

# DNS with IPv6

## Networks Three

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# IPv6 WORKS WITH DNS

- ▶ It is possible to integrate IPv6 DNS resources together with existing IPv4 ones.
- ▶ Only one new resource record type is required.
- ▶ Reverse zones work in a similar way.
- ▶ Recent versions of the main DNS servers are compatible with IPv6.

# INITIAL CONSIDERATIONS

- ▶ Your DNS servers need IPv6 connectivity.
- ▶ Your domain name registrar needs to support IPv6.<sup>1</sup>
- ▶ Your TLD needs to support IPv6. (.nz does)

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<sup>1</sup>See [http://dnc.org.nz/content/srs\\_registrar\\_list.html](http://dnc.org.nz/content/srs_registrar_list.html)

# CONFIGURING DNS

- ▶ Ensure that your NS records point to servers with IPv6 addresses as well as IPv4 addresses.
- ▶ Configure your DNS servers to listen on IPv6 interfaces, e.g.:  
`listen-on-v6 { any; }` in `named.conf`.

## FORWARD LOOKUP: AAAA

The IPv6 equivalent of an A record is an AAAA record:

```
gredo IN A 2402:6000:0:101::83cb:30a
```

For machines that have both IPv4 and IPv6 addresses, be sure that you have distinct A and AAAA records for them, e.g. `gredo.ip4` and `gredo.ip6`.

## REVERSE LOOKUP

Reverse lookup is a wee bit more complicated. for example, suppose our network is 2400:330A:0:118/64  
What is the reverse zone?

2400:330A:0:118/64

1. Expand the network address: 2400:330A:0000:0118
2. Reverse the characters and put dots between them  
8.1.1.0.0.0.0.0.A.0.3.3.0.0.2.4
3. Append .ip6.arpa

So the zone is 8.1.1.0.0.0.0.0.A.0.3.3.0.0.2.4.ip6.arpa.

## PTR RECORDS

PTR records work the same way in IPv6. Since the resulting names get very long, so you want to abbreviate.

```
a.0.3.0.b.c.3.8.0.0.0.0.0.0.0.0      IN      PTR      gredo.example.co
```

There are some online tools that will help you generate these entries, e.g.: <http://rdns6.com/zone>.