Homenet Naming
Architecture Update

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Thought about doing something super-clever.
It's too hard.
So just require a global name and a delegation for DNSSEC
DS should have the public keys of all of the HNRs
HNR master for securely delegated zone signs with its own key
If no stateful primary, every HNR signs zones it publishes.
So we need an internal delegation for each per-link zone.
No DNSSEC for reverse mappings.
I think this works, would be nice to get some review.
Global Domain Name

- Mechanism similar to DNSSD SRP gets global domain name
- Relies on the ISP providing this service
- Or configure HNR with a domain in which to register
- Or manually configure HNR with a domain name
- Delegated names generated automatically by the registration server (unless chosen by the user)
- HNRs do not answer queries for the homenet domain from hosts not on the homenet
Publication of Names

- Can be handled by Discovery Proxies
- All HNRs must support Discovery Proxies, because mDNS
- Can also be done with stateful authoritative service
- Stateful requires DNSSD SRP, and is not MTI for HNRs
- How link names are generated is now specified in detail
- If there is more than one stateful server
  - Secondaries do zone transfers from primaries
  - When a primary goes away
    - A new one is elected from the remaining secondaries
    - Lost state can be recovered through SRP renewals
The homenet TLD (default home.arpa) contains delegations to HNRs for per-link subdomains they proxy.

If the homenet TLD is stateful, then only HNRs that support stateful will be used to resolve names directly under it.

If it's stateless, every HNR can answer for the TLD.

The per-link delegations are determined using HNCP.

We used to require each HNR to act as a discovery broker.

Now we require each HNR to have a special DNS proxy.
HNR DNS Resolver

- Looks at the domain to see how to resolve it
- If it's local, resolves it locally
- If it's non-local, forwards it to the ISP
- This needs to be a recursive resolver because recursion is required for answers on the homenet
- This could also be done with a discovery broker
- Multiple Provisioning Domains
  - Uses an EDNS0 option to indicate which PVD to use
  - Hosts that don't support this option are round-robined across ISPs
Remaining Issues

- I think the document is mostly complete as an architecture
- We need a section with normative language that specifies all of the behaviors for implementors
- There's a lot of innovation here
- We need (at least one) implementation to shake out issues
- Who's going to do it?