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# **LNPA Vendor Assessment**

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*Business Development*

# AGENDA

- NPAC Background
- Selection of LNPA Vendor
- After the Vendor Selection
- Industry Concerns
- Money Factor
- Service Provider Migration
- Recipe for Disaster?
- Rural Provider Preparation

# ACRONYMS

- BIRRDs – Business Integrated Routing & Rating Database System
- ENUM – E.164 Number Mapping
- IP – Internet Protocol
- IPv4 – Internet Protocol version 4
- IPv6 – Internet Protocol version 6
- LNP – Local Number Portability
- LNPA – Local Number Portability Administration/ Administrator
- LNPA-WG – Local Number Portability Administration - Working Group
- LRN – Location Routing Number
- PSTN – Public Switched Telephone Network
- SP – Service Provider
- SPID – Service Provider Identification
- TN – Telephone Number

# NUMBER PORTABILITY ADMINISTRATION CENTER

- 7 NPAC regions within the United States
- Administered by Neustar
- Designed based on the Functional Requirement Specifications (FRS) established by the industry
  - NANC
    - Local Number Portability Administration - Working Group (LNPA-WG)
- Local number portability process to acquire customers
  - All Service Providers and VoIPs (waiver)
- Additional Uses { routing, network management }

# WHO USES THE NPAC?

## Service Providers

- Port Telephone Numbers (TNs)
- Network Routing / Location Routing Number
- Text message and IP Uniform Resource Identifiers
- Network Maintenance
- Billing

## Law Enforcement Agencies

- Identify Service Provider & legal contact for ported TNs
- Subpoenas for wiretaps or telephone calling records

## 911 Vendors

- Identify the SP for 'stranded' records in the Unlock – Migrate – Lock process
- Automatic Location Information ("ALI") Database Management Services

# WHY IS THE NPAC IMPORTANT?

The NPAC:

- Is the world's largest, fastest and most complex number portability registry in the world
- Facilitates all porting in the U.S. and Canada
- Manages more than 650 million telephone numbers across the United States and Canada
- Stores and distributes routing information for more than 2,000 carriers – wireless, fixed line and VoIP
- Broadcasts more than 1.5 million real-time transactions of ported telephone numbers (adds, changes, deletions) daily
- Facilitates the routing of more than 4 billion telephone calls and 6 billion text messages per day

# NEUSTAR'S TRACK RECORD

- 17 years as the LNPA vendor
- North American Numbering Plan Administration (NANPA) & Pooling Administration (PA) contracts
- Neutral party
- Other Services
  - Local Service Order Clearinghouse
  - Caller Name Delivery Service (CNAM)
  - Fraud Management
  - Wireless 'Do Not Call' List

