DNS - How it works

What is DNS

- Resolves a Fully Qualified Domain Name (FQDN) to an IP address
- Resolves an IP address to a FQDN
- Decentralize the management of records
- Hierarchical global access to the DNS servers

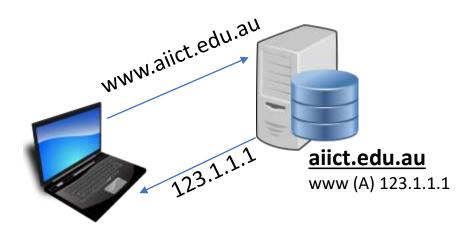
What is a Fully Qualified Domain Name

- www.microsoft.com.
 - This is an FQDN
 - Consists of two parts: Host Name, Domain Name
 - www.microsoft.com.
 - mail.aiict.edu.au.
 - The Host name is the name at the start
 - The Domain name is the rest of the address

How does DNS work

- DNS Client (Resolver)
 - Try to resolve FQDN locally first
 - Request resolution for a FQDN from a DNS server
- DNS Server
 - Do I own a zone that relates to the FQDN
 - Do I have a Cached answer that can help resolve the FQDN
 - Is there a Conditional Forwarder set for the FQDN
 - If there an Unconditional Forwarder set
 - Are Root Hints configured

DNS local resolution

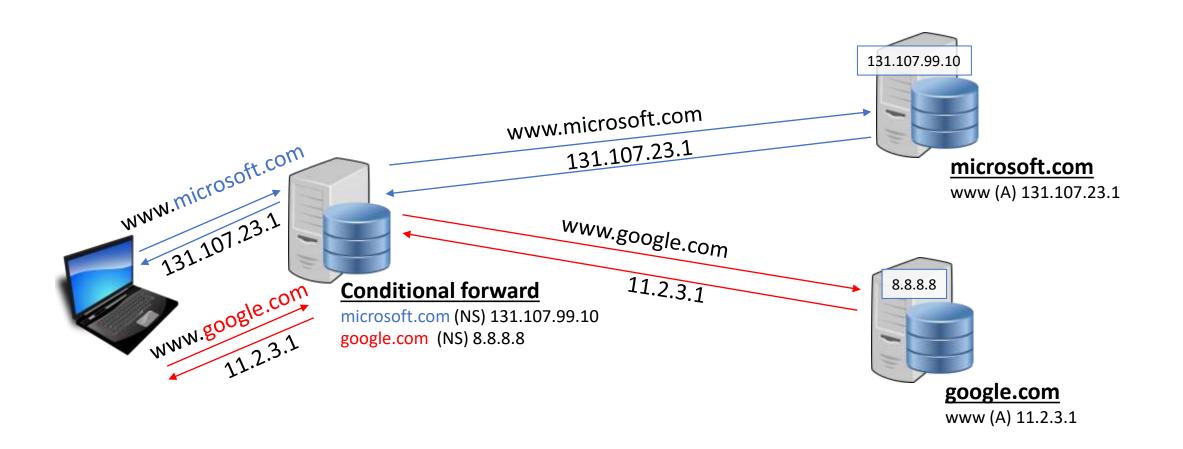


DNS local resolution from cache

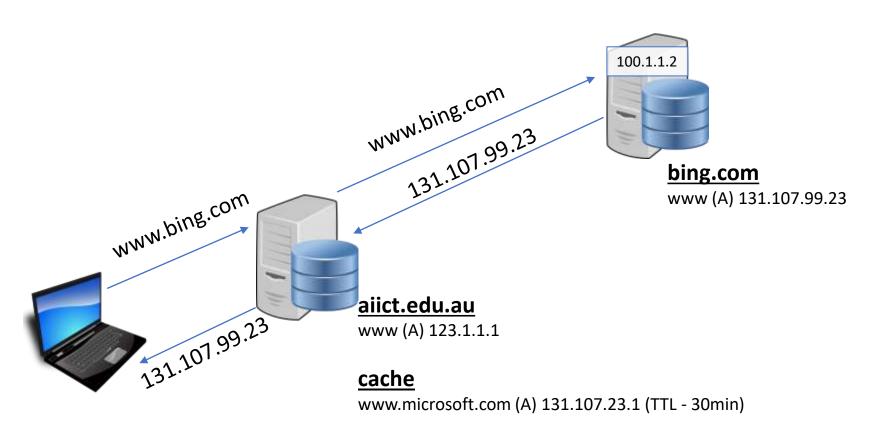


www.microsoft.com (A) 131.107.23.1 (TTL - 30min)

