DNS-SD via GRASP IETF101

draft-eckert-anima-grasp-dnssd-00

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Since IETF100

- Background:
  - Wanted to have "as flexible as DNS-SD" GRASP service announcement specifically for BRSKI/EST server. But bloated spec. Removed from BRSKI/ACP draft. Only most basic GRASP service announcement.
  - Full proposed framework in this draft.
- Presented to DNS-SD WG after ANIMA IETF100
  - Well received. Concept correct: Map the DNS-SD service data efficiently onto transport (GRASP). DO NOT ENCAPSULATE DNS-SD MESSAGES.
- Brian Carpenter built prototype for GRASP verifying the proposed formatting works.

- Lets talk strategy.
  - Use case slide shown to DNS-SD WG @ 100

Use cases

- Autonomic, required by ANI/ACP itself:
  - Bootstrap servers ("BRSKI").
    - ANI network devices provide bootstrap helper functionality. Connect to bootstrap servers.
  - Servers for renewal of keying material used to protect ANI/ACP ("EST" – RFC7030).
  - … more in future

- Traditional OAM model:
  - Variety of services in NOC to be discovered by (all or many) network devices to auto-configure those services – and provide automatic server failover:
    - Syslog
    - Time (NTP)
    - Netconf (call-home)
    - DHCP server, DNS server
    - Radius, Diameter, Tacacs (authentication servers)
    - WiFi controller (for AP devices)
    - IPfix, any other data collection export
    - tftp ("yuck")
    - List goes on…

Strategy

- A) This draft can officially or inofficially expand service definitions for BRSKI/ACP to provide more flexibility in registrar/EST-server selection

- B) Want to write another draft (target normative) to list the most important of previous slide OAM services, automated via GRASP/DNS-SD service discovery
  - NTP, Radius/Diameter, syslog, IPfix, SSH/Netconf,…
  - Servers in NOC, with ACP and/or "autonomic connect", announce via GRASP.
  - ACP devices autoconfigure their OAM services
  - Can of course have multiple servers different priorities (all part of DNS-SD parameters).
- Scope / goal of the draft:
  - IMHO: standards part missing from ANI to complete the "stable connectivity" use case. (Current stable connectivity draft is about the concept (like reference model for an). ANI does do pretty much everything for stable-connectivity – except establish a base standard of NOC integration with ANI – that scope of that draft.
  - Should be fairly small 10..20 pages most (I hope).
- Q: when existing NTP-client, radius-client,… are expanded via automatic server discovery via GRASP/DNS-SD/ANI…
  - Does that make them ASA ?
  - IMHO: yes. Smallest, most pragmatic ASA.
    Automatically started, automatically connecting to their server in the NOC.

Strategy (2)

- Hybrid mDNS/DNS-SD unicast solutions considered in IETF.

- Could consider building non-ANI GRASP instance with mDNS <->GRASP/DNS-SD gateway as another option

- Currently below the line for me

  - Might also be better done for different WG, no ANIMA

First step

- Opinions, feedback, co-authors ?

- Asking for working group adoption of this draft.