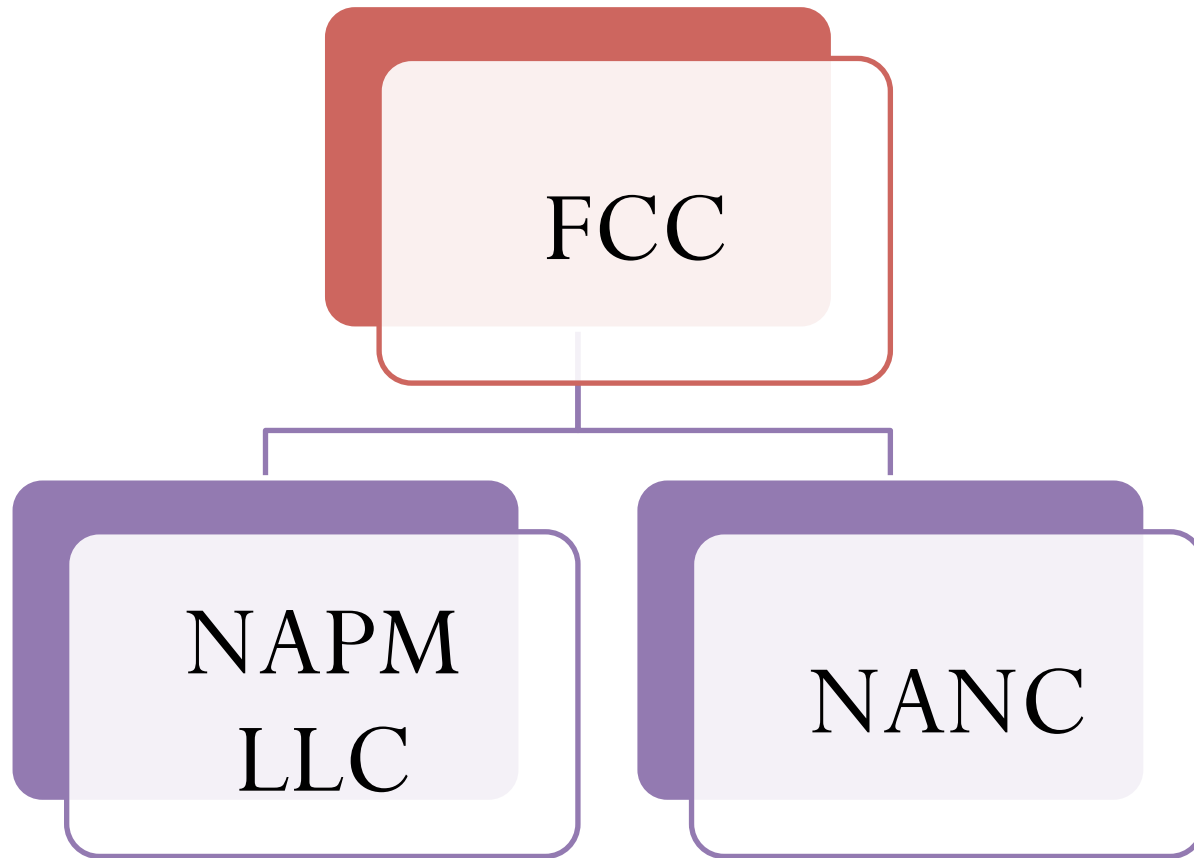
# WHY A NEW VENDOR?

- The current vendor contract expires June 30, 2015
- Competition
  - Neustar monopoly 17 years
- Lower costs
- Anonymous complaints regarding allocation costs
  - Intra-service provider ports



# DECISIONS, DECISIONS

# HIERARCHY



# WHO DECIDES?

- **FEDERAL COMMUNICATIONS COMMISSION**
  - Delegated the vendor selection to the NAPM, LLC and the NANC
  - Received the LNPA vendor recommendation from the NAPM, LLC & NANC
- **NORTH AMERICAN PORTABILITY MANAGEMENT, LLC**
  - NAPM, LLC
  - Review of the RFPs
  - Recommendation to the FCC
  - Contract negotiations with the new vendor
- **NORTH AMERICAN NUMBERING COUNCIL**
  - NANC
  - Submitted the recommendation of Telcordia to the FCC

# NAPM LLC

- Non-profit industry consortium established to contract for and manage the LNPA
- Open to all telecommunications carriers and associations of telecommunications carriers that port or pool telephone numbers or companies that pay to participate

- Membership includes:

<b>AT&amp;T</b>
<b>COMCAST</b>
<b>LEVEL 3</b>
<b>QWEST/CENTURYLINK</b>
<b>SPRINT NEXTEL</b>
<b>TIME WARNER CABLE</b>
<b>T-MOBILE</b>
<b>VERIZON</b>
<b>VONAGE</b>
<b>XO COMMUNICATIONS</b>

- March 2011 - Wireline Competition Bureau delegated authority to the NANC (working in conjunction with the NAPM, LLC) to implement a process for selecting the next LNPA

# NORTH AMERICAN NUMBERING COUNCIL (NANC)

- Federal Advisory Committee
- Advises the FCC on numbering issues & LNP
- Number administration & LNP recommendations
  - Future of Numbering Working Group (FoN)
  - Local Number Portability Administration - Working Group (LNPA-WG)

