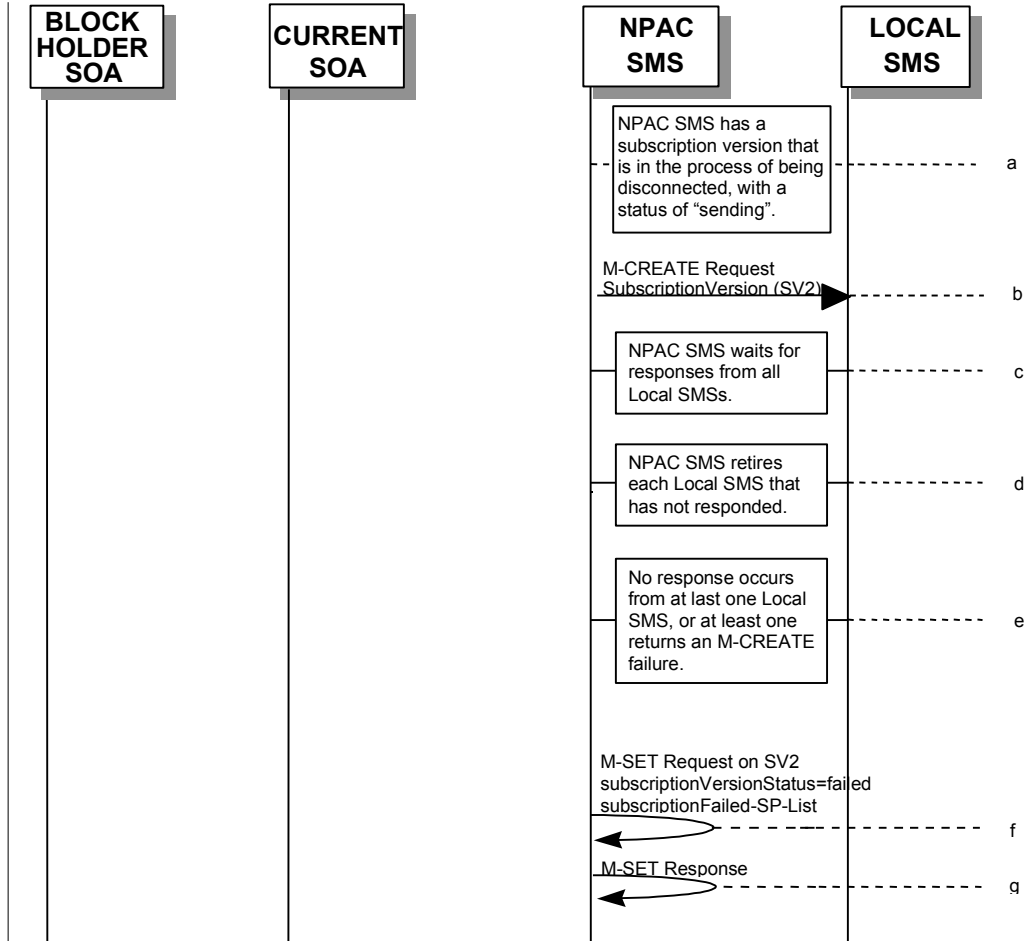
(continued on next page)
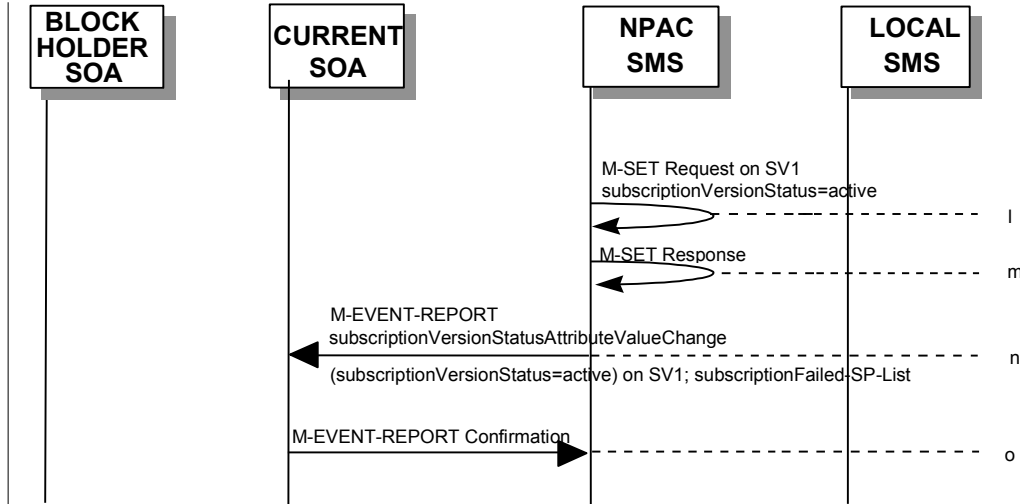
SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

