

ANIMA DNS-SD compatible services auto configuration

draft-eckert-anima-grasp-dnssd-04
draft-eckert-anima-services-dns-autoconfig-02

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Summary

- Only Refresher
- Documents quite stable
 - Content/functionality, not necessarily text quality
- Please read the documents

draft-eckert-anima-services-dns- autoconfig

- How to get towards a completely autoconfigured ANI network
 - ANI: BRSKI + ACP
 - RFC8368: Up to the point that a controller can configure network via ANI
- Not too difficult:
 - Just a couple of central services:
 - NOC operator starts services. ANI networks learns them via GRASP
 - Syslog, NTP, Radius/Diameter, SSH (for NetConf/CLI). More ?
 - Should work without DNS – but DNS server often convenience

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- Draft does describe this model
- Want to allow redundant servers for reliability
- On every router: services Syslog, NTP, Radius/Diameter, SSH
 - Started and using GRASP information to auto-configure their NOC service side.
- Do not reinvent the wheel:
 - Service announcements from NOC should use DNS-SD
 - Only carried over GRASP because it fits better
 - This is subject of second draft.

draft-eckert-anima-grasp-dnssd

- draft-eckert-anima-grasp-dnssd
- In DNS data for a single service is split across 4++ messages (“Resource Records”)
 - AAAA, CNAME, PTR, SRV, TXT, ...
- Unicast DNS discovering service requires multiple round-trips (when no cache)
- mDNS somewhat better, but still request/reply round-trips involved
- In GRASP, all service instance parameters are just one GRASP objective message
 - Can easily add standard/custom parameters as well.
 - If Objective name is SRV.<name>, then <name> must be an IANA registered service name. Aka: reuse existing registry!

```
[M_FLOOD, 12340815,
  h'fd89b714f3db0000200000064000001', 210000,
  ["SRV.syslog", 4, 255,
    { rfcXXXX: {
      &(sender-loop-count:1) => 255,
      &(srv-element:2) => {
        &(msg-type:1) => &(describe: 0),
        &(service:2)  => "syslog",
        &(instance:3) => "east-coast-primary",
        &(priority:5) => 0,
        &(weight:6)   => 65535,
        &(kvpairs:7)  => { "replicate" => 2 },
        &(range:8)   => 2,
      }
    }
  ],
  [O_IPv6_LOCATOR,
    h'fd89b714f3db0000200000064000001', TLS12,
    514]
]
```

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- Not only useful for ANI. Also for non-ANI network!
- Example IoT networks that do not yet use mDNS
 - Define services to be discovered via DNS-SD
 - Example: “pledge”, “registrar” discovery for BRSKI-PRM
 - Later decide in some network not to use mDNS, but GRASP as transport !!!

Benefit of GRASP over mDNS

- Much simpler message format/exchanges than mDNS
- Single Message format for a service (mDNS: multiple Resource Records)
- Can easily work across L3 domain (mDNS only easily across L2 domain)

Ask

- Would like to see adoption call for these two drafts