

Tom Bridge

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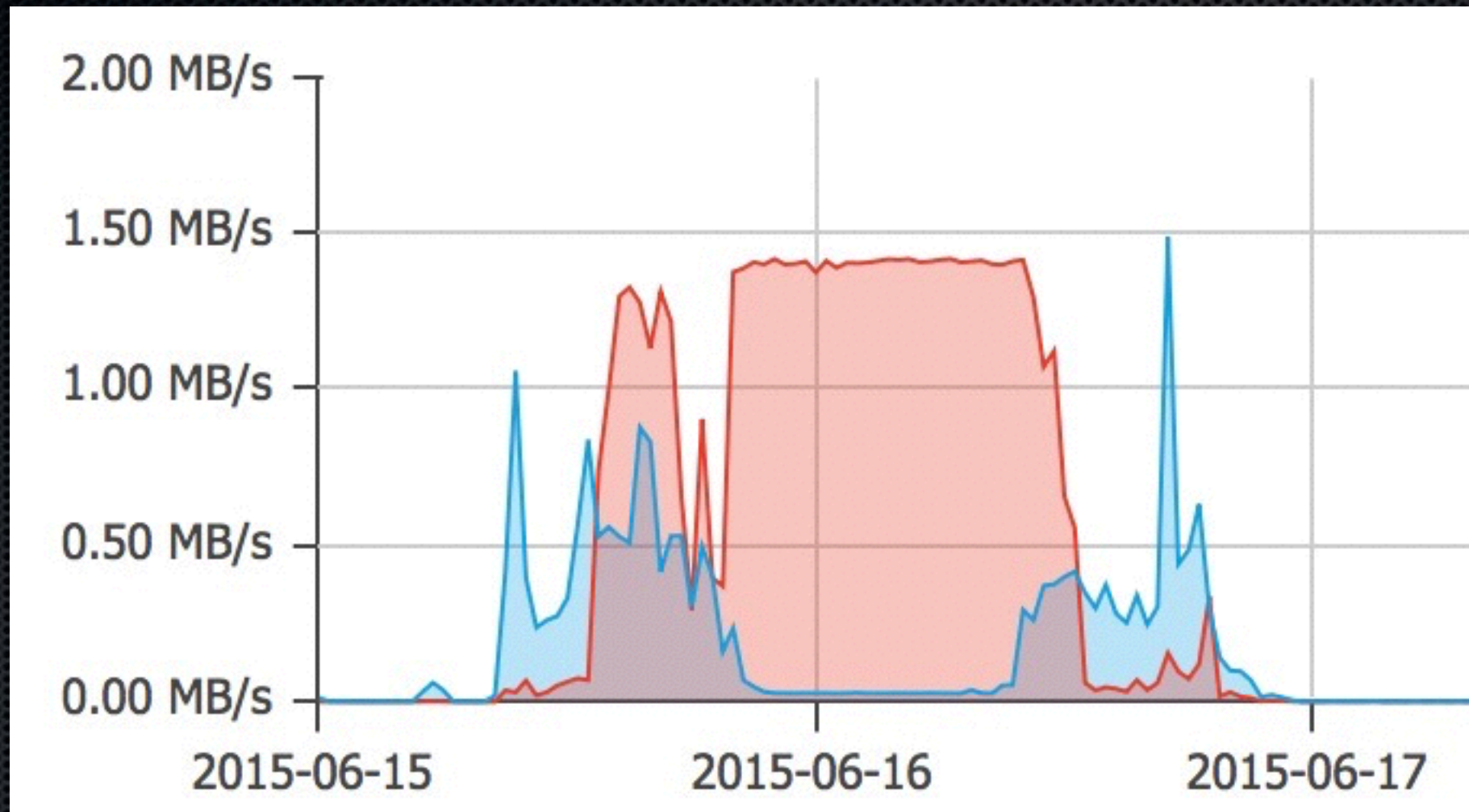


Caching Servers, DNS Tricks, & More

What Is Caching Service?

