

IPv6 Name Resolution

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Outline

- DNS review
- DNS extension for IPv6
- BIND9 installation and configuration

Errata

- Ch. 2 page 15
 - Wrong
zone "0.3.d.0.1.0.0.2.ip6.int."
zone "0.3.d.0.1.0.0.2.ip6.arpa."
 - Correct
zone "0.3.d.0.1.0.0.2.ip6.int"
zone "0.3.d.0.1.0.0.2.ip6.arpa"
- Ch. 2 page 16
 - Wrong
/etc/namedb/2001:0d30:0101:0001
 - Correct
/etc/namedb/2001:0d30.rev

DNS Review

- Mapping name to IP address, vice versa
- Hierarchical
 - gTLD
 - ccTLD
- Distributed database
- FQDN ends with . (dot)

DNS Extension for IPv6

- AAAA (read: *quad A*) forward lookup
ns1.ai3.net IN AAAA 2001:d30:102:1000::1001
 - PTR reverse lookup
 - nibble (4 bits) boundary
 - Original tree: ip6.int
 - New tree: ip6.arpa
- ```
$ORIGIN
0.0.0.1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.1.2.0.1.
0.0.3.D.0.1.0.0.2.ip6.int.
1 PTR ns1.ai3.net.
```

## BIND9 Installation

- DNS server implementation
- <http://www.isc.org/sw/bind/>
- We have a local copy in CD
  - Bind 9.2.3
- Mounting a CD
- As root

```
mount_cd9660 /dev/acd0c /mnt
```

## BIND9 Configuration Files

- /etc/namedb/named.conf
  - Specify when run named
- Minimum zones
  - “.”
  - Local PTR (v6 and v4)

### /etc/namedb/example.net

```
@ IN SOA dns. example. net. (
 postmaster ; administrator
 2004071401 ; serial
 3H ; refresh
 1H ; retry
 1W ; expiry
 1D) ; minimum
IN NS dns. example. net.

host1 IN AAAA 2001: d30: 101: 1: : 1
host2 IN AAAA 2001: d30: 101: 1: : 2
Host3 IN AAAA 2001: d30: 102: 1: : 1
```

# LAB WORK

## Exercise 1

# LAB WORK

## Exercise 2

## /etc/namedb/exercise.net

```
@ IN SOA dns. exercise.net. (
```

```
...
```

```
)
```

```
IN NS dns. exercise.net.
```

```
pc1 IN AAAA
```

```
pc2 IN AAAA
```