Change Order Form

**Origination Date** (mm/dd/yyyy): 08/04/2021

**Originator(s)**: 10x People

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**(NOTE: Originator(s) to complete this section of the form along with Sections 1, 2 and 3)**

1. **CO Name/Description:** New SV Download Reason

**Functional Backwards Compatible:** Yes

**IMPACT/CHANGE ASSESSMENT**

|  |  |  |
| --- | --- | --- |
| DOC | FRS | IIS |
| Y | Y |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CMIP | GDMO | ASN.1 | **NPAC** | SOA | LSMS |
| N | N | N | N | N |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XML | XIS | XSD | **NPAC** | SOA | LSMS |
| Y | Y | Y | OPT | OPT |

1. **Business Need:**

When a Delete SV message is sent from the NPAC to the LSMS, it is not clear as to why the number is being removed. The two options are:

* because the number has been disconnected and is no longer in service, or
* it is a Port-to-Original of a still-working TN and is reinstating default routing.

Due to the complex interactions with Service Provider OSS/BSS systems in the porting workflow, the removal of the TN from the network does not provide the *reason* for the delete message, and carriers could erroneously remove a still-working TN from OSS/BSS systems or leave a disconnected-service TN in an OSS/BSS system when it should be removed. Since OSS/BSS Systems need to treat the two options differently, knowing whether or not the number is still in service makes updates to internal carrier systems more efficient and accurate. See also PIM 139.

1. **Description of Change:**

This Change Order is being created to provide data on the *reason* a ported TN is being disconnected from the NPAC. With this change order, a new NPAC Service Provider tunable (SPIDable) will be added, and a new Download Reason will be added. This functionality would only be needed for LSMSs that desire to receive the new Download Reason.

This change is applicable to the XML interface, but not the CMIP interface.

Add a new SPIDable, NPAC Customer XML LSMS Delete PTO Indicator, Boolean, to indicate whether or not this Service Provider (XML LSMS) supports the delete-pto Download Reason in a download and an SV Query Reply. This will allow all XML LSMSs to maintain backwards compatibility, and only XML LSMSs that choose to implement this new feature will be affected. If an XML LSMS does NOT support this new feature, then the existing Download Reason of delete will continue to be sent for both still-working TNs (PTO) and disconnected-service TNs.

Add a new SPIDable, NPAC Customer XML SOA Delete PTO Indicator, Boolean, to indicate whether or not this Service Provider (XML SOA) supports the delete-pto Download Reason on an SV Query Reply. This will allow all XML SOAs to maintain backwards compatibility, and only XML SOAs that choose to implement this new feature will be affected. If an XML SOA does NOT support this new feature, then the existing Download Reason of delete will continue to be sent for SV Query Replies.

Add a new Download Reason, “delete-pto”, which would indicate that the TN is still working, but is returning to the owner, and would revert to default routing.

1. **FRS:**

Changes are identified by yellow highlighting in the text below.

**Section 3.1, NPAC SMS Data Models**

Add SP tunable, and new reason for PTO-related delete. See below:

| **NPAC CUSTOMER DATA MODEL** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Attribute Name** | | **Type (Size)** | | **Required** | | **Description** | | |
| [snip] | |  | |  | |  | | |
| NPAC Customer XML LSMS Delete PTO Indicator | | B | | √ | | A Boolean that indicates whether the NPAC Customer supports the Download Reason of PTO Delete from the NPAC SMS to their XML LSMS, for a download and an SV Query Reply.  The default value is False. | | |
| NPAC Customer XML SOA Delete PTO Indicator | | B | | √ | | A Boolean that indicates whether the NPAC Customer supports Delete PTO Download Reason SVs in a Query Reply to the XML SOA.  The default value is False. | | |
| [snip] | |  | |  | |  | | |

Table 3-2 NPAC Customer Data Model

| **SUBSCRIPTION VERSION DATA MODEL** | | | |
| --- | --- | --- | --- |
| **Attribute Name** | **Type (Size)** | **Required** | **Description** | |
| [snip] |  |  |  | |
| Download Reason | E |  | The reason the SV is being downloaded to the LSMS. Valid values are:  0 – new1  1 – delete1  2 – modified  3 – audit-discrepancy  4 – delete-pto | |
| [snip] |  |  |  | |

Table 3-7 Subscription Version Data Model

R4‑8 Service Provider Data Elements

NPAC SMS shall require the following data if there is no existing Service Provider data: (reference NANC 399)

1. [snip]
2. NPAC Customer XML LSMS Delete PTO Indicator
3. NPAC Customer XML SOA Delete PTO SV Query Indicator
4. [snip]

Req 1 – Service Provider XML LSMS Delete PTO Indicator

NPAC SMS shall provide a Service Provider XML LSMS Delete PTO Indicator tunable parameter which defines whether an LSMS supports the Download Reason of PTO Delete.

Req 2 – Service Provider XML LSMS Delete PTO Indicator Default

NPAC SMS shall default the Service Provider XML LSMS Delete PTO Indicator tunable parameter to FALSE.

Req 3 – Service Provider XML LSMS Delete PTO Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider XML LSMS Delete PTO Indicator tunable parameter.

Req 4 – Disconnect Subscription Version - Send Delete Download Reason to Local SMSs

NPAC SMS shall broadcast a Subscription Version Delete to a Local SMS, upon a ***PTO disconnect*** of a ported Subscription Version, and set the Download Reason as follow:

* Service Provider XML LSMS Delete PTO Indicator is set to TRUE, set Download Reason to ***PTO Delete***.
* Service Provider XML LSMS Delete PTO Indicator is set to FALSE, set Download Reason to ***Delete***.

