LNPA WORKING GROUP

March 9-10, 2010 Meeting

Final Minutes

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| Denver, Colorado | Host: Comcast |

**ARCHITECTURE PLANNING TEAM (APT) DISCUSSION:**

**TUESDAY 03/09/10**

Tuesday, 03/09/10, Attendance:

| **Name** | **Company** | **Name** | **Company** | | |
| --- | --- | --- | --- | --- | --- |
| Ron Steen | AT&T | Mubeen Saifullah | | Neustar Clearinghouse |
| Mark Lancaster | AT&T (phone) | Shannon Sevigny | | Neustar Pooling (phone) |
| Teresa Patton | AT&T | Linda Peterman | | One Communications |
| Renee Dillon | AT&T Mobility | Peggy Rubino | | Paetec (phone) |
| Lonnie Keck | AT&T Mobility | Mary Retka | | Qwest |
| Barbara Hjelmaa | Brighthouse Networks (phone) | Jan Doell | | Qwest |
| Marian Hearn | Canadian LNP Consortium | Towanda Russell | | RCN (phone) |
| Vicki Goth | CenturyLink | Lavinia Rotaru | | Sprint Nextel |
| Tim Kagele | Comcast | Sue Tiffany | | Sprint Nextel |
| Bill Solis | Comcast | Rosemary Emmer | | Sprint Nextel |
| Jen Aspeslagh | Comcast | Bob Bruce | | Syniverse |
| Beth O’Donnell | Cox (phone) | Joel Zamlong | | Telcordia |
| Dennis Robins | DER Consulting (phone) | John Malyar | | Telcordia |
| Devang Naik | DSET | Adam Newman | | Telcordia (phone) |
| Steve Farnsworth | Evolving Systems | Pat White | | Telcordia |
| Greg Council | Evolving Systems | Lisa Marie Maxson | | Telcordia |
| Jay Hjellum | Evolving Systems | Kayla Sharbaugh | | Telcordia (phone) |
| Tim Remple | Evolving Systems | Stacy Hannah | | Time Warner Cable (phone) |
| Linda Jo Birchem | Fairpoint Comm. | Paula Jordan | | T-Mobile |
| Crystal Hanus | GVNW (phone) | Mohamed Samater | | T-Mobile |
| Bonnie Johnson | Integra | Heather Patterson | | TNS |
| Bridget Alexander | John Staurulakis, Inc. (phone) | George Stonesifer | | US Cellular |
| Stephanie Hudson | John Staurulakis, Inc. (phone) | David Lund | | US Cellular |
| Lynette Khirallah | NetNumber (phone) | Tanya Golub | | US Cellular (phone) |
| Paul LaGattuta | Neustar | Gary Sacra | | Verizon |
| Jim Rooks | Neustar | Jason Lee | | Verizon (phone) |
| Stephen Addicks | Neustar | Deb Tucker | | Verizon Wireless |
| Michael O’Connor | Neustar | Tom Zablocki | | Vonage |
| John Nakamura | Neustar | Tana Henson | | Windstream |
| Bill Reidway | Neustar | Tiki Gaugler | | XO Comm. (phone) |
| Marcel Champagne | Neustar | Dawn Lawrence | | XO Comm. |
| Dave Garner | Neustar |  | |  |
| Kristen Hamilton | Neustar |  | |  |
|  |  |  | |  |

NOTE: ALL ACTION ITEMS REFERENCED IN THE MINUTES BELOW HAVE BEEN CAPTURED IN THE “MARCH 9-10 2010 LNPA ACTION ITEMS” FILE ISSUED IN A SEPARATE E-MAIL FROM THESE MINUTES AND ATTACHED BELOW.

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**MEETING MINUTES:**

**2010 LNPA WG Meeting/Call Schedule:**

Following is the current schedule for the 2010 LNPA WG meetings and calls.

| **MONTH**  **(2010)** | NANC MEETING DATES | LNPA WG  **MEETING/CALL**  **DATES** | HOST COMPANY | MEETING LOCATION |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| January |  | 12th-13th | Telcordia | Scottsdale, Arizona |
| February | 18th | No meeting.  2/9/2010 call from 11am to 5pm Eastern time, dial-in bridge number is 888-412-7808, pin 23272# |  |  |
| March |  | 9th-10th | Comcast | Denver, Colorado |
| April |  | No meeting.  4/13/2010 call from 11am to 5pm Eastern time, dial-in bridge number is 888-412-7808, pin 23272# |  |  |
| May | 20th | 11th-12th | Brighthouse and Syniverse | St. Petersburg, Florida |
| June |  | No meeting.  6/8/2010 call if necessary |  |  |
| July |  | 13th-14th | Neustar | Seattle, Washington |
| August |  | No meeting.  8/10/2010 call if necessary |  |  |
| September | 23rd | 14th-15th | Tekelec | Morrisville, North Carolina |
| October |  | No meeting.  10/12/2010 call if necessary |  |  |
| November |  | 9th-10th | Sprint Nextel | **Location TBD in Florida (tentative)** |
| December | 17th | No meeting.  12/7/2010 call if necessary |  |  |
|  |  |  |  |  |

* Continuing evaluation during 2010 will determine if interim conference calls are needed or if the decision to meet face-to-face every other month should be revisited.

January 12-13, 2010 Meeting Minutes Review:

* No changes were made to the DRAFT January 12-13, 2010 LNPA WG meeting minutes, they were approved as FINAL.

February 9, 2010 Conference Call Minutes Review:

* With the following changes to the DRAFT February 9, 2010 LNPA WG conference call minutes, they were approved as FINAL.
  + Change references to “WICIS 4.0” to “WICIS 4.0.0” at the bottom of page 13.
  + Change reference to “WICIS 5.0” to “WICIS 5.0.0” at the top of page 14.

FCC Order 09-41 Implementation Discussion – All:

* Readout of February 18, 2010 NANC Meeting – Co-Chairs
  + Gary Sacra and Paula Jordan, LNPA WG Co-Chairs, provided a readout of the February 18, 2010 NANC meeting. They reported that new LNPA WG Best Practices 60, 61, 62, 63, and 64 were all endorsed by the NANC.
  + No current status of the LNPA WG/NANC Implementation Plan for FCC 09-41 submitted to the FCC on November 2, 2009 was available at the meeting.
  + Attached is the report presented to the NANC by the LNPA WG Co-Chairs at the February 18th meeting.



