

DNS

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Why is this SO important?

- **Internal network (LAN)**
- **External network (WAN)**

What is DNS?

- ✱ The Domain Name System (DNS) is a hierarchical distributed naming system for computers, services, or any resource connected to the Internet or a private network. It associates various information with domain names assigned to each of the participating entities. Most prominently, it translates easily memorised domain names to the numerical IP addresses needed for the purpose of locating computer services and devices worldwide. By providing a worldwide, distributed keyword-based redirection service, the Domain Name System is an essential component of the functionality of the Internet.

How does DNS work?

- * Queries

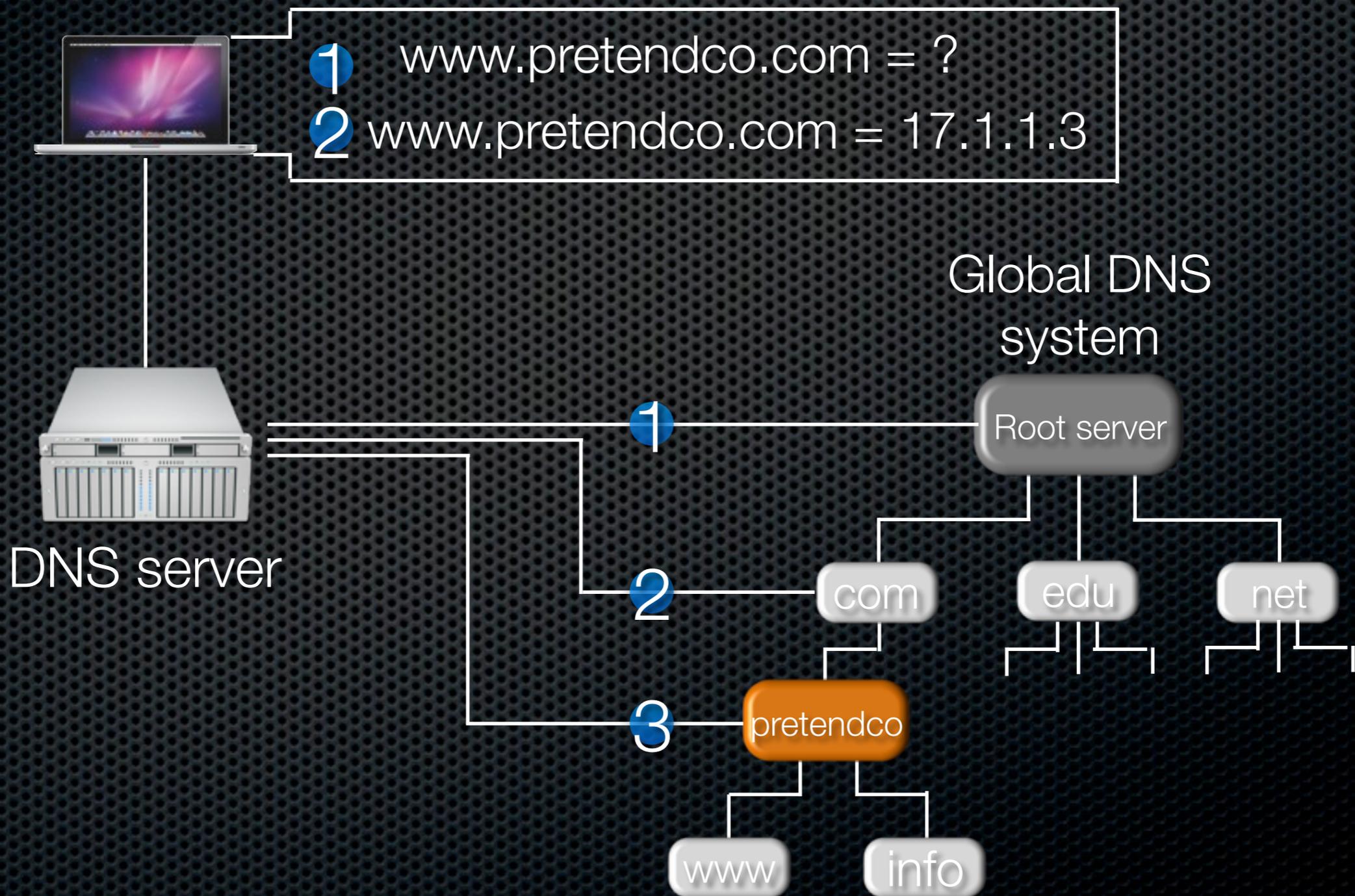
 - * Forward

 - * Reverse

- * FQDN

 - * Fully Qualified Domain Name

The DNS hierarchy–Recursion



Record Types

- * NS
- * A /AAAA
- * CNAME
- * MX
- * TXT
- * SRV
- * PTR

WAN DNS

- ✱ Authoritative Host (NS server)
- ✱ Zone file
- ✱ Records

LAN DNS

- * Open/Active Directory NEEDs this to work right
- * Defining a Primary Zone
- * Authoritative DNS server

