

**LNPA WORKING GROUP**  
**January 5-6, 2016 Meeting**  
**FINAL Minutes**

<b>La Jolla, California</b>	<b>Host: iconectiv</b>
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**TUESDAY January 5, 2016**  
**Attendance**

Name	Company	Name	Company
Lane Patterson	10xpeople	Cary Hinton	NANC (phone)
Lisa Marie Maxson	10xpeople	Lynette Khirallah	NetNumber (phone)
Lonnie Keck	AT&T	Anand Rathi	Neustar
Ron Steen	AT&T	Bill Reidway	Neustar
Teresa Patton	AT&T	Dave Garner	Neustar
Renee Dillon	AT&T	Gary Sacra	Neustar
David Alread	AT&T (phone)	Jim Rooks	Neustar
Penn Pfautz	AT&T (phone)	John Nakamura	Neustar
Tracey Guidotti	AT&T (phone)	Larry Vagnoni	Neustar
Jackie Voss	ATIS (phone)	Lavinia Rotaru	Neustar
Aelea Christofferson	ATL	Marcel Champagne	Neustar
Lisa Jill Freeman	Bandwidth.com (phone)	Michael O'Connor	Neustar
Matt Ruehlen	Bandwidth.com (phone)	Mubeen Saifullah	Neustar
Allyson Blevins	Bright House (phone)	Paul LaGattuta	Neustar
Glenn Clepper	Bright House (phone)	Shannon Sevigny	Neustar Pooling (phone)
Matt Nolan	Bright House (phone)	Noreen Rucinski	Schneider Rucinski
Nancy Cornwell	Cellcom (phone)	Suzanne Addington	Sprint
Jan Doell	CenturyLink	Karen Riepenkroger	Sprint (phone)
Mary Retka	CenturyLink (phone)	Jeanne Kulesa	Synchronoss
Betty Sanders	Charter Communications	Richard Hite	Synchronoss
Randee Ryan	Comcast	Bob Bruce	Syniverse
Linda Birchem	Comcast (phone)	Margie Mersman	TCA (phone)
Beth O'Donnell	Cox (phone)	Jesse Ochoa	T-Mobile
Sheri Pressler	Frontier	Luke Sessions	T-Mobile
Teri Feber	Frontier	Paula Campagnoli	T-Mobile
Wendy Rutherford	GVNW (phone)	Cathie Capita	T-Mobile (phone)
Doug Babcock	iconectiv	Rajeev Veettil	TNS
George Tsacnaris	iconectiv	David Lund	US Cellular (phone)
Joe Mullin	iconectiv	Tanya Golub	US Cellular (phone)
Joel Zamlong	iconectiv	Jason Lee	Verizon (phone)

Name	Company	Name	Company
John Malyar	iconectiv	Bale Pathman	Verizon Wireless
Ken Havens	iconectiv	Deb Tucker	Verizon Wireless
Steven Koch	iconectiv	Kathy Rogers	Verizon Wireless
Pat White	iconectiv	Vern Lumbert	Verizon Wireless
Kim Isaacs	Integra (phone)	Imanu Hill	Vonage (phone)
Bridget Alexander	JSI	Lon Shepard	Windstream
Karen Hoffman	JSI (phone)	Scott Terry	Windstream
Connie Stufflebeem	Kiesling Assoc (phone)	Dawn Lawrence	XO
Bonnie Johnson	Minnesota DoC (phone)		

**NOTE: OPEN ACTION ITEMS REFERENCED IN THE MINUTES BELOW HAVE BEEN CAPTURED IN THE “JANUARY 5-6, 2016 LNPA WG ACTION ITEMS” FILE AND ATTACHED HERE.**



January 5-6, 2016  
LNPA WG ACTION ITI

# **LNPA WORKING GROUP MEETING MINUTES:**

## **November 2015 Draft LNPA WG Meeting Minutes Review:**

The November 2015 LNPA WG DRAFT minutes were approved with minor typo corrections and will be issued as FINAL.

## **Updates from Other Industry Groups**

### **OBF Committee Update – Deb Tucker:**

**OBF**  
**ORDERING SOLUTIONS COMMITTEE**  
**LNPA WG Readout**  
**January 5, 2016**

#### **WIRELESS SERVICE ORDERING SUBCOMMITTEE**

The Wireless Service Ordering Subcommittee has not met since the November LNPA WG meeting. The next checkpoint call is scheduled for January 8, 2016.