DNS resolution-conditional forwarding

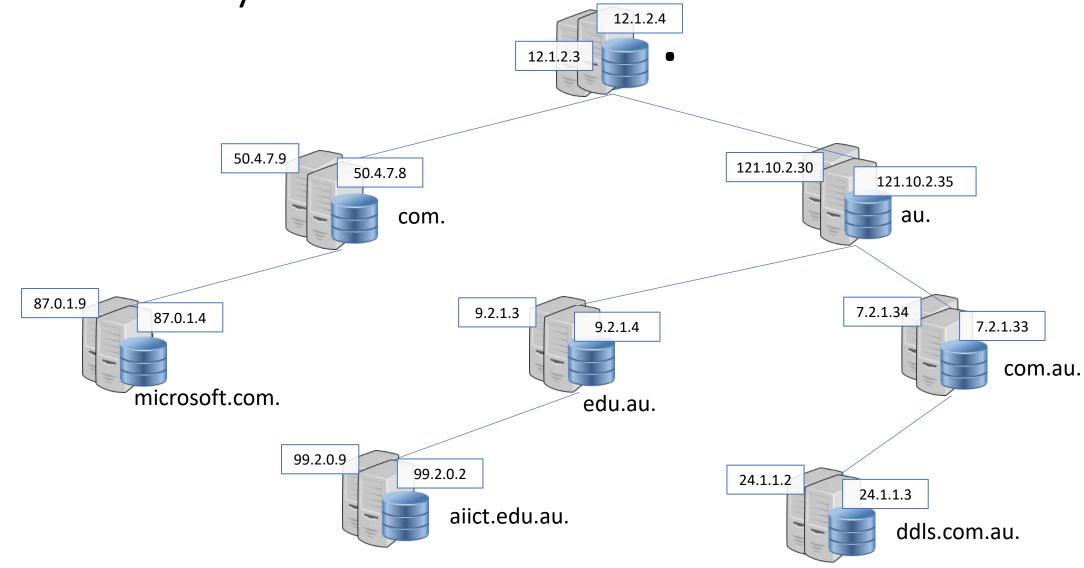


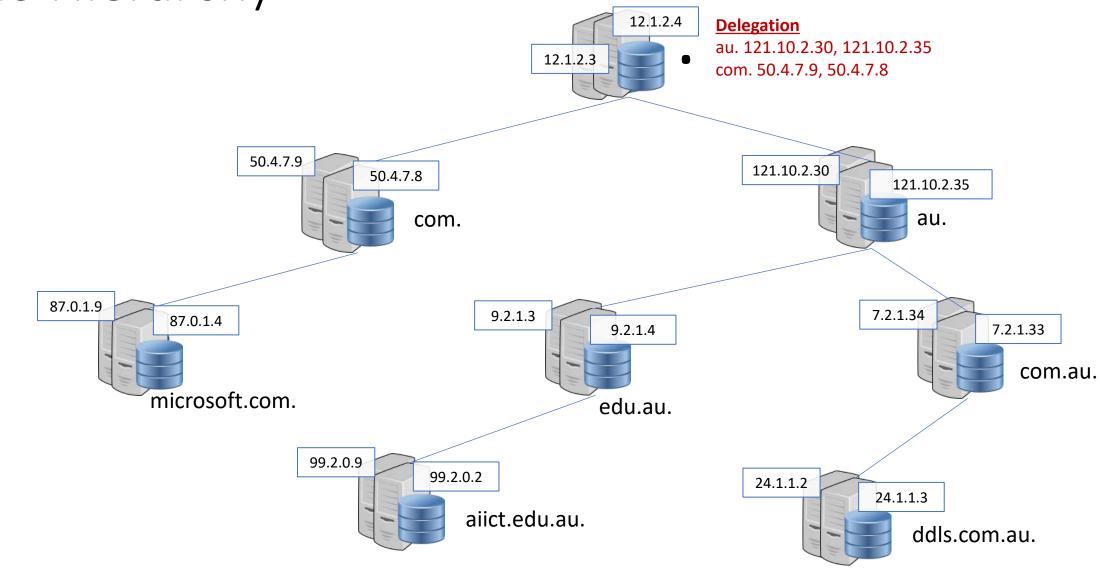
DNS resolution-unconditional forwarding

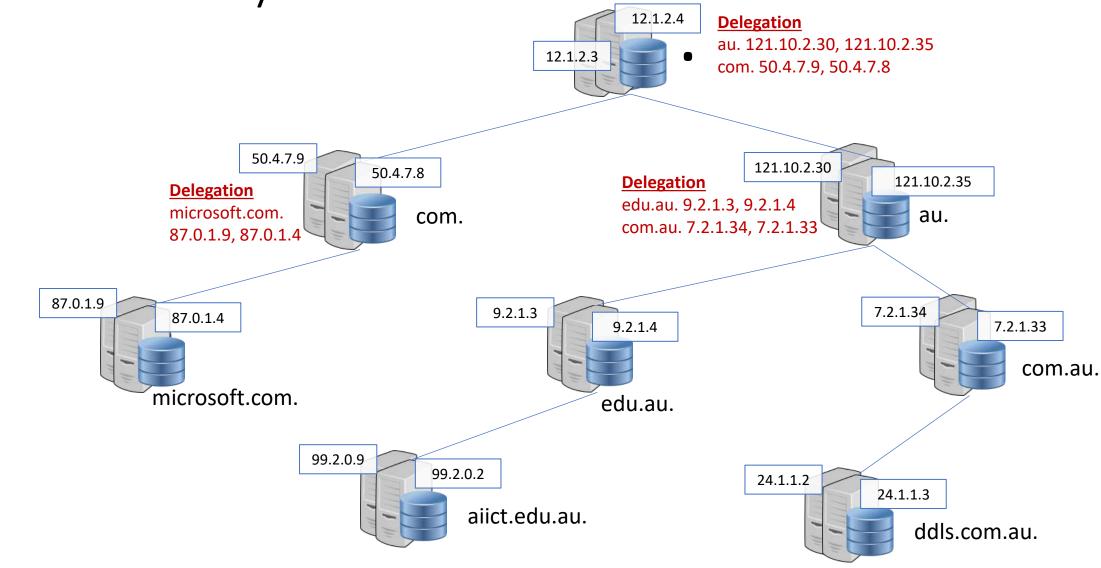


