

DNS plug-and-play

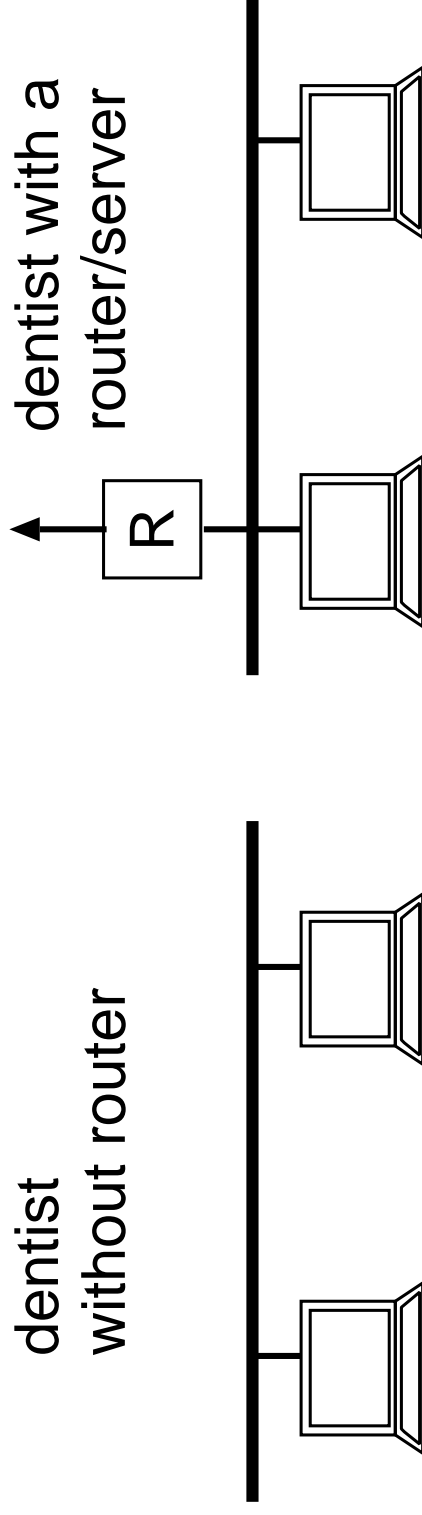
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Outline

- "Dentist office" scenario
- **Multicast DNS**
 - name resolution in no-router environment
- **Dynamic DNS**
 - register a new DNS name on the fly
- **DNS server discovery**
 - reach DNS server automatically

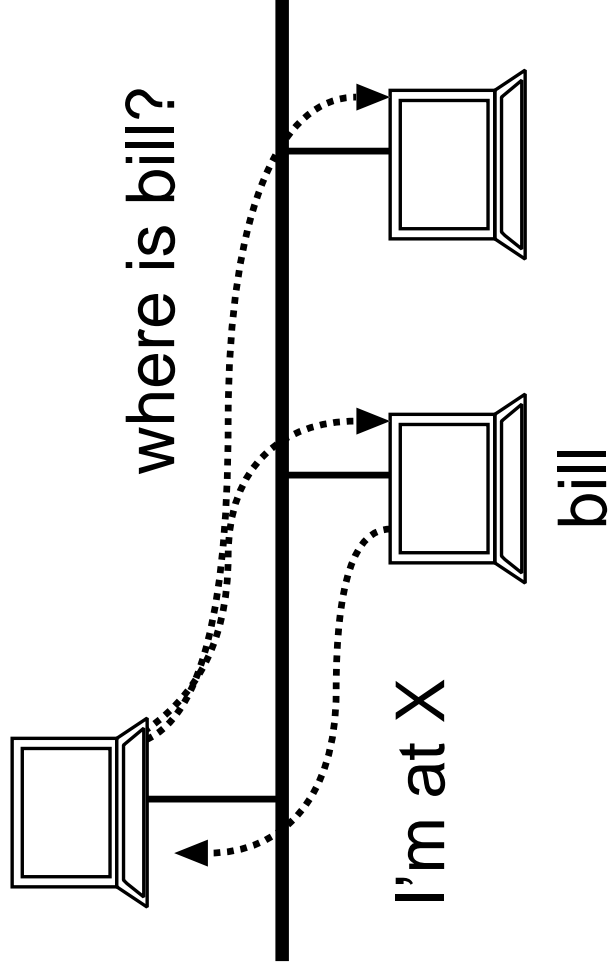
"Dentist office" scenario

- Dentists are rich:-)
- May buy multiple computers and network hubs
- And maybe, in some case, a router
- May have no clue about them - "IP address? what's that"
- Name resolution in serverless environment
- Automatic registration of DNS names
- Automatic discovery of a DNS server



Multicast DNS

- **Name resolution in no-router environment**
 - draft-ietf-dnsext-mdns-03.txt
- **Query: to link-local multicast address (everyone)**
- **Response: from the target itself**
- **Issues**
 - Name collisions
 - When to use multicast DNS, when to use normal DNS?

