DNSSD Next Steps

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DNSSD Next Steps

Discovery Broker

Sleep Proxy

Advertising Proxy

Zone Stitching

DNSSD Roadmap

Discovery Broker

Meta Discovery Proxy

Network intermediary

- Looks like Discovery Proxy to clients
- Looks like client to Discovery Proxies and other servers

Improves efficiency

- Client talks to one Discovery Broker, which talks to several Discovery Proxies on its behalf
- Discovery Proxy on link can serve single Discovery Broker, which serves multiple clients

Sleep Proxy

Apple has shipped this for years

Basically, Sleep Proxy is:

- DNS Update (RFC 2136)
- Garbage collection (Dynamic DNS Update Leases — draft-sekar-dns-ul)
- Wake-on-LAN magic packet (EDNS0 Owner Option — draft-cheshire-edns0-owner-option)

Time to document it

Advertising Proxy

Conceptual mirror image of Discovery Proxy

Allows non-local devices to advertise services

Applicable for mesh networks like 6LoWPAN (as used by Thread)

- Supporting multicast on these networks is unreasonably onerous

Basically Sleep Proxy, without the Wake-on-LAN magic packet

- DNS Update (RFC 2136)
- Garbage collection (Dynamic DNS Update Leases — draft-sekar-dns-ul)

