Sam Valencia

Sam Valencia spent the last 16 years building the Connecticut branch of The HCS Technology Group. After a decade as an Apple Certified Trainer, Sam opened up InstructUs Training Centers, an Apple Authorized Training Center where he serves as lead trainer and managing partner.



Sam also co-hosts a weekly podcast called Command Control Power with two other members of the Apple Consultants Network, Joe Saponare & Jerry Zigmont.

Find some of Sam's training videos at Peachpit:

http://tinyurl.com/svalencia

Caching Servers, DNS Tricks, & More

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MACTECH PRO EVENTS

What Is Caching Service?

Caches a local copy of any App Store Download, iOS or TV Software Update, iBooks Download, iTunes U Content, and Internet Recovery Image

*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)

What Is Caching Service?

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

Why Caching Service?



Let's all download iOS 9!

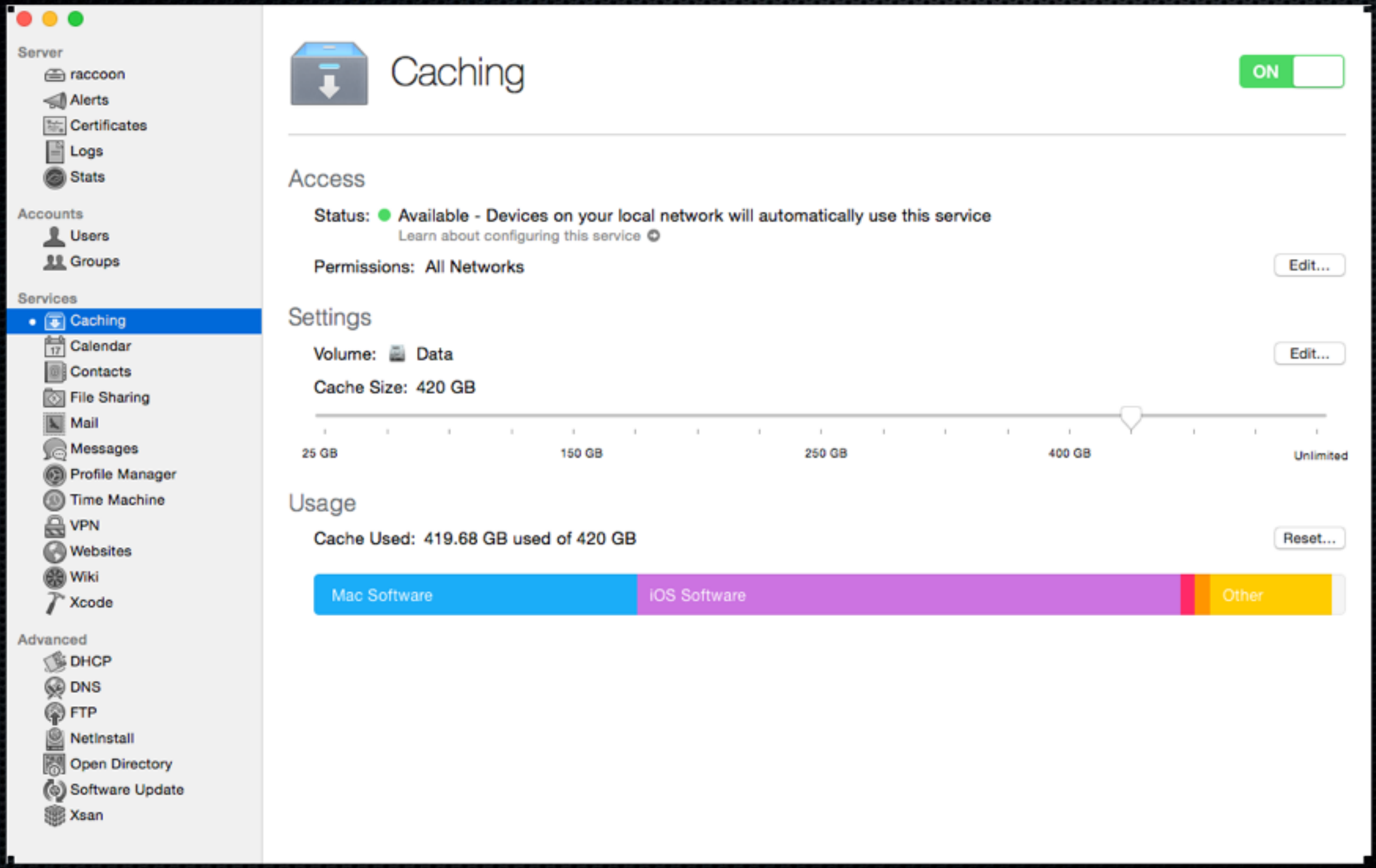
Who Should Use Caching Server?

Everyone!?

