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January 12, 2015

VIA ELECTRONIC DELIVERY

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Room TWA325
Washington, DC 20554

Re: Notice of *Ex Parte* Presentations, CC Docket No. 95-116; WC Docket No. 07-149; WC Docket No. 09-109

Dear Ms. Dortch:

On Thursday, January 8, 2015, Neustar, Inc. representatives Steve Edwards, Senior Vice President; Robert Strickland, Interim CTO; Bill Reidway, Vice President; Scott Deutchman, Deputy General Counsel; and Neustar counsel Stewart Baker of Steptoe & Johnson, Aaron Panner of Kellogg, Huber, Hansen, Todd, Evans & Figel PLLC, and Michele Farquhar of Hogan Lovells (collectively, "Neustar") met with Admiral David Simpson, Allan Manuel, and Gregory Intoccia of the Public Safety and Homeland Security Bureau; Ann Stevens, Sanford Williams, Michele Sclater, Greg Haledjian and Richard Hovey (by telephone) of the Wireline Competition Bureau; Henning Schulzrinne (by telephone) and Jonathan Chambers of the Office of Strategic Planning and Policy Analysis; Jonathan Wilkins and David Bray of the Office of Managing Director; and Terry Cavanaugh and Jim Bird of the Office of General Counsel to discuss the significant technical challenges raised by a potential transition of the Number Portability Administration Center ("NPAC") to a new Local Number Portability Administrator ("LNPA").

Neustar explained that many commenters have highlighted the costs and delays inherent in any LNPA transition, and the impact that a flawed transition might have on the suite of services that affect every telephone user in the United States.[1] The NANC process failed to

[1] *See, e.g.*, Letter from James C. Falvey, Counsel to LNP Alliance, to Marlene H. Dortch, FCC, WC Docket No. 09-109, CC Docket No. 95-116, attachment at 2-3 (filed December 11, 2014); Letter from Kathleen Q. Abernathy, Frontier, to Marlene H. Dortch, FCC, WC Docket No. 09-109, CC Docket No. 95-116 (filed November 26, 2014); Comments of LNP Alliance, WC Docket No. 09-109, CC Docket No. 95-116 at 3-5, 12-13 (filed November 21, 2014); Comments of Professional Association for Customer Engagement (PACE), WC Docket No. 09-109 at 3 (filed November 13, 2014); Letter from Brian Fontes, NENA: The 9-1-1 Association, to Marlene H. Dortch, FCC, WC Docket No. 09-109, CC Docket No. 95-116 at 1-2 (filed August 22, 2014); Comments of Telecommunications Systems, Inc., WC Docket No. 09-109, CC Docket No. 95-

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address or consider such costs and risks, which we previously have said could easily eliminate the theoretical cost savings upon which the NANC's recommendation rests. Given the NANC's failure to address potential transition risk, it is critical for the Commission to undertake this analysis before reaching a final selection determination. Neustar discussed the attached presentation to assist the Commission's understanding of the challenges associated with various transition scenarios. In particular, Neustar described the implications of (1) a single national flash cut; (2) a series of regional flash cuts; and (3) an incremental transition.

At the close of the meeting, Neustar discussed how the Commission's experience with previous FCC-mandated telecommunications technology transitions demonstrates that such initiatives usually take much longer and cost more than initially anticipated, such as the Digital Television (DTV) transition (22+ years), the public safety broadband transition (20+ years), the 800 MHz rebanding transition (10+ years), and the VHF/UHF narrowbanding transition (16 years). Given the greater complexity and number of affected industries and other stakeholders involved, the FCC has every reason to expect the same for any first-time transition from a fully functional LNPA to a new provider. Therefore, Neustar emphasized that the Commission would be best served if it rejected the NANC recommendation and declined to undertake an unnecessary and risky transition.

Pursuant to Section 1.1206(b) of the Commission's rules, I am filing this notice electronically in the above-referenced dockets. Please contact me directly with any questions.