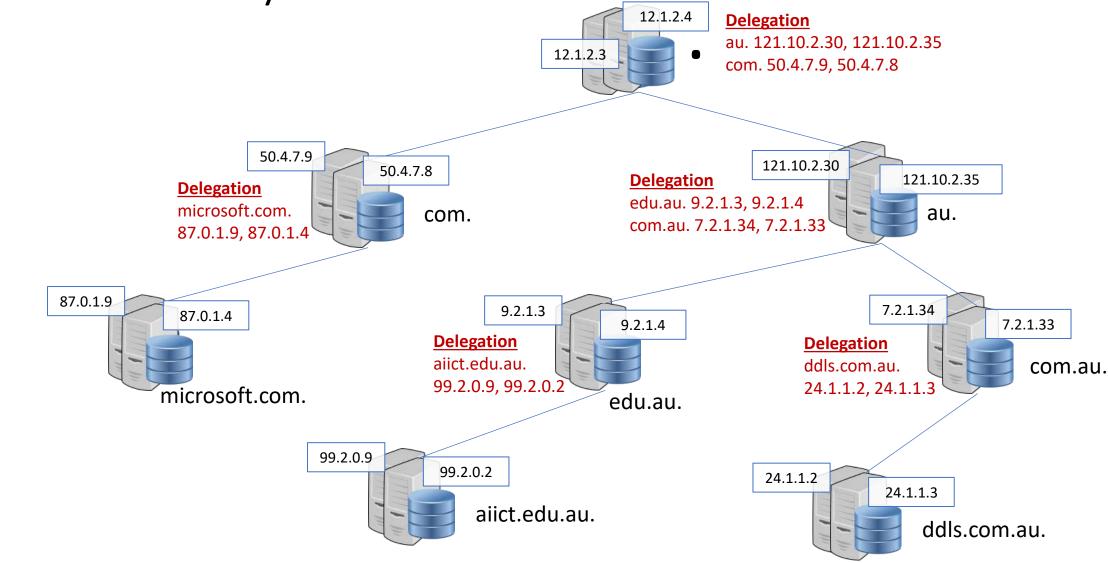
unconditionally forward

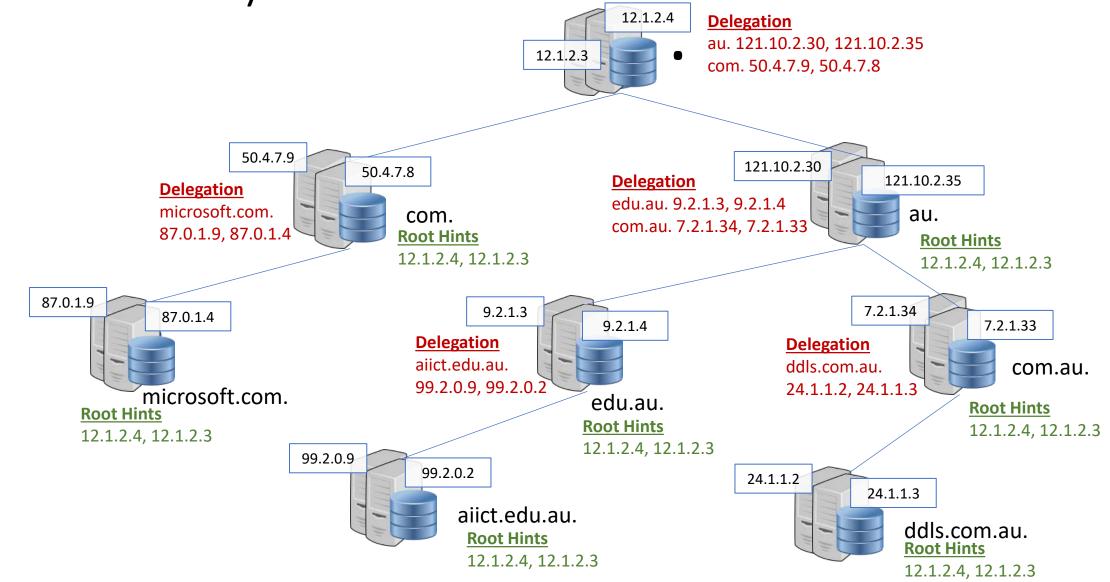
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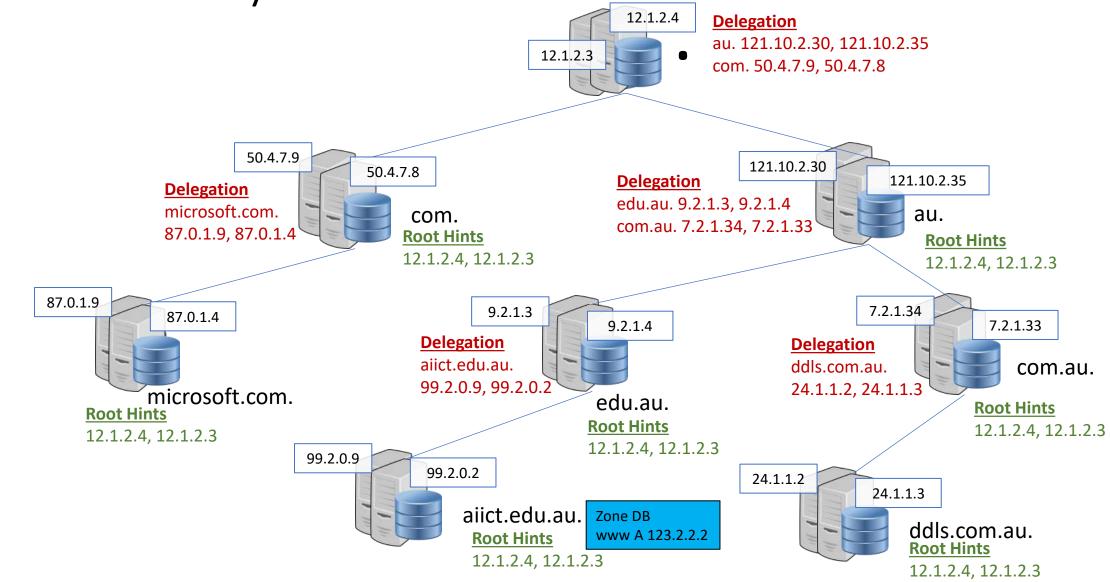