- Caches a local copy of any App Store Download, iOS or Apple TV Software Update, iBooks Download, iTunes U Content, and Internet Recovery Image
- Distributes them to clients on the same local network
- Or to any clients on a series of IPs you designate with special SRV Records
- Requires Server 4.0.3 or later, will serve iOS 7 or later, Mac OS X 10.8.2 or later, and iTunes 11.0.2 or later (Mac or Windows)

Why Caching Service?



This is Ten Yosemite Downloads

What Is Caching Service?

	OS X \geq 10.8.2	iOS \geq 7	Apple TV
Software Updates			
App Store			NA
iBooks			NA
Internet Recovery		NA	
iTunes Media			NA

How Caching Server Works...

- The 1st download is always from Apple and is cached to the server
- Later downloads *may* come from the server
- The server *may* have peers
- Clients *always* fallback to download directly from Apple when the client can't get to the server or any peers
- Clients tend to stick with the 1st good download source

How Caching Server Works...

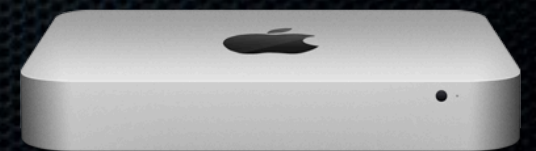
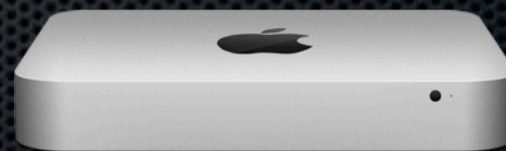
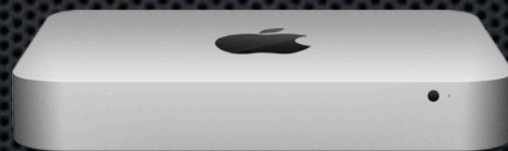
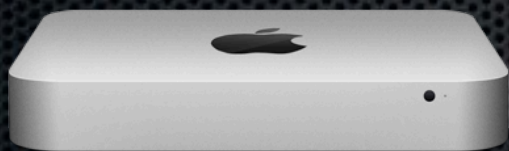
- Stores data in a specified local volume.
- Stores it until it runs out of space to do so, then cannibalizes the oldest content for more space.
- Best Practice: Dedicated external volume

Load Balancing

- What if you have multiple subnets?
- What if you have multiple public IPs?
 - Redundant connections or
 - A Real Big Public Network
- What if you have a ton of local clients?

No Problem.

You can have many
Caching Servers.



New in Yosemite...

- New in Yosemite is the ability to have caching servers outside of your private network
- Or as Apple says, “caching content in non-NAT networks”
- Requires a Public IP address for the server
- Requires a manual edit of DNS records to add a DNS-SD TXT record

New in El Capitan

- Caching Service can now hold iCloud Drive data for your users.
- You're going to need a bigger boat. Er. Drive.
- If you're not storing your service data on a dedicated drive, now would be a real good time.

Easy Setup



Caching

ON

Access

Status: ● Available - Devices on your local network will automatically use this service

[Learn about configuring this service](#)

Permissions: All Networks

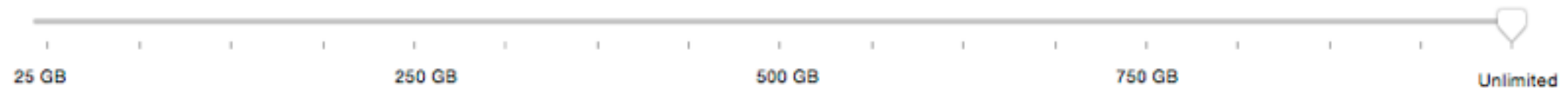
Edit...

Settings

Volume: Data

Edit...

Cache Size: Unlimited



Usage

Cache Used: 5.58 GB used

Reset...