* Industry Implementation Timeline (Standing Agenda Item) – All
* No issues were identified that would indicate a problem with the implementation timeline.
* The LNPA WG is assuming the following industry implementation dates:
  + August 2, 2010 for larger Service Providers,
  + February 2, 2011 for smaller Service Providers (those with fewer than 2% of the nation’s subscriber lines).
* Neustar reviewed the attached Release 3.3.4 Project Plan with the group for implementation of Change Orders NANC 416, 440, and 441. No issues were identified.



* **Action Item 011210-10:** At the January 12-13, 2010 LNPA WG meeting, Service Providers were asked if they could provide more advance notice than their normal change management notification period with regard to their system changes affecting other Service Providers in support of the implementation of FCC 09-41. Service Providers are to come to the February 9, 2010 LNPA WG conference call prepared to provide their planned notification date to the industry on their system changes.
  + AT&T reported that they sent their initial notice on 2/5/10 and will send out a final notice on 3/19/10.
  + Qwest reported that they have already posted their notice.
  + Action Item 011210-10 stays open.
* SUPPs and Expedites for Simple Ports (Action Item 011210-09) – Sue Tiffany

Action Item 011210-09: Regarding the proposed Best Practice on SUPPs and Expedites for Simple Ports, Sue Tiffany, Sprint Nextel, will revise the proposed Best Practice to address the revisions agreed to at the January 12-13, 2010 LNPA WG meeting, e.g., adding the 3 acceptable options from the NANC LNP Provisioning Flow Narratives addressing the removal of donor switch translations. This will be reviewed on the February 9, 2010 LNPA WG conference call.

* + Sue Tiffany, Sprint Nextel, presented the attached proposed draft Best Practice on SUPPs and Expedites. There were no objections to accepting this as presented as a new Best Practice.
  + Gary Sacra, LNPA WG Co-Chair, will create new Best Practice 65 from the

attached document, which was reviewed and approved at the March 9-10, 2010 LNPA WG meeting, and forward it to Mohamed Samater, T-Mobile, to be uploaded to the LNPA WG’s website.

* WICIS 4.0/WICIS 5.0 Best Practice (Action Item 020910-04) – Sue Tiffany/Bob Bruce

Action Item 020910-04: Sue Tiffany, Sprint Nextel, and Bob Bruce, Syniverse, will develop a proposed draft Best Practice addressing the issue that some wireless providers will still be on WICIS 4.0 after August 2, 2010, which requires some fields that were made optional in WICIS 5.0 to comply with the OBF 14 field recommendation.

* Sue Tiffany, Sprint Nextel, and Bob Bruce, Syniverse, presented the attached PIM to the group.



* A provider stated that they are assuming that if the FCC mandates a standard set of fields, those providers that are required to implement 09-41 by August 2, 2010 would be required to comply with that list of fields at that time.
* Per the reciprocity requirement in the LNPA WG’s 09-41 Implementation Plan, if a provider has not implemented one day porting yet, they cannot request a one day due date from a provider that does support one day porting

.

* It was stated that if the FCC orders a standard set of fields for simple ports, a provider must be able to deal with the mandated set of fields in some fashion if they are not yet up on the latest LSOG or WICIS.
* A provider stated that it is their company’s assumption that the FCC intends to issue an order on a standard set of fields with a specific deadline for implementation. They further stated that there may be a mismatch in implementation dates with the one day porting date, and if so, it will be business as usual on LSR/WPR submissions once one-day porting begins and until the standard field mandate begins.
* A provider stated that their assumption is that if a wireless carrier supports medium timers, they also support the 14 OBF-recommended fields in WICIS 5.0.0. If they are on WICIS 4.0.0, they must have a way to deal with the 14 fields.
* It was stated that many carriers are likely developing to the 14 OBF-recommended fields.
* This will be assigned PIM 77 and will remain open until the FCC issues an order on the standard fields.
* Proposal for Quantity of TNs Applicable to Non-Simple Port (Action Item 011210-07) – Gary Sacra
  + This issue was deferred to a future meeting.

NANC 442 Review (Action Items 020910-06, 07, 13, 14, 15) – Neustar:



* Neustar reviewed the latest revisions to the attached NANC 442 document with the group and responded to the following Action Items.

Action Item 020910-06: Regarding the attached NANC 442 (Pseudo-LRNs) Change Order, Neustar will review the Change Order in the context of SPID migrations and report any necessary requirements at the March 2010 LNPA WG meeting.

* A SPID can only establish P-LRN SVs and pooled blocks within its own NPA-NXXs.
* A SPID migration for a given NPA-NXX will automatically trigger the migration of the P-LRN SVs and blocks within that NPA-NXX.  *(Do not include an LRN value of 000-000-0000 in the migration request description.)*
* The existence of P-LRN SVs and pooled blocks within an NPA-NXX set for migration will preclude performing the SPID migration online.  Providers and vendors that support P-LRN will need to update those records in their systems when they are included, as part of standard SPID migration processes.
* It is not necessary for the migrating-to SP to support P-LRN on either their SOA or their LSMS, even if there are P-LRN records involved in the migration.  Neustar will assist in any required clean-up or modification of P-LRN inventory.
* As a result of the above four bullet points, no additional requirements were added.  One M&P note was added.
* Action 020910-06 was closed.

Action Item 020910-07: Regarding the attached NANC 442 (Pseudo-LRNs) Change Order, Neustar will revise the requirements to reflect that all SPIDs a provider wishes to receive Pseudo-LRN record downloads for, including their own, must be on their accepted SPID list. This will be reviewed at the March 2010 LNPA WG meeting.

* The following note in Req 22 in NANC 442 was updated in response to Action Item 020910-07.

NOTE:  If the Service Provider has selected one or more Pseudo-LRN Accepted SPIDs (including own SPID), then only those pseudo-LRN records for those SPID(s) will be sent (including own SPID).  If the Service Provider has not selected any Pseudo-LRN Accepted SPIDs, then all pseudo-LRN broadcasts will be sent if the Local SMS supports pseudo-LRN records.

* Action Item 020910-07 was closed.

Action Item 020910-13: Regarding the attached NANC 442 (Pseudo-LRNs) Change Order, Local System Vendors are to determine if Pseudo LRN records should be considered in the SV limit for SPID migrations and considered in the context of the restriction that migrations with impacted SVs not be performed over the interface. This will be discussed at the March 2010 LNPA WG meeting. See related Action Item 020910-14.

