# NANC CHANGE ORDER SUMMARY
# FOR
# NPAC SMS FUNCTIONALITY

## Rev: 91
## to be used for July 2002 (Chicago) meeting

## 7/8/02

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| | | | | | | **NPAC** | **SOA LSMS** |
| NANC 147 | AT&T 8/27/97 | **Version ID Rollover Strategy**<br><br>Currently there is no strategy defined for rollover if the maximum value for any of the id fields (sv id, lrn id, or npa-nxx id) is reached. One should be defined so that the vendor implementations are in sync. Currently the max value used by Lockheed is a 4 byte-signed integer and for Perot it is a 4 byte-unsigned integer.<br><br>**Sep 99 LNPA-WG** (Chicago), since the version ID for all data is driven by the NPAC SMS, the rollover strategy should be developed by Lockheed. SPs/vendors can provide input, but from a high level, the requirement is to continue incrementing the version ID until the maximum ([2**31] –1) is achieved, then start over at 1, and use all available numbers at that point in time when a new version ID needs to be assigned (e.g., new SV-ID for a TN). | High | FRS | Func Backwards Compatible: NO<br><br>A strategy on how we look for conflicts for new version id's must be developed as well as a method to provide warnings when conflicts are found.<br><br>**Oct 98 LNPAWG** (Kansas City), it was requested that we begin discussing this in detail starting with the Jan 99 LNPAWG meeting. Beth will be providing some information on current data for the ratio of SV-ID to active TNs (so that we can get a feel for how much larger the SV-ID number is compared to the active TNs).<br><br>**Sep 99 LNPA-WG** (Chicago), Lockheed will begin developing a strategy for this.<br><br>**Jun 00 LNPA-WG** (Chicago), AT&T analysis and calculation (using current and projected porting volumes) indicate that a need for a version ID rollover strategy is more than five years away. Therefore, this change order is removed from R5, and will be discussed internally by NeuStar technical staff.<br><br>**Jul 2000 meeting**: NeuStar will track the problem. It will be a NeuStar internal design. Change order to stay on open list for possible later Document Only changes. | High | High? / High? |
| NANC 340 | CMA 11/6/01 | **Doc Only Change Order for IIS:** Update Appendix A<br><br>The information in Appendix A is out of date and needs to be updated. | Low | IIS | **11/14/01** – Reviewed at November 2001 LNPA WG. Waiting for feedback from NeuStar.<br><br>**01/09/02** – This item has low priority. Change Order to remain in "open" status until | N/A | N/A / N/A |

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<tr><th colspan="7">Open Change Orders</th></tr>
<tr><th rowspan="2">Chg Order #</th><th rowspan="2">Orig. / Date</th><th rowspan="2">Description</th><th rowspan="2">Priority</th><th rowspan="2">Category</th><th rowspan="2">Proposed Resolution</th><th colspan="2">Level of Effort</th></tr>
<tr><th>NPAC</th><th>SOA LSMS</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>updated information is provided by NPAC Systems Engineering.</td><td></td><td></td></tr>
<tr><td>NANC 343</td><td>LNPA WG 11/14/01</td><td><u>Doc Only Change Order for IIS:</u> <u>Exhibit 12 of IIS section 4.2.2 does not reflect all filtering operations currently supported by the NPAC SMS.</u><br><br>“From Section 4.2.2:<br>The following table shows the CMISE primitive filtering support required of the Local SMS by the NPAC SMS for the subscriptionVersion object.<br><br>(continued)</td><td>Medium</td><td>IIS</td><td>Incorporate into next release of IIS.<br><br>12/12/01 – Reviewed during December LNPA WG meeting. Needs more revisions. Will be reviewed again during January 2002 meeting.<br><br>01/09/02 – Reviewed revisions. More revisions required. The new revisions are highlighted in yellow. Will review again during the February 2002 meeting.</td><td>N/A</td><td>N/A / N/A</td></tr>
<tr><td>NANC 343 (cont’d)</td><td colspan="6">
Exhibit 1 - CMISE Primitive Filtering Support for the Subscription Version Object
<table>
<tr><th>CMISE Primitives</th><th>Filter Supported</th><th>Notes</th></tr>
<tr><td>M-ACTION</td><td>N</td><td>No filtering is applied to the actions for the subscriptionVersion object.</td></tr>
<tr><td>M-GET</td><td>Y</td><td>TN Range with greaterOrEqual, lessOrEqual, equality must be supported for auditing.</td></tr>
<tr><td>M-SET</td><td>Y</td><td>TN Range with greaterOrEqual, lessOrEqual, equality must be supported for Mass Update or TN range modify requests.</td></tr>
<tr><td>M-DELETE</td><td>Y</td><td>TN Range with greaterOrEqual, lessOrEqual, equality will be supported for range disconnect or port to original requests.</td></tr>
</table>
“<br><br>Modify text and table as follows to clarify exact functionality for TNs and for Number Pooling functionality:<br><br>From Section 4.2.2:<br>The following table shows the CMISE primitive filtering support required of the Local SMS by the NPAC SMS <s>for the subscriptionVersion object</s>.<br><br>(continued)
</td></tr>
</table>

| Chg Order # | Orig. / Date | Description | Priority | Category | Proposed Resolution | Level of Effort | |
|---|---|---|---|---|---|---|---|
| | | | | | | NPAC | SOA LSMS |

NANC 343 (cont'd)

***Exhibit 1 - CMISE Primitive Filtering Support for Local System Objects***

| CMISE Primitives | Filter Supported | Notes |
|---|---|---|
| M-ACTION | N | No filtering is applied to the actions. |
| M-GET | Y | TN *Query* ~~Range~~ with greaterOrEqual ***and***lessOrEqual, ***and*** equality must be supported for auditing.<br>*The field used with greaterOrEqual and lessOrEqual filters are subscriptionTN and subscriptionActivationTimeStamp.*<br>*The field used with equality is subscriptionTN.*<br>*Filters supported contain either a greaterOrEqual and lessOrEqual filter, or equality filter, for subscriptionTN only or a more complex filter.*<br>*The more complex filter uses two criteria for filtering. The first criteria used is greaterOrEqual and lessOrEqual filters with subscriptionTN. The second criteria uses greaterOrEqual and lessOrEqual filters for subscriptionActivationTimeStamp. Both criteria must be matched for the data being queried (logical and).*<br>*The scope for the filters is level 1 only with a base managed object class of lnpSubscriptions.* |
| | | *Number Pool Block Query with greaterOrEqual and lessOrEqual, and equality for EDR support.*<br>*The field used with greaterOrEqual and lessOrEqual filters is NPA-NXX-X.*<br>*The field used with equality is NPA-NXX-X.*<br>*The scope for the filters is level 1 only with a base managed object class of lnpSubscriptions.* |

(continued)

NANC 343

| | | |
|---|---|---|
| M-SET | Y | TN ~~Range~~ *Modify* with greaterOrEqual and lessOrEqual, *and* equality must be supported for |

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<tr><th>Chg Order #</th><th>Orig. / Date</th><th colspan="3">Description</th><th>Priority</th><th>Category</th><th>Proposed Resolution</th><th colspan="2">Level of Effort</th></tr>
<tr><td></td><td></td><td colspan="3"></td><td></td><td></td><td></td><td>NPAC</td><td>SOA LSMS</td></tr>
<tr><td>(cont'd)</td><td></td><td></td><td></td><td>Mass Update or TN modify requests.<br>The field used with greaterOrEqual and lessOrEqual filters is subscriptionTN.<br>The fields used with equality are subscriptionTN and subscriptionNewCurrentSP.<br>Filters supported contain either a greaterOrEqual and lessOrEqual filter, or equality filter, for subscriptionTN only, or a more complex filter.<br>In the case of Modification of TNs for non-EDR number pool block the filter is more complex and uses two criteria for modification. The first criteria uses the subscriptionNewCurrentSP field with equality. The second criteria uses lessOrEqual and greaterOrEqual for subscriptionTN. Both criteria must be matched for the data being set (logical and).<br>The scope for the filters is level 1 only with a base managed object class of lnpSubscriptions.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td>Number Pool Block Modify with greaterOrEqual and lessOrEqual, and equality for EDR support.<br>The field used with greaterOrEqual and lessOrEqual is NPA-NXX-X.<br>The field used with equality is NPA-NXX-X.<br>The scope for the filters is level 1 only with a base managed object class of lnpSubscriptions.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>M-DELETE</td><td>Y</td><td>TN ~~Range~~ Delete with greaterOrEqual and lessOrEqual, and equality will be supported. ~~for range disconnect or port to original requests.~~<br>The field used with greaterOrEqual and lessOrEqual filters is subscriptionTN.<br>The field used with equality is subscriptionTN.<br>The scope for the filter is level 1 only with a base managed object class of lnpSubscriptions.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="9">NOTE: Exhibit 13 will be removed from the IIS.<br><br>(continued)</td></tr>
<tr><td>NANC 343 (cont'd</td><td colspan="9">GDMO Documentation<br><br>DOCUMENTATION changes should be made in the GDMO behavior for the following objects to accurately reflect scooping and filtering support required for the NPAC SMS to the LSMS:</td></tr>
</table>

| Chg Order # | Orig. / Date | Description | Priority | Category | Proposed Resolution | Level of Effort | |
|---|---|---|---|---|---|---|---|
| | | | | | | NPAC | SOA LSMS |

- **lnpSubscriptions**
- **subscriptionVersion**
- **numberPoolBlock**

**Futher GDMO modifications will be necessary to reflect SOA and LSMS scoping and filtering support when sending requests to the NPAC SMS for the following objects:**

- **subscriptionVersionNPAC**
- **numberPoolBlockNPAC**

**Additional GDMO text will be added to reflect SOA and LSMS scoping and filtering support when sending requests to the NPAC SMS for other objects.**

**lnpSubscriptions:**

**The lnpSubscriptionsDefinition BEHAVIOUR should be modified as follows:**

```
lnpSubscriptionsDefinition BEHAVIOUR
    DEFINED AS !
      Local SMS and NPAC SMS Managed Object for the SOA to NPAC SMS and the Local SMS to NPAC SMS interface.

      The lnpSubscriptions class is the managed object that is used as the container object for the subscription
      version objects and numberPoolBlock objects on the NPAC SMS and the Local SMS.

      Local SMS interfaces must be able to support scoped~~/filtered~~ and filtered requests with a level 1 scope and
      a base managed object class of lnpSubscription.~~M-SETs and M-DELETEs with a TN range as the primary filter.~~
      Specific filter criteria support is defined in the behavior for the subscriptionVersion and numberPoolBlock
      managed objects.
    !;
```

(continued)

NANC 343 (cont'd)

**subscriptionVersion:**

**The subscriptionVersionBehaviour BEHAVIOUR should be modified as follows:**

```
      subscriptionVersionBehavior BEHAVIOUR
            DEFINED AS !
            .
```

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| Chg Order # | Orig. / Date | Description | Priority | Category | Proposed Resolution | Level of Effort | |
| | | | | | | NPAC | SOA LSMS |
| | | . . The Local SMS can not modify any of the subscription version data locally unless changes were downloaded via a download request. The Local SMS must be able to support **scoped and filtered requests with a level 1 scope and a base managed object class of lnpSubscription for subscription version** ~~(~~M-GET, M-SET, **and** M-DELETE~~)~~ **requests.** ~~with a filter for equality and ordering on the subscriptionTN from the NPAC SMS.~~ **Filtering Support for M-GET: TN Query with greaterOrEqual and lessOrEqual, and equality must be supported for auditing. The fields used with greaterOrEqual and lessOrEqual filters are subscriptionTN and subscriptionActivationTimeStamp The field used with equality is subscriptionTN. Filters supported contain either a greaterOrEqual and lessOrEqual filter, or equality filter, for subscriptionTN only or a more complex filter. The more complex filter uses two criteria for filtering. The first criteria used is greaterOrEqual and lessOrEqual filters with subscriptionTN. The second criteria uses greaterOrEqual and lessOrEqual filters for subscriptionActivationTimeStamp. Both criteria must be matched for the data being queried (logical and). Filtering Support for M-SET: TN Modify with greaterOrEqual and lessOrEqual, and equality must be supported for Mass Update or TN modify requests.** (continued) | | | | | |
| NANC 343 (cont'd) | | **The field used with greaterOrEqual and lessOrEqual filters is subscriptionTN. The fields used with equality are subscriptionTN and subscriptionNewCurrentSP. Filters supported contain either a greaterOrEqual and lessOrEqual filter, or equality filter, for subscriptionTN only, or a more complex filter.** | | | | | |