#### **LOCAL SERVICE ORDERING SUBCOMMITTEE**

The LSO Subcommittee met November 19, 2015 to discuss Unified Ordering Model document updates.

Vivek Bhavanasi (CenturyLink) led a discussion on using MyEclipse to update the model and schema from the perspective of the Access Service Ordering Subcommittee.

Participants reviewed the ASO model as displayed by Mr. Bhavanasi from the UML Model Repository (UMR) file used to create the model in MyEclipse.

It was noted that LSO has a similar UMR file from their 2Q14 release of the Unified Ordering Model Local Service Ordering (UOM-LSR). Mr. Bhavanasi offered to review the LSO 2Q14 UMR file and offer suggestions on how to update the UOM LSR documentation during a future meeting.

#### **Open Issues:**

**Issue 3373, LSOG: Standardization of RT of “Z” in the 099 practice for REQTYP “C” to be utilized by all providers**

This Issue addresses a standardization work effort to determine Response Types (RTs) and fields that may be eliminated.

**Issue 3477, LSOG: Standard field length minimums identified and repeating/# of occurrences on each field**

The main purpose of this Issue is to clarify where field minimums are required, if fields repeat and how many times they repeat, and if fields should be zero filled or not.

**Issue 3521, LSOG: Remove the RVER (071), BA and BLOCK (074 and 75), and REMARKS (072, 073, 075, 077, 078, 079 and 102) (Inactive)**

This Issue addresses removal of fields that are no longer used in the industry.

Next Meeting:

The next LSO meeting is scheduled for January 28, 2016.

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**INC Update – Dave Garner:**

INC Issues Readout

LNPA WG Meeting – January 2016

**INC Issue 497: Identify Changes to INC Guidelines Based on NANC’s Report and Recommendation, VoIP Service Providers’ Access Requirements for NANP Resource Assignments (July 19, 2005), and FCC Order 15-70 (June 22, 2015)**

INC moved this Issue to active status on July 10th due to the release of FCC Report and Order on Numbering Policies for Modern Communications (FCC 15-70, June 22, 2015) which established a process to authorize interconnected VoIP providers to obtain telephone numbers directly from Numbering Administrators, rather than through intermediaries.

At the November meeting, INC completed updates to 13 Guidelines pursuant to FCC Order 15-70, which allows interconnected VoIP providers direct access to numbering resources, including:

- Authorization for obtaining resources;
- Facilities readiness;
- VoIP Positioning Center (VPC) access to p-ANIs; and
- CFR references and definitions, including clarification of Intermediate numbers.

INC drafted a template that interconnected VoIP providers can use to provide their 30-day notice of the intent to request numbering resources and their regulatory and numbering contacts to the states.

NANPA and the PA will be submitting Change Orders to update text on the Guidelines Forms in NAS and PAS. However, INC agreed to place this Issue into Final Closure with the understanding the systems will not be updated until the Change Orders have been approved and implemented.

INC placed the following notation on the cover page of any Guidelines containing updates not

effective on November 30th:

NOTE: These guidelines contain references to FCC Order 15-70.

As noted in the Federal Register:

The Rule will become effective on November 30, 2015, except for §§ 52.15(g)(2) [Central office code administration-Initial numbering resources] & 52.15(g)(3) [Central office code administration-Commission authorization process], which include revised information collection requirements that first require OMB review and approval. The FCC will publish a further document in the Federal Register in the future announcing the effective date of the excepted rule amendments.

Once §§ 52.15(g)(2) and 52.15(g)(3) become effective, this note will be removed and all text in the guidelines will be effective.

### **INC Issue 748: Assess Impacts on Numbering Resources and Numbering Administration with Transition from Public Switched Telephone Network (PSTN) to Internet Protocol (IP)**

Issue Statement: As the industry and regulatory bodies move from the current Public Switched Telephone Network (PSTN) towards Internet Protocol (IP), consideration needs to be given to the numbering scheme. Will the current telephone number format be utilized, in whole or part, in the IP environment or will some other numbering addressing format be used? It is necessary for INC to be aware of regulatory mandates and industry activities addressing the numbering protocol to be used for IP technology as well as numbering impacts during the PSTN to IP transition in order to update or create new numbering guidelines.

