

LNPA WORKING GROUP
March 7-8, 2017 Meeting
Final Minutes

Denver, CO	Host: Comcast
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TUESDAY March 7, 2017
Attendance

Name	Company	Name	Company
David Alread	AT&T	Bridget Alexander	JSI (phone)
Renee Dillon	AT&T	Bonnie Johnson	Minnesota DOC (phone)
Teresa Patton	AT&T	Lynette T. Khirallah	NetNumber (phone)
Jackie Wohlgemuth	ATIS (phone)	Anand Rathi	Neustar
Anna Kafka	Bandwidth.com	Bill Reidway	Neustar
Kelli Doty	Bandwidth.com	Dave Garner	Neustar
Lisa Jill Freeman	Bandwidth.com	Ed Barker	Neustar (phone)
Matt Ruehlen	Bandwidth.com	Gary Sacra	Neustar
Rob Brezine	Bandwidth.com	Jim Rooks	Neustar
Nancy Cornwell	Cellcom (phone)	John Nakamura	Neustar
Joy McConnell-Couch	CenturyLink	Larry Vagnoni	Neustar
Peggye O'Neil	CenturyLink	Lavinia Rotaru	Neustar
Phil Linse	CenturyLink	Marcel Champagne	Neustar
Glenn Clepper	Charter (phone)	Michael O'Connor	Neustar
Kathy Troughton	Charter (phone)	Mubeen Saifullah	Neustar
Erik Chuss	Chase Tech LLC (phone)	Paul LaGattuta	Neustar
Randee Ryan	Comcast	Tara Farquhar	Neustar (phone)
Cathy McMahon	iconectiv	Vikram Mehta	Oracle Communications
Doug Babcock	iconectiv	Rosemary Leist	Sprint (phone)
George Tsacnaris	iconectiv	Suzanne Addington	Sprint
Joel Zamlong	iconectiv	Hollie Carrender	Sprint
John Malyar	iconectiv	Bob Bruce	Syniverse (phone)
Krishan Chakravarthi	iconectiv	Paula Campagnoli	T-Mobile
Ken Havens	iconectiv	Luke Sessions	T-Mobile
Steven Koch	iconectiv (phone)	Deb Tucker	Verizon Wireless
Pat White	iconectiv	Kathy Rogers	Verizon Wireless
Kimberly Issaacs	Integra telecom/Zayo (phone)	Jason Lee	Verizon (phone)
		Dawn Lawrence	XO Communications (phone)

NOTE: OPEN ACTION ITEMS REFERENCED IN THE MINUTES BELOW ARE CAPTURED AT THE END OF THE LNPA WG MINUTES.

LNPA WORKING GROUP MEETING MINUTES:

In order to align more closely with the Federal Advisory Committee Act (FACA) the FCC has received a list of nominees for membership and membership approval was completed. Below are the names of vetted and approved voting members of the LNPA WG.

Local Number Portability Administration (LNPA) WG

Approved Co-Chairs: Paula Jordan Campagnoli, T-Mobile
Deb Tucker, Verizon

Organization	Primary	Alternate
800 Response	David Greenhaus	N/A
AT&T	Teresa Patton	N/A
ATL	Brian Lynott	N/A
Bandwidth.com	Lisa Jill Freeman	Anna-Valeria Kafka
CenturyLink	Joy McConnell-Couch	Phil Linse
Charter	Glenn Clepper	Allyson Blevins
Comcast	Randee Ryan	N/A
Cox	Jennifer Hutton	Beth O'Donnell
Integra Holdings/Zayo	Kim Isaacs	Laurie Roberson
JSI	Bridget Alexander	N/A
LNP Alliance	Dave Malfara	James Falvey
Minnesota DOC	Bonnie Johnson	N/A
SIP Forum	Richard Shockey	N/A
Sprint	Suzanne Addington	Rosemary Leist
T-Mobile	Paula Campagnoli	Luke Sessions
Townes Telecommunications Service Corp.	Amanda Molina	N/A
Verizon	Deborah Tucker	Jason Lee
Vonage	Imanu Hill	N/A
Windstream	Scott Terry	N/A

January 10-11, 2017 Draft LNPA WG Meeting Minutes Review:

The January 10-11, 2017, LNPA WG DRAFT minutes were reviewed and approved with minor changes and no objections to approving the minutes. The minutes were issued as FINAL.