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| | | | | | | NPAC | SOA LSMS |
| | | **In the case of Modification of TNs for non-EDR number pool block the filter is more complex and uses two criteria for modification. The first criteria uses the subscriptionNewCurrentSP field with equality. The second critieria uses greaterOrEqual and lessOrEqual for subscriptionTN. Both criteria must be matched for the data being set (logical and).**<br><br>**The scope for the filters is level 1 only with a base managed object class of lnpSubscriptions.**<br><br>**Filtering Support for M-DELETE:**<br>**TN Delete with greaterOrEqual and lessOrEqual, and equality will be supported.**<br><br>**The field used with greaterOrEqual and lessOrEqual filters is subscriptionTN.**<br><br>**The field used with equality is subscriptionTN.**<br><br>**The scope for the filters is level 1 only with a base managed object class of lnpSubscriptions.**<br><br>!;<br><br>**numberPoolBlock:**<br><br>**The numberPoolBlock-Behaviour BEHAVIOUR should be modified as follows:**<br><br>numberPoolBlock-Behavior BEHAVIOUR<br>DEFINED AS !<br>.<br>.<br>.<br><br>The Local SMS can not modify any of the number pool block data locally unless changes were downloaded via a download request.<br><br>(continued) | | | | | |
| NANC 343 (cont'd) | | The Local SMS must support **scoped and filtered requests with a level 1 scope and a base managed object class of lnpSubscriptions for numberPoolBlock M-GET and M-SET requests.** ~~equality and ordering on the~~ | | | | | |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | ~~numberPoolBlockNPA-NXX-X attribute in a scoped and filtered request for mass updates and audits.~~<br><br>**Filtering Support for M-GET:**<br>**Number Pool Block Query with greaterOrEqual and lessOrEqual, and equality for EDR support.**<br><br>**The field used with greaterOrEqual and lessOrEqual filters is NPA-NXX-X.**<br><br>**The field used with equality is NPA-NXX-X.**<br><br>**The scope for the filters is level 1 only with a base managed object class of lnpSubscriptions.**<br><br>**Filtering Support for M-SET:**<br>**Number Pool Block Modify with greaterOrEqual and lessOrEqual, and equality for EDR support.**<br><br>**The field used with greaterOrEqual and lessOrEqual filters is NPA-NXX-X.**<br><br>**The field used with equality is NPA-NXX-X.**<br><br>**The scope for the filters is level 1 only with a base managed object class of lnpSubscriptions.**<br><br>!; | | | | | |
| NANC 346 | NeuStar 1/21/02 | **GDMO Change to Number Pool Block Data Managed Object Class (Section 29.0) and Documentation Change to Subscription Version Managed Object Class (Section 20.0)**<br><br>Change the numberPoolBlock-Pkg to support updates to the numberPoolBlockActivationTimeStamp attribute. Currently this attribute is not modifiable so when it is audited by the NPAC SMS and found to be discrepant there is no way to update it. The NPAC SMS attempts to correct the attribute on the LSMS and the M-SET is failed by the service provider's system because the attribute is GET only.<br><br>**Currently the numberPoolBlock-Pkg reads:** | High | GDMO | **Modify the numberPoolBlock-Pkg to read:**<br><br>numberPoolBlock-Pkg PACKAGE<br>BEHAVIOUR<br>numberPoolBlock-Definition,<br>numberPoolBlock-Behavior;<br>ATTRIBUTES<br>numberPoolBlockId GET,<br>numberPoolBlockNPA-NXX-X GET,<br>numberPoolBlockHolderSPID GET,<br><br>numberPoolBlockActivationTimeSt | Low | Low / Low |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | numberPoolBlock-Pkg PACKAGE<br>BEHAVIOUR<br>numberPoolBlock-Definition,<br>numberPoolBlock-Behavior;<br>ATTRIBUTES<br>numberPoolBlockId GET,<br>numberPoolBlockNPA-NXX-X GET,<br>numberPoolBlockHolderSPID GET,<br>numberPoolBlockActivationTimeStamp GET,<br>numberPoolBlockLRN GET-REPLACE,<br>numberPoolBlockCLASS-DPC GET-REPLACE,<br>numberPoolBlockCLASS-SSN GET-REPLACE,<br>numberPoolBlockLIDB-DPC GET-REPLACE,<br>numberPoolBlockLIDB-SSN GET-REPLACE,<br>numberPoolBlockCNAM-DPC GET-REPLACE,<br>numberPoolBlockCNAM-SSN GET-REPLACE,<br>numberPoolBlockISVM-DPC GET-REPLACE,<br>numberPoolBlockISVM-SSN GET-REPLACE,<br>numberPoolBlockDownloadReason GET-REPLACE;<br>; | | | amp GET-***REPLACE***,<br>numberPoolBlockLRN GET-REPLACE,<br>numberPoolBlockCLASS-DPC GET-REPLACE,<br>numberPoolBlockCLASS-SSN GET-REPLACE,<br>numberPoolBlockLIDB-DPC GET-REPLACE,<br>numberPoolBlockLIDB-SSN GET-REPLACE,<br>numberPoolBlockCNAM-DPC GET-REPLACE,<br>numberPoolBlockCNAM-SSN GET-REPLACE,<br>numberPoolBlockISVM-DPC GET-REPLACE,<br>numberPoolBlockISVM-SSN GET-REPLACE,<br><br>numberPoolBlockDownloadReason GET-REPLACE;<br>;<br><br>(continued) | | |
| NANC 346 (cont'd) | | | | | **Number Pool Block, object 29.0** -- Update the GDMO behavior text (add to the end).<br><br>The Local SMS can only modify the numberPoolBlockActivationTimeStamp locally upon receiving a modify request from the NPAC SMS.<br><br>**Subscription Version, object 20.0** -- Update the GDMO behavior text (add to the end). | | |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | | | | `The Local SMS can only modify the subscriptionVersionActivationTimeStamp locally upon receiving a modify request from the NPAC SMS.` | | |
| NANC 347 | NeuStar 3/6/02 | **CMIP Interface Enhancements – 15 minute abort behavior**<br><br>**Business Need:**<br>The NPAC SMS and Service Provider SOA/LSMS exchange messages and a response is required for each message. The current NPAC architecture requires a response to every message within a 15 minute window, or the requestor will abort the association.<br><br>If a Service Provider fails to respond to an NPAC message, the NPAC aborts that specific association and the Service Provider must re-associate in recovery mode, request, receive and process all missed messages, then start processing in normal mode until they are totally caught up with any backlog of messages. During the recovery timeframe, the NPAC must "hold" all messages destined for that Service Provider, and only send them once the Service Provider has completed the recovery process. This only further delays the desired processing of messages by both the NPAC and the Service Provider. Additionally, any SV operations except range activate will remain in a sending status until the Service Provider has competed recovery.<br><br>With the current NPAC implementation based on the requirements, especially during periods of high demand with large porting activity, a Service Provider that falls more than 15 minutes behind will get aborted by the NPAC, thus exacerbating the problem of timely processing of messages. This occurs even though that Service Provider is still processing messages from the NPAC, albeit more than 15 minutes later. | TBD | FRS, IIS | Func Backwards Compatible: YES<br><br>Change the 15 minute abort timer to "credit" the Service Provider for responding to some traffic, even if they don't respond to a specific message within the 15 minute window.<br><br>1. This would allow Service Providers that have fallen behind to keep processing the backlog, instead of getting aborted and having to re-associate to the NPAC in recovery mode, which in turn increases workload for both the NPAC and the Service Provider.<br><br>2. If the Service Provider fails to respond to ANY of the outstanding message during that 15 minute window, the NPAC would abort the association as is currently done (i.e., at the end of the 15 minute window).<br><br>3. If the Service Provider is responding to messages at a slower pace, the NPAC using new timers, would "roll-up" the downloaded data (e.g., SV activate to LSMS with a slow Service Provider) at the end of 15 minutes, to obtain closure on this porting activity. In this example, the SV would be in partial-failure status, and a notification would be sent to both the activating SOA and old SOA. The new timer allows the NPAC to separate | TBD | TBD / TBD |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | (continued) | | | association abort/monitoring and event completion.<br><br>(continued) | | |
| 347 (cont) | With this change order, the behavior of the NPAC would not adversely impact a Service Provider that falls behind, but is still processing messages. This enhancement could assist a Service Provider in the area of timeliness of updating network data due to a lessening of aborts, customer service, and fewer audits for troubleshooting purposes.<br><br>The business need for efficient transmission of messages will only increase as porting volumes increase. | | | This change applies to a single SV broadcast. The flow for SV ranges in confirmed mode is a response to the download message from NPAC to the LSMS within 15 minutes (same as today), and the response to the range event (M-EVENT-REPORT response) within 60 minutes (same as today). | | | |
| NANC 348 | NeuStar 3/6/02 | **Bulk Data Download File for Notifications**<br><br>**Business Need:**<br>Service Providers use Bulk Data Download (BDD) files to recover customer, network, block, and subscription data in file format. This occurs when automated recovery functionality is either not available or not practical (e.g., too large of time range) for the data that needs to be recovered.<br><br>The current requirements do not address BDD files for notifications. In order to provide more complete functionality for a Service Provider to "replay" messages sent by the NPAC, the ability for the NPAC to generate a BDD file for a time range of notifications would potentially reduce operational issues and the work effort required for a Service Provider to get back in sync with the NPAC, by providing the Service Provider with all information that they would have received had they been associated with the NPAC. Additionally, this would be needed for LTI users transitioning to a SOA, or SOA users that need to recover notifications for more than the industry-recommended timeframe of 24 hours.<br><br>With this change order, the NPAC would have the capability to generate a BDD file of notifications for a Service Provider within a certain date and time range. | TBD | FRS | Func Backwards Compatible: YES<br><br>The NPAC would provide the functionality for NPAC Help Desk personnel to generate a BDD file of notifications for a requesting Service Provider.<br><br>Selection criteria would be any single SPID, date and time range (notification attempt timestamp), and include all types of notifications. The sort criteria will be chronologically by date and time.<br><br>The file name will contain an indication that this is a notification file, along with the requested date and time range. The output file would be placed in that Service Provider's ftp site directory. | TBD | TBD / TBD |
| NANC | NeuStar | **Batch File Processing** | TBD | FRS | Func Backwards Compatible: YES | TBD | TBD / |

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| | | | | | | **NPAC** | **SOA LSMS** |
| 349 | 3/6/02 | **Business Need:**<br>Service Providers periodically generate large porting activity. The current definition includes ports with 500 or more TNs.<br><br>The NPAC receives these large port requests via an online mechanism (CMIP interface or LTI), and processes them at that point in time. The current requirements do not allow for "off-line" processing of activity.<br><br>As an alternative to generating all the messages associated with large porting activity, and sending them across a Service Provider's CMIP interface, a batch mode can be implemented whereby a Service Provider can send a batch request to the NPAC, and request that it be processed after a certain date and time.<br><br>With this change order, the NPAC and the Service Provider can offload processing that can be worked separately, but still meet the need to incorporate that work after a specified date and time. Since all large porting activity is known well in advance, both planning and processing can be addressed, thereby benefiting risk management.<br><br>The functionality covered in this change order could be any activity that is not time critical and typically done over a 24 hour period (e.g., pooled blocks where not time sensitive, or an LSMS for DPC codes). | | | The NPAC would incorporate an offline batch processing engine that handles batch requests from a requesting Service Provider. The Service Provider would place the request in their ftp site directory. The NPAC would periodically scan for requests, pick them up, and process them offline.<br><br>After reaching the Service Provider's requested date and time, the request would become "active" and the NPAC would process this request during off hours (e.g., during nightly housekeeping). Upon completion, the requested activity would be incorporated into the production database. Updates or notifications could be either placed in a response file at the Service Provider's ftp site directory, or sent across the interface to the Service Provider.<br><br>A new indicator would be added to the customer profile record. This would indicate whether the Service Provider supports batch processing. If yes, any batch requests would be responded back to the Service Provider in batch mode, via a *"processing done, here are the details"* response file (placed in the ftp site directory). If the Service Provider does not support batch processing, the NPAC would send the responses to the requested activity over the interface. | | TBD |
| NANC 350 | NeuStar 4/12/02 | **<u>CMIP Interface Enhancements – 60 minute abort behavior</u>**<br><br>**Business Need:**<br>The NPAC SMS and Service Provider SOA/LSMS exchange messages and a response is required for each message. The | TBD | FRS, IIS | Func Backwards Compatible: YES<br><br>Create a new 60 minute window (tunable by region). Use this new window the same way that the 15 minute window is used in Release 3.1 (i.e., abort the association for a lack of a | TBD | TBD / TBD |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | current NPAC architecture requires a response to every message within a 15 minute window, or the requestor will abort the association.<br><br>If a Service Provider fails to respond to an NPAC message, the NPAC aborts that specific association and the Service Provider must re-associate in recovery mode, request, receive and process all missed messages, then start processing in normal mode until they are totally caught up with the backlog of messages. During the recovery timeframe, the NPAC must "hold" all messages destined for that Service Provider, and only send them once the Service Provider has completed the recovery process. This only further delays the desired processing of messages by both the NPAC and the Service Provider.<br><br>With the current NPAC implementation based on the requirements, especially during periods of high demand with large porting activity, a Service Provider that falls more than 15 minutes behind will get aborted by the NPAC, thus exacerbating the problem of timely processing of messages. This occurs even though that Service Provider is still processing messages from the NPAC, albeit more than 15 minutes later.<br><br>(continued) | | | response to an individual message from the NPAC).<br><br>This would allow Service Providers that have fallen behind to keep processing the backlog, instead of getting aborted and having to re-associate to the NPAC in recovery mode, which in turn increases workload for both the NPAC and the Service Provider, but would put a limit on the amount of time allotted for slower Service Providers.<br><br>If the Service Provider fails to respond to a given outstanding message during that new 60 minute window, the NPAC would abort the association. So with this change the Service Provider gets an additional 45 minutes to respond beyond the current 15 minute window.<br><br>(continued) | | |
| 350 (cont) | With this change order, the behavior of the NPAC would allow a Service Provider to fall behind, but put a cap on how far behind (i.e., 60 minutes). This enhancement could assist a Service Provider in the area of timeliness of updating network data due to a lessening of aborts, customer service, and fewer audits for troubleshooting purposes. The expectation is that Service Providers would implement similar abort processes/procedures on their systems.<br><br>The business need for efficient transmission of messages will only increase as porting volumes increase. | | | The logic representation is shown below:<br>IF the slow Service Provider responds to this message within 60 minutes:<br>NPAC updates the appropriate data<br>NPAC sends appropriate notification to the SOAs<br>*(in an example of a partial failure activate request, the SV would go from PF to active status and the Service Provider would be removed from the failed list)*<br>ELSE,<br>NPAC aborts the association<br>the Service Provider must re-associate to the NPAC<br>the Service Provider goes through recovery processing. | | |

| Open Change Orders | | | | | | | |
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| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | | | | This change applies to both single and range SV broadcasts. The Service Provider will have 60 minutes to respond to the download message from NPAC to the LSMS, and in the case of an ACTION, the response to the event (M-EVENT-REPORT response) as well, or rollup at the NPAC will occur. This new timer will separate the activities, but they will both be defaulted to 60 minutes. | | |
| NANC 351 | NeuStar 4/12/02 | **Recovery Enhancements – "Send me what I missed" recovery message**<br><br>**Business Need:**<br>The NPAC SMS and Service Provider SOA/LSMS exchange messages and a response is required for each message. The current NPAC architecture requires a response to every message within a 15 minute window, or the requestor will abort the association.<br><br>If a Service Provider fails to respond to an NPAC message, the NPAC aborts that specific association and the Service Provider must re-associate in recovery mode, request a "best guess" time range of missed messages from the NPAC, receive and process all missed messages, then start processing in normal mode until they are totally caught up with the backlog of messages.<br><br>One problem of the current "best guess" approach is the trial-and-error recovery processing that a Service Provider must perform in certain circumstances (e.g., when there is too much data to send in a response to a single request). This can create unnecessary workload on both the NPAC and the Service Provider.<br><br>A better method to implement is the *"send me what I missed"* approach. Service Providers can optionally use this new message to perform the recovery function. This improves the efficiency of recovery processing for the NPAC and Service Providers because guesswork is eliminated. | TBD | FRS, IIS, GDMO, ASN.1 | Func Backwards Compatible: YES<br><br>Create a new process that incorporates the ability for a Service Provider to send NPAC:<br>1. a *"switch me to recovery mode"* message (new Action).<br>2. a *"send me what I Missed"* message (new Action).<br><br>For the *"send me what I Missed"* message, a new tunable would define the maximum amount of data (e.g., TNs) that will be returned by the NPAC in a single response to a recovery request using the new message. If more than this tunable amount of data exists, the NPAC would send the requested data in multiple responses back to the Service Provider. The following steps define the process:<br><br>1. Upon receipt of this message from a Service Provider, the NPAC would determine how much data "was missed" and needs to be sent back to the Service Provider. The NPAC would send the first batch of data (based on a tunable), along with an index for the additional data.<br>2. The Service Provider would use the index to determine the next batch of data to request.<br>3. The NPAC would provide the next batch and send back to the Service Provider. | TBD | TBD / TBD |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | | | | 4. This process continues until all the missed data has been sent to the Provider.<br><br>(continued) | | |
| NANC 351 (con't) | | | | | NOTE: An index will not be required if linked replies (NANC 187) are implemented. Need to define the maximum total data that can be recovered via this enhancement (before they have to use the BDD file instead). | | |
| NANC 352 | NeuStar 4/12/02 | **Recovery Enhancements – recovery of SPID**<br><br>**Business Need:**<br>The NPAC SMS allows for the recovery of missed messages for network data, block data, and SV data. However, the NPAC functionality based on current requirements does not allow recovery of customer information (SPIDs). So, if customer information is downloaded, and the Service Provider misses it, it is not recoverable.<br><br>This new functionality would improve the recovery process by adding customer (i.e., header data) to the list of recoverable messages, so that subordinate network/block/SV data does not cause rejects or errors. | TBD | FRS, IIS, GDMO, ASN.1 | Func Backwards Compatible: YES<br><br>Implement a new optional recovery request that allows the Service Provider to recover customer information (SPIDs). This new optional feature would send missed customer adds or deletes to the Service Provider during the recovery process.<br><br>A Service Provider could implement this optional feature at any time, and would send this request during the recovery process similar to the requests sent for network, block, and SV data today.<br><br>The data representation would be something like, SPID, text, and download reason. | TBD | TBD / TBD |
| NANC 353 | AT&T 4/12/02 | **Round-Robin Broadcasts Across SOA and LSMS Associations with separate SOA channel for notifications (son of ILL 5)**<br><br>**Business Need:**<br>(the following text is copied from the existing ILL 5 change order).<br><br>The NPAC SMS would support additional LSMS associations and manage the distribution of transactions in a round robin algorithm across the associations. For example, due to performance conditions a Service Provider may want to start | Medium Low | FRS, IIS | Func Backwards Compatible: YES<br><br>(the following text is copied from the existing ILL 5 change order).<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order.<br><br>(New text for NANC 353, which is a variant of ILL 5) | Med | TBD / TBD |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | another LSMS association for network/subscription downloads. The NPAC SMS would accept the association, manage security, and distribute network/subscription PDUs across the 2 or more associations using the round robin algorithm (One unique PDU will be sent over one association only.)<br><br>(New text for NANC 353, which is a variant of ILL 5)<br><br>This change order applies to both SOA and LSMS.<br><br>This change order will separate out notifications with other messages, such that a separate channel will be established for SOA notifications versus all other SOA messages. This performance related change order will allow additional throughput on both channels. | | | In order to separate out SOA notifications from all other SOA messages, additional processing logic will need to be developed beyond the proposed solution for ILL 5. | | |
| NANC 355 | SBC 4/12/02 | **Modification of NPA-NXX Effective Date (son of ILL 77)**<br><br>**Business Need:**<br>When the NPAC inputs an NPA Split requested by the Service Provider and the effective date and/or time of the new NPA-NXX does not match the start of PDP, the NPAC cannot create the NPA Split in the NPAC SMS. To correct this problem the NPAC can contact the Service Provider and have them delete and re-enter the new NPA-NXX specified by the NPA Split at the correct time, or the NPAC can delete and re-enter the NPA-NXX for the Service Provider.<br><br>However, the NPA-NXX may already be associated with the NPA Split at the Local SMS, and the subsequent deletion of the NPA-NXX will cause that specific record to be old time-stamped. When the NPA-NXX is re-created, that new record will have a different time stamp, and it requires a manual task for the Service Provider to search for new NPA-NXX records which might match the NPA Split. If identified and corrected, it will be added. If not identified, it will affect call routing after PDP. | | FRS, IIS, GDMO | Func Backwards Compatible: NO<br><br>This activity would only be allowed by NPAC personnel, via the GUI, to modify the NPA-NXX Effective Date.<br><br>At the time of modification request, all existing pending subscription versions must have a due date greater than the new effective date in order for the change to occur. If one or more pending subscription versions have a due date less than the new effective date, a change would not be made and an error message would be returned to the NPAC user.<br><br>It would be the responsibility of the owner of the NPA-NXX to resolve issues of pending versions with due dates prior to the new effective date before a change could be made.<br><br>For valid requests, the NPAC will notify the SOA/LSMS of a modified effective date (M- | Med-Low | TBD / TBD |

