LoST routing

Henning Schulzrinne

Oct. 25, 2011
Call routing

- At any proxy, next hop (request URI) is function of (one or more)
  - incoming **request URI, To, Route** headers
  - location of caller → LoST
    - restricts reasonable set of PSAPs
  - availability of PSAP
  - load at PSAP
  - special consideration (e.g., language, media capabilities)
  - others...

- Assumptions:
  - ECRF data (including urn:nena:...) cannot be kept secret and needs to be consistent everywhere
  - Must work even if PSAPs are on public IP addresses, with and without B2BUA
Multi-stage routing

→ urn:nena:service:sos.psap (Franklin)
← sip:psap@franklin.gov

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<td>greenville.gov, springfield.gov</td>
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Multi-stage Trade-offs

- Can maintain ESInet PSAP table in ECRF
  - but still need to know which PSAPs are substitutable for each other

- More complex data management
  - not just GIS export (need to maintain which service)

- Need to maintain multiple hierarchies

- Multiple queries in one call

- May be difficult to extend to poison control, mountain rescue, etc.

- May be difficult to manage when ESInets are nested or overlap
Alternative 2: Single-stage routing

- **Single-step**
  - LoST returns final PSAP name (e.g., franklin.esi.net)
  - All PSAPs within served by same ESRP

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Single-stage Trade-offs

- Single hierarchy
- Avoid merge-split of LoST hierarchy when ESI.net structure changes
- Single LoST lookup

- Public LoST hierarchy has full GIS map
  - unclear whether this matters
- Exposure of PSAP-specific URL
  - but does not reach PSAP
- Need table in ESRP to map “public” URL to “secure” URL
  - how is table generated?
Alternative 3: Multi-step, single URN

- Use new LoST query parameter “context”
- Avoids level numbering issues
- Clearly identifies what the context of name is
- Avoids namespace combinatorial explosion
Options

• Describe both Alternative 1 & 2, with trade-offs
• Make sure both work if some ESInets choose single-stage, others multi-stage
• Wait for operational experience to update