LNPA WG Tri-Chair Election:

Dawn Lawrence has resigned her position as LNPA WG Tri-Chair due to changes in her job responsibilities with XO, A Verizon Company. Many thanks to Dawn for all of her contributions to the Working Group over the past several years.

It was announced at the meeting that an election would be held at the May 2017 meeting to fill the vacant CLEC position. A nomination for Glenn Clepper, Charter, was made during the meeting. Nominations remain open.

Subsequent to the meeting closure, an additional nomination for Anna Kafka, Bandwidth, was received.

Updates from Other Industry Groups

OBF (ORDERING AND BILLING FORUM COMMITTEE) - Rande Ryan – Comcast

WIRELESS SERVICE ORDERING SUBCOMMITTEE

The Wireless Service Ordering subcommittee met February 15th, 2017 with no new updates. The next checkpoint call is scheduled for June 14th, 2017.

LOCAL SERVICE ORDERING SUBCOMMITTEE

The LSO Subcommittee Met January 20, 2017 and February 17, 2017.

New Issues

No new issues were presented.

Current Issues

Review Discrepancies Matrix

Participants reviewed and modified a matrix of the TN, DATE, NAME and ZIP fields (OBF-LSO-OBF Schema 2Q14 Field Review TN Date-R002.xls). New Issues will be submitted by the April meeting to correct discrepancies identified.

Next Meeting:

LSO will meet March 17, 2017 and April 14, 2017

INC (Industry Numbering Committee) - Dave Garner – Neustar:

INC Issue 830: NAS and PAS Email/Report Enhancement

Issue Statement: It would be very helpful if additional and consistent data points were included in the various emails/reports generated from NAS and PAS (in either the body of the email, the subject line, or both), including but not limited to NPA, NXX, Block, State, Rate Center, Switch CLLI.

At the January meeting, INC reviewed this issue and agreed to assess possible enhancements to

the various NAS and PAS emails/reports. It was noted that the purpose of the proposed updates are to make the emails easier for users to act upon, having all of the necessary information in one place; the proposed updates would improve email consistency as well.

INC Discussion of Industry Activities

At the January meetings, INC discussed two industry activities that are currently underway in order to identify and understand any impacts on numbering resources and current INC Guidelines. These initiatives are:

- SHAKEN Governance Model and Certificate Management
- JIT (Just-in-Time) Numbering Initiative relative to the ATIS Testbed Working Group

Regarding the SHAKEN Governance Model and Certificate Management, INC met with Chris Wendt (Comcast) and Mary Barnes (iconectiv), members of the ATIS/SIP IP-NNI Task Force and others to review the draft document the IP-NNI Task Force is developing to introduce a governance model and define certificate management procedures for Secure Telephone Identity (STI) technologies. SHAKEN (Signature-based Handling of Asserted information using toKENs) is an industry framework for managing and deploying Secure Telephone Identity (STI) technologies with the purpose of providing end-to-end cryptographic authentication and verification of the telephone identity and other information in an IP-based service provider voice network. The specification expands the SHAKEN framework, introducing a governance model and defining X.509 certificate management procedures. Certificate management provides mechanisms for validation of a certificate and verification of the associated digital signature, allowing for the identification of illegitimate use of national telecommunications infrastructure.

The purpose of the meeting was to discuss the implications of the SHAKEN Governance Model on numbering resources and for INC to provide insight to the members of the IP-NNI Task Force regarding exiting processes that govern access to numbering resources.

It was further noted that those obtaining numbering resources need to know that they must obtain a certificate to use those numbering resources, or associate those numbering resources with a service provider holding a certificate. Likewise, INC will need to understand the basics of the Governance Model and certification process in order to ensure that future changes to the INC Guidelines are consistent with the Governance Model.

Regarding the JIT (Just-in-Time) Numbering testing in the ATIS Testbed Working Group, INC reviewed and discussed the Neustar test case ex parte presentation filed with the FCC on November 29, 2016 regarding proposed activity in the ATIS Testbed Working Group. Amy Putman and Bruce Armstrong of Neustar Pooling Administration (PA) participated in the discussion to explain the testing activities and plans. It was clarified that the reason for the ex parte was to make the FCC aware of the PA involvement in this testing and ensure the FCC did not see a conflict with the pooling contract, which the FCC did not.

The testing is to validate the concept of service providers being able to receive individual TNs or groups of TNs from a JIT Administrator in near real time and assign them to the end user customer.