# NANC MEMBERSHIP

<b>CHAIRMAN, NORTH AMERICAN NUMBERING COUNCIL HONORABLE BETTY ANN KANE</b>
<b>CO-CHAIRMAN, NORTH AMERICAN NUMBERING COUNCIL HONORABLE GEOFFREY G. WHY</b>
<b>AT&amp;T</b>
<b>BANDWIDTH.COM</b>
<b>CENTURYLINK</b>
<b>COMCAST</b>
<b>COMPTEL</b>
<b>COX</b>
<b>CTIA</b>
<b>800 RESPONSE INFORMATION SERVICES</b>
<b>LEVEL 3 COMMUNICATIONS</b>
<b>NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS (NARUC)</b>
<b>NATIONAL ASSOCIATION OF STATE UTILITY CONSUMER ADVOCATES (NASUCA)</b>
<b>NATIONAL CABLE &amp; TELECOMMUNICATIONS ASSOC. (NCTA)</b>
<b>SMS/800, INC.</b>
<b>NTCA - THE RURAL BROADBAND ASSOCIATION</b>
<b>SPRINT NEXTEL CORPORATION</b>
<b>TELESMART NETWORKS INC.</b>
<b>T-MOBILE</b>
<b>UNITED STATES TELECOM ASSOCIATION (USTA)</b>
<b>VERIZON</b>
<b>VONAGE</b>
<b>XO COMMUNICATIONS</b>



# OBJECTIVES IN SELECTING AN LNPA

Neutrality

Management  
Capability

Technologically  
Proficient

Cost Effective

LNP Services

# REQUEST FOR PROPOSAL (RFP)

- Neutrality
- Cost efficient for the industry
- Prove capability to construct, administer and manage NPAC
- **180 pages & over 2K requirements**
- Vendor Qualification Survey
- Technical Requirements



# SELECTION PROCESS

- Submission of RFPs
- Bid documents and materials review
- Best and final offers (BAFO) - September 2013
- Day long interviews - top 2 prospective vendors
- Vote - NAPM, LLC and NANC - Unanimous vote with one abstention
- April 24, 2014 - NANC recommendation letter to the FCC
- Telcordia endorsed as new LNPA vendor
- Currently – The FCC is reviewing comments and reply comments
  - A decision date has not been established

**RECOMMENDED VENDOR ... TELCORDIA**

# TELCORDIA'S RESUME

- Telcordia Technologies, Inc. d/b/a iconectiv (“Telcordia”)
- LNP Experience – support and/or administer in over 15 countries
  - Tailor U.S. NPAC to industry rules and regulations and consumer needs
- LNPA-WG Member – assists in determining the enhancements and processes & procedures for the NPAC
- BIRRDs – creation and management of a national database housing millions of records/data (NPA-NXXs/blocks)
- CLLI Codes – interconnection
- Internet Protocol Routing

# TELCORDIA'S MIGRATION STRUCTURE

- Public information
- New interface
- Transition timelines
- Deployment schedule
- Transition requirements
- Vendor & service provider contracts
- Test plans
- Schedule testing
- Training
  - New processes & procedures
  - Help desk U.S. based with Telcordia staff
- Completion date - TBD