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| | | | | | SET). | | |
| NANC 356 | Bellsouth 4/12/02 | **Unique Identifiers for wireline versus wireless carriers (interim solution)**<br><br>**Business Need:**<br>It is proposed that an Interim Solution be developed to allow NPAC registered Wireless Service Providers to be identified as such and that the information be made available by the NPAC upon request to be downloaded to requesting Service Providers in the form of a file. The file would contain the SPID and Service Provider name of each registered Wireless Service Provider in each region requested by the requesting Service Provider. This need will grow with the advent of Wireless LNP.<br><br>It is also proposed that any future additions, deletions or modifications to the Service Provider network data for a Wireless Service Provider be indicated in the format agreed upon and included in the subsequent broadcast data for the Wireless Service Provider.<br><br>Inclusion of Wireline Service Provider indicators should be considered as well but is not necessary during the interim solution.<br><br>This interim solution would be replaced by the long term solution provided by the associated NANC Change Order, 358. | | FRS, IIS, GDMO | Func Backwards Compatible: NO<br><br>Change the NPAC to provide the ability to indicate a Service Provider as either a Wireless Service Provider or Wireline Service Provider.<br><br>The interim solution could take advantage of the properties of the existing ServiceProvName field in the Service Provider Network data for each Service Provider. This name field would be modified by NPAC personnel to uniquely identify an NPAC registered Service Provider as a Wireless Service Provider. The Wireline Service Providers could be identified as such as well, however that is not necessary as long as the Wireless Service Providers are identified as Wireless Service Providers at a minimum.<br><br>The type of indicator used in the interim method was discussed in March 2002. Jim Rooks proposed that a delimiter and a unique identifier be added to the end of the Service Provider name data for each registered Wireless Service Provider to eliminate any sorting issues that may arise if the change was made to the beginning of the SP Name field..<br><br>The proposed interim approach would be to append a '/1' for wireline providers and '/2' for wireless providers.<br><br>(continued) | Med-Low | TBD / TBD |
| NANC 356 | | | | | An action item was assigned to all to investigate whether there were any | | |

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| | | | | | | **NPAC** | **SOA LSMS** |
| (cont) | | | | | foreseeable issues that may arise as a result of adding the delimiter/indicator at the end of the SP Name data. | | |
| NANC 357 | Bellsouth 4/12/02 | **Unique Identifiers for wireline versus wireless carriers (long term solution)**<br><br>**Business Need:**<br>In the LSR process, there is a need to identify a Service Provider's port request as that from or to a Wireline or Wireless Service Provider in order to process the port request correctly within internal systems. This information must match up with NPAC information on each Service Provider's Type. Without this information, port requests may be handled incorrectly thus effecting customer phone service including related E911 records. This is especially crucial in fully mechanized LSR processing systems.<br><br>This long-term solution replaces the interim solution provided by the associated NANC Change Order, 357. | | FRS, IIS, GDMO | Func Backwards Compatible: NO<br><br>The NPAC SMS shall provide a *Service Provider Type* indicator for each Service Provider. This new indicator shall initially distinguish each Service Provider as either a Wireline Service Provider or a Wireless Service Provider. The *Service Provider Type* indicator shall be able to distinguish additional "types" as deemed necessary in the future (e.g., it may be advantageous in the future to identify other Service Provider Types such as Reseller or Service Bureau).<br><br>This information shall be sent to the SOA/LSMS upon initial creation of the Service Provider, upon modification of a Service Provider's Type and when the SP is removed (deleted) from the NPAC.<br><br>The *Service Provider Type* indicator shall be added to the Bulk Data Download file, available to a Service Provider's SOA/LSMS.<br><br>The *Service Provider Type* indicator shall be Recoverable across the SOA/LSMS with the implementation of NANC 352. | Med-Low | TBD / TBD |
| NANC 358 | NeuStar 4/12/02 | **Change for ASN.1:** Change SPID definition<br><br>**Business Need:**<br>The current ASN.1 definition allows the SPID to be variable 1-4 alphanumeric characters. The current behavior in the NPAC requires SPID to be four alphanumeric characters, as defined in the current data model in the FRS – a "New Service Provider ID, Character (4), Old Service Provider ID, | | ASN.1 | Func Backwards Compatible: YES<br><br>Current ASN.1 definition:<br><br>`ServiceProvId ::= GraphicString4`<br><br>`GraphicString4 ::=` | Low | TBD / TBD |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | Character (4)", and the GDMO "`Valid values are the Facilities Id (or OCN) of the service provider.`"<br><br>The OCN in the GDMO is the same OCN as defined by OBF (http://www.atis.org/pub/clc/niif/nrri/issue177/MACompany%20Code.doc):<br>**"Company Code/Operating Company Number (OCN)** - A unique four-character alphanumeric code assigned by NECA that identifies a telecommunications service provider, as outlined in the ANSI T1.251 standard, Identification of Telecommunications Service Provider Codes for the North American Telecommunications System. The code set is used in mechanized systems and documents throughout the industry to facilitate the exchange of information. Company Codes assigned by NECA are referred to as OCNs in Telcordia's BIRRDs system. NANPA requires a carrier's Company Code in order to obtain numbering resources. The FCC requires a carrier's Company Code on FCC Form 502, the North American Numbering Plan Numbering Resource Utilization/Forecast Report."<br><br>This change order will correct the ASN.1 definition to match the current implementation. | | | `GraphicStringBase(SIZE(1..4))`<br><br>New ASN.1 definition (new is **bold**):<br><br>`ServiceProvId ::=`<br>`Graphic`**`Fixed`**`String4`<br><br>`Graphic`**`Fixed`**`String4 ::=`<br>`GraphicStringBase(SIZE(`**`4`**`))` | | |
| NANC 359 | NeuStar 4/12/02 | **Doc Only Change Order for SPID and Billing ID:** Change definition for SPID and Billing ID<br><br>**Business Need:**<br>The current documentation does NOT explicitly state that SPID must be 4 alphanumeric characters, and Billing ID can be variable 1-4 alphanumeric characters. The Billing ID is sometimes associated with a SPID value, so different interpretations said that it must be 4 characters, whereas others said it could be variable 1-4 as currently defined in the ASN.1. | | ASN.1 | Func Backwards Compatible: YES<br><br>Change the current documentation to explicitly state SPID must be 4 alphanumeric characters, and Billing ID can be variable 1-4 alphanumeric characters. | N/A | N/A / N/A |
| NANC 360 | NeuStar 4/12/02 | **Doc Only Change Order for Recovery:** Maximum TN Recovery Tunable | | FRS, IIS, GDMO | Func Backwards Compatible: YES | N/A | N/A / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | **Business Need:**<br>A recent business situation has created an implementation of a new Service Provider-specific tunable. This doc-only change order will add this definition to the appropriate documentation. | | | Change the current documentation to explicitly state that the Service Provider-specific tunable (Maximum_TN_Recovery) is a tunable with a range of 1-10000, a default value of 2000, and is applicable for time-based recovery. | | |
| NANC 361 | World Com 5/13/02 | **Doc Only Change Order for GDMO:** Range Version of Object Creation Notification<br><br>**Business Need:**<br>The definition and behavior of the range notification associated with NANC 179 (SOA range notifications) in NPAC Release 3.1 should be modified. According to the current specification, the range version of the object creation notification can support multiple sets of attributes. However, the intent of NANC 179 was to only support one set of attributes for all TN/SVIDs in the range.<br><br>This change order requests that the definition for this notification be changed to only support one set of attributes per TN/SVIDs instead of potentially multiple sets of attributes.<br><br>Below is an excerpt of the ASN.1 definition for the RangeObjectCreation is:<br><br>`RangeObjectCreationInfo ::= SEQUENCE {`<br>`  tn-version-id RangeNotifyTN-ID-Info,`<br>`  object-info SET OF ObjectInfo`<br>`}` | | IIS, GDMO | Func Backwards Compatible: YES<br><br>Change the current documentation to explicitly state that the current NPAC implementation supports only one (1) element in the object-info. | N/A | N/A / N/A |
| NANC 362 | ESI 5/30/02 | **Vendor Metrics**<br><br>**Business Need:**<br>SOA/LSMS vendors request that NPAC volume metrics be captured that would allow SOA/LSMS vendors to create a model for LNP transactional performance based on actual porting data to the SOA and LSMS. | | | Pure Backwards Compatible: YES<br><br>Both SOA and LSMS data should be gathered.<br><br>An extract is shown below from the Minutes from the Vendor Metrics Call, May 2, 2002, version 1.2. Refer to the Vendor Call Minutes | TBD | N/A / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | Once a model is developed, the intent is to continue to capture various porting data (nominal, peak, duration at peak) to determine the validity of the model.<br><br>Once the model has been validated and accepted, SOA/LSMS vendors will use this model to intelligently establish the current performance requirements, and by extrapolation, the future requirements.<br><br>As porting volumes increase, the business need for this change order becomes more time sensitive to help with the situation where porting is delayed because of a slow horse situation. | | | for full details.<br><br>**Discussion of the LSMS metrics we should gather.**<br><br>The group proposed monthly reports showing message traffic mix.<br>Items to be gathered are:<br>1. TN range size (including range of 1),<br>2. Message type (create, modify, delete, queries, etc),<br>3. Number of messages of this range size and type,<br>4. aggregated in 15-minute intervals,<br>5. whether transmission congestion occurred during the period,<br>6. if congestion occurred, start and end times of congestion,<br>7. whether an abort occurred i.e. downstream did not respond during the period. | | |

Continuation of NANC 262, Vendor Metrics, Proposed Resolution section:

It was agreed that at this time the following report would be a sufficient starting place.

For each 15 minute interval,

- For the category of prepared messages, report
  1. Message type,
  2. Range size,
  3. and the number of messages with that range size and message type,
- For the category of transmitted messages, for the best case report
  1. Message type,
  2. Range size,
  3. The number of messages with that range size and message type,
  4. Count of number of times entered into congestion,
  5. List of congestion intervals,
  6. Count of aborts,

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| | | | | | | **NPAC** | **SOA LSMS** |

7. and count of aborts due to timeout.

**Discussion of SOA metrics proposed by the Slow Horse subcommittee in August and September of 2000.**

We discussed SOA metrics and agreed that what kind of data that the Slow Horse had proposed was still valid. It was agreed that the sampling interval should be 15-minute intervals and that the LTI information was not relevant. Furthermore, the data should be reported for both the prepared messages and the transmitted messages as was specified above for the LSMS. Consequently, for the SOA the report needs to contain:

1. All NPAC notifications to SOA.
2. All SOA requests to NPAC.

This information should be reported in 15-minute intervals and categorized as specified above for LSMS messages. For messages sent to the NPAC, they should be reported as:

1. TN range size (including range of 1),
2. Message type (create, modify, delete, queries, etc).,
3. Number of messages of this range size and type,
4. aggregated in 15-minute intervals.

Continuation of NANC 262, Vendor Metrics, Proposed Resolution section:

June 2002, LNPAWG meeting, additional discussion.
The desire is to obtain the offered load, versus what the NPAC is actually producing. In other words, the request versus the result of the request.

Colleen Collard would like lots of data on both the inbound and outbound traffic, but realize that the more data that is requested, the longer and more expensive to produce that data.
So, initially the group can accept what the NPAC is sending down to the LSMS.
Jim Rooks – porting business need is driving SOA, which drives NPAC, which drives LSMS.
John Malyar – problem is porting that happens at any single point in time.
Jim Rooks – we really need to smooth out data. We are currently looking at request data, the report is sent to NAPM.
Steve Addicks – the past doesn't necessarily reflect future needs/load with wireless (mostly single ports), and also pooling.
Dave Garner – need to know what we have today, and also need to do a forecast/projection for the future.

NeuStar action item: provide a list of metrics for a baseline of data elements as the NPAC's side of the projected load, as to what is occurring today.

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| NANC 363 | NeuStar 6/14/02 | **Lockheed-to-NeuStar private enterprise number:** Change to NeuStar registration number.<br><br>**Business Need:**<br>The current ASN.1 uses the Lockheed Martin private | | ASN.1 | Func Backwards Compatible: NO<br><br>Change the current ASN.1 definition from lockheedMartin (103) to NeuStar (13568). | Low | Low / Low |

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| | | enterprise number. This needs to be changed to the NeuStar registration number, as was provided by IANA (Internet Assigned Number Authority).<br><br>The following three areas in the ASN.1 will be changed:<br><br>LNP-OIDS<br>{iso(1) org(3) dod(6) internet(1) private(4) enterprises(1)<br>lockheedMartin(103) cis(7) npac(0) iis(0) oids(0)}<br><br>lnp-npac OBJECT IDENTIFIER ::=<br>{iso(1) org(3) dod(6) internet(1) private(4) enterprises(1)<br>lockheedMartin(103) cis(7) npac(0)}<br><br>-- LNP General ASN.1 Definitions<br><br>LNP-ASN1<br>{iso(1) org(3) dod(6) internet(1) private(4) enterprises(1)<br>lockheed(103) cis(7) npac(0) iis(0) asn1(1)} | | | | | |
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| | | | | | | **NPAC** | **SOA LSMS** |
| ILL 5 | AT&T 10/15/96 | **Round-Robin Broadcasts Across LSMS Associations**<br><br>The NPAC SMS would support additional LSMS associations and manage the distribution of transactions in a round robin algorithm across the associations. For example, due to performance conditions a Service Provider may want to start another LSMS association for network/subscription downloads. The NPAC SMS would accept the association, manage security, and distribute network/subscription PDUs across the 2 or more associations using the round robin algorithm (One unique PDU will be sent over one association only.) | Medium Low | FRS, IIS | Func Backwards Compatible: NO<br><br>This feature may already be implemented in the Lockheed Martin developed NPAC SMS.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | Low | N/A / High |
| ILL 130 | AT&T 1/6/97 | **Application Level Errors**<br><br>Errors in the SOA and LSMS interfaces are being treated as CMIP errors and it may sometimes be difficult for a SOA to know the true reason for an error from the NPAC SMS and therefore indicate a meaningful error message to its users. It has been requested that application level errors be defined where appropriate and returned as text to the SOA. | High | FRS, IIS, GDMO, ASN.1 | Func Backwards Compatible: NO<br><br>Application level errors would be defined in the IIS.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | High | High / High |
| NANC 138 | CMA 8/11/97 | **Definition of Cause Code Values – REVISITED**<br><br>NANC 54 defined the cause code values and the FRS was to be updated. Due to an oversight this update was not made in the FRS. The change was going to be applied in FRS 1.4 and 2.2. However, a discrepancy as found. The defined values specified in NANC 54 where are as follows: | Medium Low | FRS | Func Backwards Compatible: NO<br><br>Update to be made to the FRS.<br><br>Pending review by the vendors. Lockheed does not set a cause code when the NPAC SMS automatically puts a cancelled order into | Low | Low / Low |

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| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | The values less than 50 were reserved for SMS NPAC internal use.<br><br>Other defined values are:<br><br>0 – NULL (DO NOT MODIFY)<br>1 - NPAC automatic cancellation<br>50 - LSR Not Received<br>51 - FOC Not Issued<br>52 - Due Date Mismatch<br>53 - Vacant Number Port<br>54 - General Conflict<br><br>In the table in the FRS the following cause code is defined: NPAC SMS Automatic Conflict from Cancellation<br><br>There is no corresponding code defined in Change Order NANC 54. Is there a numeric value or is this cause code valid?<br><br><u>(continued)</u> | | | conflict. Perot is reviewing their implementation.<br><br>There is not a requirement in the FRS for a cause code of NPAC SMS Automatic Conflict from Cancellation.<br><br>Operations flows are being reviewed. In figure 6, box 3.<br><br>Perot like Lockheed, does not use the cause code in question.<br><br>A SOA vendor has been asked to evaluate the impact of not receiving a cause code value with a status of conflict.<br><br>Flows in Appendix A also need to be updated. | | |
| NANC 138 (cont.) | | Requirements for the cause code addition would be as follows:<br><br>RR5-36 should be renumbered to RR5-36.2.<br><br>RR5-36.1 Cancel Subscription Version – Cause Code for New SP Timer Expiration<br><br>NANC SMS shall set the cause code to “NPAC SMS Automatic Conflict from Cancellation” after setting the Subscription Version status to conflict from cancel-pending when the new Service Provider has not acknowledged cancellation after the Cancellation-Final Concurrence Window.<br><br>2 will be the value defined for the “NPAC SMS Automatic Conflict from Cancellation” cause code. | | | Awaiting sizing from NPAC vendors, and validation of functionality (reference existing requirements) from cancellation to conflict.<br><br>SOA vendors heard from to date do not have a problem with the cause code not being present.<br><br>This is an "OLD" Release 2.0 change order, that has been moved into the "Accepted" category, awaiting prioritization<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the “accepted” section of this document. | | |

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| | | | | | **01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 151 | Bellcore 9/4/97 | **<u>TN and Number Pool Block Addition to Notifications</u>**<br><br>It has been requested that the TN for the subscription version be added to all notifications that currently contain SV-ID but not TN from the NPAC SMS. It is possible for a SOA in a disconnect or modify-active situation, to not have the SV record in their database. Therefore, when the attribute/status change notification comes from the NPAC SMS, there is no way to correlate its version id with the TN on the disconnect or modify request in SOA.<br><br>Jun 00 LNPA-WG meeting, additionally, the same type of change should be done for Number Pool Block (i.e., add the NPA-NXX-X to all notifications that currently contain Block-ID but not NPA-NXX-X). | Low | IIS | Func Backwards Compatible: NO<br><br>This would be a deviation from the standard since the TN would not have been an attribute that has changed.<br><br>This is an "OLD" Release 2.0 change order, that has been moved into the "Accepted" category, awaiting prioritization<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | Low | Low / N/A |
| NANC 169 | Bellcore 5/23/97 | **<u>Delta Download File Creation by Time Range for SVs</u>**<br><br>It has been requested that requirements be added to the FRS to allow for creation of a delta download file by date and time range, for SVs.<br><br>During Dec '98 Natl N Pool meeting, discussed need to change functionality when requesting SV BDD with a time range. Currently, the NPAC provides all "active" SVs based on Activation Broadcast ~~Complete~~ Timestamp. This creates an issue for modifications that are within the specified time range window, but the Activation was prior to the specified time range. There is also an issue for Activation Failures.<br><br>During Jan LNPAWG meeting, proposed changes to handle two issues, include:<br>1. Incorporate the start and end time ranges into the file name. | Medium | FRS | Pure Backwards Compatible: YES<br><br>This item is on hold until further experience is gained with download. This change is expected to help a service provider catch-up faster after an extend outage when the database becomes large.<br><br>It was indicated that this functionality is already available in the Lockheed Martin NPAC SMS implementation. Delete Pending<br><br>This change order was re-opened for discussion during the Dec '98 LNPAWG meeting.<br><br>Dec LNPAWG (Atlanta), verify start and end timestamps embedded in filename. Update | Med | N/A / N/A |

