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| ***MEETING MINUTES*** |  |

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| **Meeting Name/Subject**: | **Internet Protocol Issue Management Group (IP IMG)** |
| **Date**:  | **Monday, July 10 2014** | **Time**:  | **11:00 am -12:00 pm Eastern** |
| **Type** **of Meeting/Location:** | **Conference Call** |
| **Meeting Attendees:** |

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| **Company** | **Participant List/ Attendance in Bold**  |
| **ATIS** | **Jackie Voss**  |
| **AT&T** | **Mark Lancaster**, George Guerra, **Traceen Pasteur**, Tracey Gudotti, Teresa Patton, **Penn Pfautz** |
| **Bandwidth** | **Greg Rogers** |
| **Century Link** | **Mary Retka** |
| **Charter** | Betty Sanders |
| **Cox Communications** | **Ida Bourne**, Beth O'Donnell, Jose Jimenez |
| **Comcast** | **Valerie Cardwell** |
| **FCC** | Henning Schulzrinne, Robert Cannon, Sanford Williams |
| **Idaho State** | Carolee Hall |
| **iconectiv** | Natalie McNamer, **Connie Hartman, Joan Ross** |
| **JSI** | **Bridget Alexander** |
| **Neustar** | Lavinia Rotaru, Bill Reidway, Tom McGarry, Amy Putnam, **Shannon Sevigny** |
| **Oracle** | Ramesh Chellamani |
| **SMS/800** | **Gina Perini** |
| **Sprint** | **Rosemary Emmer**, Karen Riepenkroger, Shaunna Forshee, Suzanne Addington |
| **T-Mobile** | Michele Thomas |
| **Verizon Communications** | **Ann Berkowitz**, Jim Castagna, Dana Crandall, Kevin Green |
| **XO** | Tiki Gaugler, Dawn Lawrence |
| **1-800-PHONEWORD** | **Jay Carpenter** |

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| **Minutetaker:** | **Gina Perini**  |

**Agenda:**

11:00 - 11:05  Tri-chair Introduction/Attendee Roll Call

11:05 - 11:10  Approve minutes from last meeting (attached to this email)

11:10 - 11:20 Review liaison assignments (listed below)

11:20 - 11:35  Updates from industry group liaisons

11:35 - 11:50  Discuss, review and determine IP IMG parameters for Schulzrinne/NANC work assignment document

11:50 -12:00   Next steps/ action items from meeting

**Discussion:**

* Tri-chair Ann Berkowitz made introductions and roll call. Attendees were asked to send gperini@sms800inc.com an email in order to be considered present for the meeting notes.
* Review and update of liaison assignments (listed below):

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| Industry Group/ Activity | IP IMG Member  |
| ATIS INC | Mary Retka (CenturyLink) and George Guerra (AT&T) |
| CIGRR | Connie Hartman (iconectiv); back up is Joan Ross (iconectiv) |
| ATIS/SIP Forum NNI Task Force/PTSC | Penn Pfautz (AT&T) |
| NANC FoN WG | Mary Retka (CenturyLink) |
| Test Bed Monitoring | Mary Retka (CenturyLink) |
| LNPA WG | Bridget Alexander (JSI) |
| IETF (including STIRRS) | Penn Pfautz (AT&T) and/or Tom McGarry (Neustar) |
| SNAC | Jackie Voss (ATIS) |

* Updates from industry group liaisons:
	+ **ATIS INC**: Mary Retka (CenturyLink): The committee has been in conversation with Dr. Schulzrinne about requirements and various issues related to the IP Transition.
	+ **CIGRR**: Connie Hartmann (iconectiv): CIGRR is a group made of the companies and organizations that enter telecom routing and rating data into the iconectiv BIRRDS system.  The data is then distributed to the industry via various output products.  The CIGRR group meets face-to-face four times per year and holds issue specific conference calls between face-to-face meetings.  CIGRR has an open issue **C204 –** **Update BIRRDS/LERG to support IP numbering identification and routing**.  CIGRR is discussing ways to utilize the current database and products to identify data elements that are IP Capable.  One of the data elements currently being considered for identification as IP Capable is the LRN data element.  The group has not yet come to any decision as to what might be implemented relative to the LRN or other data elements.  CIGRR will be holding its next face-to-face meeting next week.
	+ **ATIS/SIP Forum NNI Task Force**: Penn Pfautz (AT&T): The routing sub group is developing a report that will document:
		- Current implementations involving bilateral exchange of mappings between NANP constructs such as AOCNs, CLLIs, LRNs and sets of SBC IP addresses (aggregate approach)\
		- A simple registry approach that maps an individual TN to SBC IP addresses via a SIP URI in the NPAC SV (or potentially via a separate registry) (per-TN approach)
		- Methods of interworking between service providers that aggregate and per-TN approaches
		- The set of proposals that have been presented to the task force
		- The objective is to have this report available after the August meeting.
	+ **FoN WG**: Mary Retka (CenturyLink): New contribution from AT&T was discussed regarding Numbering Testbed Parameters. The FoN agreed to hold this contribution until more information regarding the testbed is made available. SubCommittee Updates: FTN 4: Geographic Issues: The Geographic Numbering sub-committee is discussing the consumer perspective and service implications regarding the geography of telephone numbers and the decoupling or disassociation of numbers from geography. The sub-committee is creating a white paper to be shared with the FoN WG upon completion.
	+ **Test Bed Monitoring:** Mary Retka (CenturyLink): The slides and notes from the Numbering Workshop have yet to be released. Not sure what the next steps are on that.
	+ **LNPA WG:** Bridget Alexander (JSI): Attached as Exhibit A; related presentation materials circulated to this IMG distribution list by email on July 10, 2014.