hhhhhhhhhhhh.The NPAC SMS has an active subscription version that has been successfully disconnected by the current service provider using the subscriptionVersionDisconnect action. The subscription version now has a status of "sending".

iiiiiiiiiiii.NPAC SMS issues the M-CREATE to all Local SMSs for the subscriptionVersion, that are accepting downloads for the NPA-NXX of the subscriptionVersion.

jjjjjjjjjjjjj.NPAC SMS waits for a response from each Local SMS.

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

llllllllllll.No response or an error is received from all Local SMSs.

mmmmmmmmmmmm.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "failed" from "sending", for SV2. It will also update the subscriptionFailed-SP-List with the service provider ID and name of all the Local SMSs.

nnnnnnnnnnnn.NPAC SMS responds to the M-SET.

ooooooooooo.~~NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA with the current status and failedSP-List, for SV2.~~

ppppppppppppp.~~Current service provider SOA issues the M-EVENT-REPORT confirmation.~~

qqqqqqqqqqqq.~~NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the Donor service provider SOA with the current status and failedSP-List, for SV2.~~

rrrrrrrrrrr.~~Donor service provider SOA issues the M-EVENT-REPORT confirmation.~~

ssssssssssss.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "active" from "sending", for SV1.

tttttttttttt.NPAC SMS responds to the M-SET.

