# Yet another update on the AAAA lookup problem

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# AAAA lookup problems

Should return $\geq 0$ records. Problems listed in

`draft-ietf-dnsop-misbehavior-against-aaaa-01.txt`

Can cause inaccessibility, delays or sub-optimal caching.

On mailing lists NXDOMAIN or no reply seem most common.

Diagnosis is tricky for end users.

`www.cnri.dit.ie/cgi-bin/check_aaaa.pl`

# Since last RIPE

- Talked on DNS WG list about how to increase awareness of the issue. Jaap suggested submitting an article to Cisco's Internet Protocol Journal, which has been published in March 2005 issue.

- Script previously didn't identify name servers that responded, but returned mangled response (eg. sizeof(AAAA record) != 128bits). Thanks to feedback, these are now identified.

- Updated survey results April 2005.

# Results by name

| Names with | Jan'04 | % | Apr'04 | % | Aug'04 | % | Mar '05 | % |
|---|---|---|---|---|---|---|---|---|
| answered | 22863 | | 29287 | | 24776 | | 29820 | |
| AAAA records | 42 | .18 | 54 | .18 | 55 | .22 | 94 | .32 |
| a ns that times out | 102 | .45 | 113 | .39 | 73 | .29 | 160 | .54 |
| a ns that returns MALFORM | | | | | | | 5 | .02 |
| a ns that returns NOTIMP | 6 | .03 | 4 | .01 | 2 | .01 | | |
| a ns that returns NXDOMAIN | 16 | .07 | 24 | .08 | 11 | .04 | 7 | .02 |
| a ns that returns REFUSED | | | 2 | .01 | 4 | .02 | 9 | .03 |
| a ns that returns 15 | | | 4 | .01 | 2 | .01 | 1 | .00 |
| a ns that returns SERVFAIL | 15 | .07 | 23 | .08 | 2 | .01 | 18 | .06 |
| NO ns that respond correctly | 107 | .47 | 100 | .34 | 66 | .27 | 89 | .30 |
| a ns that has any issue | 139 | .61 | 170 | .58 | 94 | .38 | 198 | .66 |

Number of working AAAA growing.

Several new ads.example.com type names.

Found some malformed.

# Results by nameserver

| Nameservers that | Jan'04 | % | Apr'04 | % | Aug'04 | % | Mar'05 | % |
|---|---|---|---|---|---|---|---|---|
| answered | 16838 | | 20631 | | 17934 | | 20233 | |
| returned AAAA records | 105 | .62 | 123 | .60 | 118 | .66 | 175 | .86 |
| timed out on AAAA | 64 | .38 | 49 | .24 | 36 | .20 | 37 | .18 |
| return MALFORM on AAAA | | | | | | | 8 | .04 |
| return NOTIMP on AAAA | 8 | .05 | 9 | .04 | 2 | .01 | | |
| return NXDOMAIN on AAAA | 11 | .07 | 19 | .09 | 11 | .06 | 9 | .04 |
| return REFUSED on AAAA | | | 4 | .02 | 5 | .03 | 12 | .06 |
| return 15 on AAAA | | | 3 | .01 | 2 | .01 | 1 | .00 |
| return SERVFAIL on AAAA | 14 | .08 | 23 | .11 | 2 | .01 | 17 | .08 |
| have any issue with AAAA | 97 | .58 | 107 | .52 | 58 | .32 | 84 | .42 |