How Caching Server Works

- The Good:
  - No client-side configuration needed
  - Very little server configuration needed
  - Caching Server 2 has a peer replication service
  - New features allow for more control over service
- The Bad:
  - Relies upon IP addressing not DNS (no tricks!)
  - Challenging to work with IP load balancing
  - No built in pre-downloading; caching occurs as packages are requested by clients (third party?)
  - No control over what is cached
- The Ugly:
  - More complex scenarios will require internal DNS TXT records

Easy Setup


Server
raccoon
Alerts
Certificates
Logs
Stats
Accounts
Users
Groups
Services
Caching
Calendar
Contacts
File Sharing
Mail
Messages
Profile Manager
Time Machine
VPN
Websites
Wiki
Xcode
Advanced
DHCP
DNS
FTP
NetInstall
Open Directory
Software Update
Xsan
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: 420 GB
25 GB
150 GB
250 GB
400 GB
Unlimited
Usage
Cache Used: 419.68 GB used of 420 GB
Reset...
Mac Software
iOS Software
Other

Registration

What happens when you turn it on?

OS Server Registers your:

Public IPV4 Address

Local IPV4 Address

Local Network Range

and your country

*updates registration when change settings

How caching server works…





GUID:2BC5071E-7007-476F-A18D-78EA55C84991

local address: 192.168.2.78
public IP: 24.172.20.238



How caching server works…



local address: 192.168.2.78
public IP: 24.172.20.238



server address: 192.168.2.78





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

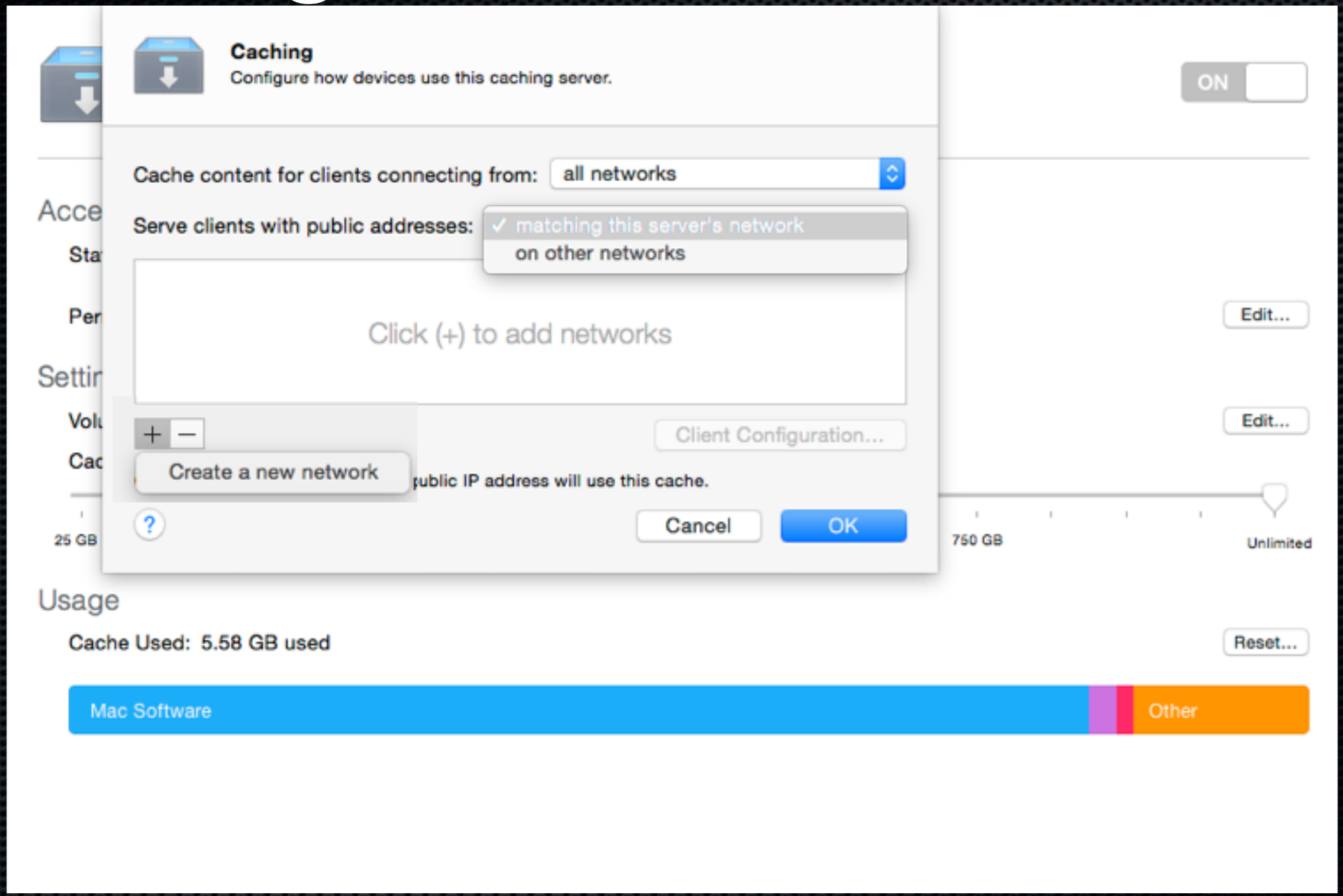
New in El Capitan

- Caching Service can now hold iCloud Drive data for your users.
  - Use dedicated storage with a lot of capacity