At the November meeting, INC continued to discuss developments regarding the PSTN to IP transition and a possible whitepaper on non-geographic number assignment to supplement the LNPA WG whitepaper on non-geographic number portability.

Based on initial discussions, a concern has been raised that if non-geographic number assignment and non-geographic number portability are implemented, they should be done simultaneously to avoid arbitrage and facilitated in a manner that does not disrupt or delay the LNPA transition.

### **NANC action item to INC on the Sale and Brokering of non-toll-free TNs between Private Entities**

During the September 30, 2015, NANC meeting, the NANC Chair tasked INC with addressing the email from the Chief of the Wireline Competition Bureau (WCB), regarding the sale and/or brokering of non-toll-free telephone numbers.

INC reviewed a number of sources, including:

- NANC Chair's July 13th letter to the WCB.
- WCB's September 30th response.
- Washington Post article referenced in the July 13th letter.
- Websites of the companies referenced in the article.
- Existing Commission rules.
- Existing INC documents related to this topic.

INC provided a response to the NANC Chair on November 19, 2015. Below is a summary:

- The two companies identified in the Washington Post article state on their websites that they are providing account or call management services, not specifically selling TNs.
- INC outlined three possible scenarios for how these two companies might obtain numbers.

- INC is not aware of any FCC rules related to end user transactions involving non-toll-free TNs analogous to the restrictions imposed on toll-free number subscribers.
- INC Guidelines apply to service providers (SPs), not end users.
- INC outlined several FCC rules that appear to limit end users' ability to engage in transactions that adversely affect number resource optimization.
- Although some SPs' tariffs and/or agreements indicate that the end user has no property right to TNs, the ability to port TNs may give end users the impression they do have such property rights.
- There are legitimate reasons for transferring numbers.
- Rules or policies that require SPs to second-guess end users' requests to transfer TNs between accounts could adversely affect their legitimate needs.
- SPs are not in the position to determine or monitor if there is a sale/brokering transaction between parties associated with transfers of TNs.
- The FCC's Enforcement Bureau is the proper authority to address inappropriate transactions related to numbering resources.

INC's response to the NANC Chair is available at:

<http://www.atis.org/legal/Docs/INC/INC-2015-00127R002.pdf>

#### ***Comments/Questions from Working Group***

- *Lonnie Keck stated that he had heard there is a statute in California that prohibits sale of TNs and asked if was true. Paula Campagnoli said that if there was, that would have prevented problems that took place in the 415 NPA. She brought the 415 NPA issue to the California PUC and they didn't mention such a statute. She stated that enforcement has to come from the state commissions or the FCC.*
- *Aelea Christofferson stated that part of the reason that it is hard to know what the rules are is because they are rarely enforced. She gave some examples from the Toll Free environment where numbers were being sold on eBay but no action was taken.*

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### **NANC Future of Numbering Working Group Update – Dawn Lawrence**

#### **Future of Numbering (FoN) Working Group Report to the LNPA WG January 3, 2016**

FoN Tri-Chairs: Carolee Hall, Idaho PUC; Dawn Lawrence, XO Communications; Suzanne Addington, Sprint

#### **Status:**

- There has not been a FoN WG meeting held since October 7, 2015
- The Tri-chairs called a conference call on January 12, 2016 to begin looking on the directive from the NANC chair for Nationwide Number Portability.
- Scheduled calls:

- 2016 Meeting Schedule:  
A proposal to have FoN WG meetings quarterly was accepted and the agreed upon meeting dates are:

February 10, 2016  
April 6, 2016  
August 3, 2016  
October 5, 2016

Meeting times will remain 12:00ET/11:00 CT/10:00 MT/9:00 PT

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### **NANC Meeting Readout – Paula Campagnoli**

- Paula informed the NANC about changes to Porting Flows due to the VoIP numbering order and to fix a discrepancy with Conflict Timers that was discovered when wireless short timers are being used. The changes were approved by the NANC and forwarded to the FCC.
  - Paula informed the NANC of the status of the BP4 (N-1 Scenarios) review, and will provide continuing follow-up status.
  - Paula reported on IP transition and will continue to provide status reports.
  - Paula reported on Non-Geographic Porting and that the WG has been awaiting direction from NANC as a result of the FCC letter. Will now begin analysis.
  - LNPA transition – The Architecture Planning Team (APT) was reinstated to work on test cases for acceptance of a new NPAC.
  - BP 71 concerning Wireless Reseller Validation Fields – NANC approved and sent to FCC for approval.
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### **Architecture Planning Team (APT) – John Malyar/Teresa Patton**