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116 (filed August 22, 2014); Reply Comments of the Public Utility Division of the Oklahoma Corporation Commission, WC Docket No. 09-109, CC Docket No. 95-116 (filed August 8, 2014); Comments of LNP Alliance, WC Docket Nos. 09-109, 07-149, CC Docket No. 95-116 at 17-25 (filed July 25, 2014); Comments of TelePacific Communications and HyperCube Telecom, WC Docket No. 09-109, CC Docket No. 95-116 at 3-7 (filed July 25, 2014); Comments of Suddenlink Communications, WC Docket No. 09-109, CC Docket No. 95-116 at 2-7 (filed July 25, 2014); Letter from James H. Johnson, Standish Group, to Chairman Thomas Wheeler, FCC, WC Docket No. 09-109 (filed July 25, 2014); Comments of Eugene Robin, Cove Street Capital, WC Docket No. 09-109 at 2 (filed July 15, 2014); Comments of Keith Ferguson, TimesSquare Capital Management, WC Docket No. 09-109 at 2 (filed July 9, 2014); Comments of Daniel Meldazis, WC Docket No. 09-109, CC Docket No. 95-116 (filed July 9, 2014); Letter from FISPA, Michigan Internet & Telecommunications Alliance, North West Telecommunications Association, and TEXALTEL to Marlene H. Dortch, FCC, WC Docket Nos. 09-109, 07-149, CC Docket No. 95-116 at 2 (filed June 24, 2014); Letter from Rebecca Murphy Thompson, Competitive Carriers Association, to Julie Veach, FCC, WC Docket Nos. 09-109, 07-149, CC Docket No. 95-116 (filed March 21, 2014); Letter from Kathleen Q. Abernathy, Frontier, to FCC Commissioners, WC Docket No. 09-109, CC Docket No. 95-116 (filed March 21, 2014); Letter from COMPTEL, Cbeyond, HyperCube Telecom, and TDS Metrocom to Marlene H. Dortch, FCC, WC Docket Nos. 09-109, 07-149, CC Docket No. 95-116 (filed February 7, 2014) (attaching letter dated November 1, 2013 to NAPM LLC, expressing LNPA transition concerns).

Respectfully submitted,

/s/ Michele Farquhar

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Technical Briefing on LNPA Services

January 8, 2015

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LNPA Technical Briefing

Agenda:

- » Introduction and Objectives
- » NPAC Technology/Integration Overview
- » Potential Methodologies
  - National Flash Cut
  - Regional Flash Cut
  - Incremental
- » Fallback and Parallel NPAC Operations
- » Challenges to Transition

- Sole source for authoritative and essential routing, rating, and billing data for U.S.
- 702 million telephone numbers under management
- 614 million routing updates broadcast to thousands of carrier technology partners, and public safety agencies in 2014

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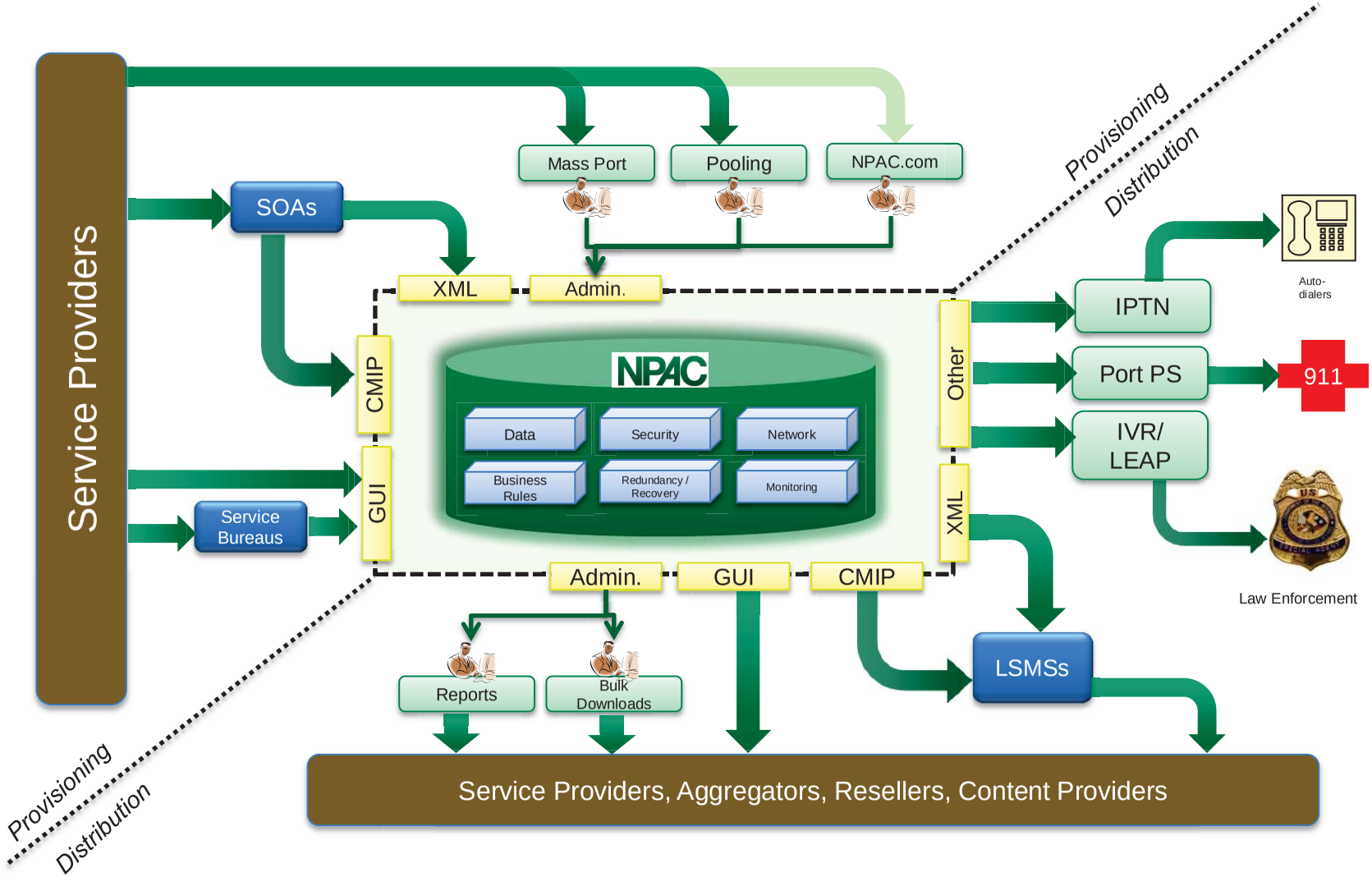
U.S. NPAC Services Architecture