uuuuuuuuuuuu.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA with the current status, for SV1, along with the subscriptionFailed-SP-List.
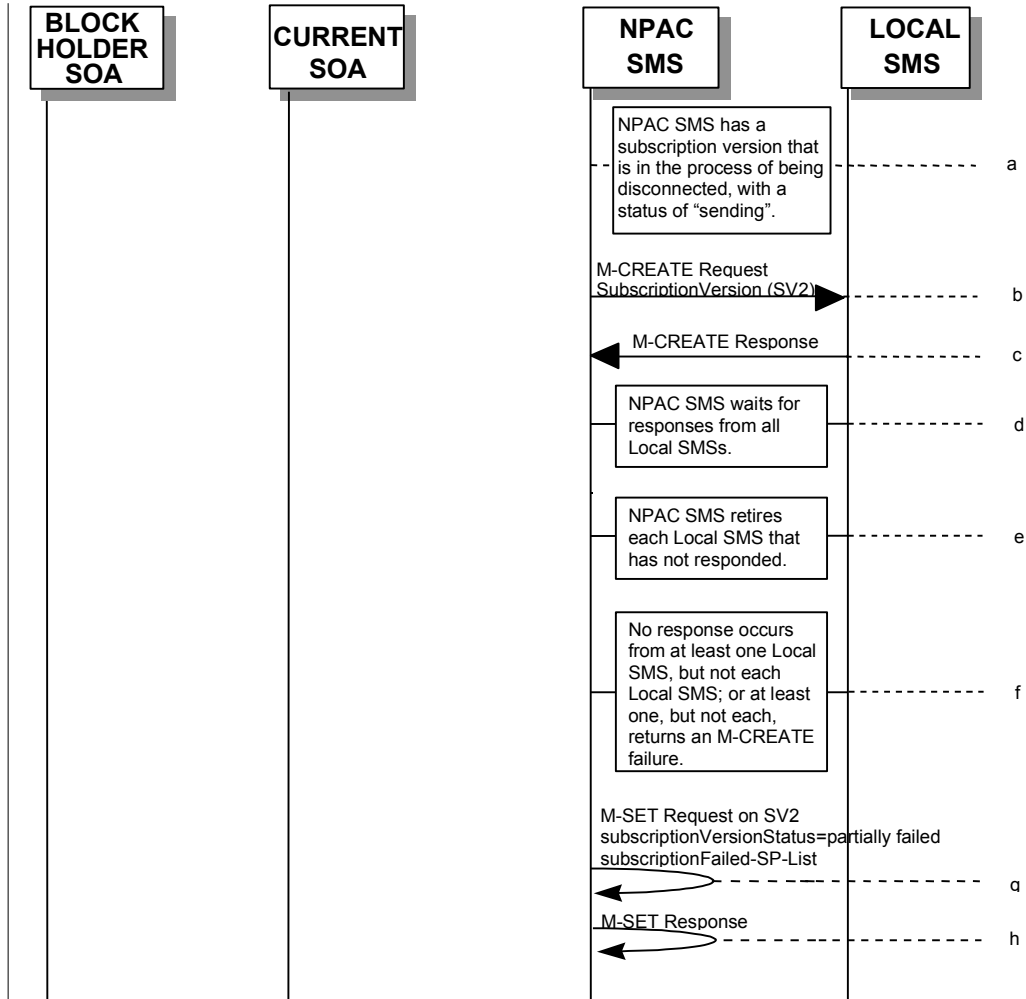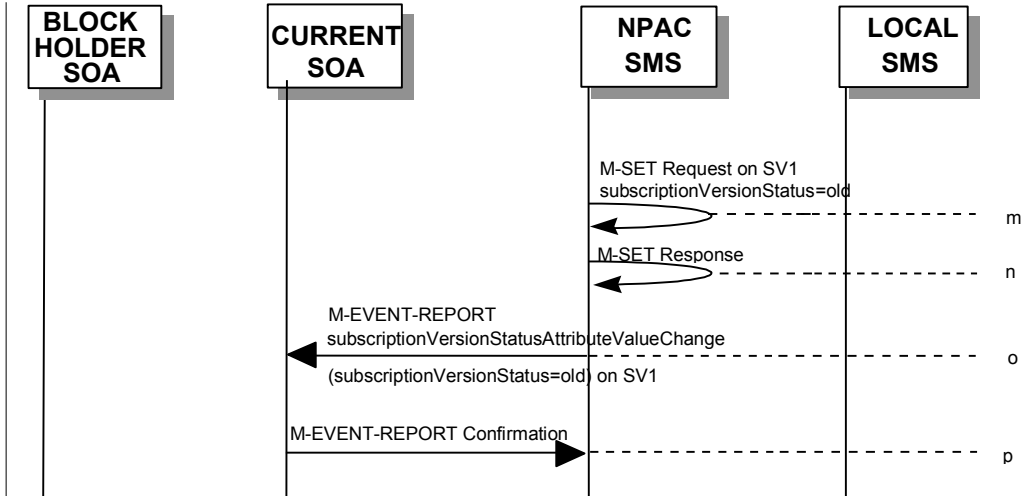
vvvvvvvvvvvv.Current service provider SOA issues the M-EVENT-REPORT confirmation.

wwwwwwwwwwww.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the Donor service provider SOA with the current status, for SV1.

xxxxxxxxxxxx.Donor service provider SOA issues the M-EVENT-REPORT confirmation.