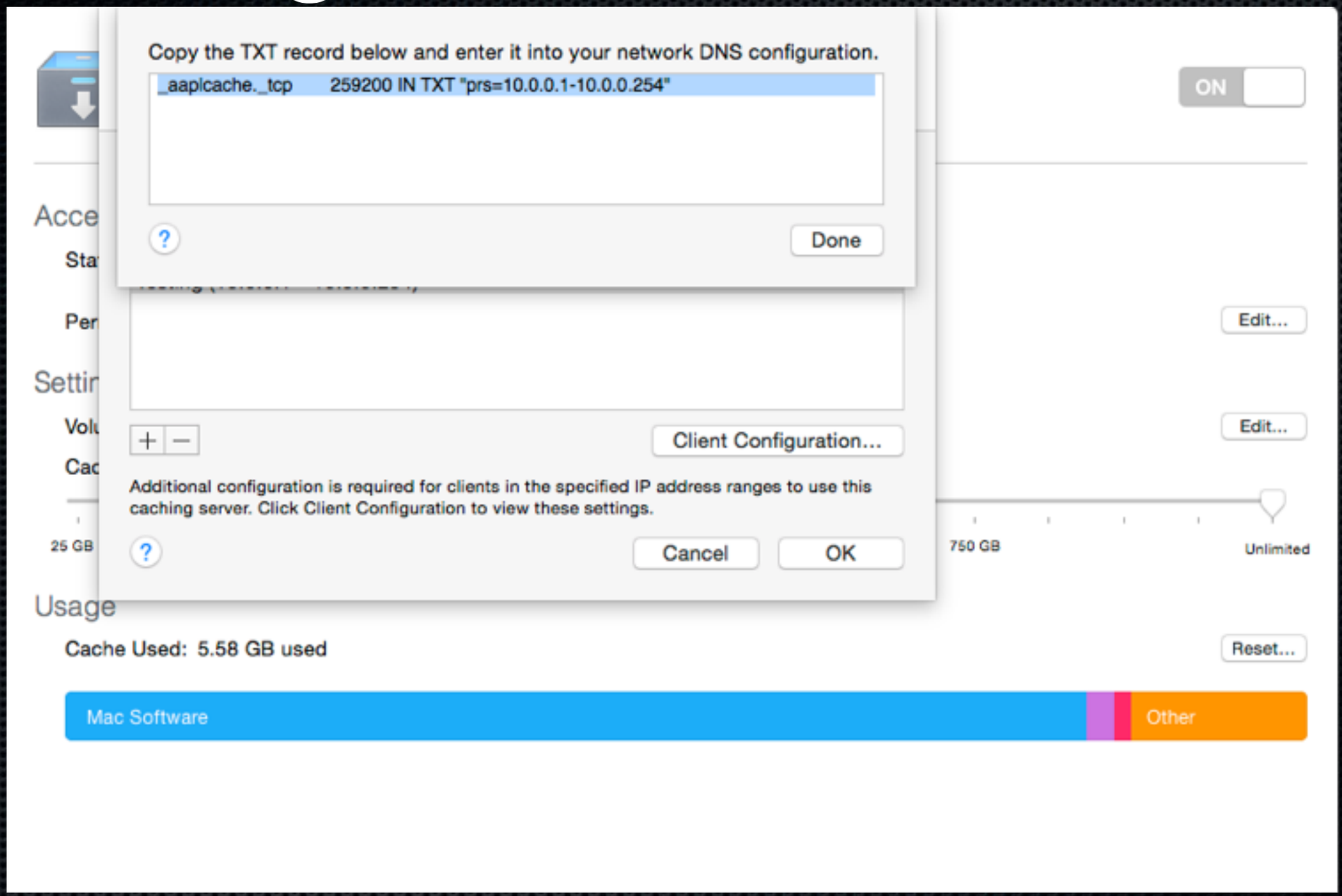
Caching in "non-NAT networks"

- Configure server to use static LAN IP address
- Configure caching service with public range of IPs
- Copy TXT record from Server.app
- Add TXT record to db zone file:
  /Library/Server/named/db.domain
  - 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
- These settings must be on the client-facing DNS server!