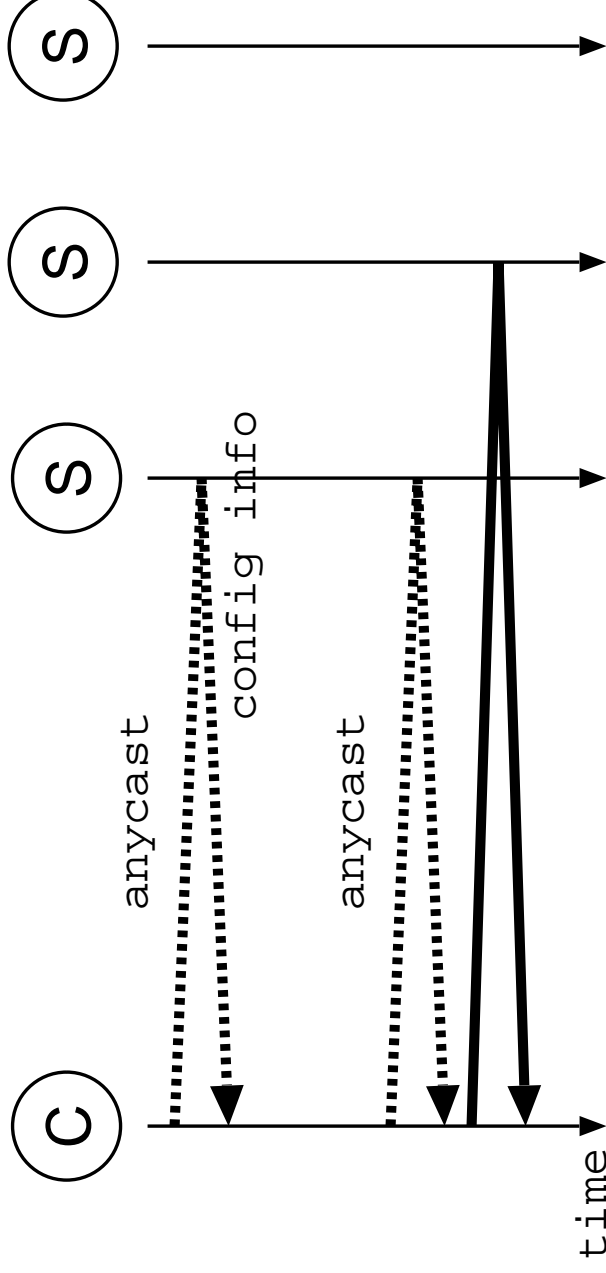


Dynamic DNS

- **Register a new DNS name on the fly**
 - RFC2136 - dynamic updates in DNS
- **UPDATE opcode**
- **BIND8/9: nsupdate command**
- **Issues**
 - Authentication/authorization
 - Name collisions
 - Who register who? - DHCP server, client itself?

IPv6 DNS server discovery

- **Reach DNS server automatically (no DHCP)**
 - draft-ietf-ipngwg-dns-discovery-analysis-00.txt
- **Reaching a DNS server by using UDP anycast**
 - UDP query to site-local anycast address
 - Reaches the closest DNS server, by routing decision
- **Getting DNS configuration information from the DNS server**
 - DNS server address, search list, current domain



IPv6 DNS server discovery

□ Issues

- Which record type to be used for configuration information?
- IANA assignment
- Anycast limitations - no TCP, no fragment

Deployment status

- **Multicast DNS**
 - Still under discussion - IETF zerodnf/dnsext
- **Dynamic DNS**
 - Spec is in RFC
 - Implementations available, matter of configuration to use
 - BIND8/9
 - Win2k tries to register themselves
 - Authentication model is a big hurdle
 - Who is permitted to register names?
- **IPv6 DNS server discovery**
 - Still under discussion - IETF ipngwg

Summary

- **Multicast DNS**
 - name resolution in no-router environment
- **Dynamic DNS**
 - register a new DNS name on the fly
- **DNS server discovery**
 - reach DNS server automatically