SubscriptionVersion Disconnect: Partial Failure to Local SMS (with return to Block Holder)

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

BLOCK HOLDER SOA	CURRENT SOA	NPAC SMS	LOCAL SMS	
		NPAC SMS has a subscription version that is in the process of being disconnected, with a status of "sending".		a
		M-CREATE Request SubscriptionVersion (SV2) →		b
		← M-CREATE Response		c
		NPAC SMS waits for responses from all Local SMSs.		d
		NPAC SMS retires each Local SMS that has not responded.		e
		No response occurs from at least one Local SMS, but not each Local SMS; or at least one, but not each, returns an M-CREATE failure.		f
		M-SET Request on SV2 subscriptionVersionStatus=partially failed subscriptionFailed-SP-List		g
		M-SET Response		h

(continued on next page)

SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

yyyyyyyyyyyy.The NPAC SMS has an active subscription version that has been successfully disconnected by the current service provider using the subscriptionVersionDisconnect action. The subscription version now has a status of "sending".

zzzzzzzzzzzzz.NPAC SMS issues the M-CREATE to all Local SMSs for the subscriptionVersion, that are accepting downloads for the NPA-NXX of the subscriptionVersion.

aaaaaaaaaaaaa.Local SMSs should respond successfully to the M-CREATE.

bbbbbbbbbbbbb.NPAC SMS waits for a response from each Local SMS.

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

ddddddddddddd.No response or an error is received from at least one, but not each, Local SMS.

eeeeeeeeeeeee.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "partially failed" from "sending", for SV2. It will also update the subscriptionFailed-SP-List with the service provider ID and name of the Local SMSs that failed to successfully receive the broadcast.

fffffffffffff.NPAC SMS responds to the M-SET.

ggggggggggggg.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA with the current status and subscriptionFailed-SP-List, for SV2.

hhhhhhhhhhhhh.Current service provider SOA issues the M-EVENT-REPORT confirmation.

iiiiiiiiiiiii.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the Donor service provider SOA with the current status and subscriptionFailed-SP-List, for SV2.

jjjjjjjjjjjjj.Donor service provider SOA issues the M-EVENT-REPORT confirmation.

kkkkkkkkkkkkk.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "old" from "sending", for SV1.

lllllllllllll.NPAC SMS responds to the M-SET.

mmmmmmmmmmmmmm.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA with the current status, for SV1.

nnnnnnnnnnnn.Current service provider SOA issues the M-EVENT-REPORT confirmation.

oooooooooooooo.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the Donor service provider SOA with the current status, for SV1.

pppppppppppppp.Donor service provider SOA issues the M-EVENT-REPORT confirmation.

qqqqqqqqqqqqq.

rrrrrrrrrrrr.Subscription Version Disconnect: Resend Successful to Local SMS (with return to Block Holder)

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.

(continued on next page)

BLOCK HOLDER SOA   CURRENT SOA   NPAC SMS   LOCAL SMS

M-SET Request on SV1
subscriptionVersionStatus=old
subscriptionModifiedTimeStamp
subscriptionDisconnectCompleteTimeStamp