# AGREEMENTS

## Master Service Agreement

- NAPM, LLC & Vendor
- 5 or 7 years

## Non-Disclosure Agreement

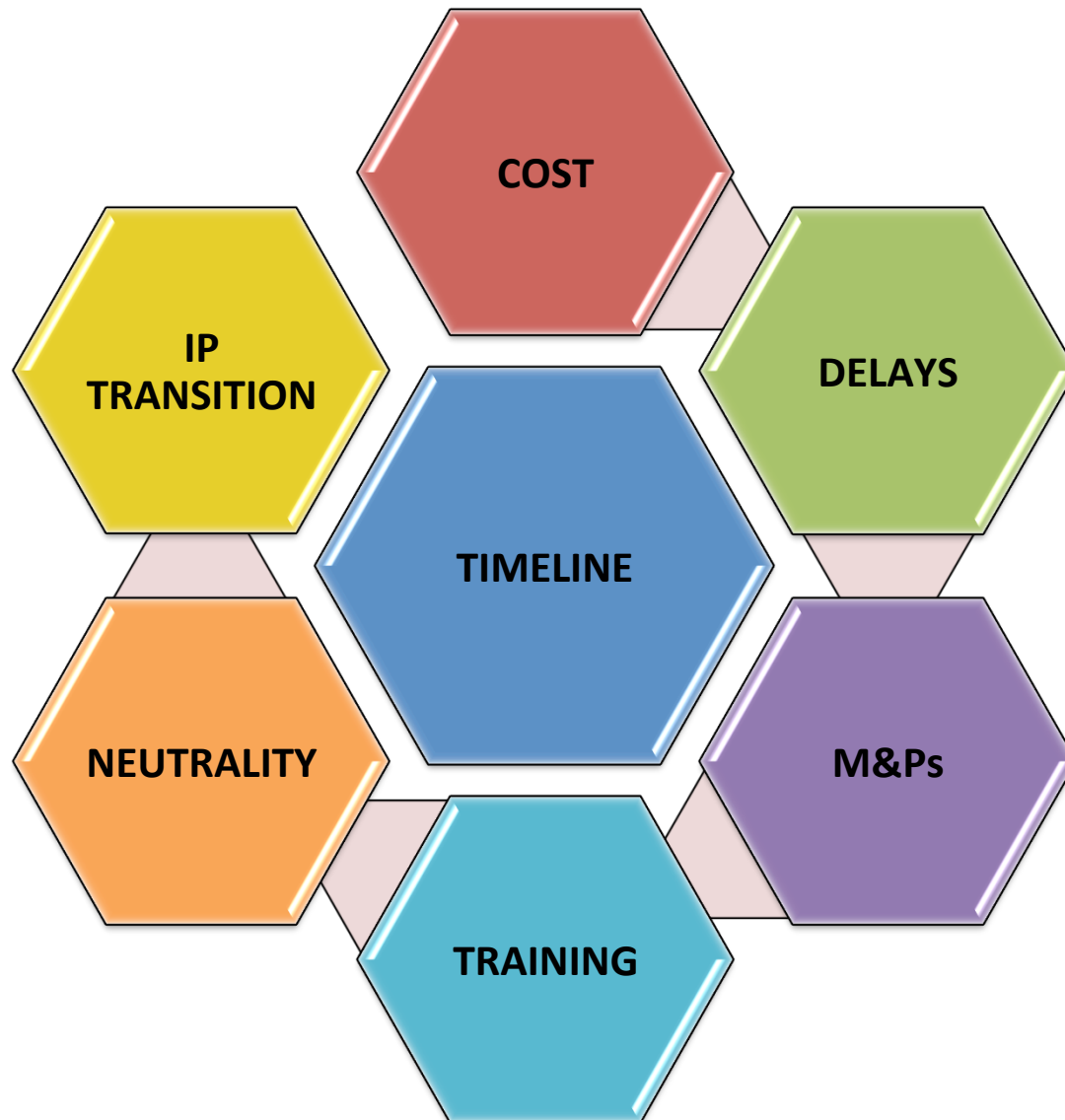
- LNPA Vendor & Service Providers
- Confidential & Proprietary Information

## Regional User Agreements

- LNPA Vendor & Service Providers
- Regional NPAC Terms of Use

# INDUSTRY CONCERNS

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# INDUSTRY CONCERNS

- Dual vendors
  - Not a flash cut = dual until 100% cutover of all regions
- Operation in multiple regions
  - Connections
  - Help desks
  - Access credentials
  - Methods & procedures
- Public safety
- Transition oversight
- National security



# NEUTRALITY

- Telcordia has relationships that could jeopardize neutrality
  - Ericsson – managed service relationship with Sprint & T-Mobile
  - Sub-contractor Sungard – Ownership/common control of a CLEC certified TSP & IVP
  
- Telcordia clarified relationships
  - Sungard – call center infrastructure only
  - Ericsson – Network design, planning, building & day-to-day operations
    - No customer care

# RFP LNPA - IP CONCERNS

- RFP did not request defined LNPA enhancement requirements to facilitate the IP transition
- Industry groups are forming recommendations - INC, ATIS NNI, IETF
- Industry Numbering Committee (INC) is identifying numbering test bed necessary functional requirements focused on the evolution of numbering systems
- Alliance for Telecommunications Industry Solutions Network to Network Interconnection (ATIS NNI) joint task force is developing "interim" routing architecture for IP interconnection
- Internet Engineering Task Force (IETF) – has not been shared within the industry