Zone Stitching

Avoid duplicate names when querying multiple links

- e.g., using Discovery Broker

Could just expose link names to disambiguate

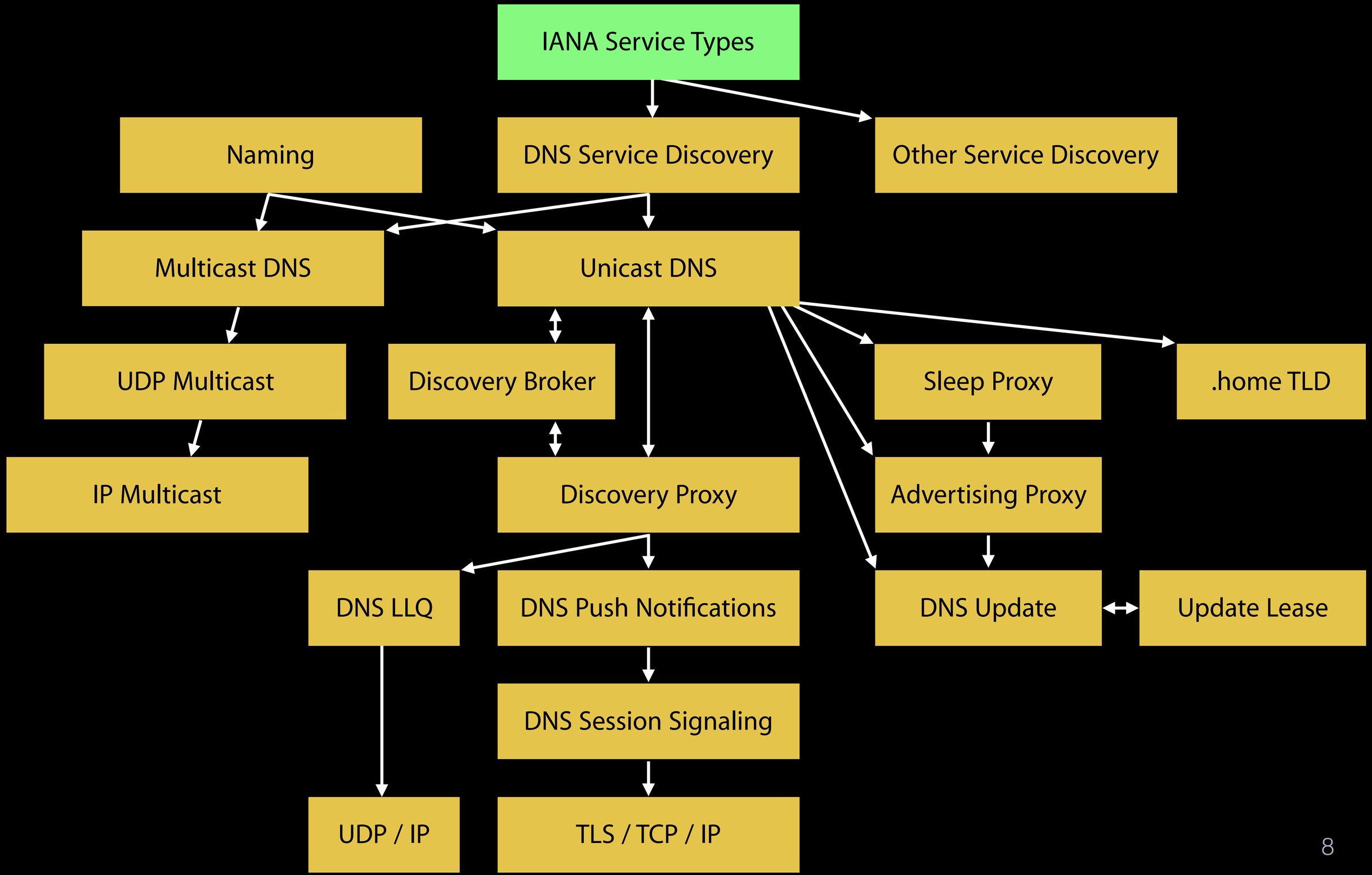
Or could force name uniqueness