m

M-SET Response

n

M-EVENT-REPORT
subscriptionVersionStatusAttributeValueChange

o

(subscriptionVersionStatus=old) on SV1

M-EVENT-REPORT
Confirmation

p
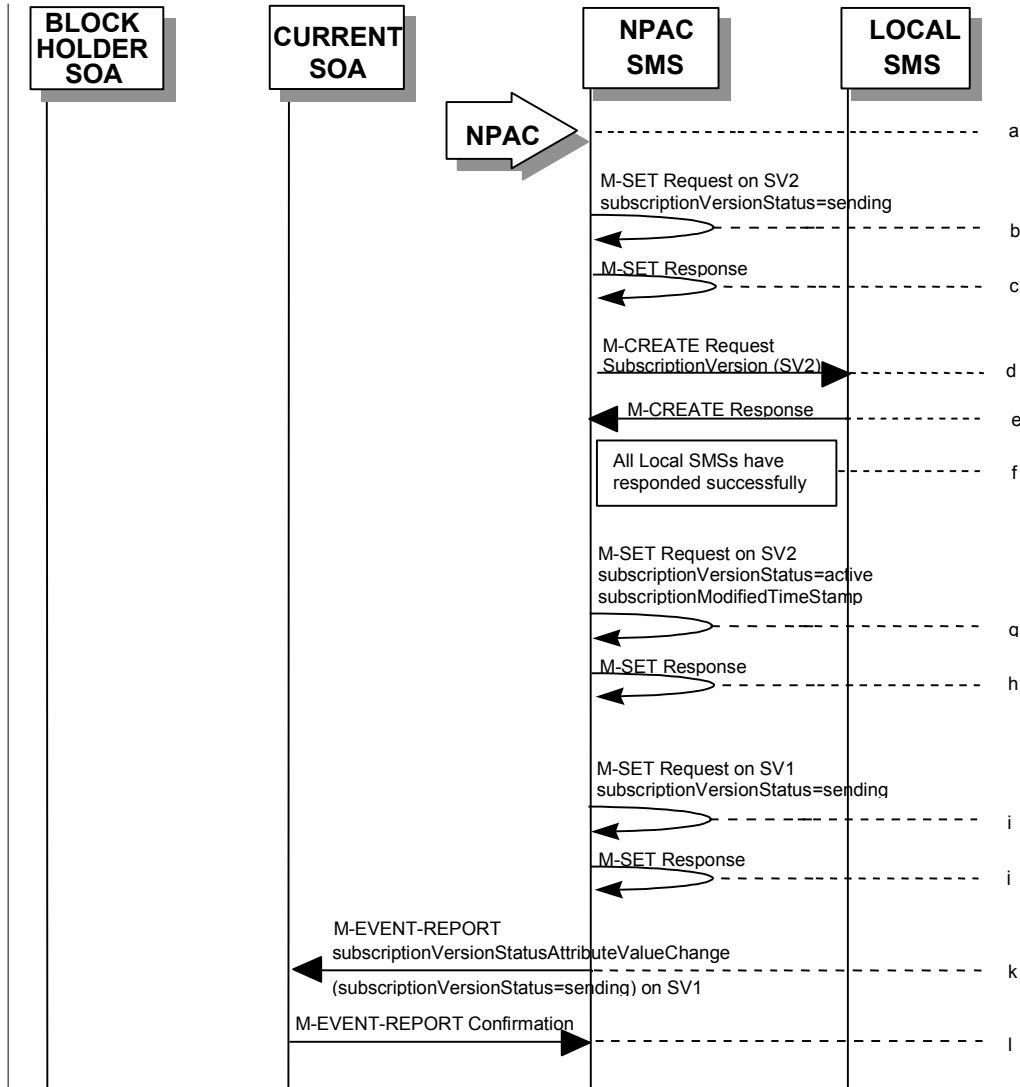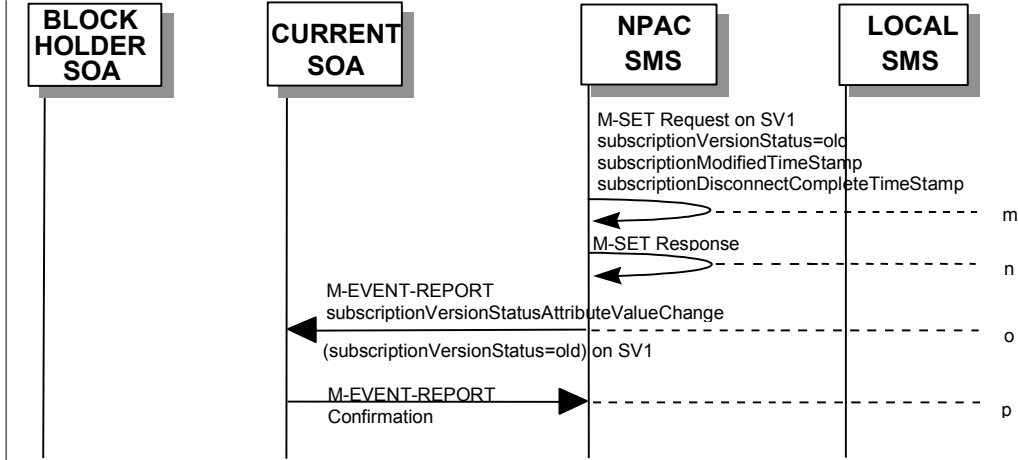
SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