#### **Architecture Planning Team (APT) Status Report to the LNPA WG January 5, 2016**

APT Chairs: Teresa Patton AT&T; John Malyar iconectiv

#### **Status:**

- Kick-off call held on December 9th, 2015. The call was well attended. Discussed objectives of the APT and future logistics.
- Document containing the initial set of Industry Test cases for clarification distributed via the LNPA WG co-chairs on 12/15/2015.
- Next call/meeting scheduled for 1/6/2016 at 1:00 P.T. The previously distributed APT clarifications document will be reviewed. After the distribution of the APT document the current LNPA CMA distributed the updated versions 3.4.8 of the Industry documents

(e.g. FRS, Industry Turn-up Tests, etc.) on 12/19/2015. The additional updates will be discussed and applied to the previously distributed document.

*It was noted that there were 130 participants on the kick-off call.*

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## **FCC Letter to NANC Chair – Nationwide Wireless Number Portability – LNPA WG Chairs**



NANC Wireless  
Portability Referral.p



Work Schedule for  
Preparation of the S

Embedded above are the Letter from the FCC to NANC Chair and the Work Schedule assigned to the various NANC Working Groups. The LNPA WG was assigned Item 7 on the Work Schedule.

### **LNPA WG Work Item # 7 - All**

The LNPA WG is to address:

Item #7 – How long the need for LRNs will continue to exist once VoIP interconnection is fully implemented, including an analysis of the role of LRNs for carriers that implement both TDM and VoIP-based interconnection during the VoIP interconnection transition. (LNPA WG)

There was a great deal of discussion about the continued need for LRNs. The Working Group generally agreed that LRNs would be needed as long as service providers using TDM exist. Penn Pfautz, AT&T, stated that LRNs cannot be eliminated as long as we do not have an all IP network. Penn further indicated that there is currently no consensus on the design of the IP network and no consensus at this time to move away from LRNs.

Lisa Jill Freeman, Bandwidth.com, stated that Bandwidth.com is an all IP network and they don't envision a time when they won't need LRNs.

Betty Sanders, Charter Communications, stated that future use must have more definition before we can say that LRNs aren't needed. There are regulatory issues that must be addressed prior to deciding whether LRNs or some other routing mechanism is needed.

Gary Sacra, Neustar, stated that we need to have answers to other questions before we can identify the answers to NANC Question 7.

Teresa Patton, AT&T, suggested that the WG reconvene the committee that drafted our report on Non-Geographic Porting to analyze and identify the steps necessary to answer Question 7. Teresa will convene the first meeting of the committee.



Jan Doell, CenturyLink, pointed out that the ATIS PTSC would be the organization that would define a routing mechanism other than LRN. The LNPA WG will maintain liaison with that committee in order to evaluate the effects on porting and routing of ported calls.

The LNPA Working Group drafted the following status report for the NANC Chair:

*The current porting environment was designed and engineered around the use of LRNs for call routing to ported and pooled telephone numbers for all telecommunication service providers. Some companies that are implementing IP today also use systems designed around LRNs.*

*LRNs will continue to be needed until such time as a new non-LRN routing scheme is designed and agreed to by the industry via the technical routing experts such as the ATIS PTSC.*

*The LNPA WG continues to liaison with the ATIS PTSC and will evaluate any recommendations from that expert committee for impacts on number portability processes. In addition, the LNPA WG is re-instating the Non-Geographic subcommittee to review the Non-Geographic Number Portability White Paper for continued analysis and to make future recommendations.*

*The LNPA WG will continue to provide status reports to the NANC Chair.*

This status report was transmitted to NANC Chairman Kane on January 6, 2016.