# REMINDER

- INC, ATIS NNI and IETF
  - RECOMMENDATIONS ONLY
- LNPA-WG determines the NPAC enhancement needs and initiates change orders in collaboration with the LNPA vendor
- NAPM, LLC approves change order
  - Per terms of the Master Agreement
- Rural carriers should weigh-in on the IP transition as it relates to numbering, number portability and the necessary policy changes

# THE MONEY FACTOR

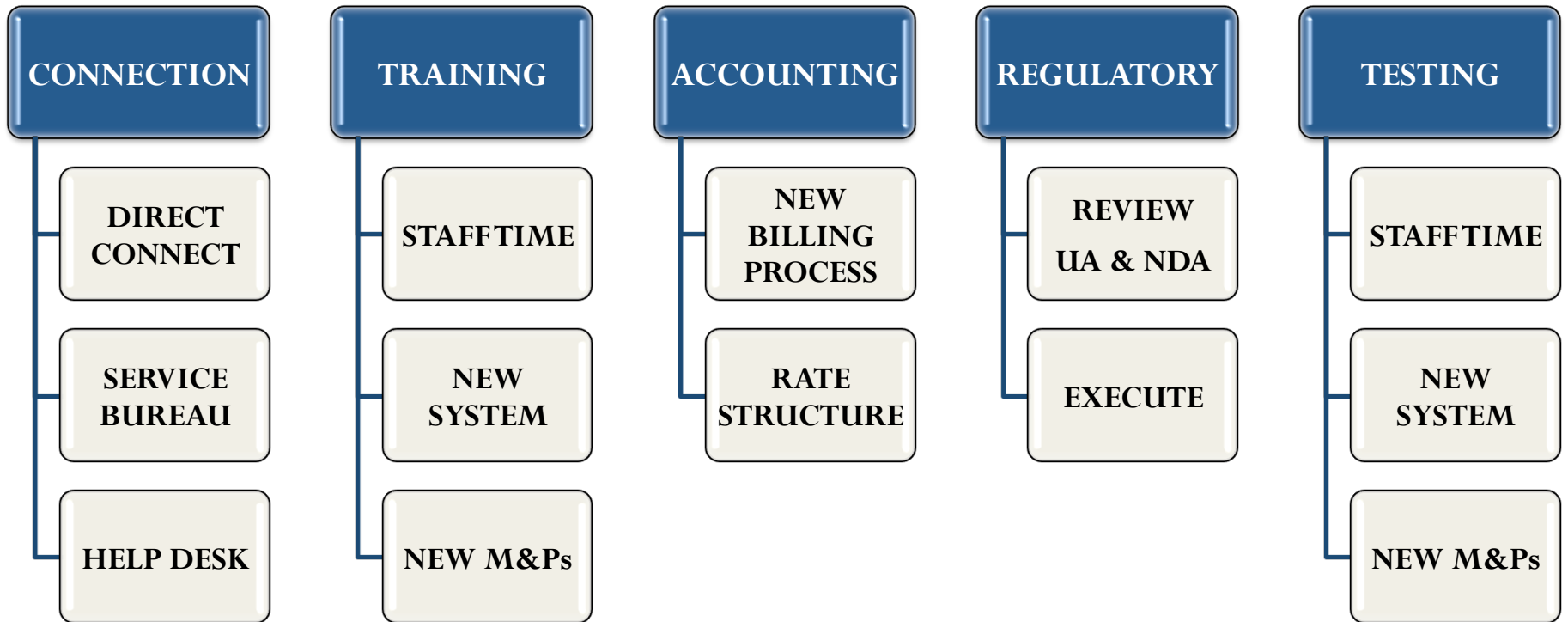
# EXISTING PRICING

- FCC allocation model
  - LNPA charges are based on the SPs' reported end-user revenue on their most recent 499A forms.
  - All SPs are charged their allocated portion for charges billed in the regions in which they have reported revenue.
- Per transaction fees
- Report fees
- After-hours assistance
- Services part of the existing LNP fees
  - Mass ports, LRN and SPID migrations, mass DPC updates