High level process steps for those involved in the testing:

JIT Administrator : establishment of a test database/system, request and receive Pooled Blocks from the PA and the PA process assigned Pooled Blocks to the NPAC, assign TN or group of TNs

to SP when requested by an authorized SP, concur with SP TN porting notifications in the NPAC .

Service Providers: establish authorization to receive TNs from the JIT Administrator, return an over-contaminated Block(s) to the PA, request and receive TN or group of TNs from the JIT Administrator; activate TN in NPAC and the SP network when the TN is assigned to a test end User.

It was noted that the estimated timetable for the start of testing is 2Q2017 with a final report of the testing results provided to the ATIS Testbed Working Group by the end of 2017. INC did not identify any changes that were needed to the INC guidelines for this testing effort.

Discussion:

Dave fielded questions from the group and discussion followed. Dave will monitor SHAKEN and STIR work at ATIS and if it appears that there may be an impact to porting, he will bring it up to the WG. If desired, he could invite a guest speaker to a future WG meeting to walk through protocols.

A Service Provider (SP) asked why JIT was being brought up because the feedback from the participants in the meeting seemed to show a lack of support for the effort. It was noted that a SP submitted the item to the ATIS Testbed Focus Group and the main purpose was to extend the life of the NANP, take advantage of SPs that want to donate over-contaminated blocks, help small IP providers obtain numbers, and to see if the JIT concept is workable.

If a problem with number exhaust does exist, it was suggested to look at increasing contamination levels on blocks instead. Concerns were raised about this process being very similar to leased number inventory that has caused many difficulties with porting. There was also a concern raised about which provider would have call routing responsibilities if the JIT Administrator were assigned as the "A" Code holder. It was mentioned that the testing may seem simple from a testing perspective but there are a lot more complications that can result because the testing does not appear to exercise all aspects of numbering and porting. Carriers are interested in what the driving force of the need is and whether all administrative and technical aspects were considered.

It was noted that the testbed effort is open to all providers, but there is an NDA that needs to be signed. Some aggregate information can be provided to ATIS members. Next steps are not defined as this is still very conceptual at this point. It was agreed that the WG needed more detailed information and this topic will be added to the May 2017 WG agenda.

NANC Future of Numbering Working Group Update – Suzanne Addington - Sprint

Carolee Hall, Idaho PUC and Dawn Lawrence, XO Communications have resigned their leadership role of the FoN WG due to change of job responsibilities.

- Tri-Chair Nominations were accepted through February 28, 2017 and the election will take place in Mid-March.

The FoN WG continues to receive updates from other industry forums to keep the members informed including those listed below.

- Numbering Testbed
- ATIS/INC

- LNPA WG
- ATIS/SIP Forum (NNI)
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FCC Wire Center Trial Updates remains on the agenda for updates when available.

Nationwide 10-digit Dialing continues to be on the open portion for future meetings.

Future Meeting Dates:

- April 12, 2017
- August 2, 2017
- October 11, 2017

NANC March 28, 2017 Report – Tri-Chairs

The WG Chairs will draft the report and distribute to participants for review prior to the meeting.

Architecture Planning Team (APT) – John Malyar/Teresa Patton

The last APT meeting was held Jan 10th and the next meeting is tomorrow, March 8th. 10 open items will be closed during the NANC 485 Change Management discussion. Future new items will be in a new doc only Change Order for test cases.

NANC 460 sunset items and NANC 461 sunset items are still being discussed.

(Action Item 091316-01 – APT to discuss NANC 461 to determine potential approach for sun setting SOA and/or LSMS impacting change orders remains open.)

The APT action item below for local system vendors to respond regarding any error codes causing SOA or LSMS request retries will be discussed tomorrow.

“Are there any CMIP primitive error types and/or Application Level Error codes returned by the NPAC SMS that cause your SOA or LSMS to retry a request? If so, please provide a list of the primitive errors and/or Application Level Error codes that cause your system to retry a failed request.”

Examination of additional certification testing proposed by NSR will also be discussed during tomorrow’s APT meeting.

Change Management: Neustar

NSR reviewed the revisions to 3 Change Orders: NANC 454 (Remove Unused Messages from the NPAC), NANC 485 (Turn-Up Test Plan Doc-Only Clarifications), and a new unnumbered Doc Only Change Order (IIS/EFD Doc-Only Clarifications).