sssssssssssss.NPAC personnel take action to resend a failed disconnect for a subscription version.

tttttttttttttt.NPAC SMS issues an M-SET to the existing subscriptionVersionNPAC object to set the status to "sending", for SV2.

uuuuuuuuuuuuu.NPAC SMS responds to whether M-SET was successful.

vvvvvvvvvvvvv.NPAC SMS notifies current service provider SOA of status change to "sending", for SV2.

wwwwwwwwwwwww.Current service provider SOA confirms event report.

xxxxxxxxxxxxxx.NPAC SMS notifies Donor service provider SOA of status change to "sending", for SV2.

yyyyyyyyyyyyyy.Donor service provider SOA confirms event report.

zzzzzzzzzzzzzz.NPAC SMS sends out an M-CREATE on the subscriptionVersion to all previously failed Local SMSs, that are accepting downloads for the NPA-NXX of the subscriptionVersion.

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

bbbbbbbbbbbbbbb.All Local SMSs respond successfully.

ccccccccccccccc.NPAC SMS issues M-SET updating the subscriptionVersionStatus to active for subscriptionVersionNPAC objects, for SV2. It also sets the subscriptionModifiedTimeStamp.

ddddddddddddddd.NPAC SMS responds to M-SET.

eeeeeeeeeeeeeee.NPAC SMS issues an M-EVENT-REPORT to the current service provider SOA of status change to "active", for SV2.

fffffffffffffff.Current service provider SOA responds to M-EVENT-REPORT.

ggggggggggggggg.NPAC SMS issues an M-EVENT-REPORT to the Donor service provider SOA of status change to "active", for SV2.

hhhhhhhhhhhhhhh.Donor service provider SOA responds to M-EVENT-REPORT.

iiiiiiiiiiiiiiii.NPAC SMS issues an M-SET to the existing subscriptionVersionNPAC object to set the status to "sending", for SV1.

jjjjjjjjjjjjjjj.NPAC SMS responds to whether M-SET was successful.

kkkkkkkkkkkkkk.NPAC SMS issues an M-EVENT-REPORT to the current service provider SOA of status change to "sending", for SV1.

llllllllllllll.Current service provider SOA responds to M-EVENT-REPORT.

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

nnnnnnnnnnnnnn.NPAC SMS responds to M-SET.

oooooooooooooo.NPAC SMS issues an M-EVENT-REPORT to the current service provider SOA of status change to "old", for SV1.

pppppppppppppp.Current service provider SOA responds to M-EVENT-REPORT.

qqqqqqqqqqqqqq.NPAC SMS issues an M-EVENT-REPORT to the Donor service provider SOA of status change to "old", for SV1.

rrrrrrrrrrrrrr.Donor service provider SOA responds to M-EVENT-REPORT.

ssssssssssssss.

ttttttttttttttt.Subscription Version Disconnect: Resend Failure to Local SMS (with return to Block Holder)