* Telcordia and Evolving Systems stated that they have no issue with including P-LRN records in the count.
* Action Item 020910-13 was closed.

Action Item 020910-14: Regarding the attached NANC 442 (Pseudo-LRNs) Change Order, Service Providers are to determine if Pseudo LRN records should be considered in the SV limit for SPID migrations and considered in the context of the restriction that migrations with impacted SVs not be performed over the interface. This will be discussed at the March 2010 LNPA WG meeting. See related Action Item 020910-13.

* A service provider stated that they do not want P-LRN records included in the SPID migration limitation counts, stating that they should be deleted prior to the migration and only those providers that opted in would receive the delete broadcast.
* Action Item 020910-14 was closed.

Action Item 020910-15: Regarding the attached NANC 442 (Pseudo-LRNs) Change Order, Service Providers are to come to the March 2010 LNPA WG meeting prepared to determine the next steps for NANC 442.

* The group agreed to forward NANC 442 to the NAPM LLC with a recommendation to request a Statement of Work (SOW) from Neustar.
* Regarding the attached NANC 442, approved at the March 2010 LNPA WG meeting, Gary Sacra, LNPA WG Co-Chair, will forward it to the NAPM LLC Co-Chairs with a recommendation from the LNPA WG that a request for a Statement of Work (SOW) be sent to Neustar.



NOTE: This Action Item was subsequently completed on March 11, 2010.

* Action Item 020910-15 was closed.

NANC 437 Issues Parking Lot Deeper Dive Analysis – All:

    

* Review New NANC 437 Matrix Item 195 (AI 020910-12) – All:

Action Item 020910-12: Regarding NANC 437, a question arose on the February 9, 2010 LNPA WG conference call related to the process necessary to affect a change of effective date in the –X when the blockholder goes directly to NPAC to make the date change rather then through the Pool Administrator and the codeholder is served by a different NPAC. Gary Sacra, LNPA WG Co-Chair, will review the NANC 437 Issues Parking Lot Matrix to determine if an existing item can serve to address this question or if a new item needs to be opened.

* + The group reviewed and discussed new Item 195 in the attached NANC 437 Issue Parking Lot Matrix document. Action Item 020910-12 is closed with the addition of new Matrix Item 0195.
* Matrix Item 25 (AIs 011210-23 and 020910-08) – Vendors:

Action Item 011210-23: Regarding the 4 options listed below for SV ID management, Vendors are:

1. To explore the feasibility of an NPAC identifier approach,
2. To identify the pros and cons of each of the 4 approaches.

The 4 options are as follows:

1. Use of a formula of (ID value) modulo (the number of Peered NPAC SMSs).
2. Split of inventory based on the percentage of traffic.
3. A manual or automated external inventory management system.
4. Use of an NPAC identifier added to each SV ID.

Vendor feedback is due back to the LNPA WG Co-Chairs by February 2, 2010 for distribution to the group in preparation for the February 9, 2010 LNPA WG conference call.

Action Item 020910-08: Regarding NANC 437 and the following 4 options under discussion for SV ID management, Neustar will analyze and provide a readout at the March 2010 LNPA WG meeting of the magnitude and month-over-month growth of the applicable SV IDs in order to assist the group in determining which method to use.

The 4 options currently under consideration are as follows:

1. Use of a formula of (ID value) modulo (the number of Peered NPAC SMSs).
2. Split of inventory based on the percentage of traffic.
3. A manual or automated external inventory management system.
4. Use of an NPAC identifier added to each SV ID.
   * Neustar provided the following data for the discussion:

**Sequence ID usage data from the region with the highest sequence number for the past year to help establish approach for ID assignment in a peered environment.**

Sequence           Value as of 02/09    Value as of 02/10    Average Weekly Use

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Audit ID                898,281,051        898,290,035                  173

Dash-X ID                     63,467               70,951                  144

Action ID             1,903,484,938     2,912,613,530           19,406,319

LRN ID                       18,130               18,759                   12

NPA-NXX ID                  55,216                55,932                   14

Pooled Block ID              59,946               67,378                  143

SV ID                   167,691,686        186,580,964              363,255

* + It was agreed that Option 4, use of an NPAC identifier added to each SV ID, would be used. A maximum of 8 NPACs in a region will be assumed, using 3 of the bits.
  + Matrix items 25 and 72 are closed. Action Items 011210-23 and 020910-08 are also closed.
* Matrix Item 37 (AI 020910-10) – Telcordia:

Action Item 020910-10: Regarding NANC 437 and the discussion of potential race conditions, Telcordia will investigate the feasibility of incorporating a database locking mechanism in the NANC 437 requirements to address the issue. This will be discussed at the March 2010 LNPA WG meeting.

* Telcordia presented a general solution that requires the NPAC to verify prerequisite processing prior to starting subsequent processing. For example the Master NPAC SMS would verify that all of the Peered NPAC SMSs received the network object creations (e.g. NXX) before any dependent objects (i.e. SVs) were created. See attached for detail.



* + Matrix Item 37 and Action Item 020910-10 are closed.
* Matrix Item 53 (AI 020910-11) – Telcordia

Action Item 020910-11: Regarding NANC 437 and the consensus reached by Service Providers on the February 9, 2010 LNPA WG conference call that the role of Master NPAC should be transferred at the point of SV Activation rather than at the point of SV Creation as currently proposed in NANC 437 requirements, Telcordia will revisit the requirements and determine what changes will need to be made and report out at the March 2010 LNPA WG meeting.

* + As a result of concerns raised regarding the point in time when the work load during a port transfers to the New NPAC under the SV Activation method, it was agreed to revisit that decision. Action Item 020910-11 is closed with the assignment of the following Action Items. Matrix Item 53 remains open.
  + Regarding NANC 437 Issues Parking Lot Matrix Item 53, Telcordia will develop sample flows for review on the April 13, 2010 LNPA WG conference call.
  + Regarding NANC 437 and the consensus reached by Service Providers on the February 9, 2010 LNPA WG conference call that the role of Master NPAC should be transferred at the point of SV Activation rather than at the point of SV Creation as currently proposed in NANC 437 requirements, Service Providers will revisit that decision based on the discussion at the March 9, 2010 APT meeting and come to the April 13, 2010 LNPA WG conference call prepared to decide which method will be reflected in requirements.
* Matrix Item 129 Implementation – All:
  + Item 129 remains open pending determination of how to implement this functionality in NANC 437 due to it being available and used over the LTI.
* Matrix Item 144 (AI 020910-09) – Neustar:

Action Item 020910-09: Regarding Item 144 in the attached NANC 437 Issues Parking Lot Matrix, Neustar will send suggested language addressing discrepant SVs to Telcordia for review.