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| | | 2. Need to capture all SV activity (activation, modification, disconnect) into the file, when doing time range.<br><br>(continued) | | | documentation to state Activation Broadcast Complete Timestamp is used for comparison.<br><br>Update: The start and end timestamps are NOT embedded in the filename.<br><br>The proposal from the Natl N Pool Sub-Committee is to use the Last Modified Timestamp attribute in the SV, to determine whether or not an SV fits in the specified time range.<br><br>(continued) | | |
| NANC 169 (con't) | | For #1 (new words in *larger print italics*), in FRS Appendix E, Download File Examples,<br>Subscription versions in the download file are selected by an NPA-NXX begin and end range. The file name for the Subscriptions download file, *where a time range is NOT selected,* will be in the format:<br>NPANXX-NPANXX.DD-MM-YYYYHH24MISS<br>The NPANXX-NPANXX values map to the selection criteria and the time stamp maps to the current time *(Central Time - standard/daylight)*.<br>The Subscriptions file given in the example would be named:<br>303123-303125.10-13-1996081122<br><br>*In the case where a time range is selected, the file name for the Subscriptions download file with a time range, will be in the format: NPANXX-NPANXX.DD-MM-YYYYHH24MISS. DD-MM-YYYYHH24MISS. DD-MM-YYYYHH24MISS.TIMEZONE*<br>*The NPANXX-NPANXX values map to the selection criteria, the first time stamp maps to the current time (when the file is generated), the second time stamp maps to the start time range, and the third time stamp maps to the end time range. All three time stamps are represented in Central Time (standard/daylight), even though the Subscription Versions are stored in the NPAC in Greenwich Mean Time.* | | | Jan LNPAWG (Atlanta), proposed changes were discussed. CMA will include proposed changes in next version of the change management list.<br><br>Feb LNPAWG (San Ramon), updated multiple points for the change order (both file name and requirements).<br><br>NOTE: The baseline for this change order is R2. Therefore, when this change order gets merged into R3, need to change req 9 to reflect the EDR Flag, and filter out LNP Type of POOL (ref. SV-521).<br><br>ACTION ITEM: Jim will look at the broadcast timestamp for the SV Object, and how the NPAC Data Model attributes match up to the broadcast to the LSMSs.<br>CLOSED, Mar 99. Activations are using the Activation Broadcast Timestamp in SV Data Model.<br><br>Mar LNPAWG (Denver), reviewed updated words. Modifications will be reviewed in Apr.<br><br>Apr LNPAWG (DC), reviewed updates. Move to Accepted List.<br><br>Refer to R4 Change Orders for current proposed resolution. | | |

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| | *The TIMEZONE value will contain one of two values, either CST or CDT, depending on the current time zone in the Central Time Zone (when the file is generated).*<br>*The Subscriptions file with a time range given in the example would be named:*<br>*303123-303125.10-13-1996081122.10-10-1996000000.10-12-1996115959.CST*<br>(continued) | | | | **01/02/02** – Sometime during the R4.0 discussions this change order was removed from the R4.0 package.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 169 (con't) | Also for #1, no functional requirements or IIS flows are affected by this change.<br><br>For #2, new requirements are proposed (see below)<br><br>**Req 1 Subscription Version Information Bulk Download File Creation – Subscription Versions**<br><br>NPAC SMS shall allow NPAC personnel to request a bulk data download file for Subscription Version data via the NPAC Administrative Interface. (existing NPAC SMS functionality)<br><br>**Req 2 Subscription Version Information Bulk Download File Creation – Selection Criteria**<br><br>NPAC SMS shall include the Requesting Service Provider, Active/Disconnect Pending/Partial Failure Subscription Versions Only or Latest View of Subscription Version Activity Choice, Time Range in Central Time (standard/daylight), and TN Range as Selection Criteria fields for the Subscription Version bulk data download file via the NPAC Administrative Interface.<br><br>**Req 3 Subscription Version Information Bulk Download File Creation – Active/Disconnect Pending/Partial Failure Subscription Versions Only or Latest View of Subscription Version Activity Choice**<br><br>NPAC SMS shall allow NPAC Personnel to select either *Active/Disconnect Pending/Partial Failure Subscription Versions Only* or *Latest View of Subscription Version Activity*, and shall use the selected choice, for Subscription Version data.<br><br>**Req 4 Subscription Version Information Bulk Download File Creation – Data in Active/Disconnect Pending/Partial Failure Subscription Versions Only Choice**<br><br>NPAC SMS shall use the *Active/Disconnect Pending/Partial Failure Subscription Versions Only* selection to only include Subscription Versions with a status of either Active, Disconnect Pending or Partial Failure in the Subscription Version Bulk Data Download file. | | | | | | |

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| | **Req 5** **Subscription Version Information Bulk Download File Creation – Data in Latest View of Subscription Version Activity Choice**<br>NPAC SMS shall use the *Latest View of Subscription Version Activity* selection to include all Subscription Versions, regardless of status, in order to capture activation, modification, and deletion transactions for Subscription Version data, but only include the latest instance of the TN in the Subscription Version Bulk Data Download file, for a given NPA-NXX, when a Subscription Version has more than one activity (e.g., addition, then modification) within the specified time range.<br><br>(continued) | | | | | | |
| NANC 169 (con't) | **Req 6** **Subscription Version Information Bulk Download File Creation – Time Range Fields**<br>NPAC SMS shall use the Start Time Range entry field as an inclusive start range in Central Time (standard/daylight), and the End Time Range entry field as an inclusive ending range in Central Time (standard/daylight), for Subscription Version data that were broadcast during the specified Time Range.<br><br>**Req 7** **Subscription Version Information Bulk Download File Creation – TN Range Fields**<br>NPAC SMS shall use the first TN Range entry field as an inclusive start range, and the second TN Range entry field as an inclusive ending range, for Subscription Version data.<br><br>**Req 8** **Subscription Version Information Bulk Download File Creation – Selection Criteria Combinations**<br>NPAC SMS shall edit the selection criteria combination as shown in the table below:<br><br>\| Time Range \| TN Range<br>---<br>Active/Disconnect Pending/<br>Partial Failure SVs Only \| Rejected \| Optional<br>Latest View of SV Activity \| Required \| Optional<br><br>Such that a combination of:<br>• Active with a Time Range shall be rejected.<br>• Latest View shall require a Time Range.<br>• TN Range shall be optional for both Active and Latest View.<br><br>**Req 9** **Subscription Version Information Bulk Data Download – Subscription Version Results** | | | | | | |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | NPAC SMS shall provide a bulk data download file, based on the selection criteria, that contains all Subscription Versions in the NPAC SMS.<br><br>(continued) | | | | | | |
| NANC 169 (con't) | **Req 10 Subscription Version Information Bulk Data Download – Subscription Version Results Sort Order**<br>NPAC SMS shall sort the Subscription Version Bulk Data Download file, in ascending order based on the value in the TN attribute.<br><br>**Req 11 Subscription Version Information Bulk Data Download – Filters for Subscription Versions**<br>NPAC SMS shall apply NPA-NXX Filters to Subscription Versions in the creation of bulk data download files.<br><br>**Req 12 Subscription Version Information Bulk Data Download – FTP Sub-Directory**<br>NPAC SMS shall automatically put the bulk data download file into the FTP sub-directory of the Service Provider, based on SPID, that requested the creation of the bulk data download file.<br><br>**Req 13 Subscription Version Information Bulk Download File Creation – Time Range Fields and SV Data Model**<br>NPAC SMS shall use the Start and End Time Range entry fields to include Subscription Version data, based on the Activation Broadcast Time Stamp, Modify Broadcast Time Stamp, and Disconnect Broadcast Time Stamp, in the NPAC's Subscription Version Data Model, when generating the file for the *Latest View of Subscription Version Activity* selection. | | | | | | |
| NANC 187 | AT&T 1/7/98 | **<u>Linked Action Replies</u>**<br><br>It has been requested that all action replies be reviewed to determine if they should be linked replies.<br><br>Sep 99 LNPA-WG (Chicago), it was requested to merge the NANC 186 text into this change order.<br><br>NANC 186 text -- It has been requested that the notification recovery action reply be a linked reply. This would be done to control the size of the response sent back to the Local SMS | High | FRS, IIS, GDMO | Func Backwards Compatible: NO<br><br>Related to NANC 186 and NANC 183.<br><br>Actions that were identified as issues were the network and subscription version recovery actions. It is suggested that service providers that cannot handle large PDUs request network or subscription version recovery in smaller time intervals. A request has been made to Lockheed to document this in M&P. | Med | Med / Med |

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| | | systems. | | | NANC 186 text -- Related to ILL 79, NANC 183, and NANC 184. As a work around to the large PDU size in the interim. It is suggested that service providers that cannot handle large PDUs request notification recovery in smaller time intervals.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 191 | Ameritech 1/19/1998 | **DPC/SSN Value Edits**<br><br>It has been requested that DPC and SSN values be edited to make sure that if a SSN is specified that the DPC is specified. This functionality was requested due to a problem with a large port were the DPC and SSN information entered by the originator was invalid. Currently the NPAC SMS does no validity checks on the SSN and DPC information other than it is of the format and type defined in the IIS and FRS. | High | FRS, GDMO | Pure Backwards Compatible: YES<br><br>The edits need to be verified by industry experts to insure they are correct. Gary Sacra has taken an action item to obtain more information from T1/S1.6.<br><br>The following information was provided by Gary for DPC/SSN edits:<br><br>• The 9-digit point code (DPC) is broken down into three components: 3-digit<br>➢ Network ID - valid range=001-255<br>➢ 3-digit Cluster ID - valid range=000-255<br>➢ 3-digit Member number - valid range=000-255<br>• Subsystem Number (SSN) is a separate | Low | N/A / N/A |

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| | | | | | three digit number with a valid range of 000-255.<br>• It does not make sense in the network to have a DPC without an SSN or vice versa.<br>Refer to R4 Change Orders for current proposed resolution.<br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 192 | T&O Conference Call 1/23/1998 | **NPA Split NPAC SMS Load File**<br>It was requested that a file be used to load NPA Split information into the NPAC SMS. This would prevent manual data entry that could introduce errors when entering the NPA Split information. | High | FRS, IIS | Pure Backwards Compatible: YES<br>John Malyar from Bellcore gathered some information for the group as to whom, how, and when for files containing the data that are distributed in the industry currently.<br>John indicated that NANPA identifies and announces the split. The LERG has tools to pull data for a split and distribute it electronically. This is one source from which a file can be obtained.<br>Refer to R4 Change Orders for current proposed resolution.<br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document. | Med | N/A / N/A |

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| | | | | | **01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 193 | NANC T&O 1/23/1998 | **<u>TN Processing During NPAC SMS NPA Split Processing</u>**<br><br>There was group consensus that NPAC behavior would not change until the start of permissive dialing. An example would be an audit that occurred during split processing one-minute before the start of permissive dialing. The NPAC should act as if permissive dialing has not yet started for the audit initiated during split processing. The Split processing should have no effect on operations of the system.<br><br><u>A clarification requirement should be added as follows:</u><br><br>NPAC SMS shall processes requests during split processing prior to the start of permissive dialing as if the split processing has not yet occurred.<br><br>Additional clarification requirement:<br><br>NPAC SMS shall in a download request made after permissive dialing start for subscription version data sent prior to permissive dialing start, return the new NPA-NXX for subscription versions involved in an NPA Split.<br><br>The above requirements do not reflect the current Lockheed NPAC SMS implementation. | Medium High | FRS | Pure Backwards Compatible: YES<br><br>Lockheed in release 1.2 currently holds requests until the NPA Split processing completes (regardless of the NPA or NPA-NXX). Nortel/Perot rejects the requests during NPA split processing. It was not clear if errors were for all requests or just requests related to the NPA or NPA-NXX being split.<br><br>Desired behavior would be to have no errors occur. Requests put on hold or queued would only be those related to NPA-NXX's involved in the NPA split being processed.<br><br>Lockheed in Release 1.3 will perform NPA-NXX locking.<br><br>The following questions need to be answered by vendors:<br><br>What will the SOA do if it sends an old NPA-NXX prior to PDP and the NPAC returns the new SV with the new NPA-NXX? What would happen for a create/audit/query?<br>What will LSMS systems do if an audit is sent for new NPA prior to PDP?<br>Are there LSMS that will not be able to handle audits on new NPA-NXX right at the start of PDP?<br><br>(continued) | High + | N/A / N/A |

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| NANC 193 (con't) | Continued | | | | How long does it take for NPAC/SOA/LSMS to split an NPA-NXX?<br>What is the NPAC behavior for recovery spanning time before & after PDP?<br>If NPAC splits starting at midnight and SOA sends new NPA-NXX for an NPA-NXX not in split what would happen?<br><br>After reviewing the above questions. It was determined that the NPAC should act as if the split had not occurred during split processing prior to permissive dialing.<br><br>A matrix of answers received above has been created.<br><br>It was discussed that this requirement would have to be implemented by SOA, LSMS, and NPAC vendors. This requirement would shorten the window when errors could occur for the change of an NPA. It was requested that we review and document on behavior in the following situations: When the NPAC receives a request sent before the splits after the split start, how should it respond? Also when an SOA or LSMS receives a request sent before the split after the split start, how should it respond?<br><br>IIS flows for error scenarios will be created. If an active is received by the NPAC SMS before PDP it will be rejected. If the old SP is received after the end of PDP it will be treated as the old NPA-NXX if that NPA- NXX is still a valid portable NPA-NXX in the NPAC SMS otherwise it will be rejected. Download requests after the start of PDP for information occurring before PDP should reflect the new NPA- NXX for subscription versions involved in a Port.<br><br>The matrix was finalized on the 5/22 T&O call.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 200 | AGCS 2/28/1998 | **Notification of NPA Splits**<br><br>It has been requested that to facilitate synchronization during NPA split, the NPAC via the mechanized interface should notify the SOA and LSMSs. The preferred method would be to have a new managed object that contains all split information. It would still be up to the respective system to | High | FRS, IIS, GDMO, ASN.1 | Func Backwards Compatible: NO<br><br>This change order is related to change order NANC 192 that proposes getting the split information from the LERG.<br><br>Refer to R4 Change Orders for current | Med / Low | Med / Med |

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| | | perform the splits, but all systems would be in sync. A second alternative would be to have the NPAC issue a notification that states the NPAC is start/ending split processing. | | | proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 217 | Sprint 5/22/1998 | **Mass Update of SPID**<br><br>It has been requested that Mass Update functionality be enhanced to allow SPID to be changed for all network data and subordinate subscription data. The current NPAC functionality allows mass updates to LRN, GTT data, and optional data (e.g., billing ID) for all active subscriptions currently serviced by that specific Service Provider, by NPA-NXX.<br><br>Having this functionality would facilitate a situation where one Service Provider (SP1) purchases/merges with another Service Provider (SP2), and all LNP data needs to be consolidated into a single SPID (on the NPAC).<br><br>Today, the NPAC requires all active subscriptions to be disconnected, and all pending subscriptions to be cancelled, by NPA-NXX for all NPA-NXXs owned by SP2. Next, SP2 would delete all LRNs, then delete all NPA-NXXs. SP1 would then have to add the NPA-NXXs and LRNs that were just deleted by SP2. Finally, the pending and activated SVs would need to be "re-created" under the presumption that SP1 is now the code holder for the NPA-NXXs.<br><br>The proposed solution with this change order is the NPAC would perform all of this processing "under the sheets", and | High | FRS, IIS | Func Backwards Compatible: NO<br><br>After much discussion on the 7/8/98 telecon, it was decided that the scope of this change order is huge, and its frequency of use is undetermined at this point in time (speculation is relatively small).<br><br>Additionally, AT&T requested that all SPs look at the possibility of performing some type of database migration/conversion instead of having the NPAC perform all of the updates, then have to broadcast to all SPs. The database migration/conversion could potentially be accomplished by using a new NPAC "bulk download file" to update the local database.<br><br>The current position for this change order is to have a brief discussion at the Wed, 7/15 meeting in Chicago. The group will seek volunteers for a sub-committee to further analyze this change order in the context of how to accomplish a "merger" using today's functionality, and investigate potential solutions using a "bulk download file" | High | High / High |

