

IPv6 “Stateless” Resolver Autoconfiguration

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What DDDT recommended

- Use “other stateful config” bit = OFF to enable the following
- Use IPv6 anycast to get server list, domain name, and search path
- Use DNS for the payload format
 - See if SRV records would work
 - If not, try TXT or new record type
 - Keep to only 1 message exchange

Summary of Interim Meeting

- Presented a strawman SRV record approach
- Got general agreement on how queries work
 - can have per-site default information
 - can have subnet-specific overrides
- Some people didn't like creative use of SRV
 - Server list, domain name, and search path were encoded as targets with separate “dnsinfo” ports
- Feedback: go ahead and try TXT or new record instead

Current Status

- Document split into two pieces:
 - DDDT discussion of solution space
 - draft-ietf-ipngwg-dns-discovery-analysis-00.txt
 - Type: Informational
 - Single solution details
 - draft-ietf-ipngwg-dns-discovery-02.txt
 - Type: Standards track
 - This version specifies TXT records

TXT Record Basics

- Summary:
 - Specified in RFC 1464
 - <attributename>=<attributevalue> pairs
 - Works with existing DNS servers
- Example:
 - host.widgets.com IN TXT “printer=lpr5”

Specifying resolver config info

- DNS Server list:
 - “dnsservers=<*address*>[,<*address*>]*”
- Domain name:
 - “domainname=<*domain*>”
- Search path:
 - “searchpath=<*domain*>[,<*domain*>]*”

“Owner” strings for records

- Basically what was discussed in Seattle
 - <subnet>.<well-known-suffix>
- Allow site-wide defaults
 - *._dnsinfo IN TXT “domainname=example.com”
- Allow per-subnet overrides
 - fec0_0000_0000_0001._dnsinfo
 - IN TXT “domainname=foo.example.com”

Autoconfiguration Process

- Select an on-link prefix
 - a) Any site local prefix (if present), then
 - b) Any global prefix (if present), then
 - c) Link-local prefix (last resort)
- Convert to lower-case literal with ‘_’ rather than ‘:’, and no zero compression
- Send a query for all TXT records using <subnet>.<well-known-suffix>

Questions

- Is this a reasonable approach?
- What well-known-suffix?
 - _dnsinfo.local.arpa?
 - _dnsinfo?
 - Other?

Other open issues

- Separate mDNS config from search path?
 - draft-guttman-dhc-mdns-enable-01.txt
 - “mdnsenable=...”
- Separate stateful config bit in RA's?
 - Could you use this to get DNS info, but DHCPv6 for yet other stateful config?

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