* + Neustar provided the following data for the discussion:

**Peered NPAC processing of Inter-NPAC audit requests – Peered NPAC Database Audit Discrepancies**

The NPAC SMS shall query the Master NPAC for SVs/NPBs involved in the audit, compare the returned SVs/NPBs to its Peered NPAC database, update its own database, send updates to all subtending LSMSs, and indicate that all subtending LSMSs are discrepant for the audit in cases where the Peered NPAC database is found to be discrepant with the Master NPAC database.

* + Telcordia stated that Neustar’s proposed wording was acceptable. This will go in FRS Section 8 of the NANC 437 requirements.
  + Matrix Item 144 and Action Item 020910-09 are closed.
* Additional Matrix Items to be teed up and discussed (time permitting):
  + Telcordia Items:
    - * Item 36:
  + For planned downtime, it was agreed that all NPACs would come up and connect before their respective subtending SOAs/LSMSs are connected.
  + If providers came up before NPACs synched up data among themselves, the providers would not have recovered that data.
  + A number of providers stated that they want any NPAC that is up to stay up when one or more go down unplanned.
  + It was stated that not all routing will be correct if NPACs were allowed to stay up.
  + Telcordia stated that the current NANC 437 proposal is consistent with today’s philosophy where broadcasts still take place when some LSMSs are down.
  + Neustar stated that it is possible for links between NPACs to go down but the NPACs are still up and don’t realize that the links are down. Object creations could still be taking place.
  + If an NPAC goes down, all subtending SOAs and LSMSs will be down. If a provider in the functioning NPAC tries to submit an SV Create to port with a provider in the down NPAC, they will get rejected. It was stated that is the difference with today’s world when just one or two LSMSs go down and two functioning providers are porting between themselves – no reject is received. All intra-SP ports and inter-SP ports between providers subtending the functioning NPAC can still happen.
  + Regarding NANC 437 Issues Parking Lot Matrix Item 36, Gary Sacra will create a new Parking Lot Matrix item to add a requirement that for NPACs that remain in service when one or more other NPACs are down to notify their Service Providers that an NPAC(s) is down and to notify their Service Providers when it/they come back up.
  + Regarding NANC 437 Issues Parking Lot Matrix Item 36, Telcordia will add a requirement that for NPACs that remain in service when one or more other NPACs are down to notify their Service Providers that an NPAC(s) is down and to notify their Service Providers when it/they come back up.
  + There were no objections to keeping up NPACs that can stay up during an unplanned outage of one or more other NPACs. The same philosophy will hold true for coming out of planned downtime when one or more cannot come up.
  + Matrix Item 36 is closed.
    - * Item 80 – merging of two BDD files:
  + Telcordia stated that BDD files of the same type can be merged simultaneously using timestamps. A new “eBDD” would always be used between peered NPACs for synchronization.
  + Matrix Item 80 is closed.
    - * Item 167 – showing flows for 3-way recovery of NPACs:
      * Telcordia presented the attached 3 NPAC recovery scenario (see slides 8-15 in attached).



* + Matrix Item 167 closed.
    - * Items 177 and Item 179 (recovery):
  + Telcordia discussed the merging of data when 2 or more NPACs are down. See attached slide deck for details.
  + It was agreed that any NPAC that can remain up should remain up and processing ports. Telcordia discussed the proposed process for restoring a crashed NPAC and bringing a new NPAC online in the attached.



* + - * Matrix Items177 and 179 are closed.
  + Items Requiring Service Provider Input:
    - * Item 74 - Need to address both source of NPA-NXX data and management of discrepancies.
  + It was agreed to use NANPA for rate area and OCN of NXX code.
  + LATA ID data must be obtained by NPAC vendors from the same source at the same time.
  + All NPAC vendors must get their data from the same source on the same day.
  + Leave Matrix Item 74 open but no need to discuss further until procedural decisions need to be made.
    - * Item 123 - Is there a need to query a pending SV from a non-Primary NPAC?

We need to discuss development of an M&P to address facilitation of completion or cancellation of pending SVs among multiple NPACs when a SPID migration is taking place.

* Neustar provided the attached slide deck to tee up the discussion.



* It was agreed to allow NPAC personnel of non-Primary NPACs to have access to pending SVs. This will not be extended to SPs not involved in the port, however.
  + Matrix Item 123 is closed.
  + Time permitting, we will address additional matrix items identified in the “Deeper Dive Analysis Items” file above. Telcordia provided the attached slide deck to tee up discussion of additional matrix items.



* + - * Item 4:
      * It was agreed that a 3rd party certifier would be necessary. It was suggested that this could be a group of Service Providers.
      * This item will remain open with no further discussion necessary at this time.
      * Item 27:
      * Telcordia Proposal: Testing would be done before turning up a new Peered NPAC vendor as well as at periodic intervals as it is today. Existing failover and recovery test cases can be enhanced for testing of Inter-NPAC SMS connectivity.
      * This item will remain open with no further discussion necessary at this time.
      * Items 46 and 193:
      * Regarding NANC 437 Issues Parking Lot Matrix Items 46 and 193, Gary Sacra, Paula Jordan, and Linda Peterman, LNPA WG Co-Chairs, will put together NPAC billing requirements from the FCC Orders and develop some use cases for discussion on the April 13, 2010 conference call.

* All revisions to the NANC 437 Issues Parking Lot Matrix that resulted from the March 9, 2010 APT meeting are captured in v20 of the document attached below.