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| | | not require SP1 and SP2 to perform all of these steps.<br><br>The issue of notifications (whether to send or suppress) is NOT addressed at this point in time.<br><br>(continued) | | | approach, and a full NPAC solution with notifications across the interface.<br><br>July T&O (Chicago). Beth Watkins (AT&T) agreed to coordinate the first telecon for this sub-committee.<br><br>(continued) | | |
| NANC 217 (con't) | | After further analysis it was determined that the current NPAC implementation includes 23 tables that contain a customer SPID. Each will have to be addressed (at a business level) to determine correct NPAC processing should the SPID be modified.<br><br>The other issues to determine include:<br><br>1. length of time to complete this update.<br>2. which notifications need to be sent out over the SOA interface, since we are modifying numerous objects.<br>3. what do we do with current Network and Subscription records (update them with new SPID; or create new ones for the new SPID, and move the previous ones to OLD). | | | Sep LNPAWG (Seattle), a telecon has been scheduled for 9/29, 1p Central, 2 hours. In this initial telecon, the sub-committee will determine the scope of the discussion, and set ground rules for subsequent meetings on this change order.<br><br>Participants include, AT&T (Beth), Bellcore (John), ESI (Jim), GTE (Gene), MCI (Gustavo), PacBell (Jackie), and Sprint (Dave). Others are welcome to join.<br><br>The subcommittee will also talk about the potential of a "partial cut" from one SPID to another (possibly do on a market by market basis, or NPA by NPA basis).<br><br>Oct LNPAWG (Kansas City), the 9/29 telecon was cancelled. The make-up call is 10/21, 1p Central. Beth to send out bridge info.<br><br>Nov LNPAWG (Dallas), The 10/21 call did not have any Lockheed representation, so discussion did not get far. The next call is scheduled for Mon, 11/23, 1p Central, 2 hours.<br><br>During the 11/23 telecon, it was determined that Beth's proposed short term solution would not be easy to accomplish. Details on the telecon will be available at the Dec LNPAWG meeting.<br><br>Dec LNPAWG (Atlanta), Mass update is the long term solution, but wanted to have short term solution. In the case of MCI and Brooks, they deleted the SVs, deleted the network data, then put it back out there under the new SPID.<br><br>What we looked at for an NPAC manual update, then produce BDD, would require code changes. Plus, BDD would be all records instead of just changed ones. Also, SVs would be modified instead of activated, so the current BDD by | | |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | | | time range would NOT pick these up.<br><br>(continued) | | | |
| NANC 217 (con't) | | Current solution is customer impacting. Two long term options are the actual mass update of this change order, or having the NPAC internally update the SPID, then create appropriate BDD files that capture the changes within the time range.<br><br>Leave on open list for now.<br><br>Jan LNPAWG (Atlanta), Beth to set up another telecon (possibly end of Jan) to discuss next step.<br>During follow-up discussion with several members of the 217 analysis group, bandwidth (for meeting) was limited, due to Natl N Pool meetings.<br><br>Feb LNPAWG (San Ramon), backburner due to Natl N Pool commitments.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**December 2000 meeting:** Sprint re-opened discussion on this change order. As a result of the discussion additional information was added to both the Business Need and Description of Change to cover the situation of a single SPID being split into multiple SPIDs or a portion of a service provider's subscription versions being moved to another SPID.<br><br>**January 2001 meeting:** After much discussion on this change order the LNPA WG decided that it would be best to have two change orders for updating of SPIDs. A new change order, NANC 323, would be created to cover the partial update of a SPID and most of the information in this change order would be moved into the new change order. This change order, NANC 217, would be used to cover the simple case where a SPID is being completely retired (merger or acquisition).<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | | | | |
| NANC 218 | Sprint 6/5/1998 | **<u>Conflict Timestamp Broadcast to SOA</u>**<br><br>It has been requested that when a subscription gets placed in conflict, that the time that the subscription version was placed into conflict be broadcast in the status attribute value change notifications to the SOA. Currently it is defined in the IIS on page 262 (version 1.8) that NPAC is not required to send the timestamp information. This change would prevent the service provider SOA from having to query the NPAC | Med | IIS | Pure Backwards Compatible: NO<br>Func Backwards Compatible: YES<br><br>It was noted that a SOA could work around this issue, by automatically querying the NPAC for the conflict timestamp, anytime the SP receives a conflict status for an SV.<br><br>Leave on open list for now. | Low | Low / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | anytime they need to retrieve a timestamp. This conflict timestamp is needed so that the new service provider knows when the 6-hour timer has expired and so that they can remove it from. Also the presence of this timestamp indicates if the subscription has been placed into conflict before. | | | Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 219 | AT&T 6/5/1998 | **NPAC Monitoring of SOA/LSMS Associations**<br><br>It has been requested that NPAC Monitoring of SOA and LSMS associations be put into the NPAC SMS at the application (CMIP) layer. The approach suggested by the requestor would be to alarm whenever aborts are received or sent by the NPAC. When these alarms occur, the NPAC Personnel would contact the affected Service Provider to work the problem and ensure the association is brought back up.<br><br>From this point forward, this change order will deal with the alarm abort option. The heartbeat abort option is NANC 299. | High | FRS | Pure Backwards Compatible: YES<br><br>Sep LNPAWG (Seattle), discussed various options for working the problem of dropped associations (i.e., causes partial failures for the new SP trying to activate).<br><br>Options include,<br>1.) sending a notification to all SPs that "an SP is currently not associated", then another notifications once it is back up, "all SPs associated".<br>2.) stopping an activation request, because an association is down.<br>3.) sending a notification to the New SP when an activate is received, that an association is down, "do you still want to activate?".<br><br>NEXT STEP: all SPs should consider issues and potential options for activates during a missing association that will cause a partial failure.<br><br>Oct LNPAWG (Kansas City), the conversation migrated away from the three options | Low (alarm abort)<br><br>Med (heartbeat abort)<br><br>High (ops costs for all options) | N/A / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | | | | discussed in Seattle, and back to the NPAC proactively monitoring the association. This would require the NPAC to provide an attendant notification that a Service Provider is down, then notifying them of their missing association.<br><br>(continued) | | |
| NANC 219 (con't) | Continued | | | | So, anytime the NPAC receives an abort from a Service Provider, an NPAC alarm should be triggered, and an M&P should kick in where NPAC personnel notify the downed SP.<br><br>This has been moved into the "Accepted" category, awaiting prioritization.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 227 | MCI 8/7/98 | **10-digit TN Filters (previously know as "Ability to Modify/Delete of Partial Failure SV")**<br><br>**OLD TEXT:** The NPAC SMS currently rejects a request to "modify active" or "delete" an SV that has a partial failure status. Nothing can be done to the SV until the discrepant LSMS(s) come back on line, and either recover the broadcast, or accept a re-send from the NPAC.<br><br>**OLD TEXT:** A business scenario arose whereby a partial failure was affecting a customer's main number, and the New SP couldn't do anything to the SV until the partial failure was resolved. | High | FRS, GDMO | Func Backwards Compatible: NO<br><br>Discussed during 8/12/98 face-to-face T&O meeting (Detroit).<br><br>**OLD TEXT:** It was determined that the business scenario was primarily human error, and the NPAC should NOT be modified to allow a partial failure to go to active, but still have out-of-sync LSMS(s).<br><br>**OLD TEXT:** A workaround (available with 1.3 [with the exception of PTO]) would be to | High | Med-Low / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | **NEW TEXT:** The NPAC should provide a mechanism that allows 10-digit filters, in order to clean up partial failure SVs that need to be subsequently modified or deleted, by the New SP.<br><br>**Jun 99**, during the Pooling Assumptions walk-thru, four SV requirements were modified, and the functionality was moved into this change order. Basically, the "partial failure/failed" text is moved to this change order. The affected requirements are listed below:<br><br>SV-230 Modification of Number Pooling Subscription Version Information – Subscription Data<br>SV-240 Modification of Number Pooling Subscription Version Information – Status Update to Sending<br>SV-270 Modification of Number Pooling Subscription Version Information – Status Update<br>SV-280 Modification of Number Pooling Subscription Version Information – Failed SP List<br><br>This change order is related to NANC 254. | | | temporarily set up a filter for the discrepant LSMS(s), do a re-send which would clear up the failed-SP-List and set the SV to active, then remove the filter.<br><br>**OLD TEXT:** NEXT STEP: all SPs and vendors should evaluate if this is an acceptable solution.<br><br>**OLD TEXT:** Sep LNPAWG (Seattle), this potential M&P work-around has been forwarded to NPAC Operations (Jan Trout-Avery) for further analysis, and will be discussed at the x-regional in New Orleans.<br><br>(continued) | | |
| NANC 227 (con't) | | **OLD TEXT:** This change order will be left open pending the discussion in New Orleans.<br><br>Oct LNPAWG (Kansas City), after discussions in New Orleans at the x-reg meeting, it was requested by Service Providers that Lockheed use the M&P for "partial failures where the customer is out of service" only.<br><br>Jan will be doing an M&P on this, and will accumulate data on the frequency of this situation. Everyone should be aware that the risk for the M&P is that any other SVs that are coming down in the NPA-NXX will NOT be sent to the LSMS. From an NPAC functional perspective, a potential problem is the complexity of having to keep "versions" of versions, when you have an activate that fails, then allow a modify on top of this.<br><br>Jim Rooks provided info on this, to state that he is uncomfortable with the modify of a partial failure. We further discussed the potential of a 10-digit filter that would override the existing 6-digit filter. This should be the same change order, but will replace the title from modify partial failure to 10-digit filter.<br><br>Nov LNPAWG (Dallas), re-capped discussion from KC. Desire of this functionality is to have NPAC Personnel perform this activity (of putting up 10-digit filters), and NOT allow SPs to send this over the interface.<br><br>This has been moved into the "Accepted" category, awaiting prioritization. The group will flush out the details once this gets placed into a specific release. | | | | | |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | Jul LNPAWG (Ottawa), no comments on pooling additions.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. Also note that this change order was merged with NANC 254 sometime during or prior to the R4.0 discussions and is now referred to NANC 227/254. | | | | | |
| NANC 230 | Sprint 8/12/98 | **Allow a Donor SOA to Create a Port-to-Original on an Intra-Service Provider Port**<br><br>The current NPAC SMS functionality does not allow a Donor SOA to create a PTO SV with LNPType = LISP.<br><br>The business scenario is that a customer is "home'd" to switch A, then moves down the street and is "home'd" to switch B (still in same rate center, so was LISP-ed to switch B), then moves back up the street (and needs to be re "home'd" to switch A, but is still a working number).<br>In this scenario, the SP should send an LISP PTO create and activate. | High | FRS, IIS, GDMO | Func Backwards Compatible: NO<br><br>August T&O (Detroit). This change order was opened to replace its "sister" change order, NANC 223.<br><br>NEXT STEP: all SPs and vendors should evaluate if this is an acceptable solution, or if there are any operational issues with sending an LISP PTO.<br><br>Sep LNPAWG (Seattle), All SPs are O.K. with this change order.<br>Jim Rooks will look at this, since there may be an NPAC issue. In some current processing the NPAC needs the LNP type and if it is not available, the NPAC looks at the SPID values, and if they are the same, then the NPAC assumes it is LISP. Jim's point is that there may be an interface change. He will report at the next meeting.<br><br>Oct LNPAWG (Kansas City), Jim reported that this will NOT require an interface change. It does, however, require a change to the NPAC processing rules. Some of the changes for Pooling help to minimize changes to the NPAC. | Med | Med / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | | | | This should be moved into the "Accepted" category, awaiting prioritization<br><br>(continued) | | |
| NANC 230 (cont'd) | | | | | Refer to R4 Change Orders for current proposed resolution. "accepted" section of this document.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 232 | MetroNet 8/14/98 | **Web Site for First Port Notifications**<br><br>Currently all SOAs and LSMSs receive "first port" notifications. A request has been submitted to provide this information on the NPAC Web Site.<br><br>Sep LNPAWG (Seattle). This change order was introduced by MetroNet as a means for LTI users to obtain "first port" notifications.<br><br>The current process does NOT send this information to the LTI user (unlike SPs that have a CMIP-based SOA), but requires the LTI user to "query" the NPAC for notifications contained in the NPAC notification log (for that specific SP). Currently, this log contains the most recent 25 notifications for that SP. The user may also generate an NPAC report of all notifications for that SP.<br><br>The desire is to have these "first port" notifications on the web, similar to the NPA-NXX openings that are on the web today. | High | FRS | Pure Backwards Compatible: YES<br><br>Sep LNPAWG (Seattle). This change order was discussed by those in attendance. It was agreed that this change order was acceptable, and should be moved to the "Future Release CLOSED" List, and await prioritization from the group.<br><br>NOTE: This change order is similar to the existing requirements, R3-10 and R3-11 (Web bulletin board updates of NPA-NXXs and LRNs).<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders | Low | N/A / N/A |

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| | | | | | document for the latest information on this change order. | | |
| NANC 246 | National Number Pooling Sub-Committee 11/19/98 | **NPA-NXX Filters for Bulk Data Download files of SVs**<br><br>When the NPAC generates Bulk Data Download (BDD) files of SV data, NPA-NXX filters for a Service Provider are NOT incorporated in the BDD file generation process.<br><br>It has been requested that the NPAC be changed to incorporate the filters when generating the SV BDD files.<br><br>This change order is a subset of NANC 169 (same as requirement 11 in 169), which is shown below.<br><br>**Req 1 Subscription Version Information Bulk Data Download – Filters for Subscription Versions**<br><br>NPAC SMS shall apply NPA-NXX Filters to Subscription Versions in the creation of bulk data download files. | Low | FRS | Pure Backwards Compatible: YES<br><br>Dec LNPAWG (Atlanta), accepted as is. However, low priority.<br><br>**December 2000 Meeting**: This change order had been merged into NANC 169. At the December 2000 LNPA WG meeting it was decided to break out use it to apply filters to the Bulk Data Download files. NANC 169 has a requirement to apply filters to the Delta Bulk Data Download files and the group wanted the same function applied to the regular Bulk Data Download files.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | Low | N/A / N/A |
| NANC 249 | Sprint 12/9/98 | **Modification of Dates for a Disconnect Pending SV**<br><br>The NPAC should be changed to allow a Service Provider to modify the CDD (Customer Disconnect Date) and ERD (Effective Release Date) for an SV that has a status of "disconnect pending". | High | FRS, IIS, GDMO | Func Backwards Compatible: NO<br><br>The current Service Provider would send a subscriptionVersionModify using an M-ACTION.<br><br>subscriptionCustomerDisconnectDate and subscriptionEffectiveReleaseDate would need to be added as modifiable attributes.<br><br>A new IIS flow needs to be developed (Subscription Version Modify Disconnect Pending Version Using M-ACTION by a Service Provider SOA).<br><br>If the newly modified ERD is the current date | Low | Med / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | | | | or a previous date, the NPAC will follow the "immediate disconnect" flow (6.5.4.1). Otherwise, it's BAU for the future dated ERD (6.5.4.2).<br><br>R5-25 needs to be changed to allow for a modification of an SV with a status of disconnect pending.<br><br>R5-36 and R5-38.1 needs the CDD and ERD attributes added to the list.<br><br>R5-41 and RR5-41.x need to perform exception processing (i.e., NOT send to LSMSs at this time) of modifications where the new ERD is a future date.<br><br>(continued) | | |
| NANC 249 (con't) | Continued | | | | New requirements:<br>1. NPAC SMS shall reject a modification request of an SV with a status of disconnect pending, where the CDD value is zero.<br><br>Jan LNPAWG (Atlanta), group O.K. with this change order. Move to accepted list.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 254 | LNPA WG 1/12/99 | **NPAC Requirements - Subsequent Ports of Active SV with a Failed SP List** | ??? | FRS, GDMO | Func Backwards Compatible: NO<br><br>Jan LNPAWG (Atlanta). This change order | High | Med-Low / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | The Failed SP List should be zeroed out (on the old SV), once the new SV gets activated.<br><br>*Req 1 – NPAC SMS shall remove a Service Provider from a Subscription Version's Failed SP List, where the Subscription Version's status is Old, once a subsequent port for that TN has started the broadcast of subsequent activity to the LSMSs.*<br><br>*NOTE: For Req 1 above, "subsequent activity" refers to activations, modify actives, disconnects, and PTO of a TN that has been previously ported.*<br><br>A Service Provider should only be allowed on the Failed SP List for 1 (one) SV for any given TN.<br><br>*Req 2 – NPAC SMS shall allow a Service Provider to only be on the Failed SP List for one Subscription Version, for a given TN, at any given point in time.*<br><br>A Service Provider should be capable of recovering an SV download, even though the Failed SP List has been cleaned up for the previously active SV.<br><br>*Req 3 – NPAC SMS shall support the recovery of subscription data for a Service Provider over an NPAC SMS to Local SMS association, for a previously active Subscription Version which contained that given Service Provider on the Failed SP List, then had that given Service Provider removed from the Failed SP List as a result of a subsequent port, all which occurred while that given Service Provider did NOT have an active association to the NPAC SMS.* | | | was opened to replace its "sister" change order, NANC 245.<br><br>Feb LNPAWG (San Ramon), leave on open list for now. BST evaluating 245 and 254, to see if O.K. with clearing out the Failed List on previous port, when they are the Old SP.<br><br>Mar LNPAWG (Denver), BST O.K. with this. Move to accepted category.<br><br>This change order is related to NANC 227.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. Also note that this change order was merged with NANC 227 sometime during or prior to the R4.0 discussions and is now referred to NANC 227/254. | | |
| NANC 285 | LNPA WG 5/12/99 | **SOA/LSMS Requested Subscription Version Query Max Size**<br><br>A SOA/LSMS request for a Subscription Version query that exceeds the maximum size tunable ("Maximum Subscriber Query"), returns an error message to the SOA. | High | FRS, IIS, GDMO | Func Backwards Compatible: NO<br><br>June LNPAWG (San Ramon), discussed in conjunction with NANC 279. Group decided to close out 279, and merge the requested functionality into this change order, since this | Low | Med-High / Med-High |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | Similar to the processing in NANC 273, it has been requested the NPAC return SVs up to the max tunable amount instead. The SOA/LSMS would accept this message, then use it's contents to send another query to the NPAC, starting with the next TN, and so on until all SVs are returned to the SOA/LSMS.<br><br>It will be up to the SOA/LSMS to manage the data returned from the NPAC and determine the next request to send to the NPAC in order to get the next set of SVs.<br><br>The NPAC will continue to return SVs that meet the selection criteria. However, the NPAC will not return a "count" to the SOA/LSMS for number of records that match the selection criteria.<br><br>This solution will resolve the problem described in NANC 279 (SOA Resynchronization for Large Ranges), where a problem exists for recovering the SOA for large ranges, because the SV time stamp that the NPAC users for recovery is the same for large ranges.<br><br>The example used for NANC 279 was, if all the TNs in the range contain the same time stamp (e.g., 17 minutes and 20 seconds after 3p, 15:17:20), and the number of TNs in the range exceeds the tunable allowed for queries, the SOA cannot recover since the NPAC, for any time range, will respond with an error for maximum TN query reached. | | | is query functionality issue, and not just a recovery issue.<br><br>Jim Rooks will provide additional information on a proposed solution given the inclusion of NANC 279 into this change order.<br><br>Jim's response is shown below:<br><br>This change order requests the 'more' capability that will be supported by queries in the LTI. This implementation requires 2 changes.<br><br>#1, the NPAC must be modified to always return the first n (tunable) records on the SV query. Currently, the NPAC determines that the query will return more than n records and returns an error.<br><br>(continued) | | |
| NANC 285 (con't) | continued | | | | #2, the service providers should modify their systems to support the following SV query operations to the NPAC:<br>**a.** When data is returned from an SV Query and there are exactly n (tunable) records returned, the SP must assume that they didn't get all the data from their query.<br>**b.** After processing the first n records, they should send a new query that picks up where the data from the prior query ended.<br>**c.** The SV data returned from the NPAC for SV queries will be | | |

