

draft-mcgarry-nnp-use-case-00

Interim IETF MODERN WG Meeting

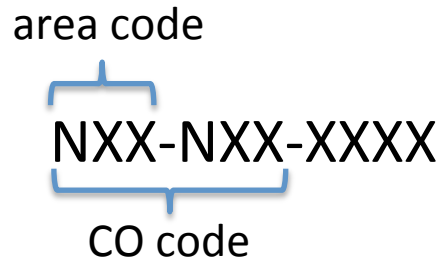
3-1-16

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# Nationwide number portability

- The FCC in the USA has charged the USA's communications industry with recommending a solution for nationwide number portability (NNP)
  - NNP is the ability to port a geographic TN to a different geographic area than the one to which it is associated
- Currently portability is limited to the area associated with the TN
  - The ported TN and its routing number must be in the same geographic area
- One solution proposes using a new non-geographic area code for routing calls to NNP TNs
  - The non-geographic routing numbers (NGRNs) would be hosted on IP switches called non-geographic gateways (NGGWs)
- This proposal can be used as a use case for MODERN

# Numbering in the USA



- N=digits 2-9 and X=digits 0-9
- Area code – assigned to a geographic area or service
  - Geographic area codes are assigned to a geographic area, e.g., 202 is assigned to Washington, DC
  - Non-geographic area codes are assigned to a service, e.g., 800 is assigned to toll free service
- Central office code (CO code) – assigned to a specific service provider and switch, used as an address for that switch

# NGRNs and NGGWs

- CSPs could also assign non-geographic TNs (NGTNs) to Users for traditional voice and text service
  - All NGTNs would have an associated NGRN
- A Registry would administer the assignment of NGRNs and NGTNs
  - NGRNs would be assigned at the 10 digit level, not the CO code level
  - NGTNs would be assigned to CSPs at the 10 digit level and be subject to service provider portability
  - Registry could be either a single registry or a distributed registry
- NGRNs are hosted on IP switches called NGGWs
  - Each NGRN is associated with a specific NGGW for routing purposes

# CSP acquires an NGRN from a Registry

- CSP registers with a Registry
  - CSP provides administrative data to Registry, e.g., contact data
  - CSP could provide service data, e.g., NGGW information
  - Registry verifies that CSP is qualified to request NGRNs and NGTNs
- CSP requests NGRN
  - CSP provides service data, e.g., NGGW information
- Registry assigns NGRN
  - Registry verifies that CSP is eligible for an NGRN
  - Registry assigns NGRN and provides credential related to the NGRN
  - Registry makes assignment data available to others based on policies

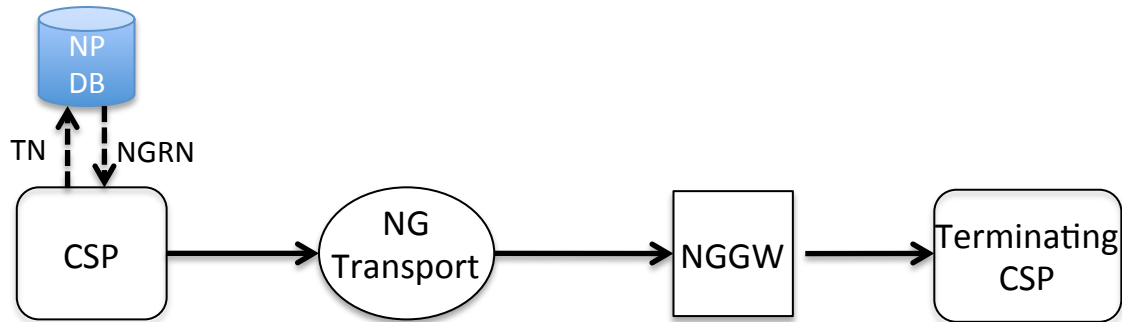
# User ports geographic TN to an NGRN

- CSP registers NGRNs in NPACs
  - There are 7 separate NPACs in the USA
    - Geographic area codes are dedicated to one of the 7 NPACs
  - The CSP registers NGRNs in one or more NPACs
- CSP ports the geographic TN to the NGRN
  - The CSP ports the TN in the NPAC associated with the porting TN
  - The port works as it does today, except it is to an NGRN instead of a geographic routing number
- NPAC processes the port and downloads the TN:NGRN association to all interconnected service providers

# User acquires an NGTN from a CSP

- User requests service from a CSP
  - User provides contact data
  - CSP can either;
    - Store the contact data and provide a reference address to the Registry for access by others, e.g., govt entity
    - Submit the contact data to the Registry for access by others
- CSP requests an NGTN from a Registry
  - CSP submits service data, e.g., NGGW information
  - CSP could provide administrative data related to this specific request, e.g., contact data
- Registry assigns the NGTN
  - Registry verifies the request and assigns the NGTN
  - Registry provides a credential to the CSP
    - CSP could pass the credential to the User

# Calls to an NGRNs



- CSP performs an NP dip and receives an NGRN
- CSP routes the call based on the area code to a transport provider that can route NGRNs
  - The CSP could have their own NG transport network
- The NG transport provider routes the call to the NGGW associated with the NGRN
- The NGGW provider routes the call to the terminating CSP associated with the NGRN
  - The NGGW provider and terminating CSP could be the same company



# NNP and MODERN

- What information is associated with a request for an NGRN or NGTN?
- What is the Registry role and model?
  - How is information shared with others
- What addressing information is necessary for call routing?
- How do we make assignment and activation of service immediate?
- How can we streamline the process, e.g., use of credentials?

# NNP : A MODERN Use Case

- Questions?
- Thanks!

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