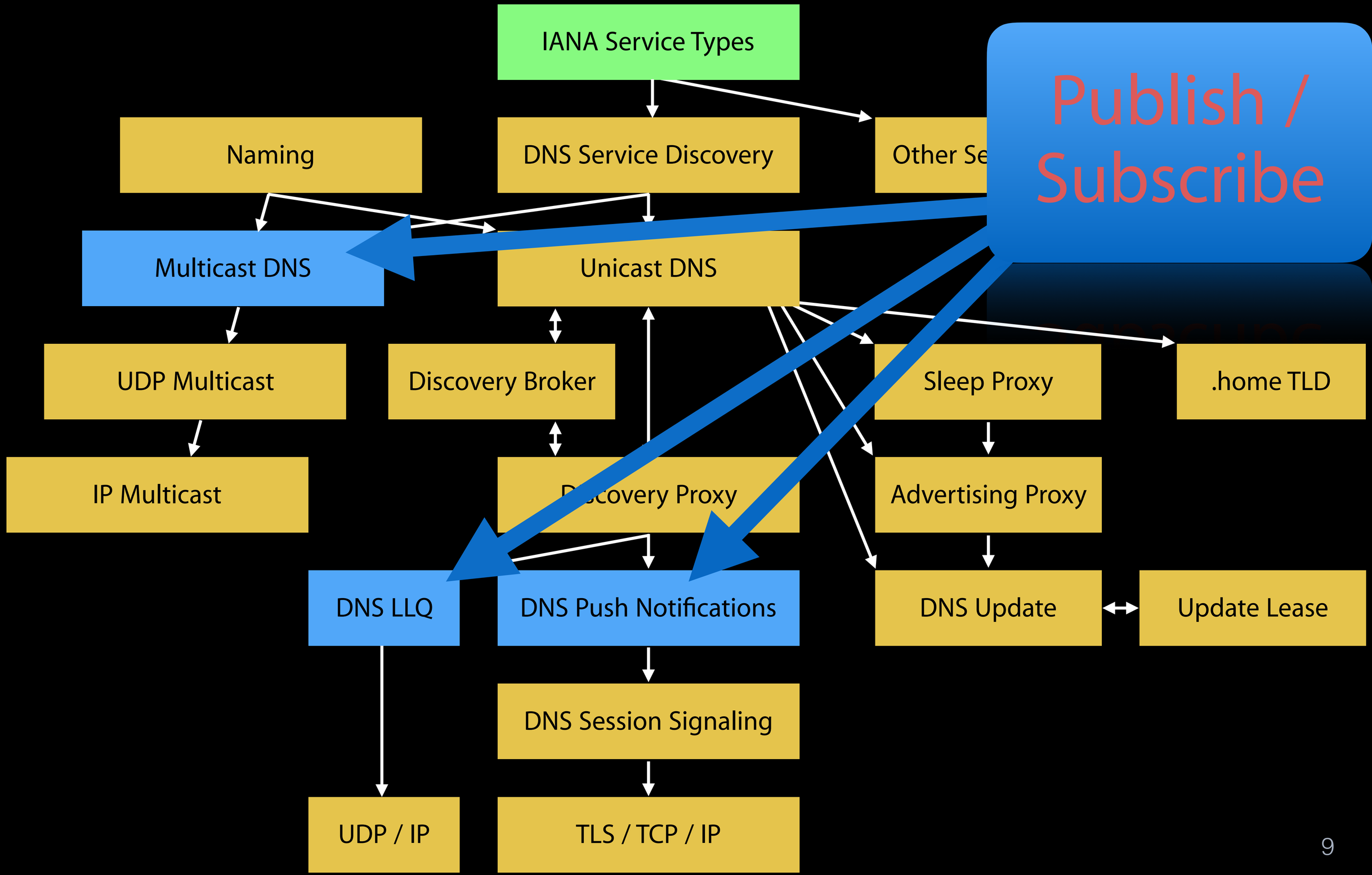
- Could build on Discovery Proxy to check for duplicate names on related links
- Could result in n^2 bilateral connections between all Discovery Proxies on related links
- But, maybe not a problem, if *n* is small