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<tr><td></td><td></td><td></td><td></td><td></td><td>sorted by TN and then by SVID so a filter can be created to pick up where the prior query ended.<br>d. For example, if a SOA query to the NPAC returns exactly 150 records and the last SV returned was TN '303-555-0150' with SVID of 1234. The filter used on the next query would be:<br><code>All SVs where ((TN > 303-555-0150) OR (TN = 303-555-0150 AND SVID > 1234).<br>The NPAC does support OR filters.</code><br>e. Once the results from the NPAC returns less than 150 records, the SP can assume they received all records in the requested query.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>01/02/02 – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the “accepted” section of this document.<br><br>01/15/02 – Refer to the Future Change Orders document for the latest information on this change order.</td><td></td><td></td></tr>
<tr><td>NANC 287</td><td>AT&T 5/27/99</td><td><u>ASN.1 Change for Required Field in VersionNewNPA-NXX and VersionNewNPA-NXX-Recovery Notification</u><br><br>The current ASN.1 has incorrect field definition. The requested change is to make the service-prov-npa-nxx-value of the VersionNewNPA-NXX notification and VersionNewNPA-NXX-Recovery notification a required field instead of 'optional'.<br><br>Current ASN.1:<br>VersionNewNPA-NXX ::= SEQUENCE {<br>service-prov-npa-nxx-id NPA-NXX-ID,<br>service-prov-npa-nxx-value NPA-NXX OPTIONAL,<br>service-prov-npa-nxx-effective-time-stamp GeneralizedTime,<br>service-prov-id ServiceProvId,<br>access-control LnpAccessControl<br>}</td><td>Med</td><td>ASN.1</td><td>Pure Backwards Compatible: NO<br>Func Backwards Compatible: YES<br><br>June LNPAWG (San Ramon), this also applies to the recovery notification (in addition to the first port notification that is listed in the change order). Update to add recovery notification and review next month.<br><br>Jul LNPAWG (Ottawa), it was noted that this is not considered backwards compatible, since it requires a recompile. Move to accepted category.<br><br>Refer to R4 Change Orders for current proposed resolution.</td><td>Low</td><td>Low / Low</td></tr>
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| | | | | | | **NPAC** | **SOA LSMS** |
| | | **Proposed:**<br>VersionNewNPA-NXX ::= SEQUENCE {<br>service-prov-npa-nxx-id NPA-NXX-ID,<br>service-prov-npa-nxx-value NPA-NXX,<br>service-prov-npa-nxx-effective-time-stamp<br>GeneralizedTime,<br>service-prov-id ServiceProvId,<br>access-control LnpAccessControl<br>}<br><br>**Current ASN.1:**<br>VersionNewNPA-NXX-Recovery ::= SEQUENCE {<br>service-prov-npa-nxx-id NPA-NXX-ID,<br>service-prov-npa-nxx-value NPA-NXX OPTIONAL,<br>service-prov-npa-nxx-effective-time-stamp<br>GeneralizedTime,<br>service-prov-id ServiceProvId<br>}<br><br>(continued) | | | **01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 287 (cont'd) | | **Proposed:**<br>VersionNewNPA-NXX-Recovery ::= SEQUENCE {<br>service-prov-npa-nxx-id NPA-NXX-ID,<br>service-prov-npa-nxx-value NPA-NXX,<br>service-prov-npa-nxx-effective-time-stamp<br>GeneralizedTime,<br>service-prov-id ServiceProvId<br>} | | | | | |
| NANC 291 | Bell Atlantic/ Sprint 7/7/99 | **SSN Edits in the NPAC SMS**<br><br>The NPAC SMS should edit and prevent a new Service Provider CREATE message from specifying final Global Title Translations for CLASS, LIDB, CNAM, ISVM MWI, and WSMSC.<br><br>Description of Issue:<br>There have been instances when the new Service Provider, upon sending the new SP CREATE message to NPAC, has provided final Global Title Translation data for the Destination Point Codes and Subsystem Numbers for | High | FRS, GDMO | Pure Backwards Compatible: YES<br><br>Jul LNPAWG (Ottawa), lots of discussion. Some SPs using final, but not sure how much of a problem this is creating. In all cases discussed, led to new SP changing SSN to gateway value instead of final value.<br><br>Homework for all SPs for next month. Figure out requirement to broadcast final GTT instead of gateway, and willingness to change this approach. SPs will need to substitute | Low | N/A / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | CLASS, LIDB, CNAM, and/or ISVM MWI. This final GTT data is broadcasted by NPAC to all applicable subtending service providers in the Region. This has resulted in TCAP routing errors for subtending service providers who do not have route sets built based on final GTT to the new SP.<br><br>Proposed Change Order:<br>Implement an edit in NPAC that will reject a new SP CREATE message if the message contains a Destination Point Code with a non-zero (000) Subsystem Number for CLASS, LIDB, CNAM, ISVM MWI, or Wireless Short Message Service. This edit shall be settable (active or inactive) on a Regional NPAC basis. It shall apply to all DPCs associated with ported and pooled DNs. For 1K block pooling, the NPAC SMS will reject creation of block data containing a non-zero Subsystem Number, whether by NPAC personnel or via the new SP's SOA, if the edit is active.<br><br>(continued) | | | final in their own network. SPs should understand that if no arrangement is set up between the providers, then routing errors (to the new SP's customer) will occur. This affect creates, modifies, and mass updates.<br><br>Aug LNPAWG (Portland), since the conference bridge was not available at the time this was discussed, the group agreed to postpone the discussion until September (assuming a conference bridge was available at that point in time).<br><br>Sep LNPAWG (Chicago), much discussion. A vote 10 (for) to 1 (against) was taken to move this change order into the accepted category. | | |
| NANC 291 (con't) | continued | | | | Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 297 | Sprint 9/15/99 | **<u>Sending SV Problem During Recovery</u>**<br><br>If an LSMS is down during the broadcast, and the NPAC SMS has sent out the final retry, the LSMS will not be able to recover this broadcast (either in recovery or once recovery is complete and normal processing continues).<br><br>It was discussed that the way to ensure the recovering LSMS gets the sending SVs, is to include any of these SVs. By | High | FRS, GDMO | Pure Backwards Compatible: YES<br><br>Sep LNPAWG (Chicago), need to add priority during Oct meeting in KC.<br><br>Oct LNPAWG (KC), could have a problem if the SV is sent twice (once for the recovery, and once at the next retry attempt), so the group wants the failed list updated for the | Med-Low | N/A / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | including these, along with the appropriate download reason; the LSMS would be able to recover sending SVs.<br><br>New Requirements:<br><br>NPAC SMS shall include Subscription Versions with a status of sending, at the time subscription data recovery is requested by the LSMS.<br><br>NPAC SMS shall remove a Service Provider from the Failed SP List of a Subscription Version with a status of sending, even if there are additional retry attempts, at the time subscription data recovery is requested by the LSMS of that Service Provider. | | | recovering SP.<br><br>Refer to R4 Change Orders for current proposed resolution.<br><br>**01/02/02** – NPAC R4.0 as submitted to the LLC in 2000 is not going forward. This change order has been moved back into the "accepted" section of this document.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 299 | LNPA-WG 9/15/99 | **NPAC Monitoring of SOA and LSMS Associations via Heartbeat**<br><br>This is an extension of NANC 219 and NANC 301. Instead of utilizing a TCP Heartbeat and an abort message, the NPAC SMS would utilize an application level heartbeat message on every association. If a response was not returned for any given application level heartbeat message, an alarm would be initiated for NPAC Personnel.<br><br>Oct LNPAWG (KC), this change order is designed to establish the application level heartbeat process (which requires an interface change to both the NPAC and the SOA/LSMS). This process will allow two-way communication and allow either side to initiate the application level heartbeat message. The application level heartbeat process should be set up so that the functionality can be optionally set up per association.<br><br>The alarming process is the same as 219, such that an alarm would be initiated whenever application level heartbeat responses are not sent by the NPAC or SOA/LSMS. When these alarms occur, the NPAC Personnel would contact the | High | FRS, IIS, GDMO, ASN.1 | Func Backwards Compatible: NO<br><br>The current working assumption is that this heartbeat would be a new message, it would not have any access control, it would be at a low level in the protocol stack, this heartbeat would occur on the same port as the association, this message would only occur if no traffic was sent/received after a configurable period of time, and this heartbeat would be two-way to allow either side to initiate this message.<br><br>All parties still need to examine if there might be an issue with filtering in their firewalls. The need for both a network level heartbeat and application level heartbeat still needs to be decided.<br><br>Jan 00 LNPAWG meeting, the group has not been able to determine the feasibility of implementing an application level heartbeat. It was agreed to put this change order on hold, | Med | Med -High / Med - High |

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| | | | | | | **NPAC** | **SOA LSMS** |
| | | affected Service Provider to work the problem and ensure the association is brought back up. | | | pending the outcome of NANC 301 (NPAC TCP Level Heartbeat [transport layer]). The functionality documented in this change order needs further review before this change order can be considered "accepted and ready for selection into a release".<br><br>(continued) | | |
| NANC 299 (con't) | continued | | | | May 00 LNPAWG (Atlanta), leave open until further analysis of NANC 219 and NANC 301 (i.e., after R4 implementation).<br><br>June 00 LNPAWG meeting, group consensus (during R5 discussion) is to move to cancel-pending.<br><br>**July 2000 meeting** – LNPA WG consensus is that they do not want to cancel this change order but move it back to an accepted change order for a future release. Metrics and reports that will be provided after R4.0 will give more information to determine whether or not this change order is needed.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 300 | LNPA-WG 12/6/99 | **Resend Exclusion for Number Pooling**<br><br>This is an extension of NANC 227. During the Dec 99 LNPA-WG meeting, it was proposed to remove Number Pooling functionality from NANC 227, and create a new change order for this functionality. | ??? | FRS, GDMO | Functional Backwards Compatible: NO<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | Med | Med-Low |
| NANC 311 | GTE 6/5/00 | **Query Message of SP Association Status**<br><br>Provide information of the current service status (TBD) for all LSMS associations in each NPAC region. This query would be initiated by SOAs only. This would be an enhancement to NANC 219 and 301 (Association Monitoring) which both will be fully deployed in NPAC SMS Release 4.0. | ??? | FRS | Functional Backwards Compatible: NO<br><br>**December 2000 meeting:** LNPA WG decided to remove this change order from the Release 5.0 group but to keep it as an active change order until the results of the association monitoring that are being | Med | Med / N/A |

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| | | Jun 00 LNPAWG meeting, at the suggestion of the CMA, the group discussion migrated away from a dynamically updated web site, to a query message that could be used by the soon-to-be-activating Service Provider, to determine if all associations are available. This new query would be a CMIP message (M-ACTION) that would allow a query on an NPA-NXX, where the NPAC SMS would take into account all filters for that given NPA-NXX, and return a list of all SPIDs that are currently not available that should be available (i.e., the New SP is expecting an empty unavailable SP List). | | | implemented in Release 4.0 (NANC 219) can be evaluated. This change order, as it currently exists in the Release 5.0 package, will be removed from the Release 5.0 package and kept as a separate document until such time as it is determined if this change order should be implemented or closed.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 312 | Nextlink 6/14/00 | **Different User Levels on the LTI**<br><br>Provide two user **security** levels for the LTI. One would have access to the reports option, and the second would not have this access. All other access would be identical for the two user levels. | ??? | FRS | Pure Backwards Compatible: **Yes**<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | Med | N/A |
| NANC 316 | LNPA WG 8/16/00 | **Change the NSAP Field Size Declaration in ASN.1 – ASN.1 Recompile**<br><br>As described in change order NANC 315 (FRS Document Only Change – NSAP Field Size) that was incorporated in FRS Release 3.0.2, the NSAP field currently uses only 12 of the 20 octets declared as the field size. The other 8 are for a port number but this is not currently used. The ASN.1 should be updated to be a field of size 12 octets. This would eliminate the need for the NPAC software to truncate the data sent by the SOAs and LSMSs.<br><br>ASN.1 Update:<br><br>`OSI-Address ::= SEQUENCE {`<br>`  nsap  OCTET STRING(SIZE(~~20~~12)),`<br>`  tsap  OCTET STRING(SIZE(1..4)),`<br>`  ssap  OCTET STRING(SIZE(1..4)),`<br>`  psap  OCTET STRING(SIZE(1..4))`<br>`}` | ?LOW | ASN.1 | Func Backwards Compatible: **NO**<br><br>Need to determine when to implement this change order<br><br>This change affects the Modify Customer Profile only.<br><br>**October 2000 meeting:** Move to Accepted<br><br>**01/02/02** – The CMA did not include this change order in the "Future Release Change Orders" document that was published on 12/21/01 as it is a recompile of ASN.1 only.<br><br>**01/16/02** – Upon reconsideration the CMA decided to include this change order in the "Future Release Change Orders" document so it doesn't get forgotten when a release | ??? | ??? |

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| | | | | | package is put together. It will appear in the "Future Release Change Orders" document as of 1/30/02. Refer to this document for the latest information on this change order. | | |
| NANC 319 | Verizon 10/25/00 | **<u>NPAC Edit to Ensure NPA-NXX of LRN is in Same LATA as NPA-NXX of Ported TN</u>**<br><br>Local Number Portability (LNP) standards require that service providers assign at least one Location Routing Number (LRN) per switch per LATA that the switch serves. Post-query LNP call processing in the various switch types requires that the NPA-NXX of an LRN that is returned from the database must be in the same LATA as the NPA-NXX of the dialed number.<br><br>Currently, the NPAC does not perform any edits on a New Service Provider CREATE or MODIFY messages in order to ensure that the NPA-NXXs of both the LRN and the ported TN are in the same LATA.<br><br>When a call is placed to a ported TN associated with an LRN from an NPA-NXX in a different LATA, the call fails in the originating switch, resulting in a service-affecting condition that is predominantly identified only after customer complaints.<br><br>This proposed Change Order is a request for an NPAC edit on New Service Provider CREATE and MODIFY messages that would reject any CREATE or MODIFY if the NPA-NXXs of the LRN and ported TN contained in the CREATE or MODIFY are not in the same LATA. This edit would eliminate this particular service-affecting condition as well as the expense of trouble-shooting the cause and working with the New Service Provider to modify their LRN. | ??? | FRS | Func Backwards Compatible: ???<br><br>**November 2000 meeting:** Currently the NPAC has no concept of a LATA. When a new NPA-NXX is opened the LERG assigns a LATA ID. An NPA can cross LATAs. Every NPA-NXX has a LATA association. It is a 3-digit number. There is one LRN per LATA but there can be multiple NPAs in a LATA and multiple LATAs in an NPA. This edit would ensure that the NPA-NXX of the TN and the NPA-NXX of the LRN is the same. LATAs can cross NPAC regions. The LERG would be the source of the LATA information rather than the Service Providers. If there is no LATA in the LERG information for the NPA-NXX or the LRN then the NPAC would reject the create request. If there were a modification of an LRN to active SVS or in a Mass Update this edit would have to be applied. This would also apply to Pooled Blocks. LATA should not be criteria for Mass Update.<br><br>**December 2000 Meeting:** Group accepted this change order. It was also determined that the change order needed to cover Modifies as well as Creates.<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | ??? | N/A / N/A |

