Unicast DNS-SD
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• DNS-SD is independent of DNS transport
• Unicast DNS-SD avoids multicast overhead of mDNS
• ...but there are some considerations
  • Scaling responses to service discovery
  • Modifying responses based on, for example, location
  • Accommodating legacy devices
What are the tools?

- Unicast DNS-SD client configuration RRs
  - lb._dns-sd._udp.example.com. (Learned from DHCP)
  - lb._dns-sd._udp.0.1.168.192.in-addr.arpa.
  - lb._dns-sd._udp.local.

- Hybrid-proxy servers

- Organization DNS server
  - Holds unicast DNS-SD client configuration RRs
  - Holds delegations to hybrid proxy servers
  - Holds subnet in-addr.arpa. entries
Integrating hybrid-proxies

• Deploy hybrid proxies for zones floor[123].example.com
• Add delegations to organization server to hybrid proxies
• Add in-addr.arpa entries for each link:
  - lb._dns-sd._udp.0.1.168.192.in-addr.arpa. PTR floor1.example.com.
  - lb._dns-sd._udp.0.1.168.192.in-addr.arpa. PTR floor2.example.com.
Integrating hybrid-proxies

• Deploy hybrid proxies for zones floor[123].example.com
• Add delegations to organization server to hybrid proxies
• Add in-addr.arpa entries for each link:
  lb._dns-sd._udp.0.2.168.192.in-addr.arpa. PTR floor1.example.com.
  PTR floor2.example.com.
  PTR floor3.example.com.
Integrating hybrid-proxies

• Deploy hybrid proxies for zones floor[123].example.com
• Add delegations to organization server to hybrid proxies
• Add in-addr.arpa entries for each link:
  lb._dns-sd._udp.0.3.168.192.in-addr.arpa.    PTR floor2.example.com.
  PTR floor3.example.com.
Unicast DNS-SD

- Client on floor1 resolves lb._dns-sd._udp.0.1.168.192.in-addr.arpa.
- Service discovery for _ipp printers results in queries:
  
  _ipp._tcp.floor1.example.com
  _ipp._tcp.floor2.example.com
  _ipp._tcp.local

- Results are merged and leftmost labels are displayed