Mac Software

Other

Caching in non-NAT networks

- Configure server to use public IP address
- Configure caching service with public range of IP
- Copy TXT record from Server app
- Add TXT record to db zone file per...
 - caching.apple.com zone (Server Essentials)
 - create a www host A record
 - _aaplcache._tcp.caching.apple.com TXT entry
 - your own domain zone (Advanced Server Help)
 - _aaplcache._tcp.<domain name> TXT entry
 - “prs=<start IP>-<end IP>”

Caching in non-NAT networks

The screenshot shows a 'Caching' configuration window with the following elements:

- Cache content for clients connecting from:** A dropdown menu set to 'all networks'.
- Serve clients with public addresses:** A dropdown menu with 'matching this server's network' selected (indicated by a checkmark) and 'on other networks' as an option.
- Network List:** A table with a '+' button to add networks. The text 'Click (+) to add networks' is displayed.
- Buttons:** '+', '-', 'Create a new network', 'Client Configuration...', 'Cancel', and 'OK'.
- Footer:** A note stating 'public IP address will use this cache.'

The background interface includes:

- Caching Toggle:** A switch labeled 'ON'.
- Usage Section:** Shows 'Cache Used: 5.58 GB used' and a bar chart with 'Mac Software' (blue) and 'Other' (orange).
- Storage Section:** A progress bar showing '25 GB' used, '750 GB' available, and 'Unlimited' capacity.

Caching in non-NAT networks

The screenshot shows a web-based configuration interface for a caching server. A modal dialog is open in the center, titled "Copy the TXT record below and enter it into your network DNS configuration." The dialog contains a text box with the following content: `_aaplcache._tcp 259200 IN TXT "prs=10.0.0.1-10.0.0.254"`. Below the text box is a "Done" button. The background interface is partially visible, showing a sidebar on the left with options like "Access", "Status", "Performance", "Settings", "Volume", "Cache", and "Usage". The main area on the right has a toggle switch labeled "ON", an "Edit..." button, a "Client Configuration..." button, and a "Reset..." button. A progress bar at the bottom indicates "Cache Used: 5.58 GB used" out of a total capacity of "Unlimited", with a "Mac Software" bar and an "Other" bar.

Copy the TXT record below and enter it into your network DNS configuration.

`_aaplcache._tcp 259200 IN TXT "prs=10.0.0.1-10.0.0.254"`

Done

Client Configuration...

Additional configuration is required for clients in the specified IP address ranges to use this caching server. Click Client Configuration to view these settings.