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| | | | | | | **NPAC** | **SOA LSMS** |
| NANC 321 | WorldCom 12/13/00 | **Regional NPAC NPA Edit of Service Provider Network Data - NPA-NXX Data**<br><br>**Business Need:**<br>When a service provider submits a message to the NPAC in order to create a pending subscription version, the NPAC verifies that the old service provider identified in the message is the current service provider and that the number to be ported is from a portable NPA-NXX. If the telephone number already is a ported number, the NPAC will look at the active SV for that number to determine the identity of the current SP as shown in the active SV. If no active SV exists, then the number is not currently ported and the NPAC determines the current SP instead based on NPA-NXX ownership as shown in the NPAC's network data for each service provider. The NPAC also looks at the network data to confirm that the NPA-NXX has been identified as open to portability.<br><br>If a service provider has entered an NPA-NXX in its network data but has done it for its network data associated with the wrong region, then the correct NPAC region, when receiving create messages involving numbers in that NPA-NXX, will be unable to see that the TNs involve a portable NPA-NXX; in this case the create message will be rejected by NPAC. Furthermore, another service provider could erroneously enter the NPA-NXX in its network data for the correct NPAC region. Then the NPAC's portable NPA-NXX validation would pass, but the current service provider validation would fail. In either case the telephone number could not be ported until the service provider network data error were corrected. | ??? | FRS | Functional Backwards Compatible: **Yes**<br><br>**January 2001 meeting:** Accepted pending review of the final write-up in February.<br><br>**February 2001 meeting:** Accepted<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | ??? | N/A / N/A |
| NANC 321 (cont'd) | | It is important therefore to assure that service provider NPA-NXX network data be populated only in the proper NPAC region and to allow only the LERG-assignee to populate the data. The introduction of an NPA edit function, to validate that an NPA-NXX input is to network data associated with the NPAC region encompassing the involved NPA will effectively serve both functions. Such an edit function would not allow a service provider to put its NPA-NXX data in the wrong NPAC region's database and it consequently would not allow the improper LERG-assignee entries to remain long undetected.<br><br>**Description of Change:**<br><br>Network Data is submitted by service providers over their SOA/LSMS interfaces or via the NPAC Administrative OpGUI or the SOA LTI. A provider is | | | | | |

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| | | required to enter each portable NPA-NXX for which it is the LERG assignee. The NPAC uses this service provider network data to perform certain validation functions of subscription version data -- to confirm current SPID correct and that TN is from portable NXX -- and to determine TN ownership in snap-back situations.<br><br>Detailed requirements are as follows:<br><br>1. The NPAC will reject an NPA-NXX network data entry attempt if the NPA involved is not encompassed by the NPAC region to which the data is being submitted.<br><br>2. A table of valid NPAs will be established for each regional NPAC.<br><br>3. Each table of valid NPAs open in the NPAC service area will be maintained by NPAC personnel for each regional NPAC.<br><br>4. The NPAC will obtain information on new NPAs from the LERG.<br><br>5. The change order would be implemented on a regional basis. | | | | | |
| NANC 322 | LNPA WG 12/13/00 | **<u>Clean Up of Failed SP Lists Based on Service Provider BDD Response File</u>**<br><br>**Business Need:**<br>During discussion of change order NANC 169 at the December 2000 LNPA WG meeting it was decided to write a new change order to address the clean up of Failed SP Lists once a service provider received and processed a Bulk Data Download File or a Delta Bulk Data Download File and responded to the NPAC with its Service Provider Response File.<br><br>**Description of Change:**<br>It has been requested that NPAC clean up Failed SP Lists using data received in the Service Provider Response File resulting from the processing of a Bulk Data Download File or a Delta Bulk Data Download File. | ??? | FRS | Pure Backwards Compatible: **Yes**<br><br>**January 2001 meeting:** Accepted<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | ??? | N/A / ?? ? |
| NANC 323 | LNPA WG 01/10/01 | **<u>Partial Migration of a SPID via Mass Update</u>**<br><br>During the January 2001 LNPA WG meeting there was much | ??? | FRS | When there is a need to migrate a portion of one SPIDs data to another SPID a mass update with Service Provider notifications | High | ???/??? |

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| | | discussion on the NANC 217 change order and it was decided that it would be best to have two change orders for updating of SPIDs. NANC 217 would be retained and used to cover the simple case where a SPID is being completely retired (merger or acquisition) and a new change order created to cover the partial update of a SPID. | | | suppressed will be used. Service Providers receive a file from NPAC with information they can use to update their databases.<br><br>**February 2001 meeting:** Accepted<br><br>**01/15/02** – Refer to the Future Change Orders document for the latest information on this change order. | | |
| NANC 354 | Telcordia 4/12/02 | **Delta Download File Creation by Time Range for network data (cousin of NANC 169)**<br><br>**Business Need:**<br>((the following text is copied from the existing NANC 169 change order).<br><br>Currently the NPAC does not have the ability to create a delta bulk data download file by date and time range. This change order is expected to help with an SP's capability to 'catch-up' faster after an extended outage, as porting volume increases. The ability to create a delta bulk data download file by date and time range (downloading only the actual data required) reduces the work effort of the SP while getting the SP back in-sync with the NPAC in a more timely manner which in turn facilitates proper call routing.<br><br>(New text for NANC 354, which is a variant of NANC 169)<br><br>With this change order the NPAC will have the ability to generate a delta BDD file for NPA-NXX, LRN, and NPA-NXX-X data. | | FRS | Func Backwards Compatible: YES<br><br>((the following text is copied from the existing NANC 169 change order).<br><br>Need to change functionality when requesting NPA-NXX, LRN, and NPA-NXX-X BDD with a time range. Currently, the NPAC provides all data (no selection criteria available).<br><br>The start and end time ranges will be included in the file name.<br><br>(New text for NANC 354, which is a variant of NANC 169)<br><br>For NPA-NXX and LRN the time range will be based on CreationTimeStamp, and for NPA-NXX-X the time range will be based on ModifiedTimeStamp.<br><br>Delta BDD functionality for network data will provide the latest view of activity in the file (e.g., if an NPA-NXX is added, then deleted, the BDD file would contain the last activity, "delete this NPA-NXX"). | Med-Low | TBD / TBD |

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| | | | | | For NPA-NXX and LRN, the activity includes adds and deletes. For NPA-NXX-X, the activity includes adds, modifies, and deletes.<br><br>NOTE: The implementation of NANC 356 will introduce modifications to NPA-NXX. | | |
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| | | | | | | **NPAC** | **SOA LSMS** |
| NANC 332 | NeuStar 09/10/01 | **Doc Only Change Order for FRS:** Clarification of requirement RR5-42.1.<br><br>Currently reads:<br><br>**RR5-42.1 Conflict Subscription Version - Old Service Provider Number Restriction**<br>NPAC SMS shall only allow a subscription version to be placed into conflict by the Old Service provider one time.<br><br>Change to read:<br><br>**RR5-42.1 Conflict Subscription Version - Old Service Provider Number Restriction**<br>NPAC SMS shall only allow a subscription version to be placed into conflict by the Old Service provider one time, ***which includes the changing of the cause code on a subscription version.*** | High | FRS | Incorporate the correction into the FRS and-publish with the next release.<br><br>**October 2001 meeting:** Accepted by LNPA WG. To be included in next release of FRS. Move to "Next Documentation Release Change Orders" sub-section of the "Accepted Change Orders" section of this document. | N/A | N/A / N/A |
| NANC 333 | TSE 09/26/01 | **Doc Only Change Order for GDMO & IIS:** Clarification needed in the GDMO & two IIS Flows for the subscriptionVersionRangeObjectCreation notification (one of the new range notifications in change order NANC 179 for NPAC SMS Release 3.1).<br><br>In the ObjectInfo for subscriptionVersionRangeObjectCreationInfo there are attribute assertions for subscriptionVersionId and subscriptionTN as is done for the single objectCreation notification for a subscription version. These values would be the SVID and TN for the first TN in the list or range for the subscriptionVersionRangeObjectCreation notification.<br><br>(continued) | HIGH | GDMO/IIS | Incorporate into the GDMO and IIS immediately and re-publish these documents as Release 3.1.1<br><br>**October 2001 meeting:** Accepted by LNPA WG. To be included in next release of GDMO & IIS. Move to "Next Documentation Release Change Orders" sub-section of the "Accepted Change Orders" section of this document. | N/A | N/A / N/A |
| NANC 333 | | **GDMO changes needed for clarification of the subscriptionVersionRangeObjectCreation notification:** | | | | | |

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| | | | | | | **NPAC** | **SOA LSMS** |
| (cont'd) | | lnpSubscriptionsBehavior BEHAVIOUR<br>DEFINED AS !<br>Local SMS and NPAC SMS Managed Object<br><br>The Local SMS (Data Download Association Function) and the service provider SOA (SOA Management Association Function) can M-GET any lnpSubscriptions object. The lnpSubscriptionsName attribute is read only and can not be changed via the Local SMS Interface once the object has been created. The value of lnpSubscriptionsName will always be "lnpSubscriptions".<br><br>•<br>•<br>•<br><br>The SOA receives subscriptionVersionRangeObjectCreation notifications if their Service Provider TN Range Notification Indicator is set to TRUE on the NPAC SMS. The subscriptionVersionRangeObjectCreationPkg is used to send the subscriptionVersionRangeObjectCreation notification. When this package is sent, it will include one set of information for the TN range, plus a paired list of TN/Subscription Version ID combinations. If the feature data does not apply to all TNs in the range, notifications will be broken up into smaller TN Range Notifications such that the feature data applies to all TNs in the smaller TN Range, and will be sent in separate messages.<br><br>**The ObjectInfo field will contain the same data as the current object creation notifications sent to the old and new service provider. The TN and SVID fields that are sent in the single object creation notification will contain the TN and subscription version id for the first TN in the range or list.**<br><br>(continued) | | | | | |
| NANC 333 (cont'd) | | -- 16.0 LNP Subscription Version Range Object Creation Notification<br><br>subscriptionVersionRangeObjectCreation NOTIFICATION<br>BEHAVIOUR subscriptionVersionRangeObjectCreationBehavior;<br>WITH INFORMATION SYNTAX LNP-ASN1.VersionRangeObjectCreation | | | | | |

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| | | | | | | NPAC | SOA LSMS |
| | | AND ATTRIBUTE IDS<br>range-object-creation-info subscriptionVersionRangeObjectCreationInfo,<br>access-control accessControl;<br>REGISTERED AS {LNP-OIDS.lnp-notification 16};<br><br>subscriptionVersionRangeObjectCreationBehavior BEHAVIOUR<br>DEFINED AS !<br>This notification type is used to report creation of subscription versions for range operations. It uses the object creation notification as defined in M.3100.<br><br>The service provider supports this notification if the Service Provider TN Range Notification Indicator is set on the NPAC SMS and the service provider will no longer receive an object creation notification for a subscription version.<br><br>**This ObjectInfo field will contain the same data as the current object creation notifications sent to the old and new service provider. The TN and SVID fields that are sent in the single object creation notification will contain the TN and subscription version id for the first TN in the range or list.**<br><br>This notification is prioritized and transmitted according to its SOA Notification Priority tunable in the NPAC SMS.<br><br>**IIS changes need for clarification subscriptionVersionRangeObjectCreation notification:**<br><br>For flow B.5.1.1, step 5 should be changed as follows:<br><br>(continued) | | | | | |
| NANC 333 (cont'd) | | 5. If the M-ACTION was successful, the NPAC SMS issues, depending upon the old service provider's TN Range Notification Indicator, an objectCreation or subscriptionVersionRangeObjectCreation M-EVENT-REPORT containing the following attributes to old service provider SOA of subscriptionVersionNPAC creation:<br><br>***subscriptionVersionId***<br>subscriptionTN<br>subscriptionOldSP | | | | | |

| Next Documentation Release Change Orders | | | | | | | |
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| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | subscriptionNewCurrentSP<br>subscriptionOldSp-DueDate<br>subscriptionOldSP-Authorization<br>subscriptionOldSP-AuthorizationTimeStamp<br>subscriptionStatusChangeCauseCode<br>(if subscriptionOldSP-Authorization set to false)<br>subscriptionVersionStatus<br><br>***If the notification is a subscriptionVersionRangeObjectCreation then the TN and SVID are the TN and SVID of the first TN in the range or list.***<br><br>For flow B.5.1.2, step 5 should be changed as follows:<br>5. If the M-ACTION was successful, NPAC SMS issues, depending upon the old service provider's TN Range Notification Indicator, an objectCreation or subscriptionVersionRangeObjectCreation M-EVENT-REPORT containing the following attributes to old service provider SOA of subscriptionVersionNPAC creation:<br><br>***subscriptionVersionId***<br>subscriptionTN<br>subscriptionOldSP<br>subscriptionNewCurrentSP<br>subscriptionNewSP-CreationTimeStamp<br>subscriptionVersionStatus<br>subscriptionNewSP-DueDate<br><br>***If the notification is a subscriptionVersionRangeObjectCreation then the TN and SVID are the TN and SVID of the first TN in the range or list.*** | | | | | |
| NANC 334 | ESI 10/02/01 | **Doc Only Change Order for FRS:** Clarification needed in Items L-11.0 F & G in Table C-7 of Appendix C in the FRS.<br><br>Currently Item L-11.0 F reads:<br><br>**Subscription Version Status Attribute Value Change Notification – Modify active**<br>When an *Active* SV has been modified in the LSMS and the status of the SV has been re-set to Active (with or without a | High | FRS | Incorporate into the FRS and publish with the next release.<br><br>**11/14/01** – Reviewed at November 2001 LNPA WG. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until December 2001 meeting.<br><br>This is post SOW 28 (Release 3.1) but is | N/A | N/A / N/A |

| Next Documentation Release Change Orders | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | Fail-SP-List). The notification is sent only to the current SOA.<br><br>Should read:<br><br>**Subscription Version Status Attribute Value Change Notification – cancel pending**<br><br>When an *Active* SV has been modified in the LSMS ***or there has been a cancellation of a disconnect-pending SV*** and the status of the SV has been re-set to Active (with or without a Fail-SP-List). The notification is sent only to the current SOA.<br><br>Currently Item L-11.0 G reads:<br><br>**Subscription Version Status Attribute Value Change Notification – cancel pending**<br><br>When a *Pending* SV has been cancelled by the Old SP and the NPAC SMS has set the SV status to *Cancel-Pending*. The notification is sent to both SOAs: Old and New."<br><br>(continued) | | | already in the Release 3.1 software. Has been confirmed that it is being implemented in the software.<br><br>**12/12/01** – NeuStar expects to have info for the January 2002 meeting.<br><br>**01/09/02** – NeuStar confirmed that this change order does not have any impacts to SOW 28. Move to "accepted" to be incorporated into the next release of the FRS. | | |
| NANC 334 (cont'd) | | Should read:<br><br>**Subscription Version Status Attribute Value Change Notification – cancel pending**<br><br>When a *Pending* ***or Conflict*** SV has been cancelled by the Old ***or New*** SP and the NPAC SMS has set the SV status to *Cancel-Pending*. The notification is sent to both SOAs: Old and New. | | | | | |
| NANC 335 | LNPA WG 10/10/01 | **Doc Only Change Order for GDMO:** Update GDMO to explain how the Primary/Secondary Service Provider situation works with Range notifications. | Medium | GDMO, IIS | Incorporate into next release of GDMO and IIS. | N/A | N/A / N/A |

| Next Documentation Release Change Orders | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | **At the end of section 14.0 LNP Subscriptions Managed Object Class add the following text:**<br><br>Range notifications are formatted according to the Service Provider Profile. If a Service Provider is an associated Service Provider to a primary Service Provider then the primary Service Provider SOA must be able to accept the notifications in the format indicated in the associated Service Provider Profile. | | | **11/14/01** – Reviewed at November 2001 LNPA WG meeting. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until December 2001 meeting.<br><br>**12/12/01** – Move to 'accepted'. | | |
| NANC 336 | CMA 10/25/01 | **Doc Only Change Order for IIS:** Flows B.4.4.3 and B.4.4.6 have typos that need to be corrected.<br><br>The notes at the end of the diagram and the end of the text need to be corrected as follows:<br><br>Note at end of diagram currently reads:<br><br>NPAC SMS waits for all the subscriptionVersionLocalSMS-CreateResults notifications (default 1 hour)<br><br>Should read:<br><br>NPAC SMS waits for all the subscriptionVersionLocalSMS-***Action***Results notifications (default 1 hour)<br><br>Note at end of text currently reads:<br><br>The NPAC SMS now waits for all the subscriptionVersionLocalSMS-CreateResults M-EVENT-REPORTs a tunable amount of time (default 1 hour)<br><br>Should read: | Low | IIS | Incorporate into next release of IIS.<br><br>**11/14/01** – Reviewed at November 2001 LNPA WG. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until December 2001 meeting.<br><br>**12/12/01** – Move to 'accepted'. | N/A | N/A / N/A |