NANC 454 (Remove Unused Messages from the NPAC)

This revision was a deletion of FRS requirement RR3-768. iconectiv concurred with the revision.

NANC 485 (Turn-Up Test Plan Doc-Only Clarifications)

NSR reviewed Doc Only changes to the following test cases in the Certification Test Plan contained in NANC 485.

- Chapter 7: Test Case Matrix: TC 319-6: iconectiv concurred with the revision.
- Chapter 7: Test Case Vendor Security - Assoc. Data 12: NSR will remove “SOA” in the text.
- Chapter 7: Test Case Vendor Security - Assoc. Data 14: iconectiv concurred with the revision.
- Chapter 7: Test Case Matrix: TC 201-23: iconectiv concurred with the revision.
- Chapter 8: Test Case Modify Active 4: iconectiv concurred with the revision.
- Chapter 9: Test Case 68-3: NSR will verify Partial Failure, Sending and Disconnect-Pending are logged.
- Chapter 9: Test Case 203-29: iconectiv concurred with the revision.
- Chapter 11: Test Case 2.9: iconectiv concurred with the revision.
- Chapter 11: Test Case 2.24: NSR will add “If acting as the New SP, do Step 2.”
- Chapter 11: Test Case 2.28: iconectiv concurred with the revision.
- Chapter 11: Test Case 2.29: iconectiv concurred with the revision.
- Chapter 11: Test Case 2.31: iconectiv concurred with the revision.
- Chapter 11: Test Case 2.32: iconectiv concurred with the revision.
- Chapter 13: Test Case 400-2: NSR will put in one test case as opposed to breaking out a new test case, and verify if two requests can be done in one test case.
- Chapter 13: Test Case 400-4: NSR will put in one test case as opposed to breaking out a new test case, and verify if two requests can be done in one test case.
- Chapter 15: Test Case 426: iconectiv concurred with the revision.

iconectiv asked what the next step is for NANC 485. NSR responded that the new changes above will be incorporated into an updated NANC 485 and then NANC 485 will be rolled into the test plan. NSR said it is understood that the desire is to roll these changes into NANC 485, close the documents out, and then start again with a new Doc Only Change Order for any new changes. NSR stated that they will let the APT know at tomorrow’s meeting if NANC 485, including the new changes captured today, will be rolled into the test plan for review on the April 5, 2017 LNPA WG call.

NOTE: At the APT meeting the following day on 03-08-2017, NSR stated that NANC 485, including the new changes captured at today’s LNPA WG meeting, will be rolled into the test plan in time for review on the April 5, 2017 LNPA WG call.

Unnumbered Doc Only Change Order (IIS/EFD Doc-Only Clarifications)

NSR then reviewed the minor changes in the new unnumbered Doc Only Change Order for IIS/EFD Doc-Only Clarifications. These were minor changes to reverse two arrow directions in the IIS flows. The Change Order was accepted as NANC 489.

Action Item(s) Review:

11082016-01 - LNPA WG Tri-chairs presented the issue to the NAPM LLC to request the TOM to work with the two LNPAs to obtain a recommendation for resolution on support of one or more sFTP sites.

The recommendation, agreed to by iconectiv, Neustar and the TOM is to continue to operate separate and independent LNPA sFTP sites during the Transition.

The APT will have more in depth discussion about this March 8th.

Action Item 11082016-01 Remains Open

11082016-04 – Based on comments from the 11-08-16 meeting, iconectiv to determine the testing certification of the sunset items.

The APT will have more in depth discussion about this March 8th.

Action Item 11082016-04 Remains Open

12072016-01 - Action Item– Neustar to send draft notification to the APT for the impacted Service Providers regarding the sunsetted items in Change Order 460.

The notifications were sent out to the industry to impacted SPIDs and the Cross Regional distribution on 1/31/2017.

Action Item 12072016-01 Is now Closed

12072016-02 - Action Item - Glenn Clepper, Charter, and Lisa Jill Freeman, Bandwidth.com, will work on documenting the sunset process flow and making arrangements for publishing on the LNPA website.

The subcommittee reviewing the Sunset process made some progress this month on editing the narrative however, their final version will not be ready to share with the full working group until the May 2017 WG meeting.