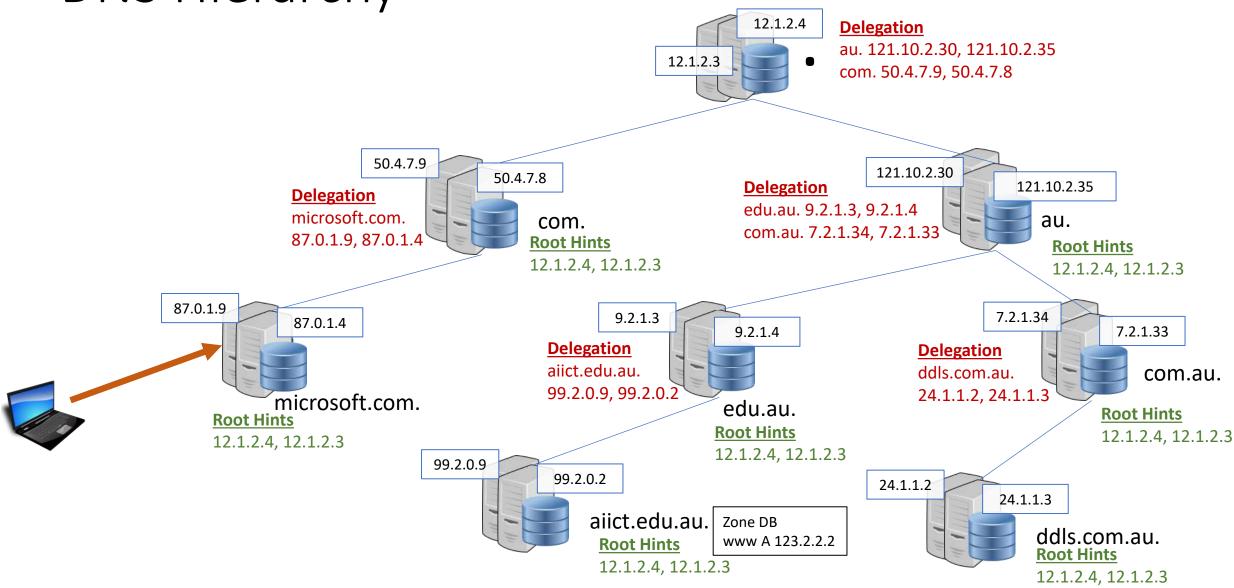


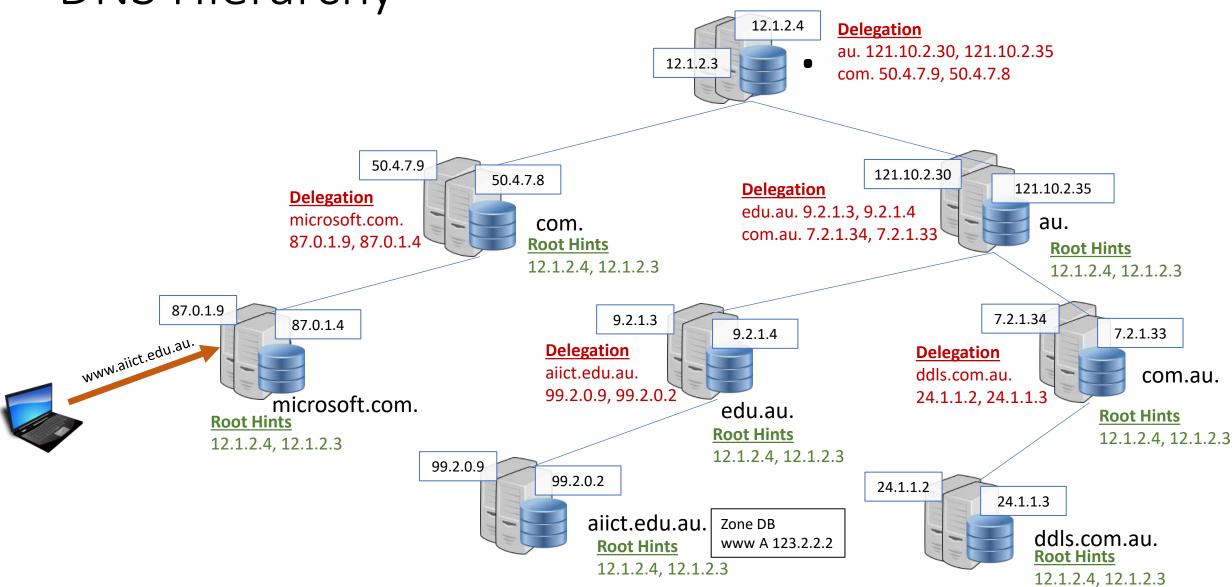


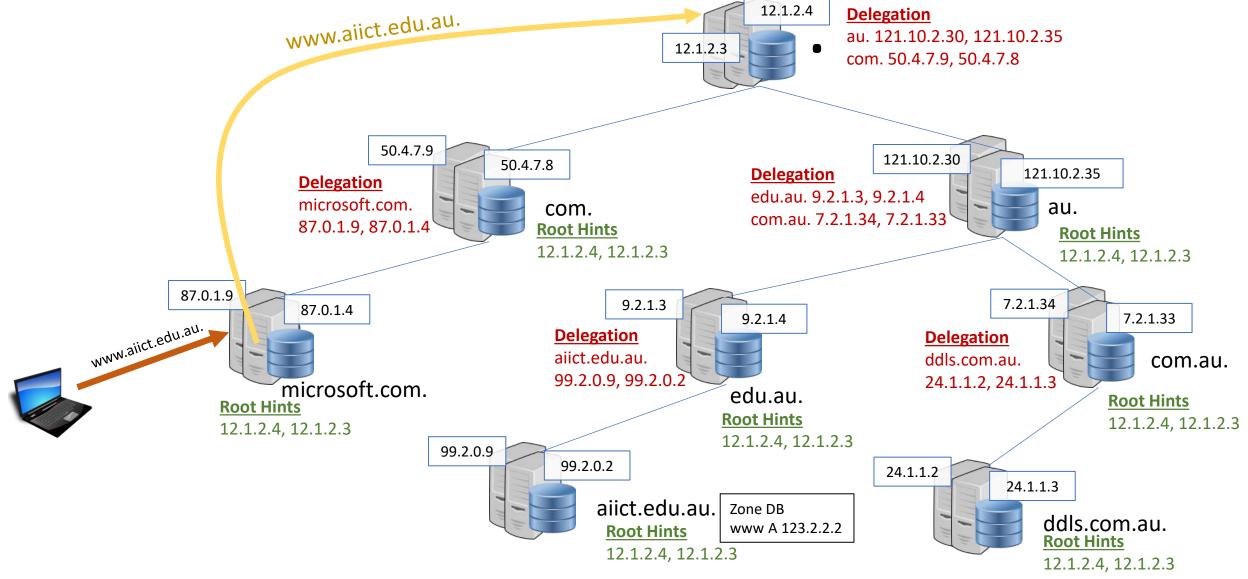


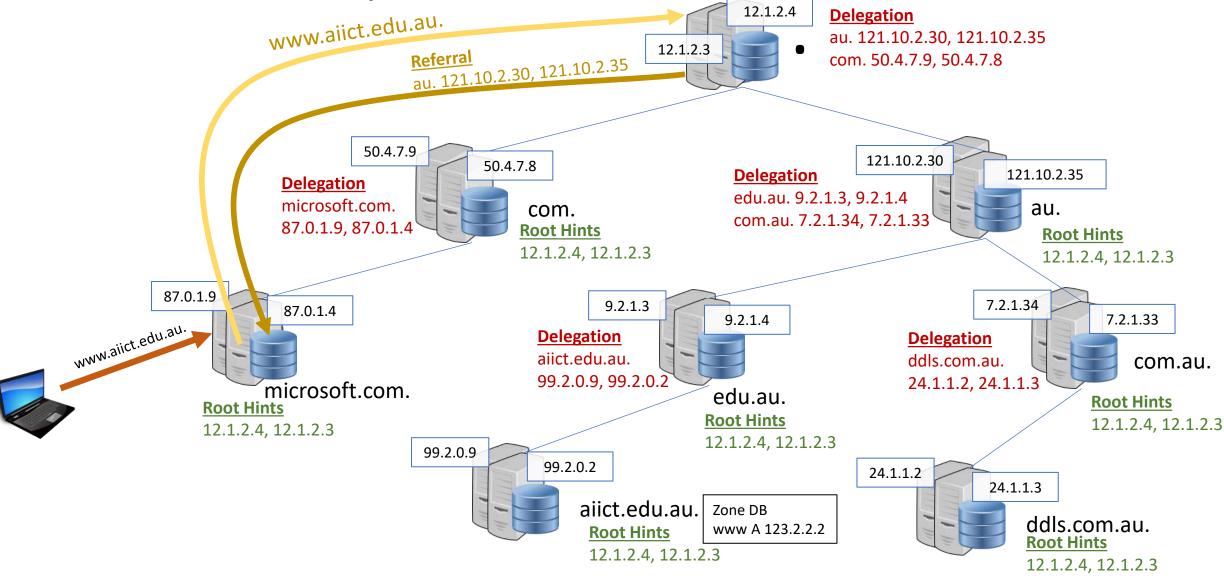