**Note:** A ***PTO Disconnect*** is indicated by the Service Provider SOA Create Request, where the “Porting to Original” flag is set to TRUE.

Req 5 – Service Provider XML SOA Delete PTO Indicator

NPAC SMS shall provide a Service Provider XML SOA Delete PTO Indicator tunable parameter which defines whether a SOA supports the Download Reason of Delete PTO in an SV Query Reply over the SOA-to-NPAC SMS interface.

Req 6 – Service Provider XML SOA Delete PTO Indicator Default

NPAC SMS shall default the Service Provider XML SOA Delete PTO Indicator tunable parameter to FALSE.

Req 7 – Service Provider XML SOA Delete PTO Indicator Modification

NPAC SMS shall allow NPAC Personnel, via the NPAC Administrative Interface, to modify the Service Provider XML SOA Delete PTO Indicator tunable parameter.

Req 8 – Query Subscription Version - Send Delete PTO Download Reason to SOAs

NPAC SMS shall return an SV Query Reply to a SOA, in cases where the Download Reason was set to a PTO Delete, and set the Download Reason as follows:

* Service Provider XML SOA Delete PTO Indicator is set to TRUE, set Download Reason to ***PTO Delete***.
* Service Provider XML SOA Delete PTO Indicator is set to FALSE, set Download Reason to ***Delete***.

Req 9 – Query Subscription Version - Send Delete PTO Download Reason to LSMSs

NPAC SMS shall return an SV Query Reply to a Local SMS, in cases where the Download Reason was set to a PTO Delete, and set the Download Reason as follows:

* Service Provider XML LSMS Delete PTO Indicator is set to TRUE, set Download Reason to ***PTO Delete***.
* Service Provider XML LSMS Delete PTO Indicator is set to FALSE, set Download Reason to ***Delete***.

Req 10 – Query Subscription Version - Download Reason Display

NPAC SMS shall for Service Provider Personnel, via the NPAC Low-Tech Interface, and for NPAC Personnel, via the NPAC Administrative Interface, display the Subscription Version Download Reason value, regardless of the NPAC Customer Download Reason Indicator settings.

1. **IIS:**

Errors and Flow Diagram (EFD)

1. B.5.1.12, SubscriptionVersion for Inter- and Intra- Service Provider Port-to-Original: Successful
2. B.5.1.13, SubscriptionVersion for Inter- and Intra- Service Provider Port-to-Original: All LSMSs Fail
3. B.5.1.14, SubscriptionVersion for Inter- and Intra- Service Provider Port-to-Original: Partial Failure
4. B.5.1.15, SubscriptionVersion Port-to-Original: Resend
5. B.5.1.16, SubscriptionVersion Port-to-Original: Resend Failure to Local SMS
6. B.5.1.17.2, Successful Broadcast of Port-to-Original Activation Request for a Pooled TN (previously NNP flow 3.1.2)
7. B.5.1.17.4, Subscription Version Create Port-to-Original of a Pool TN: Failure Broadcast to All Local SMSs (previously NNP flow 3.2.1)
8. B.5.1.17.6, Port-to-Original Activation Partial Failure Broadcast of a Pooled TN (previously NNP flow 3.3.1)
9. B.5.1.17.9, Successful Resend Broadcast of a Port-to-Original of a Pooled TN (previously NNP flow 3.4.2)

Graphic (flow diagram picture):

No changes.

Text Description Section – Step 1 or Step 3:

NPAC SMS sends out an M-DELETE on the subscription Version SV1 to all Local SMSs, that are accepting downloads for the NPA-NXX of subscription Version SV1. If the M-DELETE is for multiple subscription versions, a scoped and filtered operation will be sent. For the XML interface, SVDD – SvDeleteDownload (the value for Download Reason will depend on both 1.) the reason for the M-DELETE message (delete = number is no longer in service and being disconnected, OR, delete PTO = number is still in service and being returned to donor SP), and 2.) whether or not the Service Provider supports the new Download Reason (delete PTO).

1. **GDMO:**

No Change Needed.

1. **ASN.1:**

No Change Needed.

1. **XIS:**

**Section 5.6.49, SvQueryReply**

|  |  |
| --- | --- |
| download\_reason | This required field indicates the reason for the most recent download for this SV. The valid values include:   * dr\_new * dr\_delete * dr\_modified * dr\_delete\_pto |

**Section 5.7.10, QueryLsmsSvReply**

|  |  |
| --- | --- |
| download\_reason | An enumeration that indicates the reason this download is being sent. The valid values include:   * dr\_new * dr\_delete * dr\_modified * dr\_audit\_discrepancy * dr\_delete\_pto |

**Section 5.8.28, SvDeleteDownload**

|  |  |
| --- | --- |
| download\_reason | This field specifies the reason for the download of the deleted subscription version(s) – should ~~always~~ be ‘dr\_delete’ (except for downloads resulting from an audit where the value will be dr\_audit\_discrepancy), or, dr\_delete\_pto for an XML LSMS that supports that download reason code. |

**Section 5.8.30, SvQueryReply**

|  |  |
| --- | --- |
| download\_reason | This required field indicates the reason for the most recent download for this SV. The valid values include:   * dr\_new * dr\_delete * dr\_modified * dr\_delete\_pto |

1. **XSD:**

ENUM, DRDP, dr\_delete\_pto