

# Issues with ENUM & E2MD

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# Goals

- Feedback to provide guidance to chairs and ADs
  - Is there future work needed on ENUM?
  - Is there an agreement on a problem statement?
  - Where would such potential work be carried out?
- Input to further E2MD activities
  - Bar-BoF on Thursday, 8 pm, MECCCAfe

# #11 ENUM's NAPTR Insufficient

- ENUM uses NAPTR and is successfully deployed
- Multiple problems with NAPTR /  
NAPTR was reported as wrong choice for ENUM
  - Something written up by IAB (Reference?)
  - What exactly is the problem with NAPTR in the ENUM context?
- Alternatives
  - Define new RR type(s)
  - Underscore prefixing used with SRV RR
    - Wildcards won't work as expected

# #6 DNS Basis

- DNS has many benefits for E.164 numbers
  - DNS is a good way of distributing the responsibility (hierarchical model)
  - Fast due to “load balancing” and caching features
  - DNS proven to work for ENUM
- Some claim that DNS is not the right place for E.164 related stuff
  - Too many DNS hierarchy levels
  - Lot of other E.164 number related information is outside DNS
  - Potential for contradictions or unclear semantics

# #10 DNS record size

- DNS limits on size per RR
- Use cases requiring large RRs are out-of-scope
  - Indirecting to be used instead
- Many NAPTR RR in DNS answers perceived as a problem
- Real deployments have not encountered such (e.g. .tel)
- Is this a real problem?

# #14 Cases not specific to E.164

- Some use-cases are perceived to not to be specific to E.164, but general to DNS
  - In particular those that jump or cut the tree are perceived to be harmful if used outside E.164
- Clear applicability statement to avoid this might be needed

# #5 Commonality among services

- NAPTR in a DNS response need to have anything in common?
- DDDS filtering happens on client side
  - DDDS is anyways broken in a sense that it only allows one entry as output, but used differently
- Is this a real issue?

# #9 Security / Privacy Issues

- Some ENUM and E2MD use cases may require authenticated access. We have several possible fixes, such as:
  1. Applicability statements to restrict subtype use to a private network
  2. Encrypting the sensitive data in its NAPTR
  3. Put a URI for the data into the NAPTR and use another protocol for AAA
- Is the presence or absence of any specific record type sensitive?
- ENUM discontinued the work on this topic? Milestone still open in the charter? Why?