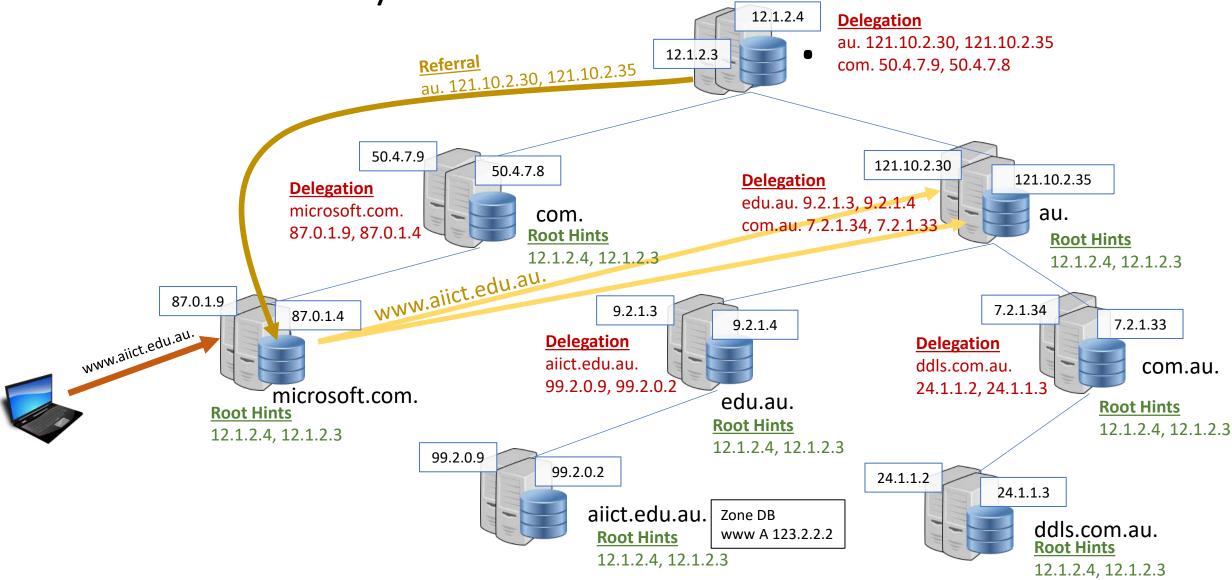


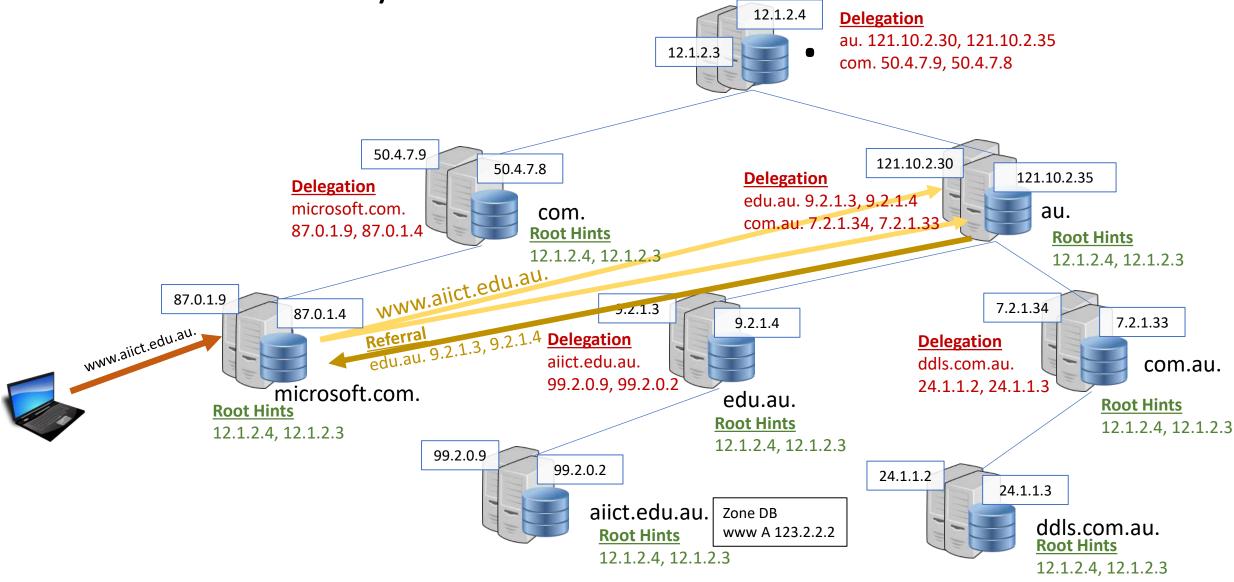


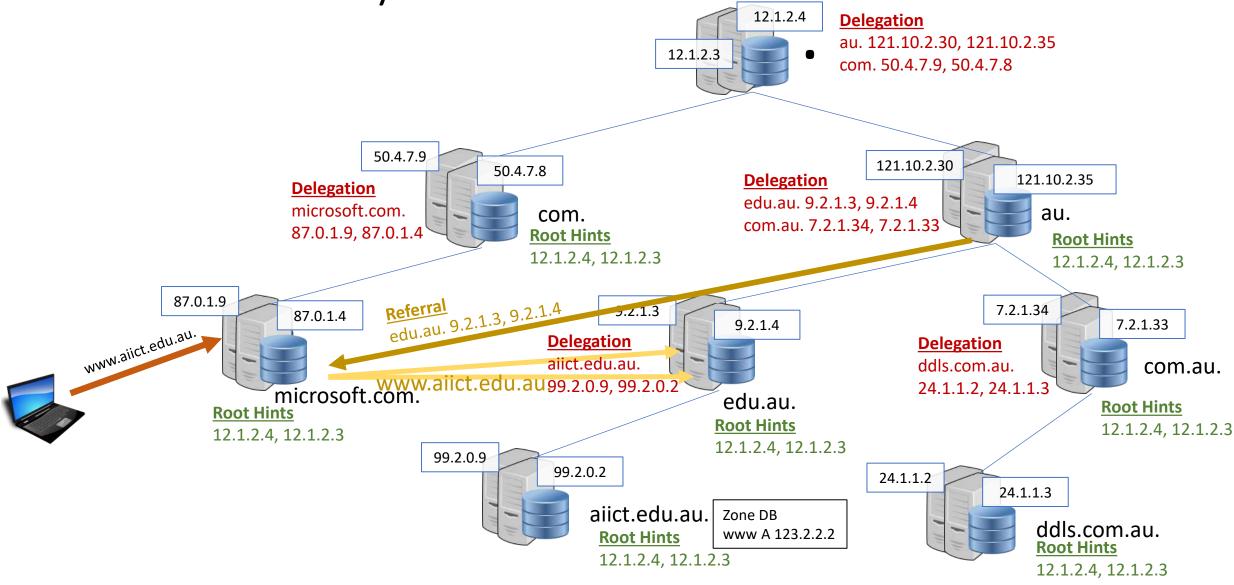


