

NPAC NOTIFICATION DEFINITIONS

(Modified with Sub-titles from Jim's presentation: SOA Throughput Analysis – May 16, 2001)

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IIS-GDMO Definitions

1.0 NPAC SMS Operational Information Notification

ATTRIBUTES

Down-time,
NPAC-contact-number,
Additional-down-time-information,

This notification contains information about the NPAC SMS's scheduled down time. It contains the start and stop date and time for the planned down time. It is sent to all SOA and LSMS connected to the NPAC in a region to inform that the NPAC will be turned down as result of a scheduled downtime.

2.0 Subscription Audit Discrepancy Report

ATTRIBUTES

Audit-Discrepancy-TN,
Audit-Discrepancy-Version-Id,
Audit-Discrepancy-LSMS-SP-Id,
Audit-Discrepancy-Failure-Reason,

This Notification is sent from the NPAC SMS to the requesting SOA when the NPAC finds discrepancies in one/some/all LSMS as result of an Audit initiated by the SOA. It contains a detailed report on discrepancies found during the audit including the subscription TN and Version ID for which the discrepancy was found and the corresponding error.

3.0 Subscription Audit Results

ATTRIBUTES

Audit-Result-Status,
Audit-Result-Failed-SP-List,
Audit-Result-Number-Discrepancies,
Audit-Result-Completion-Time,

This notification is sent by the NPAC to the requesting SOA when the NPAC finishes an Audit to one/all LSMS and regardless whether discrepancies have been found or not. It contains the results of the audit including the name of the audit, the number of discrepancies found during the audit, the success or failure of the audit, and the time of audit completion or failure.

4.0 Subscription Version Cancellation Acknowledge Request

ATTRIBUTES

Subscription-TN,
Subscription-Version-Id,

This notification is sent from the NPAC to the SOA (new or old) to request that a service provider send a cancellation acknowledgement for a subscription version in cancel-pending status. The SV create has been concurred by both SOAs but subsequently cancelled by one of them. The notification is sent after expiration of a tunable period of time.

6.0 Subscription Version - Donor SP - Customer Disconnect Date Notification

ATTRIBUTE

Subscription-TN,
Subscription-Version-Id,
Subscription-Customer-Disconnect-Date,
Subscription-Effective-Release-Date,

This notification informs the Code Holder SOA (or Donor SOA) that a subscription version (that does not belong to a Pool Block) is being disconnected. The same notification is issued to notify the Block Holder SOA that a ported Pool TN is being disconnected and returned to the Block.

7.0 Subscription Version Local SMS Action Results

ATTRIBUTES

Action-Id,
Action-Results-Status,
Failed-TN-List,
Results-Completion-Time,

This notification contains the results of a subscriptionVersionLocalSMS-Create action from a Local SMS. It contains the id of the create action, the success or failure of the action, the completion time and an optional list of failed subscription TNs and error codes.

From LSMS to NPAC only! This notification is sent under the following circumstances:

- a) (Any LSMS) when an LSMS responds back to the NPAC SMS informing the successful or failure of creation in the local DB of each SV in a SV Range requested to be created by the NPAC.
- b) (Non-EDR LSMS) when an LSMS responds back to the NAPC SMS informing the successful or failure of creation in the local DB of each SV in a Pool Block requested to be created by the NPAC.

8.0 Subscription Version New NPA-NXX Notification

ATTRIBUTE

Service-Prov-NPA-NXX-ID,
Service-Prov-NPA-NXX-Value,
Service-Prov-NPA-NXX-EffectiveTimeStamp,
Service-Prov-ID,

From NPAC to SOA and LSMS. This notification is sent to the local systems (SOA, LSMS or Both) when a new SV or NPA-NXX-X has been created in the NPAC SMS and involves the first use of the NPA-NXX. This notification informs the SOA and Local SMS of a pending subscription version involving a new NPA-NXX or creation of a serviceProvNPA-NXX-X object whose NPA-NXX-X value is the first use of the NPA-NXX.