# NEW PRICING

- Telcordia quotes in the RFP
- The industry expects lower costs
  - Reduction in SP fees
  - Lower than current rates
  - Flat rate for services
  - Connection costs
  - No *a la carte* pricing on a per use basis
- NAPM, LLC negotiate in the Master Agreement with Telcordia
  - Lower or comparable as prescribed in the RFP
  - Contract will define ALL LNPA pricing and fees

# SERVICE PROVIDER TRANSITION COSTS



# DIRECT SERVICE PROVIDER EXPENSES

Legitimate potential costs to SPs --- posed by Neustar:

- Third-party vendors to test with a new LNPA (Syniverse, TNSI)
- Network connectivity to multiple NPACs during the testing and cutover period
- Outages & service degradation in the early stages of transition
- Extension of Neustar's contract due to transition delay





# **SERVICE PROVIDER MIGRATION**

# SERVICE PROVIDER RESPONSIBILITIES

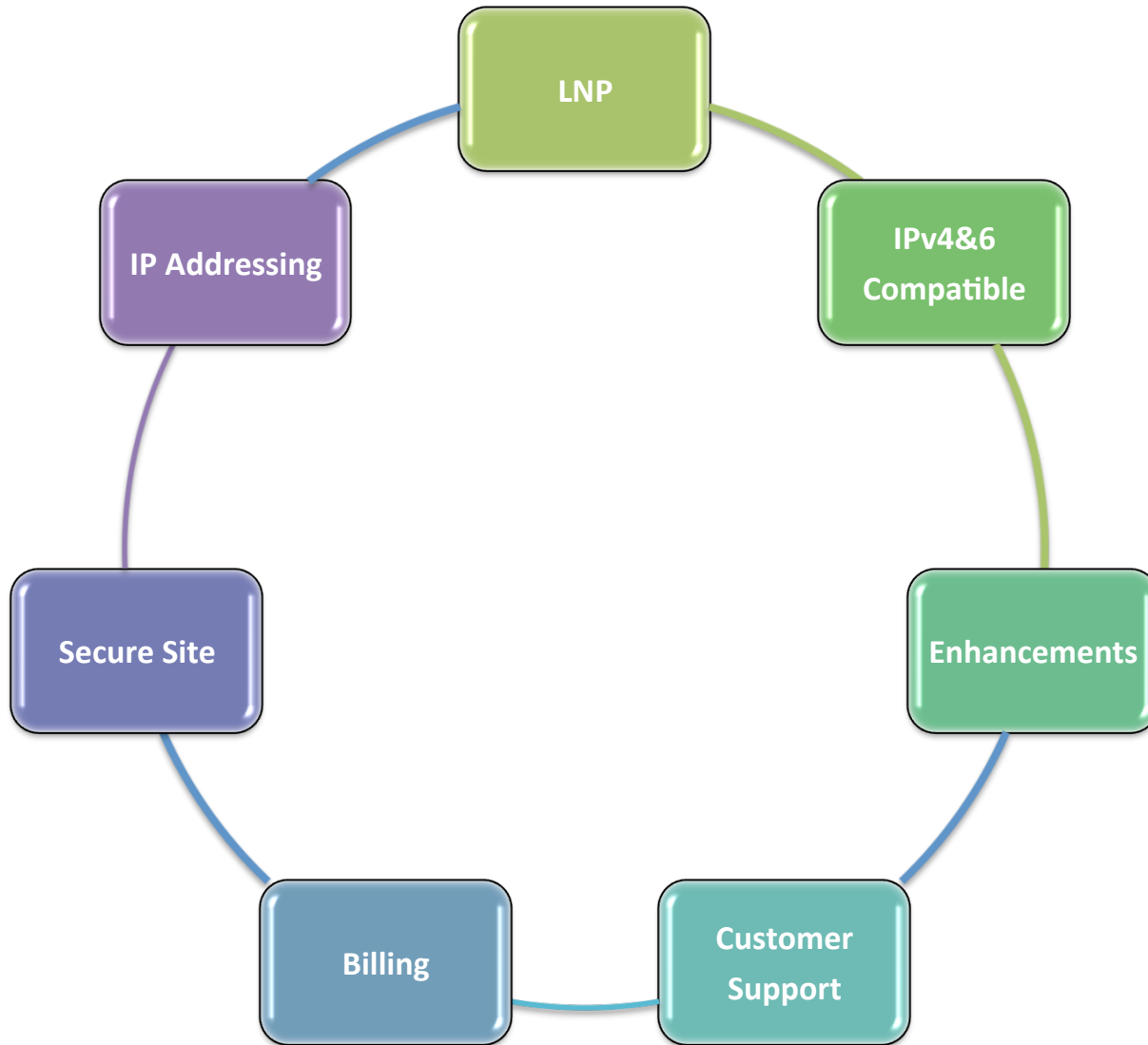
- On-Boarding Process
  - New Non-disclosure Agreements (NDAs) with LNPA
  - New Regional User Agreements (UA) with LNPA
  - New NPAC Profiles
  - New credentials to access the system
  - Training\*
  - Testing\*
  - User acceptance testing (UAT)\*
  - Consumer Education
- Why?
  - Current agreements are between NAPM, LLC and/or the SP and Neustar
  - Need new agreements with Telcordia
  - New price lists