This scenario shows a failure on a resend of a subscription disconnect that failed previously to one or more of the Local SMSs. The resend of a failed disconnect for a subscription can only be performed by authorized NPAC personnel.
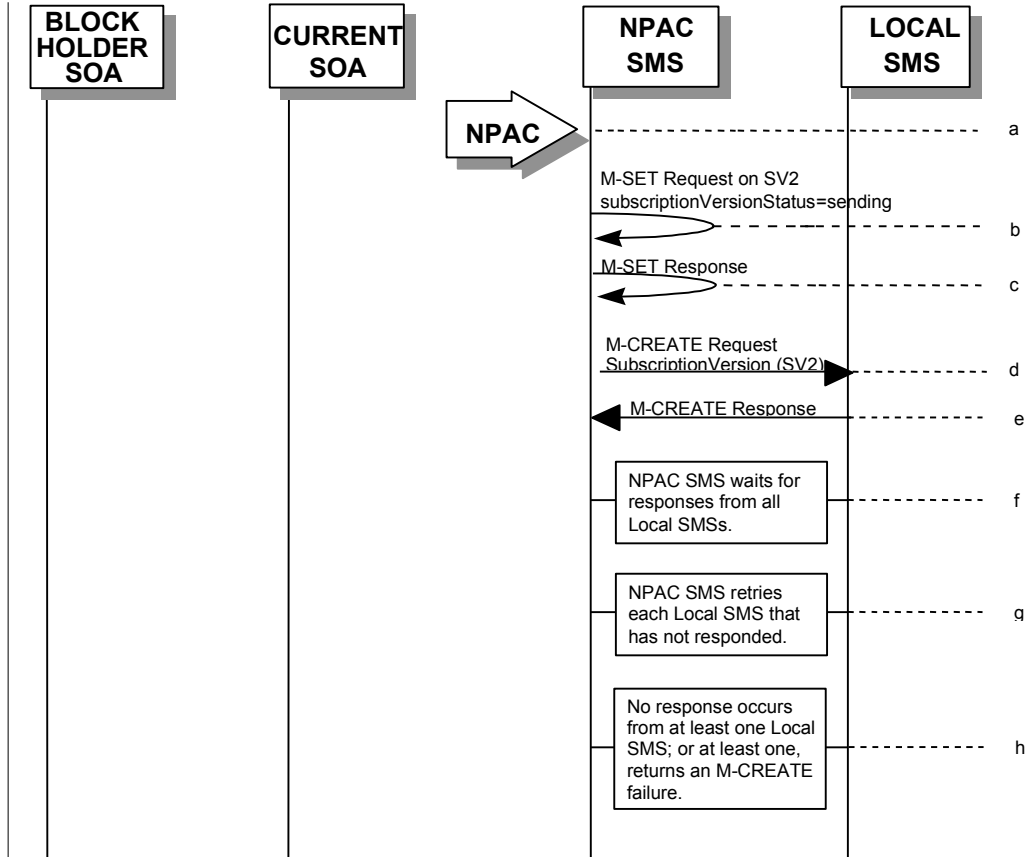
(continued on next page)
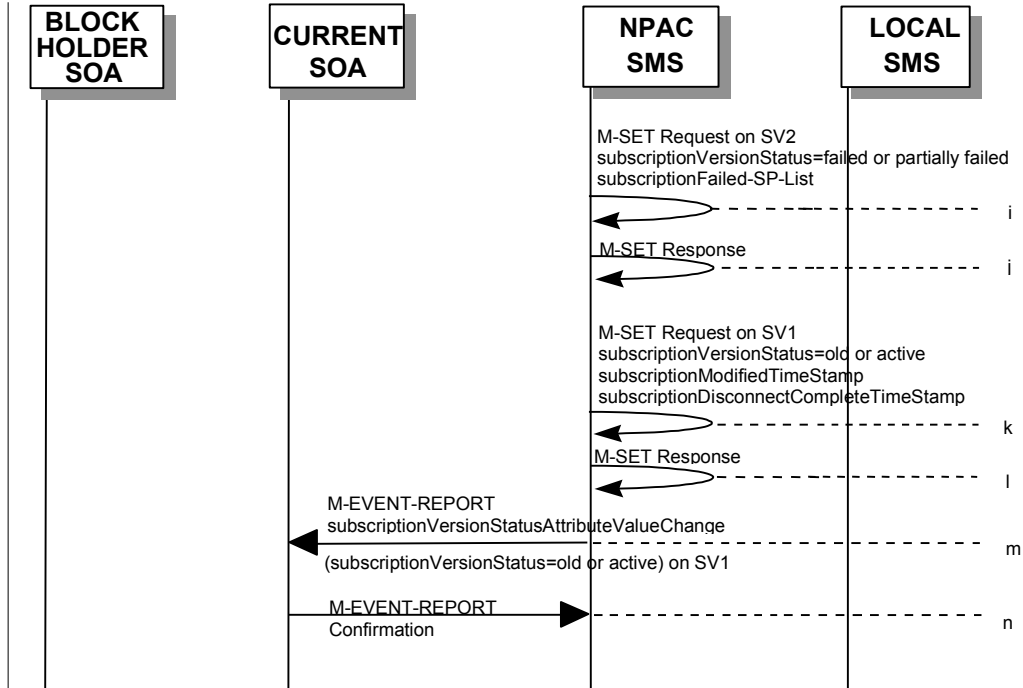
SV1 is the currently active Subscription Version.

