DNS Outsourcing Infrastructure

-front-end-naming-delegation, -naming-architecture-dhc-options

2021-04-23 homenet interim meeting

Migault, Richardson, Hunter et al.
Summary

Changes on -front-end-naming-delegation

- uniform terminology
- clarification (DNS message used to provide information to the DM)
- information model to configure the HNA (Thanks Carsten!)
- remove unnecessary text ( - 5 pages )

Changes on -naming-architecture-dhc-options

- synchronize the configuration parameters provided by the DHCP Options with the information model
- remove unnecessary DHCP Options
- add a IANA / Security consideration section (Thanks Bernie!)

We believe both drafts are ready for WGLC.
Channels between the HNA and the DM

Distribution Channel (out of scope)

Synchronization Channel (Primary / Secondary DNS)

Control Channel runs over DNS over TLS

- HNA retrieves AXFR responses from the DM (NS, AAAA, A, SOA)
- HNA sends DNS updates to the DM (secondary, DS, STOP)
Information Model for Outsourced information

```javascript
hnsc-configuration = {
  "registered_domain" : tstr,
  "dm" : tstr,
  ? "dm_transport" : "53" // "DoT" // "DoH" // "DoQ"
  ? "dm_port" : uint,
  ? "dm_acl" : hna-acl // [ +hna-acl ]
  ? "hna_auth_method" : hna-auth-method
  ? "hna_certificate" : tstr
}
```
Configuration using DHCP

ISPs have a **special** place in this eco-system

- handling ip.ip6.arpa
- already assigning names to homenets
- (sometime) provide / manage the CPE
DHCP Client

DHCP Request ---->
ORO(OPTION_REGISTERED_DOMAIN
    OPTION_DIST_MASTER
    OPTION_REVERSE_DIST_MASTER)

<----- DHCP Response
    OPTION_REGISTERED_DOMAIN
    OPTION_DIST_MASTER
    OPTION_REVERSE_DIST_MASTER)
Thanks!