\*applicable only if the SP has direct access to NPAC or uses the help desk

# VENDOR MIGRATION

- Data
  - TN routing information
  - User authentication information
  - Billing & collection data
  - Port records
- Process
  - Assuming – no suspension of competitive porting and network management during the cutover
  - Data downloaded from Neustar (only as allowed by the Master Agreement terms)
  - Converted to the new NPAC's data model
  - Uploaded to the alternate LNPA
- Rollback Plan – NONE

# NEW NPAC CHECKLIST



# COMMENTS

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- Deadlines for comment on the North American Numbering Council recommendation
- Comment Date: July 25, 2014
- Reply Comment Date: August 22, 2014
  - Extended from August 8th

# COMMENTATORS

- Neustar
- Telcordia
- LNP Alliance
- USTA & CTIA
- FBI, DEA, USSS & ICE
- IACP & NSA
- Intrado (911 vendor)
- NENA
- Suddenlink
- TelePacific Communications & HyperCube
- **NAPM,LLC**
- Public Utility Division of the Oklahoma Corporation Commission (PUD)
- Standish Group – letter to Chairman Wheeler
- Consumers who think the contract expiration means portability will cease
- Did not comment:
  - Large SPs - made the decision
  - Rural SPs - depend on JSI and NTCA

# COMMENTS - NATIONAL SECURITY

Federal Bureau of Investigation (FBI), Drug Enforcement Administration (DEA), United States Secret Service (USSS), U.S. Immigration and Customs Enforcement (ICE)

- Neutral position on the LNPA vendor
- The new vendor system must maintain:
  - Highly sensitive services to assist criminal and national security investigations
  - Current and historical information about the SP who provides service to an account
  - Confidential queries



# ADDITIONAL COMMENTS

- The comments vary from support for the incumbent to the absolute backing of a new vendor
- Concerns & Recommendations
  - Minimize consumer impact
  - Change cannot negatively impact 911 services
  - Tools and applications for the timely and economical management of 911 data currently in use must remain available to 911 providers at no cost
  - The FCC should oversee the transition