SV2 is the current pending Subscription Version.

uuuuuuuuuuuuuuu.NPAC personnel take action to resend a failed disconnect for a subscription version.

vvvvvvvvvvvvvvv.NPAC SMS issues an M-SET to the existing subscriptionVersionNPAC object to set the status to "sending", for SV2.

wwwwwwwwwwwwwww.NPAC SMS responds to whether M-SET was successful.

xxxxxxxxxxxxxxx.~~NPAC SMS notifies current service provider SOA of status change to "sending", for SV2.~~

yyyyyyyyyyyyyy.~~Current service provider SOA confirms event report.~~

zzzzzzzzzzzzzzz.~~NPAC SMS notifies Donor service provider SOA of status change to "sending", for SV2.~~

aaaaaaaaaaaaaaa.~~Donor service provider SOA confirms event report.~~

bbbbbbbbbbbbbbb.NPAC SMS issues the M-CREATE to all Local SMSs for which the disconnect previously failed for the subscriptionVersion, and are accepting downloads for the NPA-NXX of the subscriptionVersion.

ccccccccccccccc.Local SMSs should respond successfully to the M-CREATE.

ddddddddddddddd.NPAC SMS waits for a response from each Local SMS.

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

fffffffffffffff.No response or an error is received from at least one or all Local SMSs.

ggggggggggggggg.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "failed" or "partially failed" from "sending", for SV2. It

will also update the subscriptionFailed-SP-List with the service provider ID and name of the Local SMSs that failed to successfully receive the broadcast.

hhhhhhhhhhhhhhh.NPAC SMS responds to the M-SET.

iiiiiiiiiiiiiii.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA with the current status and failedSP-List, for SV2.

jjjjjjjjjjjjjjj.Current service provider SOA issues the M-EVENT-REPORT confirmation.

kkkkkkkkkkkkkkk.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the Donor service provider SOA with the current status and failedSP-List, for SV2.

lllllllllllllll.Donor service provider SOA issues the M-EVENT-REPORT confirmation.

mmmmmmmmmmmmmmm.NPAC SMS issues the M-SET to update the current subscriptionVersionNPAC object's subscriptionVersionStatus to "old" or "active", for SV1.

nnnnnnnnnnnnnnn.NPAC SMS responds to the M-SET.

ooooooooooooooo.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the current service provider SOA with the current status, for SV1.

ppppppppppppppp.Current service provider SOA issues the M-EVENT-REPORT confirmation.

qqqqqqqqqqqqqqq.NPAC SMS sends the subscriptionVersionStatusAttributeValueChange M-EVENT-REPORT to the Donor service provider SOA with the current status, for SV1.

rrrrrrrrrrrrrrr.Donor service provider SOA issues the M-EVENT-REPORT confirmation.

sssssssssssssss.