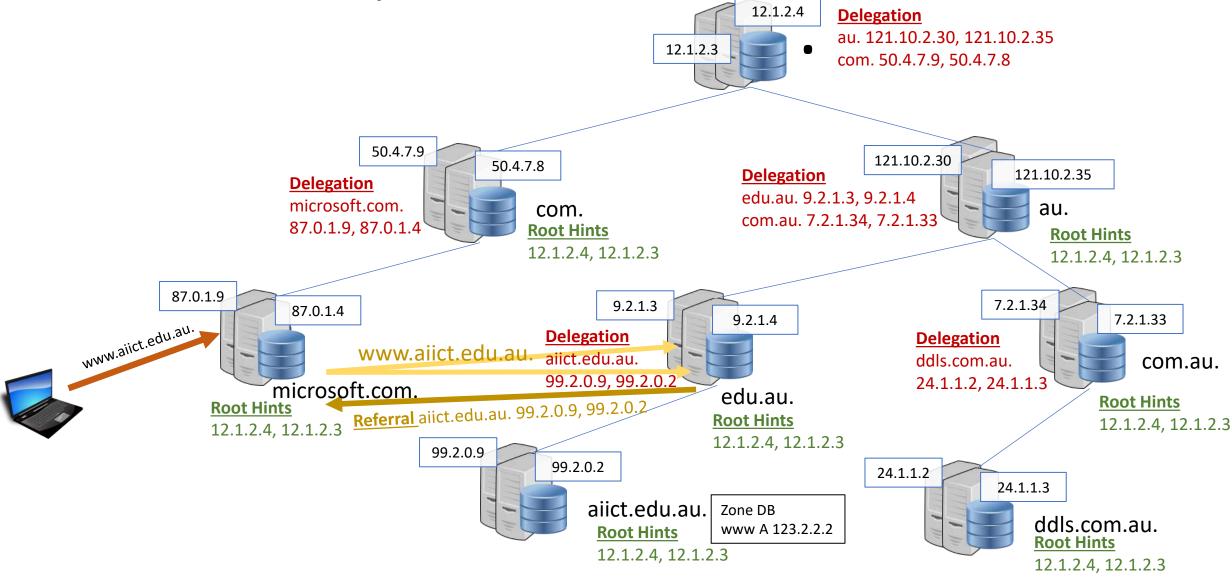


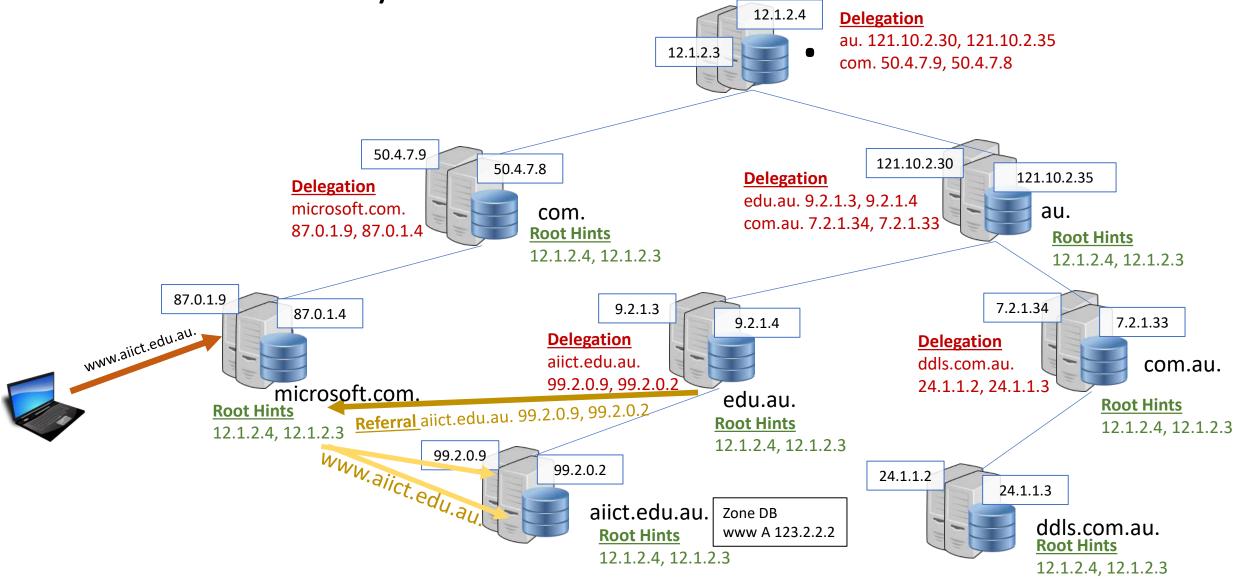


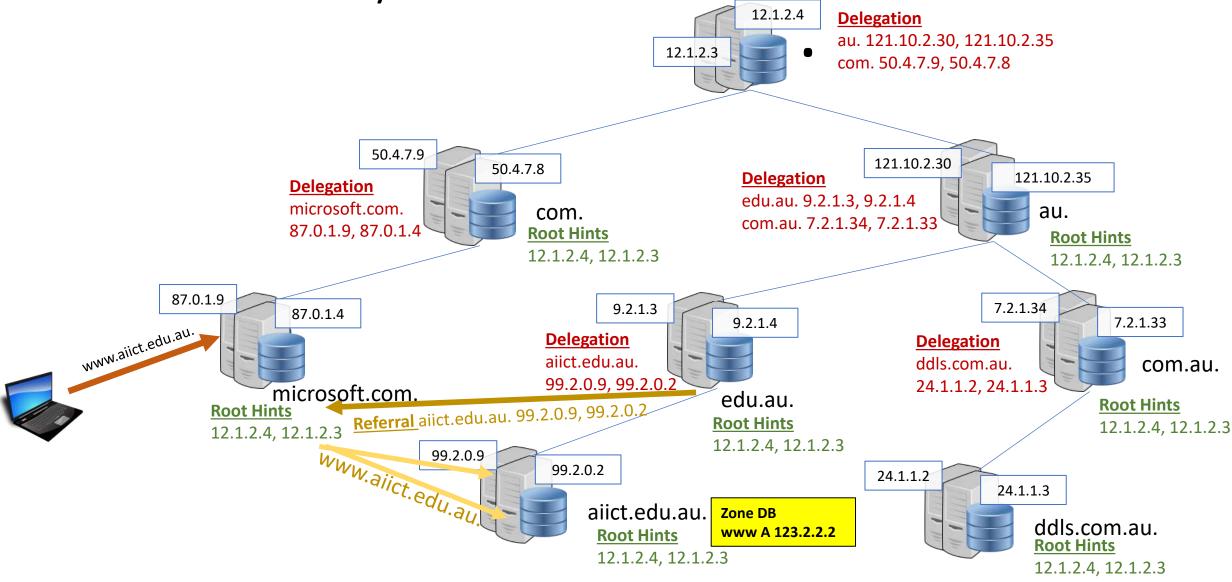


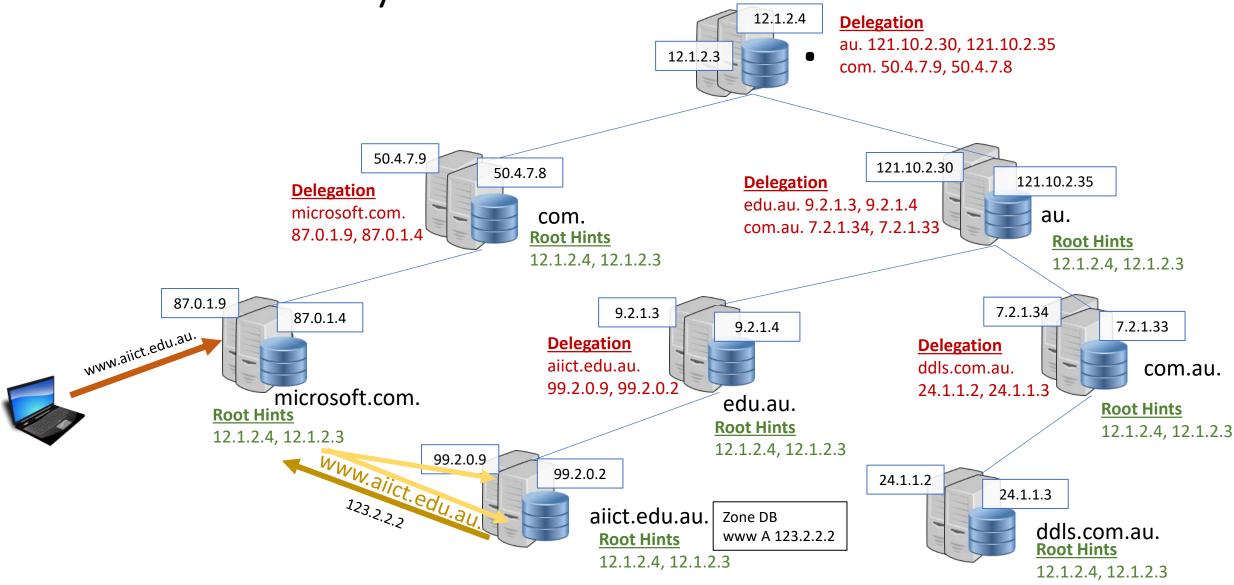


