

Current IP-PBX Registration Problems

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REGISTER Problems

- No explicit indicator
 - Troubleshooting is harder
 - Some middleboxes really need to know
- “Wildcard” P-Associated-URI ABNF invalid
- Undefined behavior on PAU mismatch
 - De-register, re-register, ignore?
- REGISTER response growth (classic)
 - UDP ain't dead yet (by a long shot)

Routing Problems

- If Request-URI replaced by Registered Contact-URI, then real target is lost
 - Could put it in PCPID or Hist-Info (good luck with that)
- If Req-URI *not* replaced, but Contact-URI inserted as Route header, then it sometimes works
 - Sometimes not

Ownership Problem

- Suppose INVITE arrives at PBX as:

INVITE sip:+12125551212@**sp.com**

- PBX is not authoritative for **sp.com**
 - Should it process it if it owns +12125551212?
 - Or should it route it to sp.com? (causing a loop)
- To solve this, in the real world the host portion is usually changed en route to PBX
 - Set to FQDN or IP of PBX

Other Misc. Problems

- PBXs sometimes change the Contact-URI of outbound INVITEs compared with what they Registered
 - Legal really, but causes authorization policies to reject the request
- Some SSPs expect PAI to be the explicitly registered AoR, vs. the specific line making the call
 - They're wrong, right? It should be the originating AoR identity
- Some SSPs expect PBX to send PPI, not PAI, because PBX it outside not trusted

Summary: What Needs Fixin'

1. Explicit indicator the REGISTER isn't normal
2. Define how request routing works to PBX
3. Define ownership/authority model
4. Specify what PBX should put into Contact/PAI/PPI? (or leave to SIP-Forum?)

Do we tackle P-Associated-URI?

- Pro's:
 - Helps troubleshoot, get error indicators, etc.
- Con's:
 - More work, and technically PAU is a 3GPP header (RFC 3455)
- If we do it, then we need to tackle:
 1. Define what happens if it doesn't match what PBX expects
 2. Define and fix wildcard syntax