Cancel OK

Cache Used: 5.58 GB used

Mac Software Other

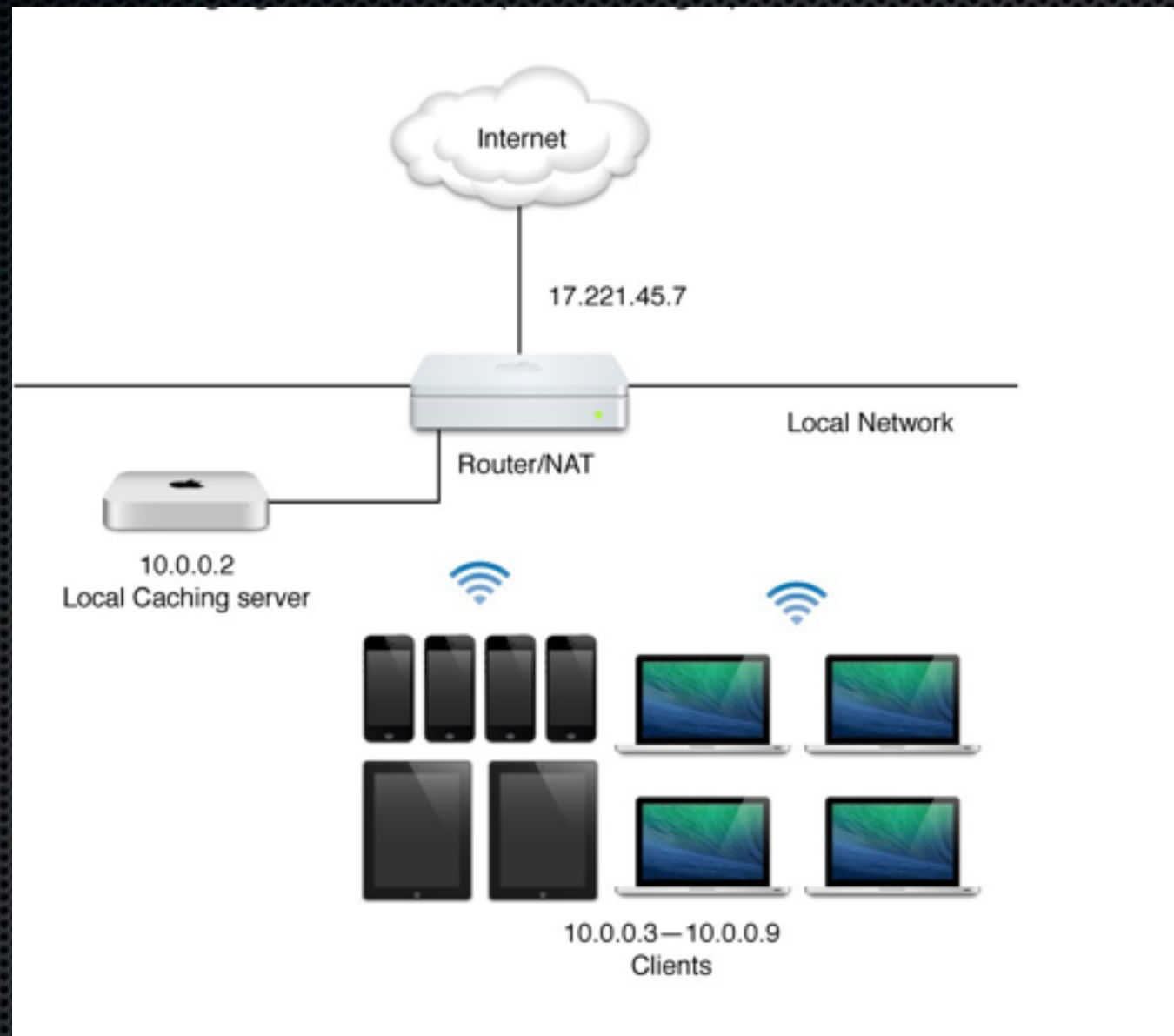
Proper configuration of DNS

- Settle on HD name (rename it first)
- Server IP reserved in DHCP
- Set it static (even if reserved)
- FQDN and Local Host name
- Decide: What's the naming system, are there multiple servers, do you want to name based on geo location?