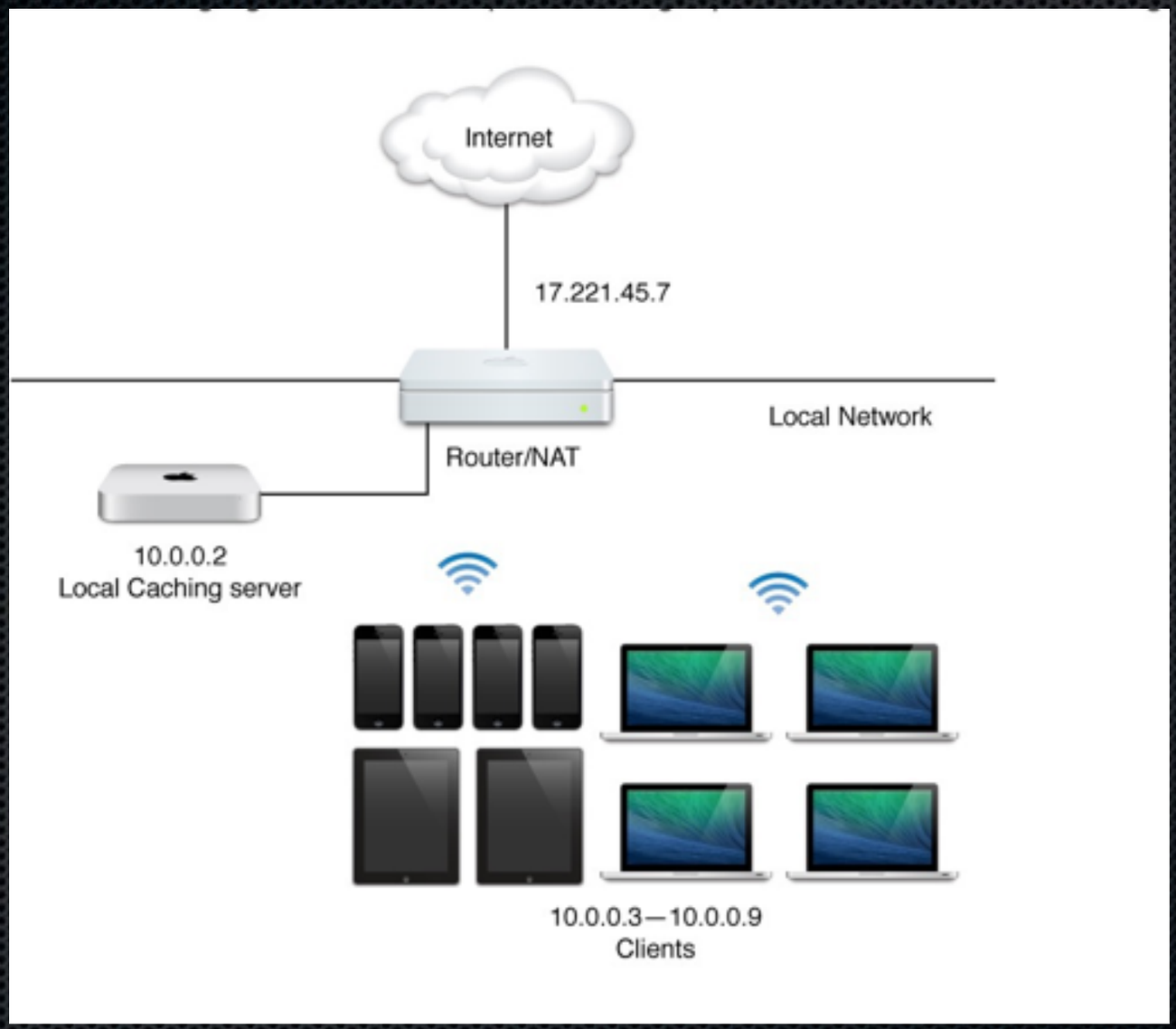
Caching in non-NAT networks



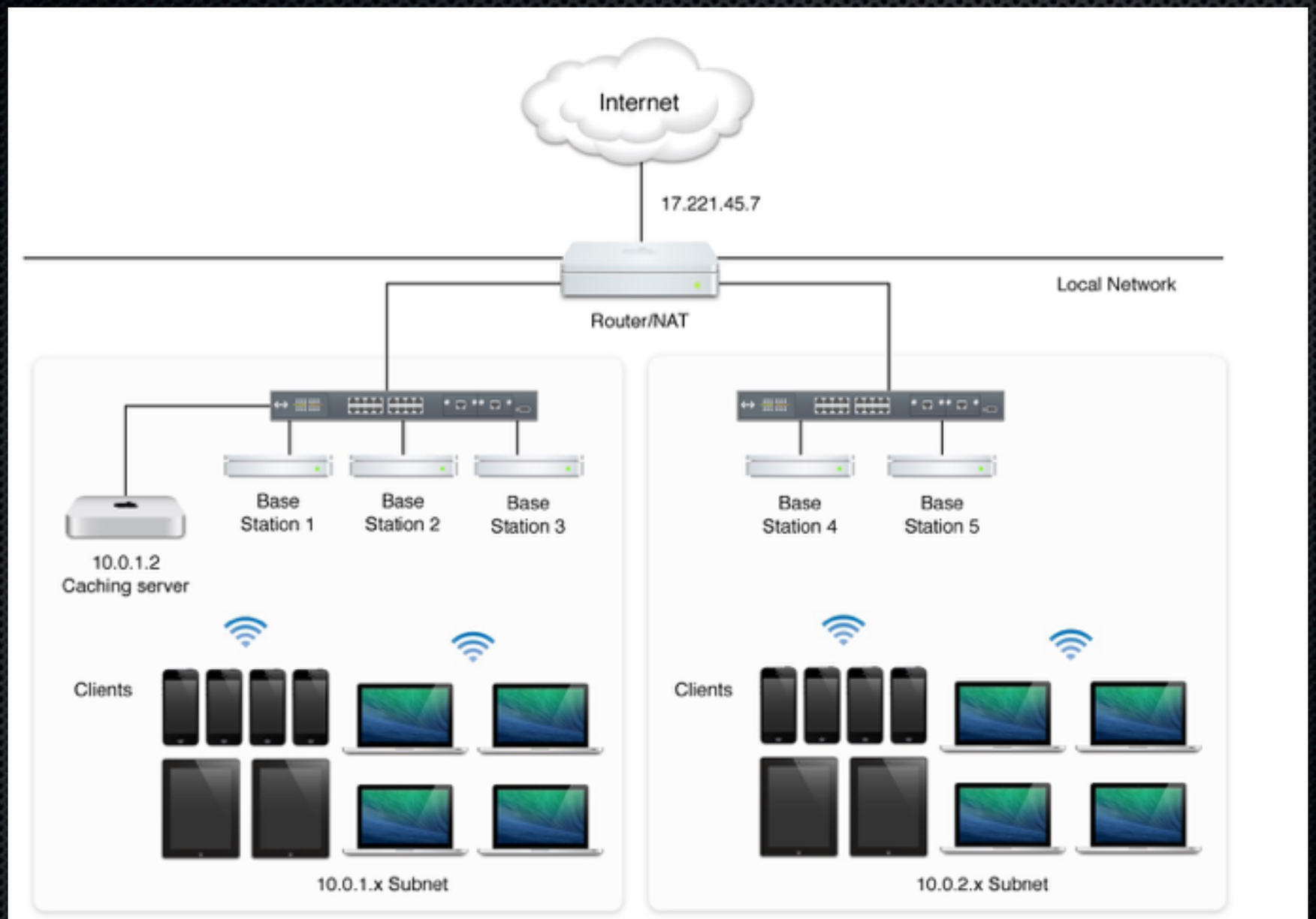
Caching in non-NAT networks



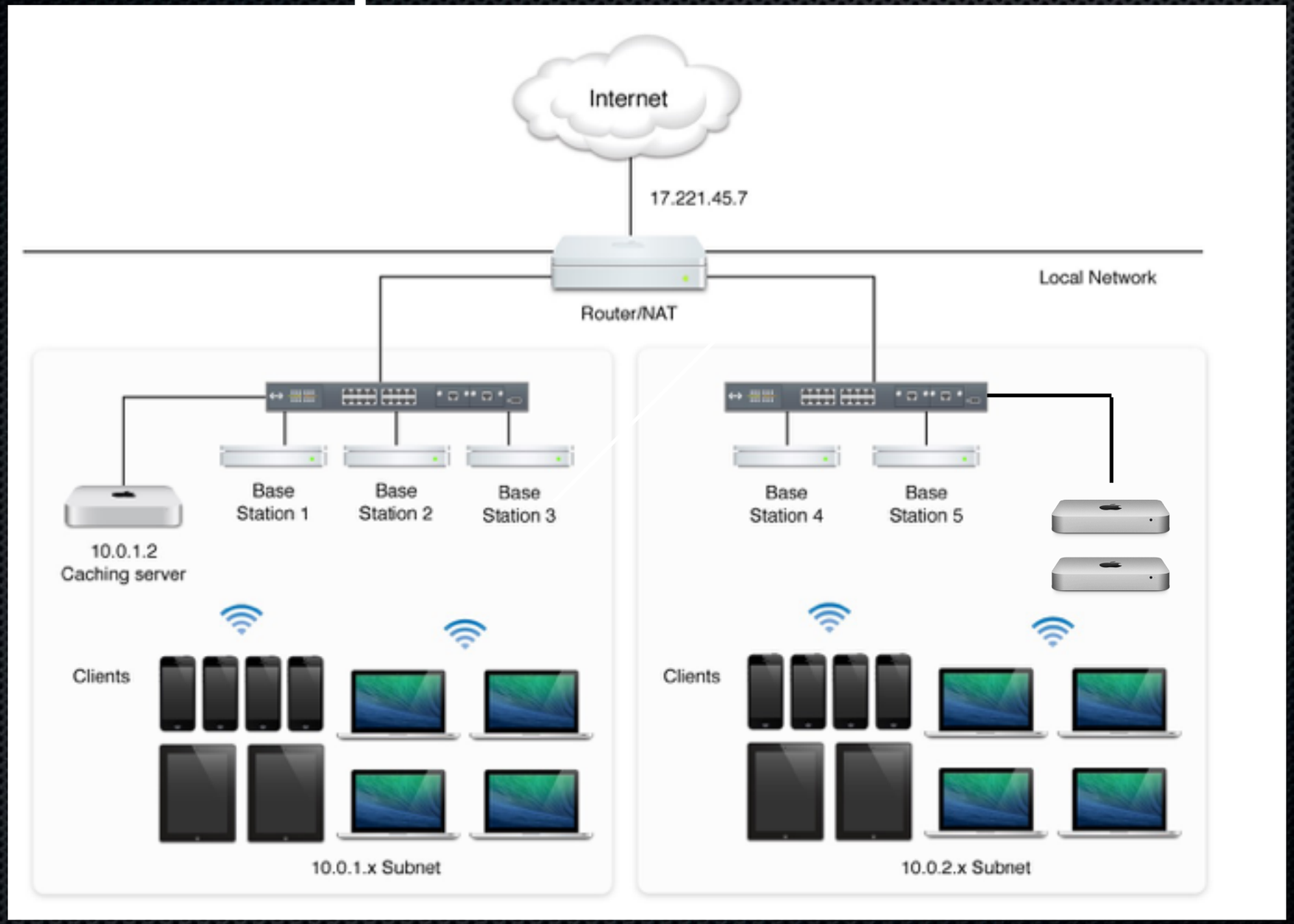
Example: SOHO Network



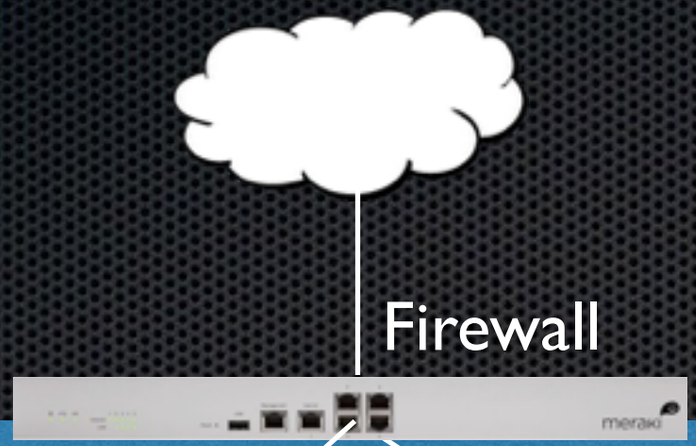
Example: Corporate Network



Example: Better Corporate Network



Example - Multiple Public IPs



Advanced Options

- serveradmin `man serveradmin`
  - settings caching (some items are unchangeable)
  - fullstatus caching (more information than usual)
