

ALTO Server Discovery Protocol

[draft-kiesel-alto-3pdisc-05.txt](#)

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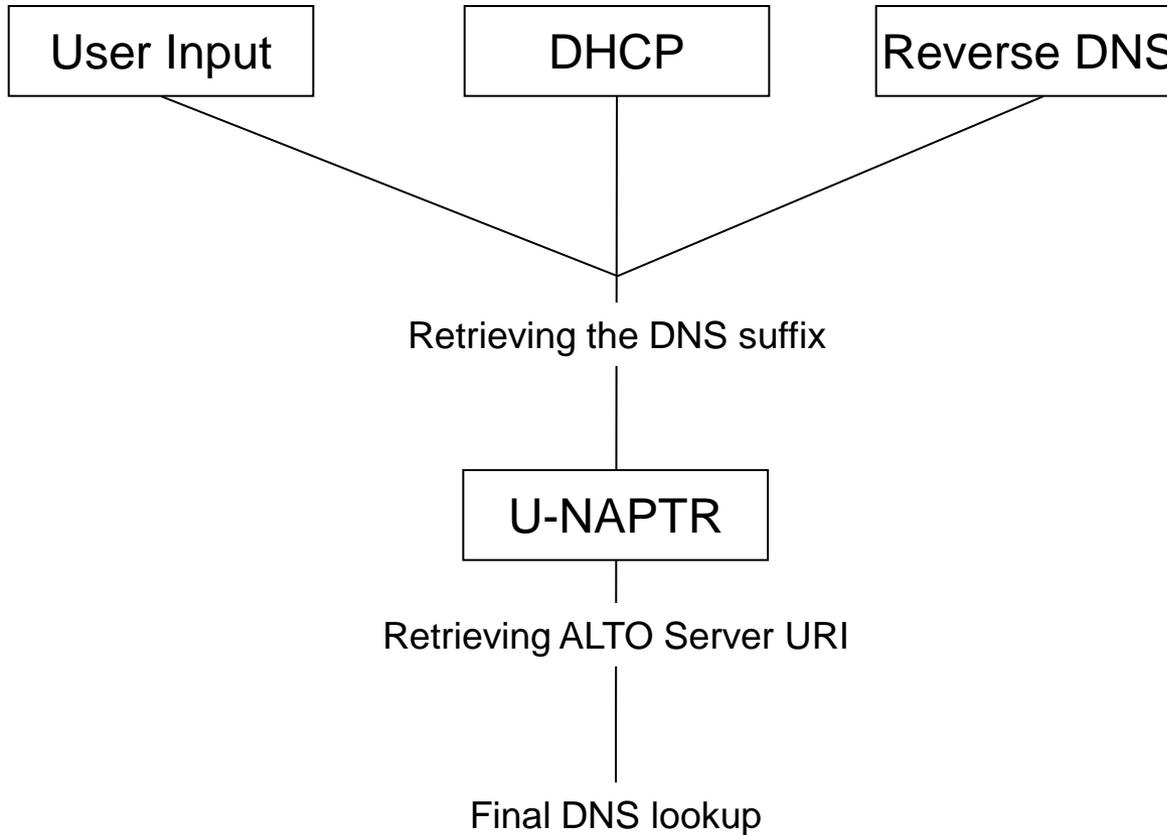
Outline

- History
- Protocol Overview
- Retrieving the Server URI by U-NAPTR
- Retrieving the Domain Name
- Deployment Considerations
- Conclusion

History

- Document represents merge of two previous drafts
 - draft-kiesel-alto-3pdisc-04
 - draft-song-alto-server-discovery-03
- Modifications
 - Added discovery scenario descriptions
 - Removed option to retrieve server URI by DHCP
 - Stop shortening of result of DNS reverse lookup after one iteration
 - Added deployment considerations

Protocol Overview



Retrieving the URI by U-NAPTR

- U-NAPTR [RFC4848] Resolution for retrieval of ALTO Server URI in case of DHCP deployment issues based on `draft-stiemerling-alto-dns-discovery-00.txt`
- 2 Steps:
 - Retrieve domain name of access network
 - Retrieve ALTO Server URI through U-NAPTR resolution
- `draft-kiesel-alto-3pdisc-05.txt` specifies DNS entries for HTTP and HTTPS:

```
example.com.  
IN NAPTR 100 10 "u" "ALTO:https"  
"!.*!https://altoserver.example.com/secure!" ""  
IN NAPTR 200 10 "u" "ALTO:http"  
"!.*!http://altoserver.example.com!" ""
```

Retrieving the Domain Name

- Access network domain name required as input for U-NAPTR
- Option 1: User Input
 - Allow user configuration of third party ALTO server instance
 - User specifies DNS suffix (e.g. `myaltoprovider.com`)
 - Use IP address as prefix (e.g. `d.c.b.a.myaltoprovider.com`)
 - Shorten domain name until successful U-NAPTR lookup
 - `d.c.b.a.myaltoprovider.com`
 - `c.b.a.myaltoprovider.com`
 - `b.a.myaltoprovider.com`
- Option 2: DHCP
 - Use DHCP option to retrieve access network domain name [RFC5986]
- Option 3: Reverse DNS Lookup
 - Resolve IP address to FQDN through DNS PTR lookup (e.g. `d-c-b-a.dsl.westcoast.myisp.net`)
 - Shorten FQDN name **for one succeeding** U-NAPTR lookup

Deployment Considerations

- Private customers or small businesses
 - ISP provides DNS PTR lookup results, such as:
`p5B203EA1.dip.t-dialin.net.`
 - Then ISP needs to configure U-NAPTR entries for:
`dip.t-dialin.net.`
- Medium-size customer networks
 1. ISP `my-isp.net` assigns an IP address `a.b.c.d` to customer
 2. Customer decides reverse mapping for `a.b.c.d` is
`whatever.customerdomain.com`
 3. Customer asks ISP for URI of ISP's ALTO server, e.g.:
`http://altoserver.my-isp.net`
 4. Customer establishes U-NAPTR entry:
`customerdomain.com.`

```
IN NAPTR 200 10 "u" "ALTO:http"  
    "!.*!http://altoserver.my-isp.net!" ""
```
- Large customers
 - Have their own ALTO server and configure their DNS accordingly

Open Issues & Conclusion

- Open Issues
 - Reverse DNS lookup vor IPv6
 - Missing reverse DNS entries
 - Handling of multiple results
 - Suffix issues
- `draft-kiesel-alto-3pdisc-05.txt`:
 - Merge between `draft-kiesel-alto-3pdisc-04` and `draft-song-alto-server-discovery-03`
 - Specification of DNS based discovery
 - Covers both, the "normal" and 3p discovery scenario
- Refine the specification
- Accept as a WG item?

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