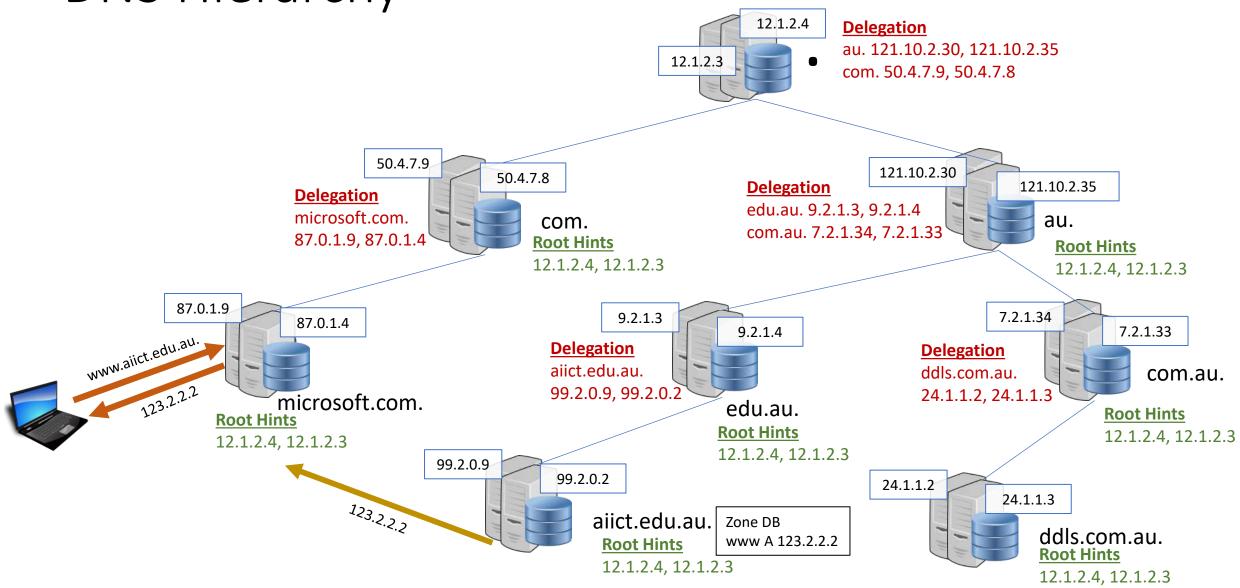


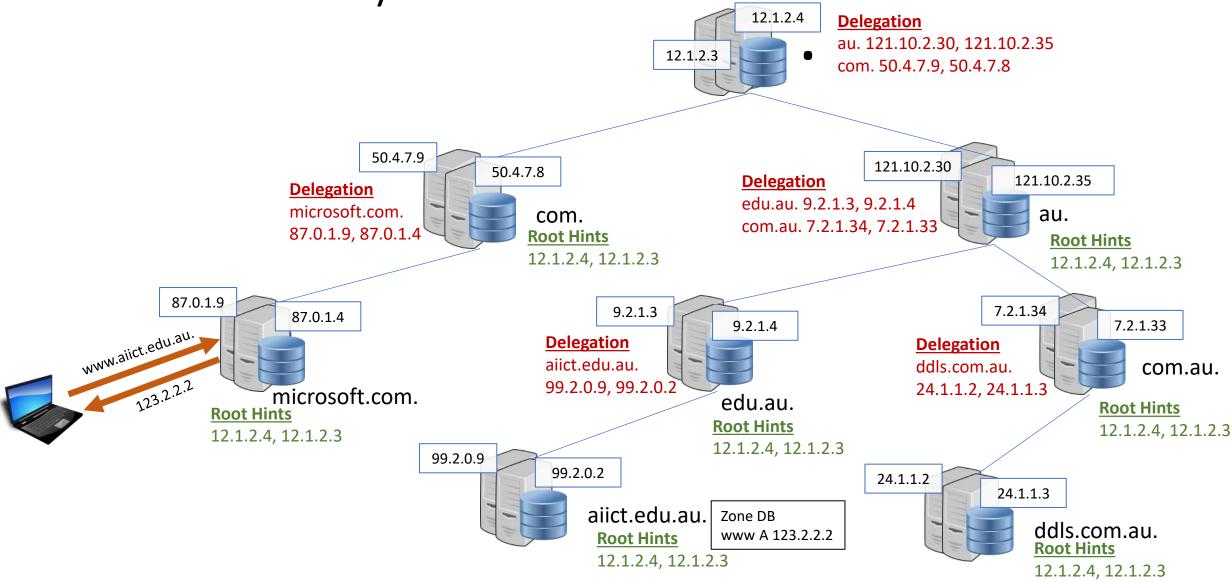












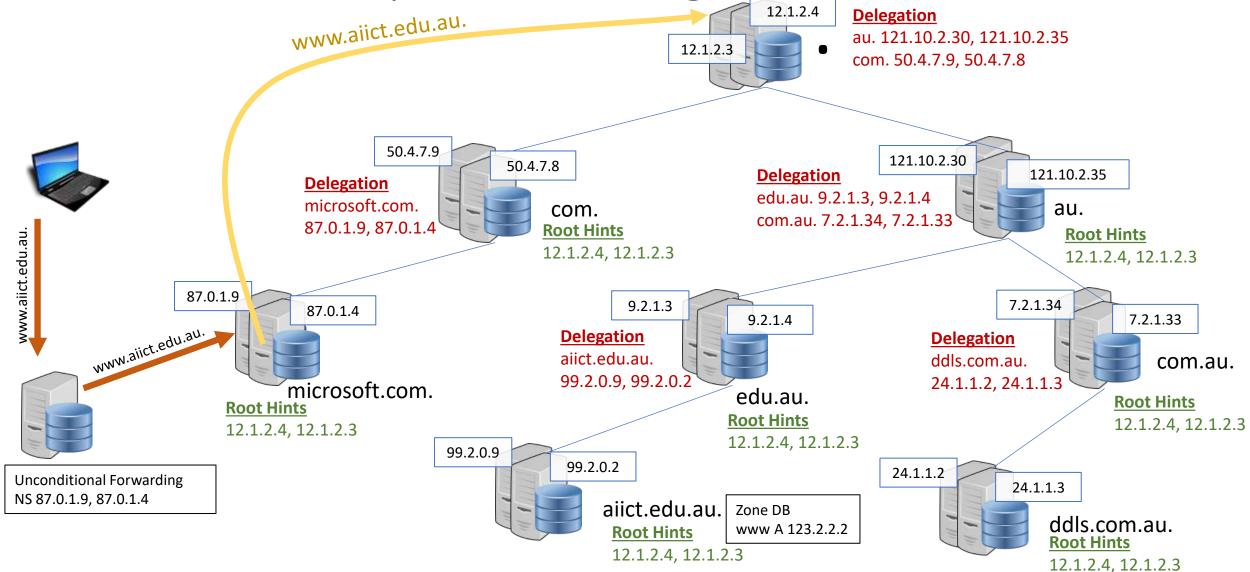