##### LNPA WORKING GROUP DISCUSSION:

**WEDNESDAY 03/10/10**

Wednesday, 03/10/10, Attendance:

| **Name** | **Company** | **Name** | **Company** | | |
| --- | --- | --- | --- | --- | --- |
| Mary Gail Sullivan | 360 Networks (phone) | Marcel Champagne | | Neustar |
| Ron Steen | AT&T | Dave Garner | | Neustar |
| Tracey Guidotti | AT&T (phone) | Kristen Hamilton | | Neustar |
| Mark Lancaster | AT&T (phone) | Mubeen Saifullah | | Neustar Clearinghouse |
| Teresa Patton | AT&T | Shannon Sevigny | | Neustar Pooling (phone) |
| Renee Dillon | AT&T Mobility | Linda Peterman | | One Communications |
| Lonnie Keck | AT&T Mobility | Peggy Rubino | | Paetec (phone) |
| Barbara Hjelmaa | Brighthouse Networks (phone) | Jan Doell | | Qwest |
| Marian Hearn | Canadian LNP Consortium | Towanda Russell | | RCN (phone) |
| Vicki Goth | CenturyLink | Lavinia Rotaru | | Sprint Nextel |
| Tim Kagele | Comcast | Sue Tiffany | | Sprint Nextel |
| Jen Aspeslagh | Comcast | Rosemary Emmer | | Sprint Nextel |
| Beth O’Donnell | Cox (phone) | Bob Bruce | | Syniverse |
| Dennis Robins | DER Consulting (phone) | Joel Zamlong | | Telcordia |
| Devang Naik | DSET | John Malyar | | Telcordia |
| Greg Council | Evolving Systems | Adam Newman | | Telcordia (phone) |
| Jay Hjellum | Evolving Systems | Pat White | | Telcordia |
| Tim Remple | Evolving Systems | Lisa Marie Maxson | | Telcordia |
| Linda Jo Birchem | Fairpoint Comm. | Stacy Hannah | | Time Warner Cable (phone) |
| Crystal Hanus | GVNW (phone) | Paula Jordan | | T-Mobile |
| Bonnie Johnson | Integra | Mohamed Samater | | T-Mobile |
| Angie Mackey | John Staurulakis, Inc. (phone) | Heather Patterson | | TNS |
| Bridget Alexander | John Staurulakis, Inc. (phone) | George Stonesifer | | US Cellular |
| Stephanie Hudson | John Staurulakis, Inc. (phone) | David Lund | | US Cellular |
| Karen Hoffman | John Staurulakis, Inc. (phone) | Tanya Golub | | US Cellular (phone) |
| Lynette Khirallah | NetNumber (phone) | Gary Sacra | | Verizon |
| Paul LaGattuta | Neustar | Jason Lee | | Verizon (phone) |
| Jim Rooks | Neustar | Deb Tucker | | Verizon Wireless |
| Stephen Addicks | Neustar | Tom Zablocki | | Vonage |
| Mindi Patterson | Neustar | Tana Henson | | Windstream |
| John Nakamura | Neustar | Tiki Gaugler | | XO Comm. (phone) |
| Bill Reidway | Neustar | Dawn Lawrence | | XO Comm. |
|  |  |  | |  |

**MEETING MINUTES:**

OBF Wireless Ordering Task Force and Intermodal Subcommittee Update (Deb Tucker, Verizon Wireless):

**OBF Wireless Ordering Task Force:**

* Deb Tucker reported that since the January 2010 LNPA WG meeting, the Wireless Ordering Task Force held 4 interim conference calls to work on the WICIS 5.0.0 Implementation Guidelines and to make corrections in WICIS 5.0.0 Volume III under Fast Track Issue 3385.
* The Implementation Guidelines document establishes guidelines for developing and deploying WICIS 5.0.0 as well as providing an intermodal mapping matrix between WICIS 5.0.0 and LSOG 1Q10.  The document is fairly complete and finishing touches are being added to the mapping matrix.
* Fast Track Issue 3385 - WICIS 5.0.0 XSD Corrections for NLSP, BILLSTNM, and CITY - corrects 3 data fields that were not appropriately specified to be optional in the technical XSD documentation.  The Task Force agreed to update WICIS Volume 3, section 5.1.3 UOM-ICP-Order.xsd, to include the XSD corrections for NLSP, BILLSTNM, and CITY. They also agreed that correct XSD and WSDL text files should be published along with the WICIS documents.  This Issue went into Final Closure on 2/4/2010.
* The OBF Wireless Ordering Task Force has scheduled ten 30 minute bi-weekly meetings through August 6, 2010 in order to quickly address any interoperability issues that may arise during testing and implementation of WICIS 5.0.0 as well as implementation of LSOG changes resulting from FCC Order 09-41.  Wireless vendors will begin testing the WICIS 5.0.0 changes the week of March 15th, 2010.

**Intermodal Subcommittee:**

* During the OBF Ordering Solutions meeting held on February 22, 2010, the former Intermodal Subcommittee participants addressed the two open issues that were put aside while work for FCC Order 09-41 took place.
* Issues 3223 and 3255 referenced below were withdrawn due to the positive direction Intermodal Porting is taking as a result of efforts to standardize the wireline and intermodal porting processes in response to FCC Order 09-41.
* Issue 3223 - Intermodal Subcommittee Simple Port Request Changes Mandated By FCC Order 07-188.
* Issue 3255 - Standard Intermodal Document Defining Interoperability Requirements Needed to Process Wireline to Wireless and Wireless to Wireline Ports.
* Additionally, tabled Issue 3029 - Wireless documentation for mapping between WICIS and LSOG - was withdrawn by the Issue Champion due to the Intermodal mapping provided in the WICIS 5.0.0 Implementation Guidelines, and as a result of the work associated with FCC Order 09-41.
* Having no open issues to work, the Intermodal Subcommittee is now in a retired status.  If new Intermodal issues arise that require focused activity under the OBF Ordering Solutions Committee, a Task Force will be created at that time to address the issues.

OBF Local Ordering Task Force (Linda Peterman, One Communications):

* Linda Peterman reported that since the January 2010 LNPA WG meeting, the Local Ordering Task Force (LOTF) has held the following meetings:

1/18/10 – 1/22/10 Piscataway, NJ Face-to-Face

2/15/10 Virtual

2/17/10 Virtual

2/22/10 Virtual

2/23/10 Virtual

* The LOTF has been reviewing the 1Q10 practices and associated XML documentation as well as working on manual form templates. This work is on-going and an additional virtual meeting is scheduled for Monday, 3/8/10 to continue that process. ATIS Legal is working on language to address the fact that these templates may not be customized whereas the other forms in the LSOG Practices must be customized prior to use by service providers.