*All those who are listed above to provide updates are asked to please send by email to the tri-chairs (1) a summary of the presentation given for today’s call and (2) their updates on the Monday before the next group call so that we can distribute to the group before the next call.*

* The IMG discussed the Schulzrinne/NANC work assignment document (the “NANC IP Transition Tracking Document”) and determined to review and discuss at the next meeting.
* Next steps/ action items from meeting:
	+ Liaisons to provide their committee updates on the Monday before the next meeting (August11, 2014)
	+ Minutes to be circulated by email and reviewed before the next meeting on August 14, 2014**EXHIBIT A**

##### NANC IP IMG - LNPA WG report

**Provided by: Bridget Alexander – JSI**

The report contains a summary of Local Number Portability Administration-Working Group (LNPA-WG) discussion items related to the all IP transition. The meeting was held July 8-9, 2014.

iconectiv, AT&T and Neustar delivered presentations focused on the IP transition.

Brian Rosen - Neustar - provided a *VoIP Tutorial* inclusive of IP and SIP Basics.

The presentation provided an overview of Internet Protocol, IP routing basics, likened IP routing to UPS delivery routing and compared the SS7 and SIP protocols.

In addition, Brian discussed the potential *Transition impacts on LNP.*  The discussion was focused on additional addressing information for IP, the impacts of new number allocation procedures and the inclusion of digital certificates for security of TNs/IP addresses in an all IP network.

Penn Pfautz - AT&T - reviewed IP/SIP Interconnection in an all IP network via peering and transit arrangements – potentially under commercial agreements. Penn also explained how the IP transition can initially be accomplished as an overlay of TDM and then eventually conversion to all IP.

In addition, the LNPA-WG was updated on the work of the ATIS/SIP Forum NNI (Network to Network Interconnection) Task Force. The NNI Task Force is studying use of a simple registry approach that maps an individual TN to Session Border Controller (SBC) IP addresses via a SIP URI in the NPAC SV. It was noted this process would require SOA/LSMS changes and LNPA – WG approval. The final ‘standard’ recommendation of the NNI will be forwarded to the LNPA-WG for discussion.

Chris Drake – iconectiv - presented ***ENUM as an IP routing protocol*.** The presentation reviewed “How ENUM Works” and the pros and cons of using ENUM as **THE** IP routing standard. In addition, a detailed diagram of the potential *Future PSTN DB for All IP Interconnection* was provided within the presentation*.*

Chris also introduced the Upcoming IP Transition Survey. The Security and Software Engineering Research Center (S2ERC) at Georgetown University is conducting an industry study on IP transition. Telcordia is sponsoring the survey.

The survey should be distributed in July and will gather info on the following topics:

* number of IP interconnect points for a carrier nation-wide
* number of direct interconnections vs. aggregating through transit providers
* granularity required to determine the interconnection point (OCN, NXX, LRN, full TN)
* degree to which the interconnection point can vary over time (static vs. real-time) or based on policy/partner
* Preferred method of registering (ie. capturing) and distributing interconnection point data between carriers
* Additional topics/questions will be added

The final results of the survey will be forwarded to the ATIS/SIP Forum NNI Task Force and filed with the FCC to assist in the industry’s IP transition considerations and decision making process.

If you or your company would like to participate please contact Natalie McNamer; nmcnamer@iconectiv.com

The LNPA- WG’s Non-geographic Porting Sub-Team is working on a white paper detailing the pros, cons and items to consider when lifting geographic boundaries for number porting. The sub-team plans to submit the white paper, including a recommendation for implementing non-geographic porting, to the LNPA WG for review.

Next steps:

The Tri -Chairs asked the LNPA-WG to review the IP presentations and submit LNP related IP topics to add to the agenda for discussion at the September meeting.

NEXT LNPA-WG MEETING: September 9-10, 2014 hosted by CenturyLink.

If you’d like to be added to the LNPA-WG distribution list, contact the Tri-Chairs:

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