  - `sudo serveradmin settings caching`

- edit /Library/Server/Caching/Config/Config.plist
  - better for setting range values
  - `sudo serveradmin settings caching:Interface = en1`
  - chown _assetcache:_assetcache
  - *If you're doing this manually, stop the service first

Advanced Options

- Not available in the GUI
  - Interface
  - LogClientIdentity
  - LogLevel
  - MaxConcurrentClients
  - MaxPeersToQuery
  - OriginDownloadTimeout
  - PeerDownloadTimeout
  - PeerFilterRanges
  - PeerNotifyTimeout
  - PeerQueryTimeout
  - PeerRetryInterval
  - Port
  - ReservedVolumeSpace

DNS - The Mindset

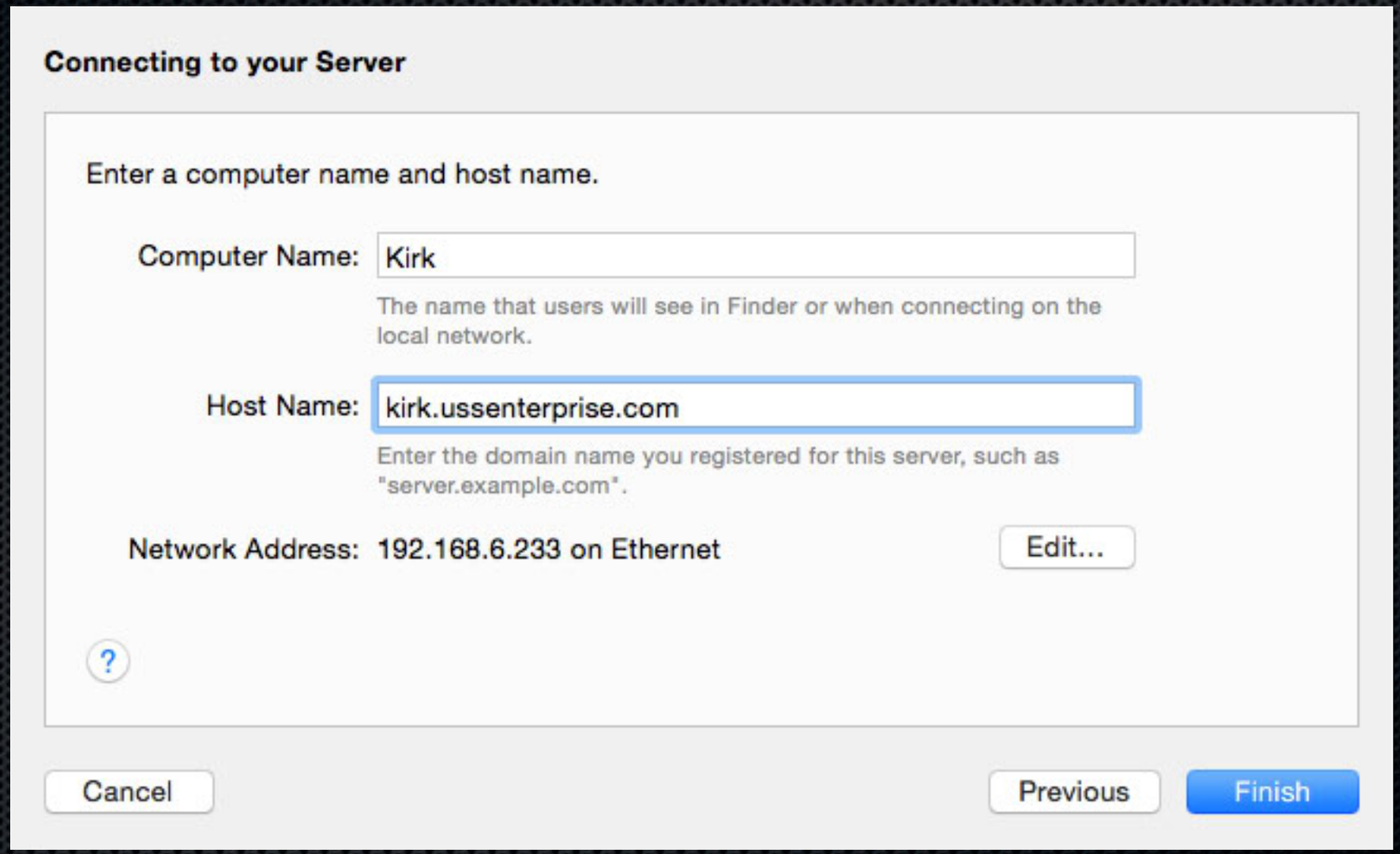
- Be Prepared: DNS is THE service that negatively or positively affects MANY things (Open/Active Directory, Certificates, Profile Manager…
- Plan: Decide what your IP, and DNS Hostname before you go.
- Reserve in DHCP, even if setting a static IP
- Become best friends with network admin
- As Chip Holmes would say, "It's kind of a big deal"