9.0 Subscription Version New SP Create Request Notification

ATTRIBUTE

Subscription-TN,
Subscription-Version-Id,
Subscription-Old-SP,
Subscription-Old-SP-Due-Date,
Subscription-Old-SP-Authorization,
Subscription-Old-SP-Authorization-Time-Stamp,
Subscription-Status-Change-Cause-Code,
Subscription-Timer-Type,
Subscription-Business-Type;

From NPAC to New SOA. This notification is sent from the NPAC SMS to the NEW SOA after the T1 timer expires to request that a new service provider send a create request for a subscription version for which concurrence for porting the number has not been received. The OLD SOA has already sent the SV CREATE to the NPAC SMS. (One notification is sent to the new SOA for each SV in the Create request sent by the OLD SOA). Only when the new service provider supports the timer-type and/or business-type attributes, these attributes are sent.

10.0 Subscription Version Old SP Concurrence Request Notification

Subtitle from Jim's presentation:

CREATE ACK REQUEST - T1 NOTIFICATION

ATTRIBUTE

Subscription-TN,
Subscription-Version-Id,
Subscription-New-Current-SP,
Subscription-New-SP-Due-Date,
Subscription-New-SP-Creation-Time-Stamp,
Subscription-Timer-Type,
Subscription-Business-Type;

From NPAC to OLD SOA. This notification is sent by the NPAC SMS to the OLD SOA after the T1 timer expires to request that the Old SP send a create request for a subscription version for which concurrence for porting the number has not been received. The NEW SOA has already sent the SV CREATE to the NPAC SMS. (One notification is sent to the Old SOA for each SV in the Create request sent by the New SOA). Only when the Old service provider supports timer-type and/or business-type, these attributes will be sent.

11.0 Subscription Version Status Attribute Value Change Notification

Subtitle from Jim's presentation:

MODIFY STATUS NOTIFICATION

ATTRIBUTE

Subscription-Version-Attribute-Value-Change-Info,
Subscription-Failed-SP-List,
Subscription-Status-Change-Cause-Code,

This notification is used to report changes to the Status attribute of an SV object. It is identical to an attribute value change notification except for the addition of the *list of failed service providers* in cases where the *version status* is active, failed or partial failure and the *Subscription-Status-Change-Cause-Code* attribute if it is set.

Failed lists will potentially also be sent for subscription versions with statuses of active, failed, partial failure, and old.

One notification is sent to the corresponding SOA/s for each SV in the Create/Activate/Modify/Disconnect request.

This notification is sent under the following circumstances:

- a) When an INTER or INTRA SV has been created in the Local SMSs (or 'activated' by the SOA) and the SV status has been set to: *Active* or *Partial-Failure*. The notification is sent to both SOAs: Old and New. If the status has been set to *Partial-Failure*, this notification contains the list of Service Providers (SP) LSMSs that have failed to receive the broadcast. Every time one of these SPs is removed from the Fail-List, the NPAC re-sends the notification to both SOAs. This iteration happens until the last SP is cleared from the fail-list. At that point, the NPAC sends the same notification to both SOAs but with an SV status of *active* and empty fail-list.
- b) When an SV has failed to be created (or 'activated') in ALL LSMSs and the SV status has been set to *Failed*. The notification is sent to both SOAs: Old and New.
- c) When an SV (created by the OLD SP) has been cancelled by the NPAC SMS after not receiving concurrence from the New SOA (after T2 timer expiration) and the SV status has been set to *cancel*. The notification is sent to both SOAs: Old and New.
- d) When the NPAC attempts to re-send Creates (or 'activates') /Modifies/Deletes to the LSMSs for SV with statuses of *Partial-Failure*, *Failed* or *Old*, and with a Fail SP List (the notification is sent regardless the final status of the SV and to the corresponding SOA/s involved in the requested operation).
- e) When the SV status has been set to *old*. (Port to Original, port-of-a port, port to original of a Pool TN (or snap back), disconnect, disconnect of a ported Pool TN). The notification is received only by those SOAs that actually have the SV in their local DB. It varies with the scenario.
- f) 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 Fail-SP-List). The notification is sent only to the current SOA.
- g) 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.
- h) When the NPAC SMS has set the status of a *pending*, *cancel-pending*, or *conflict* SV to *CANCEL* after
 - concurrence and cancellation acknowledgment by both SOAs has been received in the NPAC or
 - expiration of a tunable period without cancellation acknowledgment by one of the SOAs or
 - cancellation request by the originating SOA with no concurrence from the other SOA. (Only one create action has been received in the NPAC and the same provider sends

the cancellation request before the second provider send a create request.)