| Next Documentation Release Change Orders | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | The NPAC SMS now waits for all the subscriptionVersionLocalSMS-***Action***Results M-EVENT-REPORTs a tunable amount of time (default 1 hour) | | | | | |
| NANC 337 | CMA 10/25/01 | **Doc Only Change Order for IIS:** Flow B.8.3 – note at the beginning of the text needs to be updated.<br><br>Currently reads:<br>Search the subscription database for subscription versions that match the specified mass update criteria. Perform steps c-through-f for the allowable range of subscription versions. The NPAC logs as errors subscription versions that match the mass update criteria but are in the wrong state.<br><br>Should read:<br>Search the subscription database for subscription versions that match the specified mass update criteria. Perform steps ***1*** through **4** for the allowable range of subscription versions. The NPAC logs as errors subscription versions that match the mass update criteria but are in the wrong state. | Low | IIS | Incorporate into next release of IIS.<br><br>**11/14/01** – Reviewed at November 2001 LNPA WG. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until December 2001 meeting.<br><br>**12/12/01** – Move to 'accepted'. | N/A | N/A / N/A |
| NANC 338 | R3.1 Test Review Group 10/5/01 | **Doc Only Change Order for FRS:** Add requirement for NPAC SMS sending subscriptionVersionDonorSP-CustomerDisconnectDate notifications to the Donor SP SOA when a Number Pool Block De-Pool occurs and update the note in requirement RR5-85.<br><br>RR5-85 Currently reads:<br><br>**RR5-85 Number Pooling Subscription Version Information – Suppression of Notifications**<br><br>NPAC SMS shall suppress status change and attribute value change notifications to the old and new/current service | High | FRS | Corresponding IIS Doc Only Change Order is NANC 339<br><br>Incorporate into next release of FRS.<br><br>**11/14/01** – Reviewed at November 2001 LNPA WG. NeuStar has verified that the implementation supports the new requirement. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until December 2001 meeting. | N/A | N/A / N/A |

| Next Documentation Release Change Orders | | | | | | | |
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| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | provider SOA systems for Subscription Versions with LNP Type of POOL. (Previously SV-2)<br><br>NOTE: This includes creation, modification, deletion, re-send, resync, audits, and mass update. An exception to the deletion is the donor disconnect notification in a de-pool situation. This notification will still be sent to the Code Holder, which informs the Code Holder of the responsibility to provide vacant number treatment upon a de-pool of a 1K Block. This notification is the same that is sent for a disconnect of a ported SV in a non-pooling environment.<br><br>(continued) | | | **12/12/01** – Move to 'accepted'. | | |
| NANC 338 (cont'd) | | RR5-85 is amended to read:<br><br>**RR5-85 Number Pooling Subscription Version Information – Suppression of Notifications**<br><br>NPAC SMS shall suppress status change and attribute value change notifications to the old and new/current service provider SOA systems for Subscription Versions with LNP Type of POOL. (Previously SV-2)<br><br>NOTE: This includes creation, modification, deletion, re-send, resync, audits, and mass update. ~~An exception to the deletion is the donor disconnect notification in a de-pool situation. This notification will still be sent to the Code Holder, which informs the Code Holder of the responsibility to provide vacant number treatment upon a de-pool of a 1K Block. This notification is the same that is sent for a disconnect of a ported SV in a non-pooling environment.~~<br><br>Requirement to be added:<br><br>**RR5-85.5 Number Pooling Subscription Version Information – Disconnect Notifications to Donor Service Provider**<br><br>NPAC SMS shall send donor disconnect notifications to the Donor Service Provider (Code Holder) when a Number Pool Block De-pool occurs. | | | | | |
| NANC 339 | R3.1 Test Review Group 10/5/01 | **Doc Only Change Order for IIS:** Flow B.4.4.24 to include the Donor Disconnect notifications that get sent to the Donor SOA when a Number Pool Block De-pool occurs.<br><br>Steps will be inserted in the flow diagram and the flow text | High | IIS | Corresponding FRS Doc Only Change Order is NANC 338.<br><br>Incorporate into next release of IIS. | N/A | N/A / N/A |

| Next Documentation Release Change Orders | | | | | | | |
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| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | between the existing steps 8 and 9 as follows:<br><br>NPAC SMS sends, depending upon the donor service provider's TN Range Notification Indicator, a subscriptionVersionDonorSP-CustomerDisconnectDate or subscriptionVersionRangeDonorSP-CustomerDisconnectDate notification to the donor service provider SOA that the subscription version is being disconnect with the customer disconnect date.<br><br>The donor service provider SOA confirms the M-EVENT-REPORT. | | | **11/14/01** – Reviewed at November 2001 LNPA WG. NeuStar has verified that the implementation supports the new requirement. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until December 2001 meeting.<br><br>**12/12/01** – Move to 'accepted'. | | |
| NANC 341 | CMA 11/6/01 | **Doc Only Change Order for GDMO:** Section 7.0 LNP Subscription Version Modify Action – Clarification of allowable modify activities for subscription versions with status of 'conflict'.<br><br>Currently reads:<br><br>Old service providers can only modify the following attributes for pending or conflict subscription versions:<br><br>subscriptionOldSP-DueDate<br>subscriptionOldSP-Authorization<br>subscriptionStatusChangeCauseCode<br><br>Change to read:<br><br>Old service providers can only modify the following attributes for pending ~~or conflict~~ subscription versions:<br><br>subscriptionOldSP-DueDate<br>subscriptionOldSP-Authorization<br>subscriptionStatusChangeCauseCode<br><br>***If the subscription version has a status of conflict, only the subscriptionOldSP-DueDate can be*** | High | GDMO, IIS | This change order is in conjunction with the NANC 332 FRS Doc Only change order which clarifies requirement RR5-42.1 Conflict Subscription Version – Old Service Provider Number Restriction.<br><br>Incorporate into next release of GDMO and IIS.<br><br>**11/14/01** – Reviewed at November 2001 LNPA WG. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until December 2001 meeting.<br><br>**12/12/01** – Move to 'accepted'. | N/A | N/A / N/A |

| Next Documentation Release Change Orders | | | | | | | |
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| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | ***modified because a subscription version can only be put into conflict one time***. | | | | | |
| NANC 342 | CMA 11/6/01 | **Doc Only Change Order for IIS:** Flow B.5.1.5 – Text at end of this flow needs clarification.<br><br>Currently reads:<br><br>For subscription versions that are not being ported to the original service provider's switch, processing continues in the "Active SubscriptionVersion Create on Local SMSs" flow.<br>For ports to the original service provider's switch, the flow follows an immediate disconnect scenario. The NPAC SMS sets the broadcast timestamp, notifies the service provider SOA of the status change and proceeds to issue M-DELETEs for the subscriptionVersion to the Local SMS.<br><br>Change to read:<br><br>For subscription versions that are not being ported to the original service provider's switch, processing continues in ~~the~~ ***Flow B.5.1.6.1 - Active SubscriptionVersion Create on Local SMSs Using Create Action*** ~~flow~~.<br>For ports to the original service provider's switch~~, the flow follows an immediate disconnect scenario. The NPAC SMS sets the broadcast timestamp, notifies the service provider SOA of the status change and proceeds to issue M-DELETEs for the subscriptionVersion to the Local SMS~~ ***(PTO) follow Flows B.5.1.12 – 'Subscription Version Port-to-Original: Successful' and B.5.1.12.1 – 'Subscription Version Port-to-Original: Successful (continued)'.*** | Low | IIS | Incorporate into next release of IIS.<br><br>**11/14/01** – Reviewed at November 2001 LNPA WG. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until December 2001 meeting.<br><br>**12/12/01** – Move to 'accepted'. | N/A | N/A / N/A |
| NANC 344 | AT&T 11/2 | **Doc Only Change Order for GDMO:** Update GDMO to more clearly explain information in range notifications. | Low | GDMO/IIS | Incorporate into next release of GDMO and IIS | N/A | N/A / N/A |

| Next Documentation Release Change Orders | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | Update the text in section 14.0 Subscriptions Managed Object Class.<br><br>**The text for** subscriptionVersionRangeStatusAttributeValueChange and subscriptionVersionRangeAttributeValueChange notifications **currently reads**:<br><br>When this package is sent, it will include one set of information for the TN range, plus a list of Subscription Version IDs. If the feature data does not apply to all TNs in the original range, notifications will be broken up into smaller TN Range Notifications such that the feature data applies to all TNs in the smaller TN range, and will be sent in separate messages.<br><br>**Change to read:**<br><br>When this package is sent, it will include one set of information for the TN range, ~~plus a list of Subscription Version IDs~~. ***If the SVIDs are sequential for the TNs then an SVID range will be included. If the SVIDs are not sequential then a paired list of SVIDs and TNs will be sent.*** If the feature data does not apply to all TNs in the original range, notifications will be broken up into smaller TN Range Notifications such that the feature data applies to all TNs in the smaller TN range, and will be sent in separate messages.<br><br>(continued) | | | **12/12/01** – Reviewed at December 2001 LNPA WG meeting. Service Providers to verify internally that this change order does not have an impact on their local systems. Leave in "open" status until January 2002 meeting.<br><br>**01/09/02** – Move to 'accepted'. | | |
| NANC 344 (cont'd) | | **The text for** subscriptionVersionRangeObjectCreation, subscriptionVersionRangeDonorSP-CustomerDisconnectDate, subscriptionVersionRangeCancellationAcknowledge, subscriptionVersionRangeNewSP-CreateRequest, subscriptionVersionRangeOldSP-ConcurrenceRequest, subscriptionVersionRangeOldSP-FinalConcurrenceWindowExpiration, and subscriptionVersionRangeNewSP-FinalCreateWindowExpiration notifications **currently reads**:<br><br>When this package is sent, it will include one set of information for the TN range, plus a paired list of TN/Subscription Version ID combinations. If the | | | | | |

| Next Documentation Release Change Orders | | | | | | | |
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| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | feature data does not apply to all TNs in the original range, notifications will be broken up into smaller TN Range Notifications such that the feature data applies to all TNs in the smaller TN range, and will be sent in separate messages.<br><br>**Change to read:**<br><br>When this package is sent, it will include one set of information for the TN range, plus a paired list of TN/Subscription Version ID combinations ***or a range of TNs and Subscription Version Ids if the Subscription Version Ids are sequential.*** If the feature data does not apply to all TNs in the original range, notifications will be broken up into smaller TN Range Notifications such that the feature data applies to all TNs in the smaller TN range, and will be sent in separate messages. | | | | | |
| NANC 345 | CMA 01/02/02 | **Doc Only Change Order for FRS:** Update the Subscription Tunables Table in Appendix C.<br><br>The subscription tunables table in Appendix C of the FRS is out of date. Update it to be exactly like the revised table in the R3.1 Methods and Procedures document. | Medium | FRS | Incorporate into next release of the FRS.<br><br>**01/09/02** – Reviewed at January 2002 LNPA WG meeting. Leave in "open" status until February 2002 meeting.<br><br>**01/10/02** – Subscription Tunable table reviewed by NeuStar (Jim Rooks) to ensure it did not contain any system tunables. Jim responded that the table is correct. | N/A | N/A / N/A |
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| LTI Change Orders | | | | | | | |
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| Chg Order # | Orig. / Date | Description | Priority | Category | Proposed Resolution | Level of Effort | |
| | | | | | | NPAC | SOA LSMS |
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| Cancel - Pending Change Orders | | | | | | | |
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| Chg Order # | Orig. / Date | Description | Priority | Category | Proposed Resolution | Level of Effort | |
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**Current Release Change Orders**

| Current Release Change Orders | | | | | | | |
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| **Chg Order #** | **Orig. / Date** | **Description** | **Priority** | **Category** | **Proposed Resolution** | **Level of Effort** | |
| | | | | | | **NPAC** | **SOA LSMS** |
| | | See Implemented List for details on Release 3.0 and 3.1. | | | | | |

## MR Change Orders

| Chg Order # | Orig. / Date | Description | Priority | Category | Proposed Resolution | Level of Effort | |
|---|---|---|---|---|---|---|---|
| | | | | | | NPAC | SOA LSMS |
| | | | | | | | |

**Summary of Change Orders**

| Release # / Target Date | Change Orders | Backwards Compatible |
|---|---|---|
| Open | NANC 147 – Version ID Rollover Strategy<br>NANC 340 – Doc Only Change Order for IIS: Update Appendix A<br>NANC 343 – Doc Only Change Order for IIS: Exhibit 12 of IIS section 4.2.2 does not reflect all filtering operations currently supported by the NPAC SMS.<br>NANC 346 – GDMO Change to Number Pool Block Data Managed Object Class (Section 29.0)<br>NANC 347 – CMIP Interface Enhancements – 15 minute abort behavior<br>NANC 348 – Bulk Data Download File for Notifications<br>NANC 349 – Batch File Processing<br>NANC 350 – CMIP Interface Enhancements – 60 minute abort behavior<br>NANC 351 – Recovery Enhancements – "Send me what I missed" recovery message<br>NANC 352 – Recovery Enhancements – recovery of SPID<br>NANC 353 – Round-Robin Broadcasts Across SOA and LSMS Associations with separate SOA channel for notifications (son of ILL 5)<br>NANC 355 – Modification of NPA-NXX Effective Date (son of ILL 77)<br>NANC 356 – Unique Identifiers for wireline versus wireless carriers (interim solution)<br>NANC 357 – Unique Identifiers for wireline versus wireless carriers (long term solution)<br>NANC 358 – Change for ASN.1: Change SPID definition<br>NANC 359 – Doc Only Change Order for SPID and Billing ID: Change definition for SPID and Billing ID<br>NANC 360 – Doc Only Change Order for Recovery: Maximum TN Recovery Tunable<br>NANC 361 – Doc Only Change Order for GDMO: Range Version of Object Creation Notification<br>NANC 362 – Vendor Metrics<br>NANC 363 – Lockheed-to-NeuStar private enterprise number | |
| Accepted | ILL 5 – Round-Robin Broadcast Across LSMS Associations<br>ILL 130 – Application Level Errors<br>NANC 138 – Definition of Cause Code Values-REVISITED<br>NANC 151 – TN and Number Pool Block Addition to Notifications<br>NANC 169 – Delta Download File Creation by Time Range for SVs<br>NANC 187 – Linked Action Replies<br>NANC 191 – DPC/SSN Value Edits<br>NANC 192 – NPA Split NPAC SMS Load File<br>NANC 193 – TN Processing During NPAC SMS NPA Split Processing<br>NANC 200 – Notification of NPA Splits | |

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| | NANC 217 – Mass Update of SPID<br>NANC 218 – Conflict Timestamp Broadcast to SOA<br>NANC 219 – NPAC Monitoring of SOA/LSMS Associations<br>NANC 227 – 10-digit TN Filters (previously know as: "Ability to Modify/Delete of Partial Failure SV")<br>NANC 230 – Allow a Donor SOA to Create a Port-to-Original on an Intra-Service Provider Port<br>NANC 232 – Web Site for First Port Notifications<br>NANC 246 – NPA-NXX Filters for Bulk Data Download Files of SVs<br>NANC 249 – Modification of Dates for Disconnect Pending SV<br>NANC 254 – NPAC Requirements – Subsequent Ports of Active SV with a Failed SP List<br>NANC 285 – SOA Requested Subscription Version Query Max Size<br>NANC 287 – ASN.1 Change for Required Field in VersionNewNPA-NXX and VersionNewNPA-NXX-Recovery Notification<br>NANC 291 – SSN Edits in the NPAC SMS<br>NANC 297 – Sending SV Problem During Recovery<br>NANC 299 – NPAC Monitoring of SOA and LSMS Associations via Heartbeat<br>NANC 300 – Resend Exclusion for Number Pooling<br>NANC 311 – Query Message of SP Association Status<br>NANC 312 – Different User Levels on the LTI<br>NANC 316 – Change the NSAP Field Size Declaration in ASN.1 – ASN.1 Recompile<br>NANC 319 – NPAC Edit to Ensure NPA-NXX of LRN is in Same LATA as NPA-NXX of Ported TN<br>NANC 321 – NPAC Edit of Service Provider Network Data – NPA-NXX Data<br>NANC 322 – Clean Up of Failed SP List Based on Service Provider BDD Response File<br>NANC 323 – Partial Migration of a SPID via Mass Update<br>NANC 354 – Delta Download File Creation by Time Range for network data (cousin of NANC 169) | |
| Next Documentation Release | NANC 332 – Doc Only Change Order for FRS: Clarification of requirement RR5-42.1.<br>NANC 333 – Doc Only Change Order for GDMO & IIS: Clarification needed in the GDMO & two IIS Flows for the subscriptionVersionRangeObjectCreation notification (one of the new range notifications in change order NANC 179 for NPAC SMS Release 3.1).<br>NANC 334 – Doc Only Change Order for FRS: Clarification needed in Item L-11.0 G in Table C-7 of Appendix C in the FRS.<br>NANC 335 – Doc Only Change Order for GDMO: Update GDMO to explain how the Primary/Secondary Service Provider situation works with Range notifications.<br>NANC 336 – Doc Only Change Order for IIS: Flows B.4.4.3 and B.4.4.6 have typos that need to be corrected.<br>NANC 337 – Doc Only Change Order for IIS: Flows B.8.3 note at the beginning of text needs to be updated.<br>NANC 338 – Doc Only Change Order for FRS: Add requirement for NPAC SMS sending subscriptionVersionDonorSP-DisconnectDate notifications to the Donor SP SOA when a | |

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| | Number Pool Block De-Pool occurs and update the note in requirement RR5-85.<br>NANC 339 – Doc Only Change Order for IIS: Flow B.4.4.24 – Update to include the Donor Disconnect notifications that get sent to the Donor SP SOA when a Number Pool Block De-Pool occurs.<br>NANC 341 – Doc Only Change Order for GDMO: Section 7.0 LNP Subscription Version Modify Action – Clarification of allowable modify activities for subscription versions with status of 'conflict'.<br>NANC 342 – Doc Only Change Order for IIS: Flows B.5.1.5 text at end of flow needs clarification.<br>NANC 344 – Doc Only Change Order for GDMO: Update GDMO to more clearly explain information in range notifications.<br>NANC 345 – Doc Only Change Order for FRS: Update the Subscription Tunables Table in Appendix C. | |
| LTI | | |
| Cancel-Pending | | |
| Current Release | See Implemented List for details on R3 | |
| MR | | |