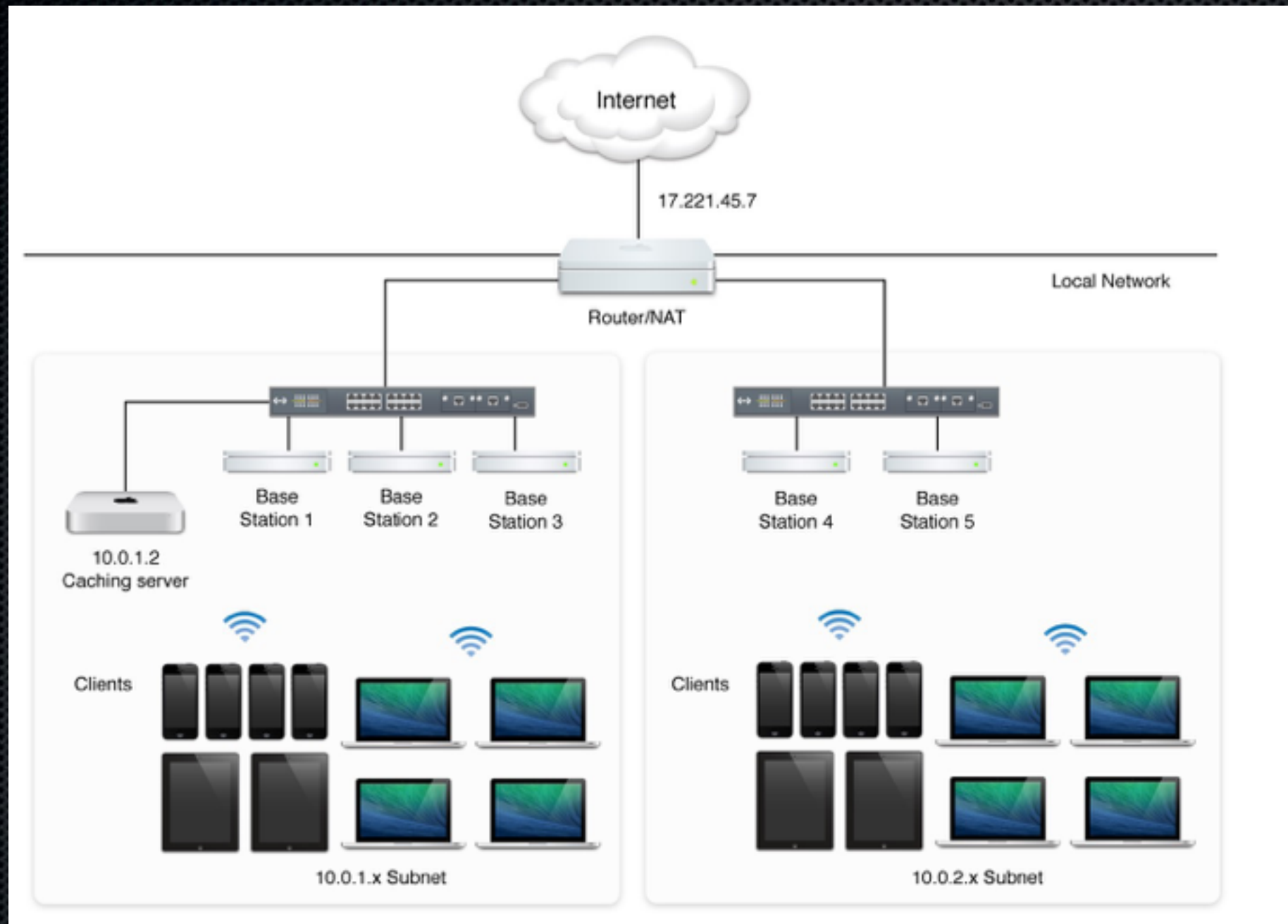
Proper config of DNS (cont)

- WAN DNS record set
- Set DNS records (A, CNAME, MX, etc...)
- Run change hostname tool (or there will be issues if you change things).
- DNS on the outside as well (don't forget about this!)
- Adding and comparing internal and external DNS