Split Horizon DNS

- * New Best practice use .COM
- * LAN mail.pretendco.com = 10.100.107.10
- * WAN mail.pretendco.com = 17.100.107.10

LAN DNS

- * Slave Servers: When? Why?
- * Forwarding Server (caching servers)
- * Naming
 - * Own your TLD
 - * .private and .local – deprecated

What if I don't have a public static IP?

- * **Dynamic DNS**

- * **Various Providers free and paid**

- * **Various Services**

- * **<http://dnslookup.me/dynamic-dns/>**

When things go wrong

- * dig

- * host

- * nslookup

- * /Applications/Utilities/Network Utility

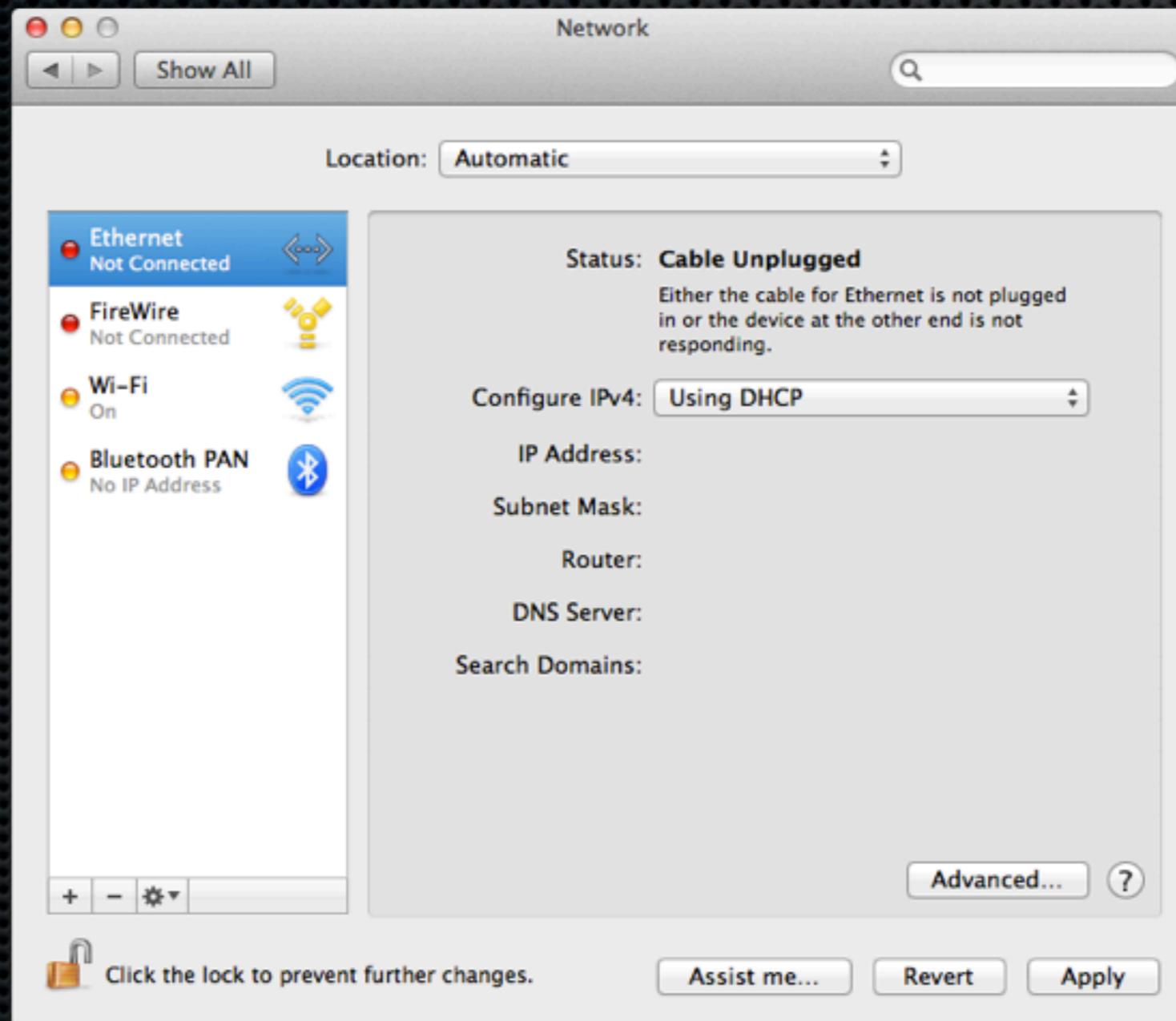
OS X Server Specific

*`sudo /Applications/Server.app/Contents/ServerRoot/usr/sbin/changeip -checkhostname`

```
Primary address      = 10.0.1.30
Current HostName     = laptop.favarger.net
DNS HostName         = laptop.favarger.net

The names match. There is nothing to change.
dirserv:success = "success"
```

What's wrong with this?



Server Setup

Server

Accessing your Server

Choose how users will access your server.

Local Network
Access your server on the local network using a host name ending in ".local".
Your server will not be accessible outside of your local network.

Local Network and using VPN
Access your server on the local network using a host name ending in ".private".
Users can also access your server using a Virtual Private Network (VPN).

Domain Name
Access your server on both the local network and on the Internet using a registered domain name.

 [Go Back](#) [Continue](#)

To change this

The screenshot shows the macOS Server application window titled "Server". The left sidebar contains a navigation menu with sections: SERVER (favarger MacBook Pro, Cheryl Greene's AirPort Ex..., Alerts, Certificates, Logs, Stats), ACCOUNTS (Users, Groups), and SERVICES (Caching, Calendar, Contacts, DHCP, DNS, File Sharing, FTP, Mail, Messages, NetInstall, Open Directory, Profile Manager). The main content area is titled "favarger MacBook Pro" and has tabs for Overview, Settings, Network, and Storage. The "Names" section shows "Computer Name: favarger MacBook Pro" and "Host Name: server.local", both with "Edit..." buttons. The "Interfaces" section lists: Wi-Fi (10.0.1.30), Ethernet (Not Configured), and Bluetooth PAN (Not Configured). At the bottom, there are buttons for "Configure Network", "Add Users", "Review Certificates", "Start Services", and "Manage Devices". A "Next Steps" button is at the bottom left, and "Reading Mail settings" with a gear icon is at the bottom right. A text box at the bottom right contains the following text:

Your Server's host name is server.local, and its IP address is 10.0.1.30. You can change network settings in the [Server](#) pane.

Your server's host name can only be used on your local network. To allow secure access outside your network, give your server a host name ending with ".private" in the [Server](#) pane, and then turn on [VPN](#) service. To allow direct Internet access to services without using VPN, [register](#)

DNS GUI

The screenshot shows the macOS Server application window titled "Server". The interface is divided into several sections:

- Left Sidebar:** A navigation pane with three main categories: "SERVER" (containing links for laptop.favarger.net, Cheryl Greene's AirPort Ex..., Alerts, Certificates, Logs, and Stats), "ACCOUNTS" (containing Users and Groups), and "SERVICES" (containing Caching, Calendar, Contacts, DHCP, DNS (highlighted), File Sharing, FTP, Mail, Messages, NetInstall, and Open Directory).
- Main Content Area:**
 - DNS Header:** Features a globe icon, the text "DNS", and a toggle switch currently set to "OFF".
 - Settings:** Includes "Forwarding Servers: 10.0.1.1" with an "Edit..." button, and a checked checkbox "Perform lookups for" with a dropdown menu set to "only some clients" and another "Edit..." button.
 - Host Names:** A table with one entry: "laptop.favarger.net" with IP address "10.0.1.30". Below the table are controls for adding (+), removing (-), and editing (gear icon) host names, along with a search box "Filter Host Names" and a help icon (?).
- Bottom Section:**
 - A row of buttons: "Configure Network", "Add Users", "Review Certificates", "Start Services", and "Manage Devices".
 - A "Next Steps" button with a right-pointing arrow.
 - A status message box: "Your network is configured properly. You can change network settings in the [Server](#) pane." and "Your Server's host name is laptop.favarger.net, and its IP address is 10.0.1.30. To allow direct Internet access to services running on your server, [configure port mapping](#) on your router."