Issues in Final Closure:

1. LSOG: COMMON LANGUAGE reference cleanup in 073, 075, 076, 077 and 078 Practices.
2. LSOG: Request for New Ordering Field AC – Account Structure Change
3. LSOG: Standardization of the Error Codes and Error messages in the 099 Practice
4. LSOG: COMMON LANGUAGE reference cleanup in the 072, 073, 074, 078, 079, 082 and 099 Practices

Issues Withdrawn:

3029 Wireless documentation for mapping between WICIS and LSOG

3223 Intermodal Subcommittee Simple Port Request Changes Mandated by FCC Order 07-188

3255 Standard Intermodal Document Defining Interoperability Requirements Needed to Process Wireline to Wireless and Wireless to Wireline Ports

Issues in Initial Closure or Initial Pending:

None

Open Issues:

1. LSOG: The schema doesn’t match the LSOG rules and fields in some places
2. LSOG: Modify LSOG practices in support of a standardized Local Number Portability (LNP) ordering process
3. LSOG: Standardization of RT of “Z” in the 099 practice for REQTYP “C” to be utilized by all providers
4. LSOG: Standardization of the Reason Codes and Jeopardy Code Detail in the 099 Practices
5. LSOG: Address duplication of fields between product specific practices and 071 and 072 practices
6. LSOG: Common Language reference cleanup of the NNSP and ONSP fields in the 071 and 099 practices
7. LSOG: Standardization of directory listings in the 102 Practice
8. LSOG: Standardization and consolidation of Directory Listings Inquiry/Response and Listing Reconciliation (from LSOG 6) all into the 111 Practice

Notes:

1. Open Issue 3306 schema corrections are in process and will apply to the 1Q09 LSOG
2. Open Issue 3307 is scheduled to be discussed further during the 03/08/10 meeting with the potential of recommending the issue for closure and inclusion in 1Q10.
3. Open Issue 3380 is scheduled to be discussed further during the 03/08/10 meeting with the potential of recommending the issue for closure and inclusion in 1Q10.
4. ATIS’ Annual Meeting of Committees (AMOC) is April 19-23, 2010 and the LOTF will be attending and meeting as much as possible during this timeframe to address issues related to the 1Q10 LSOG publication.

Industry Numbering Committee (INC) Update (Adam Newman, Telcordia & INC Chair):

* Adam Newman, Telcordia and INC Chair, reported out on the INC activities.

Active Issues:

* + Issue 649 : Update INC Documents for FCC 09-41, Order Reducing Simple Wireline and Intermodal Ports to One Business Day Interval
    - No changes needed, but issue remains active pending implementation.
  + Issue 664: Review NPA Allocation Guidelines to Consider NPA Sharing
    - Issue to consider new NANP entrants sharing an NPA and distinguishing international traffic on an NXX basis.

Issues recently closed:

* + Issue 671: Update TN Administration Guidelines re: TNs as public resource
    - Added INC standard language noting “Telephone numbers are North American Numbering Plan (NANP) resources that are considered a public resource and are not owned by the assignees.  Consequently, the resources cannot be sold, brokered, bartered, or leased by the assignee for a fee or other consideration. The NANP Resources assigned in this guideline are expected to be used in conformance with this guideline and the related ITU-T recommendations. Misuse of a resource either as defined in this guideline or as defined in ITU-T E.156 “Guidelines for ITU-T action on reported misuse of E.164 number resources” [[1]](#footnote-1)[1] should be reported to the North American Numbering Plan Administrator (NANPA[[2]](#footnote-2)[2])”
      1. Language was added in 1st paragraph of Section 1 of TNAG.
  + Issue 672: Update TBPAG to Specify Timeframe for PA to Process Suspended Block Disconnects
    - Added language noting “While the NPAC has no specific timeframe in which to provide the ad hoc report to the PA, the NPAC is usually able to provide the report within seven calendar days of the PA’s request. Within seven calendar days of receiving the ad hoc report from the NPAC, the PA shall review the report to determine the block’s level of contamination and provide the appropriate Part 3 approval or denial to the block holder.”
  + Issue 675: Edits to NPA Code Relief Planning and Notification Guidelines to include service provider contact information in Planning Letter

Issues in Initial Pending:

* + Issue 604: Code Holder vs. LERG Assignee
    - Today many industry members use the terms Code Holder and LERG Assignee interchangeably when referencing the service provider assigned an NXX code, and it is no longer necessary to maintain separate terms and definitions.
    - INC agreed to modify the definition of Code Holder, combining the Code Holder and LERG Assignee terms into a single definition that recognizes the responsibilities of an NXX assignee in both pooled and non-pooled areas. The revised definition of Code Holder is as follows:

“An assignee of a pooled or non-pooled NXX code that is assigned by the CO Code Administrator. The responsibilities of an assignee for a pooled NXX are defined in Section 4.2.1 of the Thousands Block Number (NXX-X) Pooling Administration Guidelines (TBPAG) and for a non-pooled NXX are defined in Section 6.3 of the Central Office Code (NXX) Assignment Guidelines (COCAG). A given Code Holder is identified in the LERG Routing Guide as the NPA-NXX-A (Assignee) OCN record holder*.*”

* Issue 611: Augmenting the NRUF Verification Procedures
  + - The INC modified the NRUF Guidelines to improve the verification procedures to ensure that all assigned resources are reported. The INC also made changes to the NRUF Guidelines to clarify SP and NANPA responsibilities for reporting and verification of all allocated codes and blocks. As a result, NANPA will submit a change order to implement these changes. Finally, the INC determined that no changes to the NRUF Guidelines are required for the reporting of intermediate numbers.
* Issue 656: Update TBPAG Expedite Process for Thousands-blocks (Section 8.6)
  + - The current expedite process is the same for new block requests, block modification requests and block disconnect requests. In all cases, to request a nine calendar day effective date, the block holder must be the LERG Assignee and no NPAC updates required. However, there are some block modification requests where the block holder is not the LERG assignee and no NPAC updates are required.  Updates were made to separate the process for when the SP is/is not the Code Holder as well as for modifies/disconnects.

NANC Future of Numbering Working Group Update (Adam Newman, Telcordia & FoN Co-Chair):

* Adam Newman, Telcordia & FoN Co-Chair, provided the current status of issues currently being worked in the FoN.