Minimal DNS

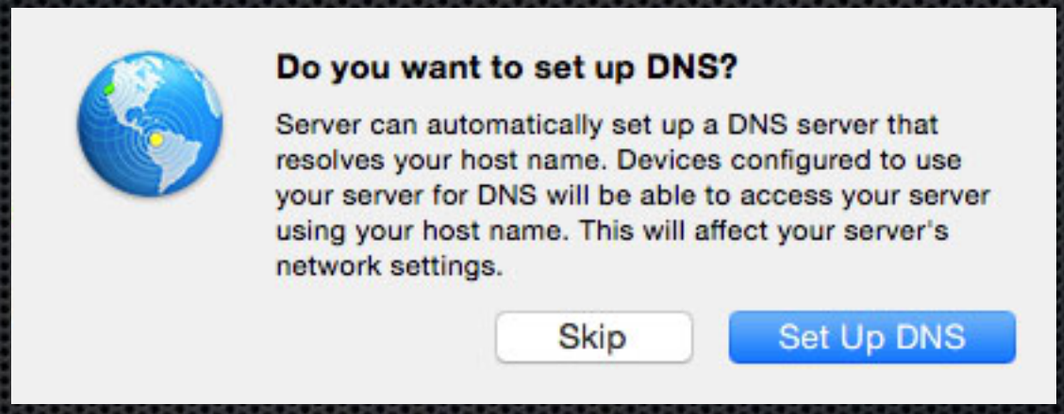
- Is this good or bad? Depends upon your environment.
- Do you have control of your DNS records for your server's IP address?

- Probably good for "islands" of Macs in PC/Windows organizations with no internal resolution necessary.
- Probably OK for SOHO with minimal local services or where clients will not be looking at server for DNS