### **Change Management**

Per our discussion during the Nov meeting, thirteen change orders were accepted as follows:

1. NANC 466 – FRS – Offline Batch Download File
2. NANC 467 – ASN.1 – InpRecoveryComplete
3. NANC 468 – FRS – Phone Conversation
4. NANC 469 – FRS – Network Monitoring
5. NANC 470 – FRS – SSL VPN
6. NANC 471 – ASN.1 – SV DisconnectReply
7. NANC 472 – ASN.1 – Audit Discrepancy Report
8. NANC 473 – ASN.1 – Address Information
9. NANC 474 – ASN.1 – SWIM Recovery
10. NANC 475 – FRS – User Login Restriction
11. NANC 476 – FRS – Pool Block Error
12. NANC 477 – GDMO – Service Provider Type
13. NANC 478 – FRS ASN.1 – pre cancellation status of DP

No new change orders have been created.

NANC 449 – Active/Active SOA Connection was changed from Active to Awaiting SOW category.

These updates were discussed during the change management portion of the Jan LNPA WG meeting in San Diego, California.



NANC Change  
Orders 12-31-15.doc

Embedded below is the updated FRS. It contains NANC 462 and other new change orders that were discussed during the November 2015 LNPA WG meeting. Refer to redlines in the document.



FRS\_3.4.8c\_12-31-15  
.docx

John Nakamura led a discussion of the changes to the IIS and answered questions. He took note of a couple of places that need to be tried up. .



IIS3\_4\_8a\_12-31-201  
5.docx

John walked through changes to the EFD document. There were no questions.



EFD  
Errors-Flows3\_4\_8c\_

John also discussed changes to the GDMO and ASN.1 documents.

Jim Rooks pointed out the one change made in the XIS document. See the change bars in the embedded document below. There were no questions.



XIS v1.6.1  
12-28-2015.docx

#### **Best Practice 04 – Sub-Committee Status Report – Betty Sanders**

Betty Sanders reported that there had been one meeting of the sub-committee addressing the NANC question about Best Practice 4 concerning definition of the N-1 carrier. Betty indicated that much of the discussion concerned clarifying the actual mission of the sub-committee. The sub-committee requested that the LNPA WG clarify the mission.

Based on that request, the WG developed and approved by consensus the following mission statement:

*This LNPA WG sub-team's mission is to review the current Best Practice 4 and determine if updates are needed for when VoIP and IP Service Providers are involved in*

*the completion of calls to ported and pooled numbers, for the Inter-LATA EAS portion of the Best Practice (BP4). The goal is to insure the Best Practice will address all end user call scenarios including all-IP involved calls, and to ensure that regardless of modality, all end user calls will continue to complete.*

### **SPID Migration Blackout Date for April 3, 2016 – Frontier Communications**

Frontier requested a waiver to the SPID migration blackout on 4/3/2016 to avoid impact to industry of code transfers from Verizon to Frontier. There are 715 LRNs and 15,600 NXXs and approximately 1.4 Million active SVs across 3 regions.

Frontier's request was approved by WG. Frontier was advised to submit the SPID migration request to Neustar as soon as possible.

### **IP Transition effects on Number Portability**

No issues were identified; however this will remain an ongoing agenda item.

### **Guidelines for what is needed for new Service Providers to start Porting Numbers - All**

Bridget Alexander reported on the status of the revised guidelines document. Several suggestions were made by the WG members, and Bridget will revise the document. This item will be on the March agenda. There was a suggestion to include acronyms not used in the document. Several members felt that this could lead to confusion as the acronym is often used with different meaning depending on the context. Group consensus is that there is no need to list acronyms that are not used in the document.