Action Item 12072016-02 Remains Open

Best Practice (PIM 86) – Bandwidth

Action Item 070715-01 – The disputed port PIM submitted by Sprint.com was accepted to be worked as PIM 86. Lisa Jill Freeman (Bandwidth) will lead a sub-committee to work on details for a process to resolve disputed ports. If approved, the process will be documented as an LNPA WG Best Practice.

Anna Kafka led the group through the attached Unauthorized Port Flow and the Summary document that will be used in publishing the Best Practice with the intent to get agreement on the language in order to hold a vote during the May LNPA WG meeting.

General discussion:

A suggestion was made to add “if applicable” in Step 2 of the flow after “Compare LSR to CSR”.

It was noted that the team decided not to set any time limits on how long a number could be with the new provider before the end user could no longer get the number back.

A comment was made that providers should follow the flows and not use jeopardies to address these types of situations. It will also be helpful for resellers to use these flows.

Next steps:

The team will get together to polish the document and there is no intent to incorporate these flows into the NANC Flows. We expect to vote on this in May and present it to the NANC in June. If other Best Practices need to be retired, then that work can begin sometime after this Best Practice is in place.

Background:

Unauthorized Port Flow

GEP Benchmark recommendations (FTP and BDD) – Paul LaGattuta

During the 2016 Benchmark review on Data Protection and Breach Management it was recommended that all users be required to support secure FTP.

- Neustar’s FTP site supports multiple products. If implemented, any User pulling NPAC data from the Corporate FTP site would have to use sFTP

Also, during the Benchmark review of Data Protection and Breach Management it was recommended that security of the NPAC BDD files be expanded to include encrypting the files.

It was decided to develop two separate action items, one for each recommendation to be sent over the LNPA WG distro and the Cross-regional that a decision will be made to implement one, both or none of the two recommendations at the May 2, 2017 LNPA WG Meeting.

New Action Item 03072017-01: Service Providers are to communicate any objections or concerns to the LNPA WG Chairs by April 18, 2017, regarding the recommendation that all NPAC Users pulling NPAC SV BDD files from the Neustar Corporate FTP site be required to use secure FTP (sFTP). This will be discussed at the May 2-3, 2017 LNPA WG meeting.

New Action Item 03072017-02: Service Providers are to communicate any objections or concerns to the LNPA WG Chairs by April 18, 2017, regarding the recommendation that the security of NPAC BDD files be expanded to include encrypting the files. This will be discussed at the May 2-3, 2017 LNPA WG meeting.

Presentation attached for reference:



LNPA Transition Discussion - All

The APT continues to review the industry test cases for turning up an NPAC/SMS. The NANC has not directed the LNPA WG to do anything more than to work on the test cases. Paula spoke to Marilyn Jones and they are still working on their action item.

Renee Dillon, ATT, introduced discussion regarding group and round robin testing efforts for the LNPA Transition. Renee would like to see that the WG's testing group is reactivated. It would be primarily for SPs but there might need to be assistance from Service Bureaus to assist and this is for the most part making sure Service Providers can work with the new NPAC. This is work that will be done after certification and internal regression testing. Participants agreed that it was a good idea and that the focus will be on allowing two or more SPs to be involved in a series of tests, but that any and all SPs will also be able to test what they want. Renee has volunteered to lead the subcommittee and she wants a mix of different types of providers. There is hope that wireline and VoIP providers will test along with the wireless providers.

New Action Item 20170307-03 - Participants to contact Renee Dillon (RD9317@att.com) if they want to participate in reviewing test cases, etc. for the group and round robin testing sub-team effort.

Paula will let Marilyn know about this and it will go into the NANC report.
Renee will schedule an initial meeting toward the end of March or beginning of April.

IP Transition effects on Number Portability – Phil Linse - CenturyLink

The Testbed Focus Group met last on 2/28/17.

The test plan sub groups have continued to be encouraged to, and have been meeting in between the main group meetings, to focus on moving forward with the completion of documentation for the individual test plans. Test plan statuses were reviewed and updated. Several test plans still need the documentation worked through and provided for the Testbed Focus Group to review. Preliminary testing is underway on some test cases. The Tracking Sheet is updated on each call for each test case.

As a result of the handoffs from the FCC/AT&T Industry RoboCalling Strike Force and the linkage to this group's testing efforts for the Provider to Provider Use Case 1 – Secure Telephony Identity Protocols for End to End SIP Calls, ATIS provided the Testbed Focus Group with the monthly ATIS readout on the efforts of this and other ATIS groups that is provided to the FCC. The next meeting with the FCC is in March. ATIS also provides the same information in the readout to the Strike Force participants monthly. The next Strike Force meeting is in March as well. For the Strike Force efforts associated with the Provider to Provider Use Case 1 – Secure Telephony Identity Protocols for End to End SIP Calls, ATIS has a Neustar sponsored testbed set up.

