# Status Update on E2MD

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# E2MD in Short

- E2MD:
  - E.164 To Meta-Data mapping

- Extends ENUM to provide further information on E.164 numbers

- Why not use plain ENUM (E2U)?
  - ENUM limitation:
    Result must always be a URI indicating a resource

# Some E2MD Use Cases

- Global Service Provider Identifier

- Service Capabilities

- Calling Party Name

- Meta-Data about the E.164 tree
  - Information about the numbering plan
  - Number not assigned / not in use

# Relationship to ENUM

- E2MD use cases are similar to ENUM use cases

- Both use E.164 numbers

- Both have a hierarchical delegation model

- E2MD ideas have been around for a long time
  - They are covered already by the current ENUM charter (item 4)

- There is deployed equipment and code for ENUM
  - Reusing that code simplifies E2MD deployment

# Feedback E2MD BoF at IETF-77

Lots of comments including:

- Scope considered too large

- Registration Framework approach seen problematic

- Issues related to DNS, NAPTR and DDDS

- Private vs. public usage

- Security and Privacy issues need to be addressed

Note: Issues will be discussed after this presentation

# Anaheim Conclusions

- There is wide support in favor of working on E2MD

- All arguments were known before the BoF at IETF-77
  - Nothing new came up during the BoF

- **Many of the arguments made against E2MD are actually arguments against ENUM**

- Some arguments were perceived as FUD and/or OSI Layer 9+ issues

- No WG could be formed at IETF-77

- **E2MD work goes on** (mailing-list, conf-calls and WiKi)

# Work after IETF-77 (in short)

- E2MD proponents continued to work on E2MD

- Lots of discussions concerning the Anaheim BoF feedback

- 4 conference calls since Anaheim

- Complete re-write of the proposed charter

- Internet-Draft on problem statement to be submitted

# Work after IETF-77 (Conclusions)

- Relaxed schedule to form a Working Group
    - Continue informally in Maastricht (IETF-78)
    - Formal WG-forming BoF planned for Beijing (IETF-79)

- Separated Long Term and Short Term requirements

- Focus on a limited set of use cases

- Work on an "agreeable" E2MD charter
    - Split up the problem space to make target smaller
    - Work on a subset of Services
    - Address BoF comments
    - Focus on problem statement (as opposed to solutions)

# Out-of-scope Requirements

- Short term use cases no longer require :
    - A Framework approach for registration
    - Source dependent answers
    - Source URI
    - Large amount of data (in DNS)

# Current Status

- Need
  - Five use cases demonstrate immediate need

- Approach
  - Adjusted original proposal
    (aligned to BoF feedback / ditched requirements)

- Benefit
  - E2MD approach is a small increment to existing ENUM

- Is the IETF the right place?
  - Most people think *yes* due to close ties to ENUM

# Questions?

- We are going to discuss the issues right after this presentation, please **only** ask clarifying question now...

# Backup Slides

# Global Service Provider Identifier

- Indicates the Communication Service Provider (CSP) responsible for this number
  - AKA the "carrier-of-record" or "ITAD identifier"

- Potential uses:
  - Optimize routing
  - Advising end-users about costs when charging depends on the terminating CSP

- Not yet documented in an Internet-Draft

# cnam

- Returns the Calling Name (like directory name) for a given phone number.

- Used in cases where this information is not available or lost:
  - Calls that originate on (or transited via) the Public Switched Telephone Network (PSTN)
  - Calling Name to be displayed on VoIP or other Real-time Clients

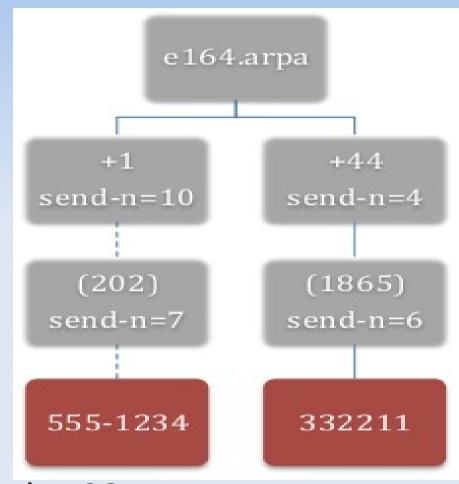- See: draft-ietf-enum-cnam-08

# unused

- Indicates whether an E.164 number (or number range) is allocated or assigned for communications service.

- Lets client know that a call will fail without wasting the effort of a session setup

  - E2MD lookup is faster than SIP INVITE

  - The user can be provided with a correct announcement (or other indication)

- See: draft-ietf-enum-unused-04

# send-n (1/2)

- Increases efficiency of overlapped dialing
  - Reduces DNS lookups and SIP INVITEs
  - Decreases frequency of timeouts
  - Could extend SIP "484 address incomplete" handling: no need for a new SIP dialogue for each dialed digit

- Deployed in empty non-terminals (i.e. in the branches)

- Indicates the minimum depth of the tree below this record

# send-n (2/2)

- "You must send N more digits before any leaf-node NAPTRs will be returned"

- Designed for private ENUM, but works also in public ENUM

- See: draft-bellis-enum-send-n-02