- the Conflict Cancellation Window expires, if no resolution has been reached for the conflict, the NPAC automatically cancels the *Conflict* SV.

The notification is sent to both SOAs: Old and New under any of the 'bullets' scenarios.

- i) When an *active* SV is being disconnected with an Effective Release Date in the NPAC and the SV status is set to *Disconnect-Pending*. Only the current SOA receives the notification.
- j) When the NPAC attempts to delete an *Active* SV and the request fails to ALL LSMSs and the SV status is re-set to *Active*. Only the Current SOA receives the notification.
- k) When the status of a *Pending* SV is set to *conflict*. The notification is sent to both SOAs: Old and New.
- l) After Conflict Resolution, when the status of the *Conflict* SV is re-set to *Pending*. The notification is sent to both SOAs: Old and New.

12.0 Subscription Version Old SP Final Concurrence Timer Expiration Notification

Subtitle from Jim's presentation:

NO FINAL ACK FROM OLD NOTIFICATION

ATTRIBUTE

Subscription-TN,
Subscription-Version-Id,
Subscription-Timer-Type,
Subscription-Business-Type;

This notification is sent from the NPAC SMS to the OLD SOA upon expiration of the Final Concurrence Timer (T2) to inform the OLD SP of the timer expiration. If the old service provider supports timer-type, and/or business-type, these attributes are sent.

13.0 Number Pool Block Status Attribute Value Change Notification

ATTRIBUTE

Subscription-Version-Attribute-Value-Change-Info,
Number-Pool-Block-Failed-SP-List,

This notification is used to report changes to the *Number-Pool-Block-Status* attribute. It is identical to an Attribute Value Change notification except for the addition of the list of failed service providers.

The failed service provider list reflects the EDR service providers who failed to receive the number pool block and any non-EDR service provider who failed to receive the corresponding subscription versions of LNP type equal to 'pool'.

Failed SP lists are potentially sent for number pool blocks with statuses of active, failed, partial failure and old. This notification is sent to the Block Holder SOA ONLY (!) when the *Number-Pool-Block-SOA-Origination FLAG* is set to true for the number pool block object.

This Notification is sent to the Block Holder SOA when:

- a) The Pool Block has being created in the LSMSSs (EDR and Non_EDR) and the Block Status has being set to Active or Partial Failure;
- b) The creation of the Pool Block has failed in all the LSMSSs (EDR and Non-EDR) and the Block Status has been set to Failed.
- c) The NPAC attempts to re-send a failed Pool Block or failed SVs to SP in the fail-SP-List of the Block and the Block status changes to Active, Partial Failure or Failure.
- d) The attributes in the Pool Block has been modified in the LSMSSs (EDR and Non-EDR) and the Block Status has been re-set to Active (with or without fail-sp-list).
- e) When a Pool Block has been 'de-pooled' from the LSMSSs (EDR and Non-EDR) and the Block Status has been set to Old (with or without fail-sp-list).
- f) When the NPAC SMS has attempted to 'de-pool' a block but the request has failed to ALL LSMSSs (EDR and Non-EDR) and the Block Status has been reset to Active with a Failed-SP-list.

M.3100 definitions (Not included in the IIS / GDMO definitions.)

1.0 - Object Creation

Subtitle from Jim's presentation:

SV OBJECT CREATION NOTIFICATION

This notification is sent to notify a Service Provider SOA that an object (Audit, SV, Block) has been created on the NPAC SMS. Included in the notification is a list of some of the attributes created with the object.