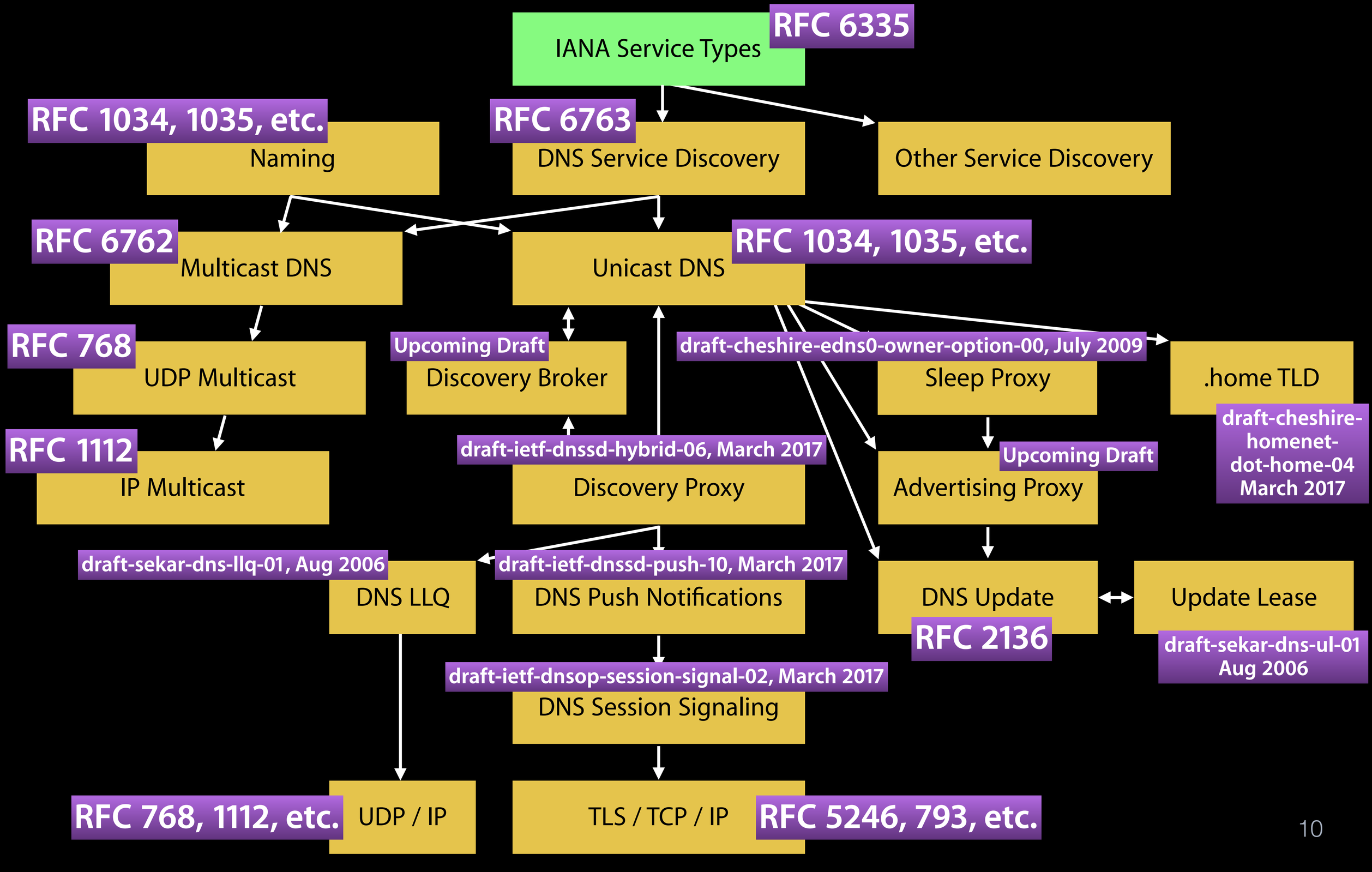
DNSSD Roadmap

There are getting to be a lot of parts here

Enough that we need an overview document


IANA Service Types
Naming
DNS Service Discovery
Other Service Discovery
Multicast DNS
Unicast DNS
UDP Multicast
Discovery Broker
Sleep Proxy
.home TLD
IP Multicast
Discovery Proxy
Advertising Proxy
DNS LLQ
DNS Push Notifications
DNS Update
Update Lease
DNS Session Signaling
UDP / IP
TLS / TCP / IP


IANA Service Types
Naming
DNS Service Discovery
Other Se
Publish / Subscribe
Multicast DNS
Unicast DNS
UDP Multicast
Discovery Broker
Sleep Proxy
.home TLD
IP Multicast
Discovery Proxy
Advertising Proxy
DNS LLQ
DNS Push Notifications
DNS Update
Update Lease
DNS Session Signaling
UDP / IP
TLS / TCP / IP


IANA Service Types
RFC 6335
RFC 1034, 1035, etc.
Naming
RFC 6763
DNS Service Discovery
Other Service Discovery
RFC 6762
Multicast DNS
Unicast DNS
RFC 1034, 1035, etc.
RFC 768
UDP Multicast
Upcoming Draft
Discovery Broker
draft-cheshire-edns0-owner-option-00, July 2009
Sleep Proxy
.home TLD
draft-cheshire-homenet-dot-home-04 March 2017
RFC 1112
IP Multicast
draft-ietf-dnssd-hybrid-06, March 2017
Discovery Proxy
Upcoming Draft
Advertising Proxy
draft-sekar-dns-llq-01, Aug 2006
DNS LLQ
draft-ietf-dnssd-push-10, March 2017
DNS Push Notifications
DNS Update
RFC 2136
Update Lease
draft-sekar-dns-ul-01 Aug 2006
draft-ietf-dnsop-session-signal-02, March 2017
DNS Session Signaling
RFC 768, 1112, etc.
UDP / IP
TLS / TCP / IP
RFC 5246, 793, etc.

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