Minimal DNS

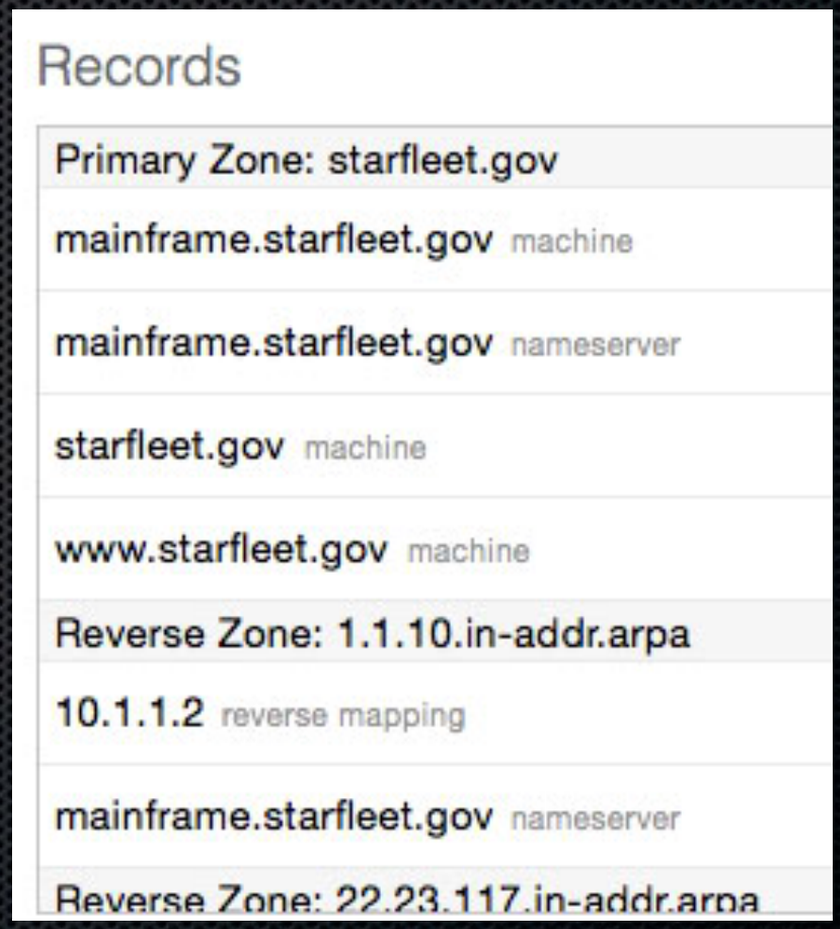

Connecting to your Server
Enter a computer name and host name.
Computer Name:
Kirk
The name that users will see in Finder or when connecting on the local network.
Host Name:
kirk.ussenterprise.com
Enter the domain name you registered for this server, such as "server.example.com".
Network Address:
192.168.6.233 on Ethernet
Edit...
?
Cancel
Previous
Finish

Minimal DNS


Do you want to set up DNS?
Server can automatically set up a DNS server that resolves your host name. Devices configured to use your server for DNS will be able to access your server using your host name. This will affect your server's network settings.
Skip
Set Up DNS

DNS - Top Level Domain

- Example Zone - starfleet.gov
- Requires you to align both internal and external DNS records - you will need to make www and @ records for your website to function internally, same for any other externally hosted resources using company domain name (think of the CNAME and MX records!)
- Allows wildcard SSL certificate use for both public and private servers



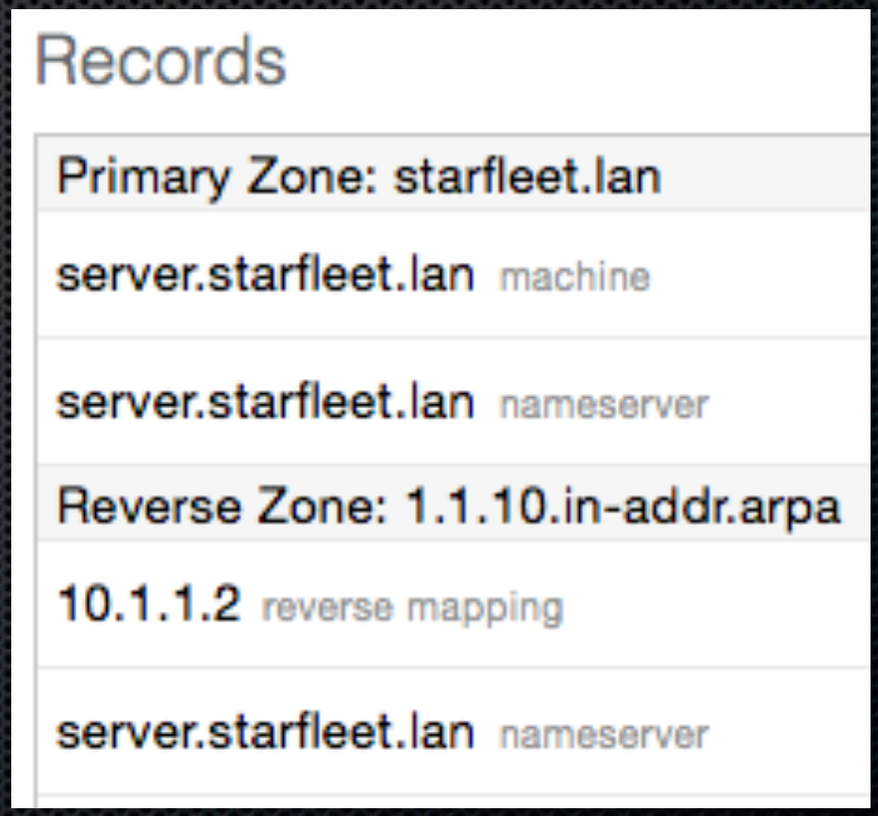
DNS - Subdomain

- Example Zone - sfo.starfleet.gov
- Allows internal and external resolution with minimal duplicative configuration
- Allows wildcard SSL certificate use for both public and private servers
- For security, ONLY create public records for publicly accessible resources (in some instances your internal DNS will have more records than external)



DNS - Private Domain

- Example Zone - starfleet.lan
- Generally not publicly routable
- Most commonly seen in private or segmented networks with no external resolution necessary (think Xsan or Mac islands in PC corporations)
- Requires separate SSL certificates
- DO NOT USE .LOCAL… SERIOUSLY



Split DNS

Provide DNS records for internal & external devices

- Create DNS records on the server inside your network (pm.myserver.com = 10.0.0.24)
- Create DNS records with a public facing DNS server (pm.myserver.com = 13.0.0.56)
- Services must be available through your firewall on your public IP

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 & References

- CacheWarmer ($4.99) by Glencode LLC - http://blog.fraserhess.com/2014/12/introducing-cachewarmer.html
  - Pre-populates iOS system updates for iOS devices
- OS X Server Essentials 10.10 By Arek Dreyer, Ben Greisler from Pearson

Questions?



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