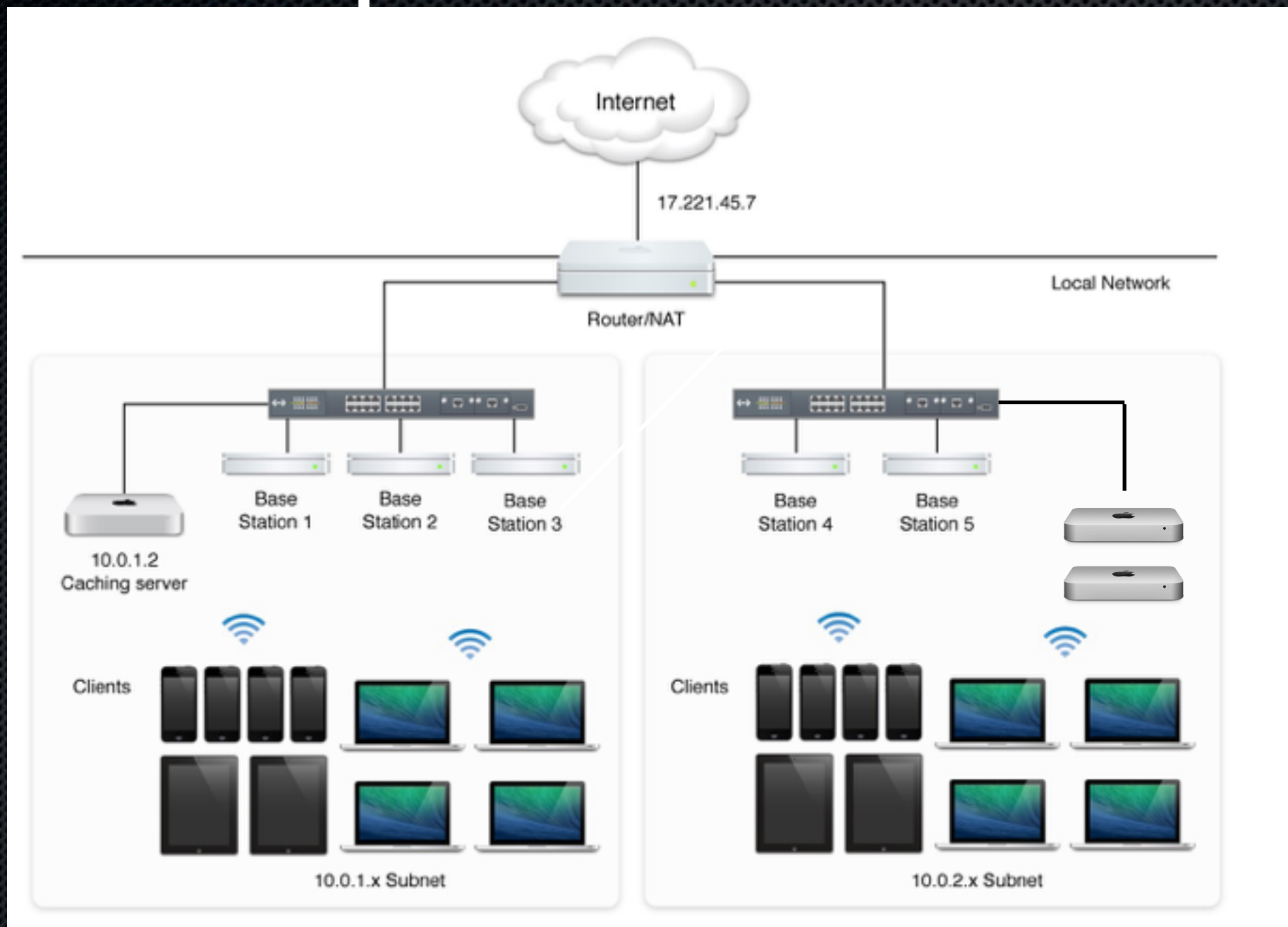
Example: SOHO Network



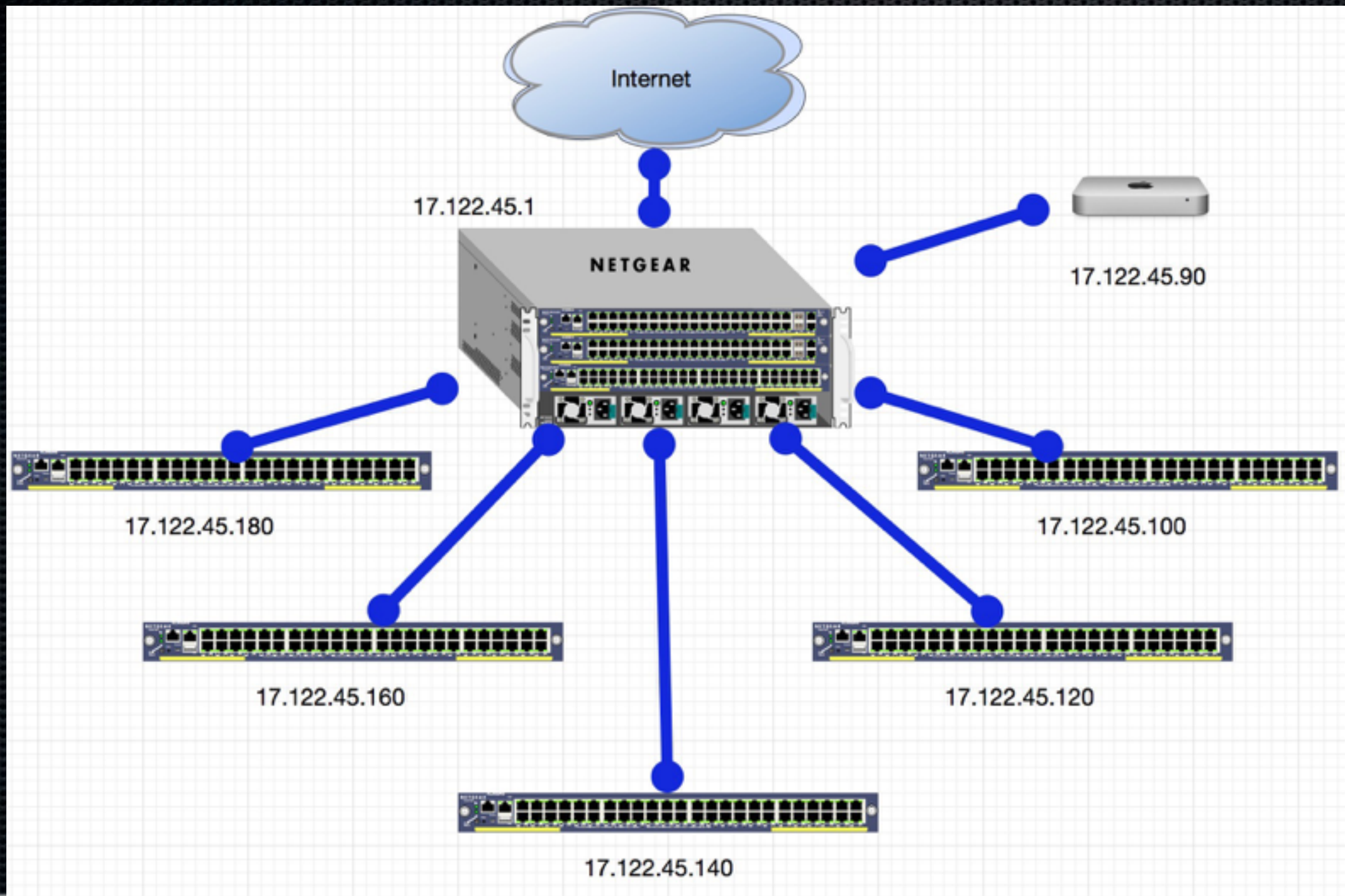
Example: Corporate Network



Example: Better Corporate Network



Example: A Big Quasi-Public Network



More Resources

- Built in Server app help (links in every service)
- <http://help.apple.com/advancedserveradmin/mac/4.0>
- Support Articles: HT200231, HT202657, PH15567
- <https://www.yesdevnull.net/tag/caching/>
- <http://blog.fraserhess.com/2014/10/caching-server-enterprise-edition.html>

Products

- CacheWarmer (\$4.99) by Glencode LLC - <http://blog.fraserhess.com/2014/12/introducing-cachewarmer.html>
- Learning Apple OS X Mavericks Server Training Video (\$99.95 or subscribe) by Chris Tarnowieckyi (New Yosemite version available from InfiniteSkills/O'Reilly Media shortly)
- OS X Server Essentials 10.10 (\$55-60 on Amazon) By Arek Dreyer, Ben Greisler from Pearson

Questions?



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<http://tinyletter.com/technobits>