New LNP Trading  
Partners Guide 12 1

**WEDNESDAY January 6, 2016****Attendance**

<b>Name</b>	<b>Company</b>	<b>Name</b>	<b>Company</b>
Lane Patterson	10xpeople	Anand Rathi	Neustar
Lisa Marie Maxson	10xpeople	Bill Reidway	Neustar
Lonnie Keck	AT&T	Dave Garner	Neustar
Ron Steen	AT&T	Gary Sacra	Neustar
Teresa Patton	AT&T	Jim Rooks	Neustar
Renee Dillon	AT&T	John Nakamura	Neustar
David Alread	AT&T (phone)	Larry Vagnoni	Neustar
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Jan Doell	CenturyLink	Shannon Sevigny	Neustar Pooling (phone)
Mary Retka	CenturyLink (phone)	Towanda Russell	RCN (Phone)
Betty Sanders	Charter Communications	Noreen Rucinski	Schneider Rucinski
Randee Ryan	Comcast	Suzanne Addington	Sprint
Linda Birchem	Comcast (phone)	Jeanne Kulesa	Synchronoss
Sheri Pressler	Frontier	Richard Hite	Synchronoss
Teri Feber	Frontier	Bob Bruce	Syniverse
Wendy Rutherford	GVNW (phone)	Margie Mersman	TCA (phone)
Anita Amin	iconectiv	Jesse Ochoa	T-Mobile
Chip Stevens	iconectiv	Luke Sessions	T-Mobile
Doug Babcock	iconectiv	Paula Campagnoli	T-Mobile
George Tsacnaris	iconectiv	Cathie Capita	T-Mobile (phone)
Joe Mullin	iconectiv	Rajeev Veettil	TNS
Joel Zamlong	iconectiv	David Lund	US Cellular (phone)
John Malyar	iconectiv	Tanya Golub	US Cellular (phone)
Ken Havens	iconectiv	Jason Lee	Verizon (phone)
Steven Koch	iconectiv	Bale Pathman	Verizon Wireless
Pat White	iconectiv	Deb Tucker	Verizon Wireless
Kim Isaacs	Integra (phone)	Kathy Rogers	Verizon Wireless
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Karen Hoffman	JSI (phone)	Lon Shepard	Windstream
Bonnie Johnson	Minnesota DoC (phone)	Scott Terry	Windstream
Lynette Khirallah	NetNumber (phone)	Dawn Lawrence	XO

### **LNPA Transition Discussion - All**

Nothing to report other than that the Transition Oversight Manager (TOM) is hosting webinars.

### **Develop the LNPA WG Report to the NANC, FON, IMG, etc.**

NANC meeting is after the March LNPA WG meeting; therefore, the report will be developed at the March meeting.

Deb Tucker and Bridget Alexander will provide high level reports to the FON and IMG respectively.

### **Action Items Not Previously Discussed in Agenda**

**Action Item 070715-01** – The disputed port PIM submitted by Bandwidth.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. The sub-committee participants are Suzanne Addington (Sprint), Jan Doell (CenturyLink), Bridget Alexander (JSI), Lonnie Keck (AT&T), Tracey Guidotti (AT&T), Jason Lee (Verizon), Deb Tucker (Verizon), Scott Terry (Windstream), Aelea Christofferson (ATL Communications), Randee Ryan (Comcast), and Luke Sessions (T-Mobile).



PIM XXX - Process to  
handle Disputed Ports

Bandwidth asked that this Action Item be postponed until the March 2016 LNPA WG meeting.

**Action Item 070715-01 remains open.**

### **Discussion of Need for February 11, 2016 LNPA WG Call**

Group consensus is that there is no need for a February LNPA WG call. The timeslot will be used for an Architecture Planning Team (APT) meeting.

## 2016 LNPA Working Group Meeting Schedule

MONTH (2016)	NANC MEETING DATES	LNPA WG MEETING/CALL DATES	HOST COMPANY	MEETING LOCATION
January		5 <sup>th</sup> – 6 <sup>th</sup>	iconectiv	La Jolla, CA
February		11 <sup>th</sup>		Conference Call
March		1 <sup>st</sup> – 2 <sup>nd</sup>	Comcast	Denver, CO
April		13 <sup>th</sup>		Conference Call
May		3 <sup>rd</sup> – 4 <sup>th</sup>	Neustar	Miami, FL
June		8 <sup>th</sup>		Conference Call
July		12 <sup>th</sup> – 13 <sup>th</sup>	Bandwidth.com	Raleigh, NC
August		10 <sup>th</sup>		Conference Call
September		13 <sup>th</sup> – 14 <sup>th</sup>	Sprint	Overland Park, KS
October		12 <sup>th</sup>		Conference Call
November		8 <sup>th</sup> – 9 <sup>th</sup>	Verizon Wireless & AT&T	Atlanta, GA
December		7 <sup>th</sup>		Conference Call

*Next Conference Call ... February 11, 2016 \*\*\*CANCELLED\*\*\* Time to be used by APT*  
*Next Meeting ... March 1-2, 2016: Location...Denver, CO ...Hosted by Comcast*