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| --- | --- | --- | --- | --- |
| **AID #** | **Title** | **Submit** | **Submitter(s)** | **Next Step(s)** |
| 001 | **New & Future Services** | 02/13/07  (Orig: 2006) | Castagna/Gray  (co-chairs) | Accepted  03/28/2007 being worked |
| 002 | **Telematics and the use of NANP numbers** | 04/19/06 | Karen Norcross  (PUC) | Accepted  05/22/2007 being worked |
| 004 | **Geographic Issues Impacting Numbering Policy Decisions** | 01/1907  (Orig May 06) | David Greenhaus  800 Response IS | Accepted  06/20/2007 pending  work |
| 005 | **Commons vs. Market Place Model for Toll Free Numbers** | 12/04/07 | Jay Carpenter  (1-800 AFTA) | Accepted 12/05/2008 being worked |

* **The following are issues that are pending submission/presentation:**
* *What are the Network Topology and Numbering System Impacts of changes to numbering resources.*
* *Addressing, Interoperability, and ENUM*
* *Mobile/Nomadic Society Demands and Changing Numbering Requirements (Expanded FTN-4 item)*

Inter-carrier Testing Subcommittee (Teresa Patton, AT&T):

* Teresa Patton, AT&T and ITC Subcommittee Co-Chair, reported after several meetings the committee has developed and is working toward the following schedule:



* Additionally, the committee decided to develop two separate test plans:

A. Wireline/Intermodal Test Plan

This test plan will be used for all wireline to wireline and Intermodal testing.

Anh Ngo (Sprint) /Bridget Alexander (JSI) are leading the efforts to get this document completed.

B. Wireless to Wireless Test Plan

Since only wireless carriers utilize WICIS the group determined it was best to separate out the wireless testing details into a separate document.

Teresa Patton (AT&T) is leading the efforts to get this document completed.

* The goal is to have these test plans finalized by April 1st.
* As carriers determine their testing availability **please communicate** with Teresa Patton ([tp1393@att.com](mailto:tp1393@att.com)) those dates so we can include in the Intercarrier Test Schedule.
* Current Meeting Schedule:
* Mar 17th, 2010 at 3PM – 3:30PM ET (Quick check-point)
* Mar 30th, 2010 at 2PM – 4PM ET (Final Review of Wireline/Intermodal Test Plan)
* Apr 1st, 2010 3 – 5 PM ET (Final Review of Wireless Test Plan)
* NOTE: Attached are the final test plans:

 

PIM Discussion:

* PIM 42 – This PIM, submitted by Syniverse, seeks to review the wireline requirement for certain fields on the LSR.



The issue is now in a Tracking state awaiting resolution of LSOP Issue 3307.

* PIM 44 – This PIM, submitted by T-Mobile, Sprint, Verizon Wireless, Nextel, Cingular, and US Cellular, seeks to address varying rules among wireline carriers for developing a Local Service Request (LSR) in order to port a number.



The issue is now in a Tracking state awaiting resolution of LSOP Issue 3307.

* PIM 51 – This PIM, submitted by Nextel, seeks the prevention of NXX codes being opened to portability in NPAC by the incorrect provider.



Neustar developed Change Order 414 proposing an automated process to prevent the wrong service provider from opening up a code in NPAC. PIM 51 is now tracking NANC 414 for the automated solution. NANC 414 is included in NPAC Software Release 3.4.

Regarding the attached manual process for the PIM 51 cleanup in NPAC, the NAPM LLC approved the LNPA WG’s recommendation to request a Statement of Work (SOW) from Neustar at their September 2007 meeting. SOW 66 for manual cleanup was submitted by Neustar to the LLC on May 20th. The LLC approved SOW 66 at their July 2008 meeting. NANC 402 is the Change Order for the manual cleanup.



* PIM 54 – This PIM, submitted by Comcast, seeks to reduce the interval for certain wireline-wireline and inter-modal ports to one day.



The PIM 54 proposal applies to simple ports for e-bonded (e.g., XML and EDI) providers.

Action Item 0308-13: Regarding the attached PIM 54, Service Providers are to discuss internally what caveats would have to be in place in an LNPA WG Best Practice in order to support a next day porting interval, if they can support it. This will be discussed at the May 2008 LNPA WG meeting.

Both Action Item 0308-13 and PIM 54 will remain open awaiting the implementation of FCC Order 09-41.

* PIM 55 – This PIM, submitted by the Neustar Clearinghouse Vendor, seeks to address issues related to wireline Provider Initiated Activity.



This issue is now in a tracking state awaiting inclusion in the next WICIS Release 5.0.0. Issue 3118 is now in closure.

* PIM 64 – This PIM, submitted by VeriSign, proposes a new tunable parameter in NPAC to allow the suppression of LTI-initiated transactions to the mechanized SOAs.



PIM 64 was accepted at the September 2007 LNPA WG meeting. VeriSign submitted NANC Change Order 423 to address the issue identified in PIM 64. PIM 64 is now in a Tracking state.

* PIM 65 – This PIM, submitted by VeriSign, proposes a priority scheme in NPAC for the notifications generated by the disconnection of pooled thousands blocks.



PIM 65 was accepted at the September 2007 LNPA WG meeting. VeriSign submitted NANC Change Order 424 to address the issue identified in PIM 65. PIM 65 is now in a Tracking state. NANC 424 is included in NPAC Software Release 3.4.

* PIM 66 – This PIM, submitted by VeriSign, seeks to address the data that is received when Mass Updates are performed.



PIM 66 was accepted on the October 2007 LNPA WG conference call. VeriSign submitted NANC Change Order 426 to address the issue identified in PIM 66. PIM 66 is now in a Tracking state. NANC 426 is included in NPAC Software Release 3.4.

CLEC Co-Chair Position Nominations and Election – All:

* Linda Peterman, One Communications, was nominated by Comcast to fill the open CLEC LNPA WG Co-Chair position and was confirmed by acclimation. **CONGRATULATIONS LINDA!!!**

Change Management – Neustar:



* NANC 408 – SPID Migration Automation:
* It was agreed that if providers get a reject of a SPID migration request due to exceeded limitations and the provider cannot wait until the next LNPA WG meeting to seek a waiver, Neustar will send a note to the LNPA WG Co-Chairs who will send the request out over the distro asking for feedback within 5 business days.
* Reference to “On-line” migration changed to “Code only” migration.
* There were no objections to always pushing out SMURF files as opposed to selectively pushing them out. Remove Reqs 21-25 in NANC 408.
* Regarding the SPID migration e-mail notification, today it includes an Excel

spreadsheet attachment.  With NANC 408 it will have text information in the body of the e-mail since it will be automatically generated by the NPAC. Neustar will bring in examples for review when they become available.