Many companies have signed the ATIS NDA for participation in the testing, with full access to the testing documentation, and others may still come forward to sign the NDA as well. There is still opportunity for others to come forward to be included.

The next full team meeting will be held 3/14/17, with additional meetings scheduled for 4/4, 4/25, 5/2, and 5/23/17. This group will not meet at the ATIS Annual Meeting of Committees.

Status of Action Items:

070715-01 (PIM 86)– still being worked on

091316-01 (Action Item)– APT to discuss NANC 461 to determine potential approach for sun setting SOA and/or LSMS impacting change orders. Still being worked in the APT.

110816-04 – based on comments from the 11-08-16 meeting, iconectiv to determine the testing certification of the sunset items. APT is working this action item.

12072016-02 - Glenn Clepper, Charter, and Lisa Jill Freeman, Bandwidth.com, will work on documenting the sunset process flow and making arrangements for publishing on the LNPA website. Review Narrative and flows during the May 2017 WG meeting.

New Action Item 03072017-01: Service Providers are to communicate any objections or concerns to the LNPA WG Chairs by April 18, 2017, regarding the recommendation that all NPAC Users pulling NPAC SV BDD files from the Neustar Corporate FTP site be required to use secure FTP (sFTP). This will be discussed at the May 2-3, 2017 LNPA WG meeting.

New Action Item 03072017-02: Service Providers are to communicate any objections or concerns to the LNPA WG Chairs by April 18, 2017, regarding the recommendation that the security of NPAC BDD files be expanded to include encrypting the files. This will be discussed at the May 2-3, 2017 LNPA WG meeting.

New Action Item 20170307-03 - Participants to contact Renee Dillon (RD9317@att.com) if they want to participate in reviewing test cases, etc. for the group and round robin testing sub-team effort.

Unfinished/New Business

1. Bandwidth asked for clarification on whether providers are required to have inter-connection agreements (ICA) in place in order to be able to port in numbers. An outstanding question was posed to participants to understand if an ILEC can refuse to port a number if there is no ICA or Traffic Exchange Agreement in place.
2. Bandwidth asked a question about receiving a notice from a provider that their process for Supplements was changing and that cancels would be processed before due date changes or modifications.

- Participants said that for the most part, SUPPs are handled first in first out. It was mentioned that in some very manual cases, if the manual provider is looking at a request that they have not yet initially responded to and the last SUPP to come through for the request is a cancel, it is more efficient to just process the cancel instead of responding to the initial request and then send another response to the cancel.
3. Bandwidth asked for clarification on the partial port process to use for choosing the next BTN when the main BTN is ported along with some of the other lines on the account. Is there a standard in place for providers to use when determining what number becomes the next BTN? The participants agreed that it is up to the Old provider to determine how they want to treat the remaining lines on the account based on their own internal systems.

Discussion of Need for April 5, 2017 LNPA WG Call

An April 5, 2017 call for the LNPA WG will take place for Change Management followed by an APT meeting. The meeting will be held for 3 hours beginning at 10:00 AM EDT.

March 2017 Meeting Adjourned

Having completed the agenda for the March 7-8, 2017, LNPA Working Group meeting, the meeting was adjourned. The remaining time allotted for meeting on March 8, 2017 was used by the Architecture Planning Team (APT) to continue review of transition test cases.

2017 LNPA Working Group Meeting Schedule

January 10-11, 2017 – iconectiv – Scottsdale, AZ
 February 8, 2017 - call
 March 7-8, 2017 - Comcast – Denver, CO
 April 5, 2017 - call
 May 2-3, 2017 – Neustar – Miami, FL
 June 7, 2017 - call
 July 11-12, 2017 – Bandwidth – Durham, NC
 August 9, 2017 - call
 September 12-13, 2017 – CenturyLink – Denver, CO
 October 4, 2017 - call
 November 7-8, 2017 – Charter – Tampa
 December 6, 2017 - call

Next Conference Call ... April 5, 2017

Next Meeting ... May 2-3, 2017: Location Miami, FL...Hosted by Neustar