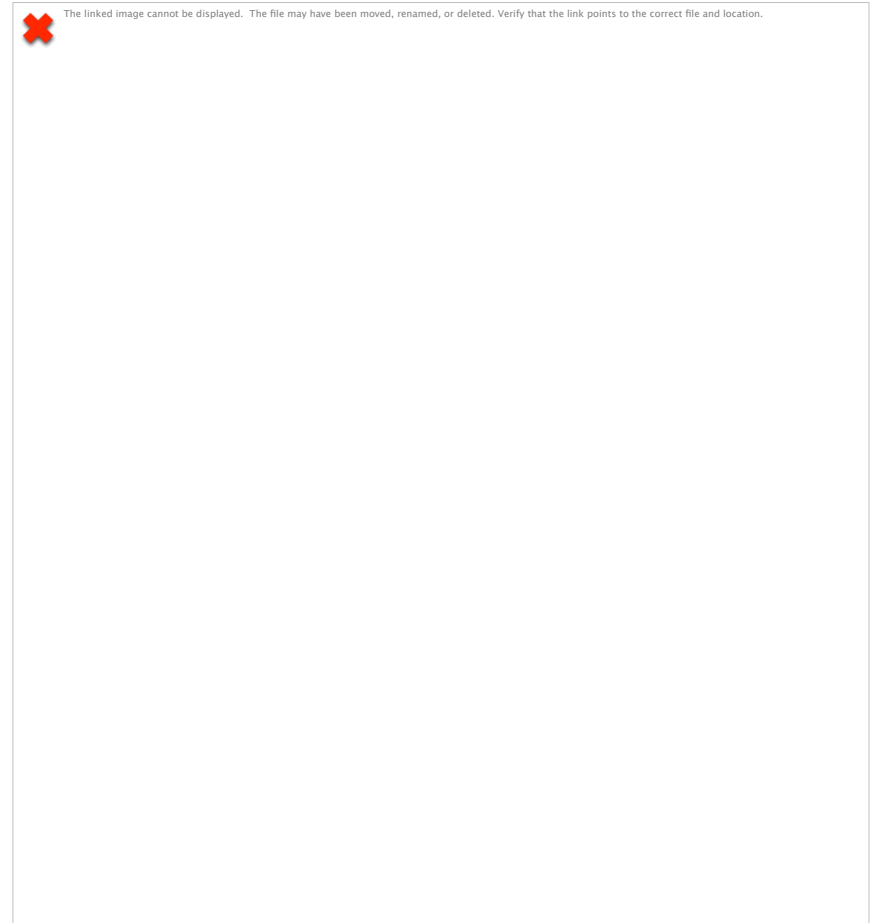


# **RECIPE FOR DISASTER?**

# PREDICTIONS OF DOOM

## Results of commissioned studies by the incumbent LNPA

- The transition has a 4% chance of success and a 6% chance of completion on time and within budget
- Compressed delivery time – 10 months
- Phase in will take 2-3 years
- Transition must be via “Big Bang” – all at once
- Could cost the industry hundreds of millions of dollars that could be utilized upgrading networks for IP
- Disruption of customer acquisitions and network routing



# REALITY

- If the LNPA vendor does not change, it is ‘business as usual’
- New Vendor
  - **It is *not* the end of LNP**
  - It is an enormous industry conversion
  - It will cost money
  - The migration will not flow 100% without a hitch
  - SP dedicated time and resources will be needed for the transition
  - Day-to-day operations will be disrupted on a short term basis
  - Dual vendors will exist until the NPAC is fully cutover
  - Telcordia does not get paid until its system is in service

# PENDING

- FCC decision pending comments and reply comments review
  - Comment cycle expired August 22<sup>nd</sup>
  - FCC historically adopts NANC recommendations
- LNPA is still open for potential split between vendors
  - Neustar and Telcordia
- Master Agreement Negotiation
- Migration Timeline



# **RURAL PROVIDER PREPARATION**

# RURAL PROVIDER CHECKLIST

Rural carriers need to remain up to date on the transition timeline & process:

- *Identify* the staff involved in porting
- *Detail* how your company currently manages porting
- *Document* how the transition will affect your day-to-day operations & how your company will accommodate the short-term disruption
- *Educate* your staff on the pending transition
- *Engage* your consultants to assist in the transition

# FINAL THOUGHTS

- Change – for the better – is good
- JSI is neutral as to which vendor is selected
- Neustar has commendable NPAC, NANPA and PA track records with the industry
- Telcordia's BIRRDs administration (LERG) is equally well-regarded
- Both vendors are capable of constructing, administering and enhancing national databases
- Both vendors are prepared to provide industry IP-transition solutions



# FINAL THOUGHTS

- If Telcordia provides an enhanced NPAC, with today's functionality and reliability, for a lower cost then, long term, it is worth the bumps and bruises the industry will face
- The NAPM, LLC, NANC, nor the FCC, would select a vendor that has not been thoroughly vetted for a project of this magnitude



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