* Release 3.3.4 Test Cases – Mindi Patterson (Neustar):

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* Mindi Patterson, Neustar, reviewed the attached Release 3.3.4 test case list with the group.
* A local system vendor asked if we could eliminate ITP testing (vendor interface testing with a simulator, not turn-up) for LSMSs that do not support querying SVs. Medium timer attributes in Release 3.3.4 are SOA-only attributes.It was stated that SOW 24 requires the ITP testing.It was proposed to revise SOW 24 to state that if the interface is not changed for a system for a particular release, there is no need to do ITP testing with the simulator for that system. It would be optional. It was further suggested that it be written in each SOW whether or not ITP is required in order to take out any guesswork.It was agreed (no objections) to waive requirement for LSMS ITP testing for 3.3.4 due to the short timeframe with ITP starting on 3/15/2010. LSMS turn-up testing is still required. Business Hour Type and Timer indicator are not sent back in an LSMS SV query today even though current requirements say they are. There will be a doc only change order to clean up the requirements to say they are not returned. A request to modify SOW 24 will be teed up for May 2010 LLC meeting.
* SOW 24 was put into effect to detail the scenarios for which ITP testing was required. ITP testing is done with a simulator and not the actual NPAC platform. Its main purpose is to discover any issues early enough in the testing cycle to address them and still deliver a new release in time.
* The following changes were made to the test case list:
* Test NANC 440/441-2 – Change note to indicate that MTI is included in AVC.
* Test NANC 440/441 – 5 – Add that it is before the Old SP concurrence.
* A provider asked if a carrier with multiple SPIDs on the same system only has to do testing on one SPID. Answer was yes.
* Providers do turn-up testing after vendors do their ITP testing. Providers must complete their turn-up testing prior to their region going live.

Discussion of Need for April 2010 Conference Call – All:

* The group agreed to hold a conference call on Tuesday, April 13, 2010, from 11am to 5pm Eastern. The dial-in bridge number is 888-412-7808, pin 23272#. The agenda will consist of the following:
  + - Introductions/Agenda Review – All
    - Inter-carrier Test Plan for One-day Porting – All
    - Review of OBF LSOP Decision on Due Date Changes – All
    - Change Management – Neustar
    - 2010 Meeting/Call Schedule – All
    - NANC 437 Issues Parking Lot Matrix Deeper Dive Analysis – All
  + New Business – All

2010 Meeting/Call Schedule Review – All:



* The May 2010 meeting will be held in St. Petersburg, Florida.
* The July 2010 meeting will be held in Seattle, Washington.
* The November 2010 meeting will possibly be held in Key West, Florida, but is still tentative.

Review of January 12-13, 2010 LNPA WG Action Items:

**January 12-13, 2010 LNPA WG Action Items:**

* Item 011210-01: This item has been completed and is Closed.
* Item 011210-02: This item has been completed and is Closed.
* Item 011210-03: This item remains Open.
* Item 011210-04: This item has been completed and is Closed.
* Item 011210-05: This item has been completed and is Closed.
* Item 011210-06: This item has been completed and is Closed.
* Item 011210-07: This item remains Open.
* Item 011210-08: This item has been completed and is Closed.
* Item 011210-09: This item has been completed and is Closed.
* Item 011210-10: This item remains Open.

**January 12-13, 2010 APT Action Items:**

* Item 011210-11: This item has been completed and is Closed.
* Item 011210-12: This item has been completed and is Closed.
* Item 011210-13: This item has been completed and is Closed.
* Item 011210-14: This item has been completed and is Closed.
* Item 011210-15: This item has been completed and is Closed.
* Item 011210-16: This item has been completed and is Closed.
* Item 011210-17: This item has been completed and is Closed.
* Item 011210-18: This item has been completed and is Closed.
* Item 011210-19: This item has been completed and is Closed.
* Item 011210-20: This item has been completed and is Closed.
* Item 011210-21: This item has been completed and is Closed.
* Item 011210-22: This item has been completed and is Closed.
* Item 011210-23: This item has been completed and is Closed.

**LNPA WG Action Items Remaining Open from Previous Meetings:**

* Item 0308-13: This item remains Open.
* Item 0109-12: This item remains Open.
* Item 0309-08: This item remains Open.

**APT Action Items Remaining Open from Previous Meetings:**

* Item 101909-04: This item remains Open.
* Item 111009-12: This item remains Open.

Review of February 9, 2010 LNPA WG Action Items:

**February 9, 2010 LNPA WG Action Items:**

* Item 020910-01: This item has been completed and is Closed.
* Item 020910-02: This item has been completed and is Closed.
* Item 020910-03: This item has been completed and is Closed.
* Item 020910-04: This item has been completed and is Closed.
* Item 020910-05: This item has been completed and is Closed.
* Item 020910-06: This item has been completed and is Closed.
* Item 020910-07: This item has been completed and is Closed.
* Item 020910-08: This item has been completed and is Closed.
* Item 020910-09: This item has been completed and is Closed.
* Item 020910-10: This item has been completed and is Closed.
* Item 020910-11: This item has been completed and is Closed.
* Item 020910-12: This item has been completed and is Closed.
* Item 020910-13: This item has been completed and is Closed.
* Item 020910-14: This item has been completed and is Closed.
* Item 020910-15: This item has been completed and is Closed.

New/Unfinished Business (All):

* Gary Sacra, Verizon, raised the following questions regarding SUPPs and received the following answers from the group:

1. If the original order has a requested DD of 3 days (non-simple port), then a SUPP comes in requesting a sooner date, 1 or 2 days, do we then make it a simple port?

Answer: Considered an expedite of the original request with 24 hours to respond to the SUPP.

1. If originally a simple port, then a SUPP comes in to change to a 3 day due date, do we make it a non simple port?

Answer: Still considered a simple port in terms of response time to SUPP, i.e., 4 hours.

1. If No. 2 above is SUPPed again for only 1 day, do we change it back to a simple port?

Answer: Based on the answer to No. 2 above, it is still a simple port with 4 hours to respond.

**NOTE: The responses above were subsequently clarified by the OBF. See attached for most current answers.**

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* Neustar reminded the group to make sure they review the SOW 73 (Release 3.4) project plan for key rollout dates which were pushed out due to SOW 77 (Release 3.3.4).

***Next Conference Call …April 13, 2010: 11am – 5pm Eastern, 888-412-7808 PIN 23272#***

***Next Meeting …May 11-12, 2010: Location…St. Petersburg, Florida***

***Hosted by Brighthouse and Syniverse***

1. [1] [http://www.itu.int/rec/T-REC-E.156/en](http://mail.atis.org/exchweb/bin/redir.asp?URL=http://www.itu.int/rec/T-REC-E.156/en) [↑](#footnote-ref-1)
2. [2] [http://www.nanpa.com](http://www.nanpa.com/) [↑](#footnote-ref-2)