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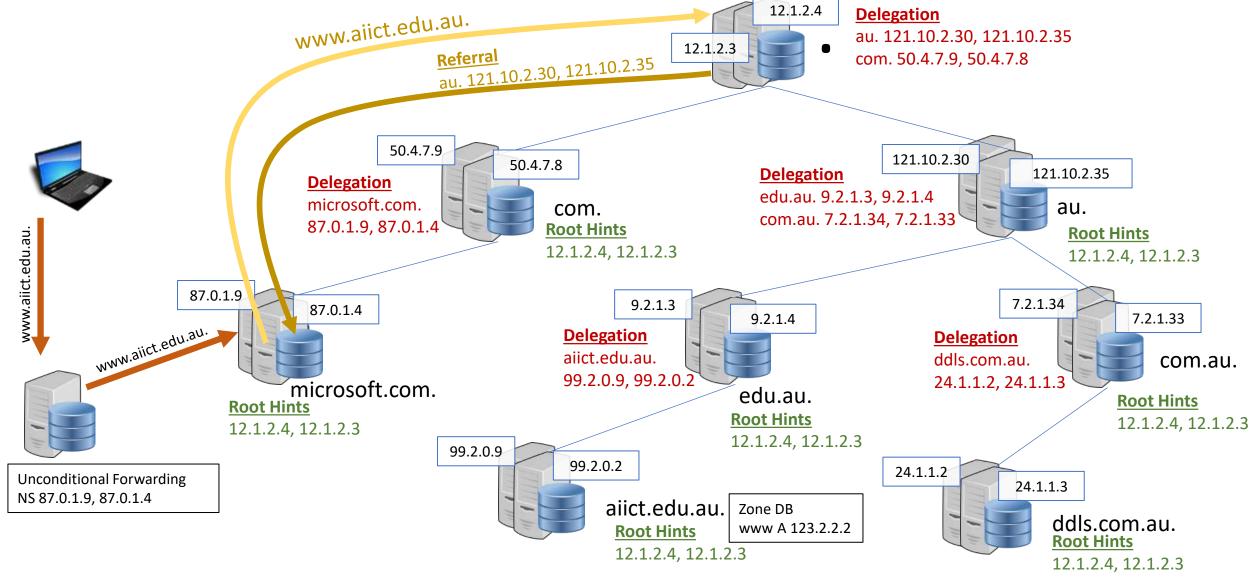
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