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Transition Methodologies

Method	Description	Implications
National Flash Cut	All NPAC data, services, service providers, and other users transitioned from incumbent to alternative in a single maintenance window	Consolidates risk of failure in a single event No ability to certify production conditions until entire country is exposed to risk Limited ability to fall back to current vendor once production begins
Regional Flash Cuts	Similar to national flash cut, except performed seven times; all NPAC data within a single region transitioned from incumbent to alternative at once; additional regions moved as confidence achieved in first regions	Same considerations as above Requires multi-region service providers and other systems (e.g. LEAP) to connect to two NPACs during the transition
Incremental (e.g. carrier-by-carrier)	Individual service providers (or other limited % of NPAC transactions) are transitioned to the new vendor, piecemeal within one or more regions. New vendor becomes the authoritative LNPA for traffic it receives	**NOT** a viable transition method under current functionality Service providers connected to different NPACs lose the ability to port and route traffic between one another. Notification of porting and pooling in the alternate NPAC cease. Consumers would lose ability to port to any service provider they choose, and routing data would be inconsistent across the industry

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Parallel NPAC Operation?

- Challenges of maintaining multiple NPACs in production:
  - NPAC is by design a sole authoritative registry for TN routing information – hence only one LNPA and NPAC database per region
  - SOAs and LSMSs capable of interacting with more than one NPAC database on a per-region basis (although this has never been done in production)
  - No mechanism currently for two NPACs to be active in production within a single region, while keeping integrity of routing and network management
  - Possible for service providers to simulate *partial* production conditions with an alternative NPAC receiving duplicated transactions, in parallel to live platform
  - Generates extra costs for service providers to maintain interfaces to multiple NPACs for the same traffic

- NPAC "Peering":
  - Change order evaluated by LNPA Working Group in 2010, introduced by Telcordia
  - Allows two production NPACs to co-operate in a single region by exchanging transaction data in real time
  - Introduces significant complexity to the LNP ecosystem; deemed technically feasible by industry but no consensus reached on operational desirability

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Summary: NPAC Transition Challenges

- Industry Coordination & Governance
  - Need to establish coordinated schedule across 2000+ providers, LEAs, and compliance Users
  - Unclear accountability for dispute resolution, issue prioritization, go/no-go
  - Responsibilities of the current administrator need to be defined
  - Previous industry-wide technology upgrades have been multi-year efforts despite being significantly less complex
- Defining Complete Success Criteria
  - Need to take into account full scope of LNPA activities
  - Key service aspects requirements beyond those enumerated in the RFP need to be specified in advance and transition requirements identified, for example:
    - Number Pooling integration / operation
    - Mass Update / Mass Port
    - LEAP / 911 Support
    - Emergency Preparedness / Disaster Assistance
- Complete Testing & Certification Plans Are Needed
  - Pre-defined industry test scenarios are only designed to certify connected systems, not to test the NPAC
  - 80% of NPAC transactions originate outside automated SOA interfaces
  - Need defined procedures for end-to-end evaluation of NPAC functionality
  - Need to develop mechanisms to certify data conversion, end-to-end performance, and security – otherwise risks of discovering issues in production

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Questions to be Considered Prior to Selection

- What would be the appropriate transition plan and who is accountable for executing it?
- What is the independent analysis the Commission needs to give it confidence regarding readiness and risk for all stakeholders?
- How will the Commission ensure that any transition will not jeopardize competition, public safety, IP Transition, and the Internet-of-Things?

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Glossary

- LNPA: Local Number Portability Administrator
- NPAC: Number Portability Administration Center
- LEAP: LNP Enhanced Analytical Platform
- IVR: Interactive Voice Response
- IPTN: Inter-modal Ported Telephone Number service
- SOA: Service Order Activation
- LSMS: Local Service Management System
- XML: Extensible Markup Language
- CMIP: Common Management Information Protocol
- GUI: Graphical User Interface
- Port PS: Port Power Search (Neustar proprietary information service)
- TN: Telephone Number

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