An object creation is sent under the following circumstances:

- When a SOA submits an Audit Create request to the NPAC SMS, the Object Creation is sent to the requesting SOA. (Note: the NPAC has not performed the audit yet; it has only created the object for the audit.)
- When the Old Service Provider SOA submits a 1st create, the object creation is sent to both SOAs with the following attributes:

- subscriptionTN
- subscriptionOldSP
- subscriptionNewCurrentSP
- subscriptionOldSp-DueDate
- subscriptionOldSP-Authorization
- subscriptionOldSP-AuthorizationTimeStamp
- subscriptionStatusChangeCauseCode (if subscriptionOldSP-Authorization set to false)
- subscriptionVersionStatus

- When the New Service Provider SOA submits a 1st create, the object creation is sent to both SOAs with the following attributes:

- subscriptionTN
- subscriptionOldSP
- subscriptionNewCurrentSP
- subscriptionNewSP-CreationTimeStamp

subscriptionVersionStatus
subscriptionNewSP-DueDate

- When the Block Holder SOA submits a number-Pool-Block create request to the NPAC, the following attributes will be sent in the object-Creation notification from the NPAC to the Block Holder SOA:

numberPoolBlockId
numberPoolBlockSOA-Origination
numberPoolBlockCreationTimeStamp
numberPoolBlockStatus
numberPoolBlockNPA-NXX-X
numberPoolBlockSPID
numberPoolBlockLRN
numberPoolBlockCLASS-DPC
numberPoolBlockCLASS-SSN
numberPoolBlockCNAM-DPC
numberPoolBlockCNAM-SSN
numberPoolBlockISVM-DPC
numberPoolBlockISVM-SSN
numberPoolBlockLIDB-DPC
numberPoolBlockLIDB-SSN
numberPoolBlockWSMSC-DPC (if supported)
numberPoolBlockWSMSC-SSN (if supported)

- When a current SOA sends an INTRA-PORT create request to the NPAC, the object-creation notification is sent to the requesting SOA after the object has been successfully created in the NPAC.

2.0 - Object Deletion

This notification is used to report to the SOAs that an object (Audit, SV, Block) is being removed from the NPAC SMS. No attributes are sent in an object deletion. It is sent for audits under the following circumstances:

- When an audit started by a Service Provider SOA is completed.
- When an audit is cancelled by a Service Provider SOA or by the NPAC SMS for an audit that was started by the Service Provider SOA.

2.0 - Attribute Value Change

Subtitle from Jim's presentation:

MODIFY ATTRIBUTE NOTIFICATION

The attributes sent with this notification vary with the circumstances under which the notification is being sent.

For an SV, there are two primary times the AVC is sent:

- When the 2nd create request is sent to the NPAC SMS by either the Old or New Service Provider.

If the 2nd create is from the Old Service Provider, the following attributes are sent to both service provider:

subscriptionOldSP-DueDate
subscriptionOldSP-Authorization
subscriptionOldSP-AuthorizationTimeStamp

If the 2nd create is from the New Service Provider, the following attributes are sent to both service providers:

- subscriptionNewSP-DueDate
- subscriptionNewSP-CreationTimeStamp

- Attribute value change notifications will be sent to both service provider SOAs when the following attribute values change for a pending, cancel-pending, conflict, or disconnect-pending subscription version:

- subscriptionNewSP-DueDate
- subscriptionNewSP-CreationTimeStamp
- subscriptionOldSP-Authorization
- subscriptionOldSP-AuthorizationTimeStamp
- subscriptionStatusChangeCauseCode

Number Pool Block:

If the numberPoolBlockSOA-Origination indicator is set to TRUE, the Attribute Value Change is sent to the block holder SOA. The attribute value change would include any of the following attributes that were updated:

- numberPoolBlockLRN
- numberPoolBlockCLASS-DPC
- numberPoolBlockCLASS-SSN
- numberPoolBlockCNAM-DPC
- numberPoolBlockCNAM-SSN
- numberPoolBlockISVM-DPC
- numberPoolBlockISVM-SSN
- numberPoolBlockLIDB-DPC
- numberPoolBlockLIDB-SSN
- numberPoolBlockSOA-Origination
- numberPoolBlockWSMSC-DPC (if supported)
- numberPoolBlockWSMSC-SSN (if supported)

The NPAC SMS also issues the attribute value change to the block holder SOA when the numberPoolBlockSOA-Origination indicator is modified from FALSE to TRUE by NPAC Personnel.