

D N S

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What is DNS?

- IP Addresses are hard to remember, but words are easy
- DNS translates words into numbers and numbers into words
- The DNS hierarchy
 - Root servers (static)
 - Referral server(s)
 - Name Server(s)
 - IP Address(s)

Why DNS important?

- How important is DNS to your LAN?
- How important is DNS to everyone on the WAN?
- What happens when DNS is “having issues”?

How Does DNS Work

- Forward and reverse queries
- Fully qualified domain names (FQDN)
 - How do you choose a name?
 - Difference between host name (e.g., “server” of server.example.com) and domain name (e.g., example.com)

Where does DNS Live?

- Whois tells you where the domain lives
 - The name server takes over from there
 - Pick a DNS hosting by quality of control panel (dnsmadeeasy, godaddy, dyn)
- Reverse queries
 - Always live with the ISP
 - Recursion is frequently a requirement

What if you don't manage DNS?

- Relying on ISPs
- How to request updates from ISP
- How to verify updates by ISP
 - Always verify updates!

What if you don't manage DNS?

- Relying on ISP
- How to request IP from ISP
- How to verify IP from ISP



- Get Control of DNS - Start at the Registrar

LAN DNS



- Defining a Primary Zone
 - domain.com X
 - server.domain.com ✓
- Forwarding, Authoritative, and Recursive lookups with a DNS server
- Slave servers, when and why

Split DNS

- Common in SMB and SOHO markets with internal servers (rumpus, profile manager)
- How will this look in LAN to WAN router?
- Create redundancy

Control DNS at the Router

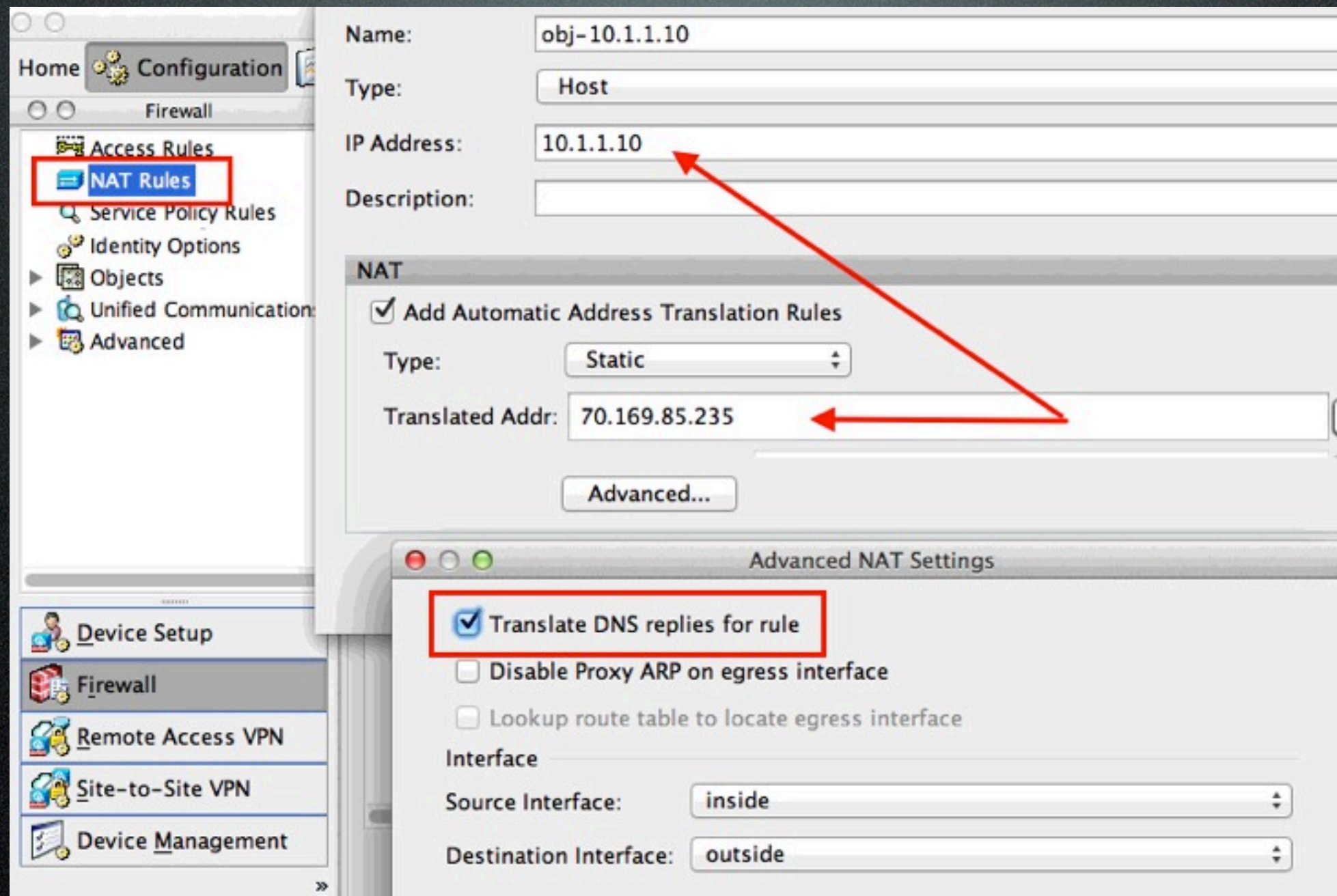
DNS Hosts Editor

Find:  

<input type="checkbox"/>	IP Address	Hostnames	Description
<input checked="" type="checkbox"/>	192.168.16.248	files	
<input checked="" type="checkbox"/>	192.168.16.245	mail;intranet;www;ltc	
<input checked="" type="checkbox"/>	192.168.16.245	files.home.eunicemanor.com	

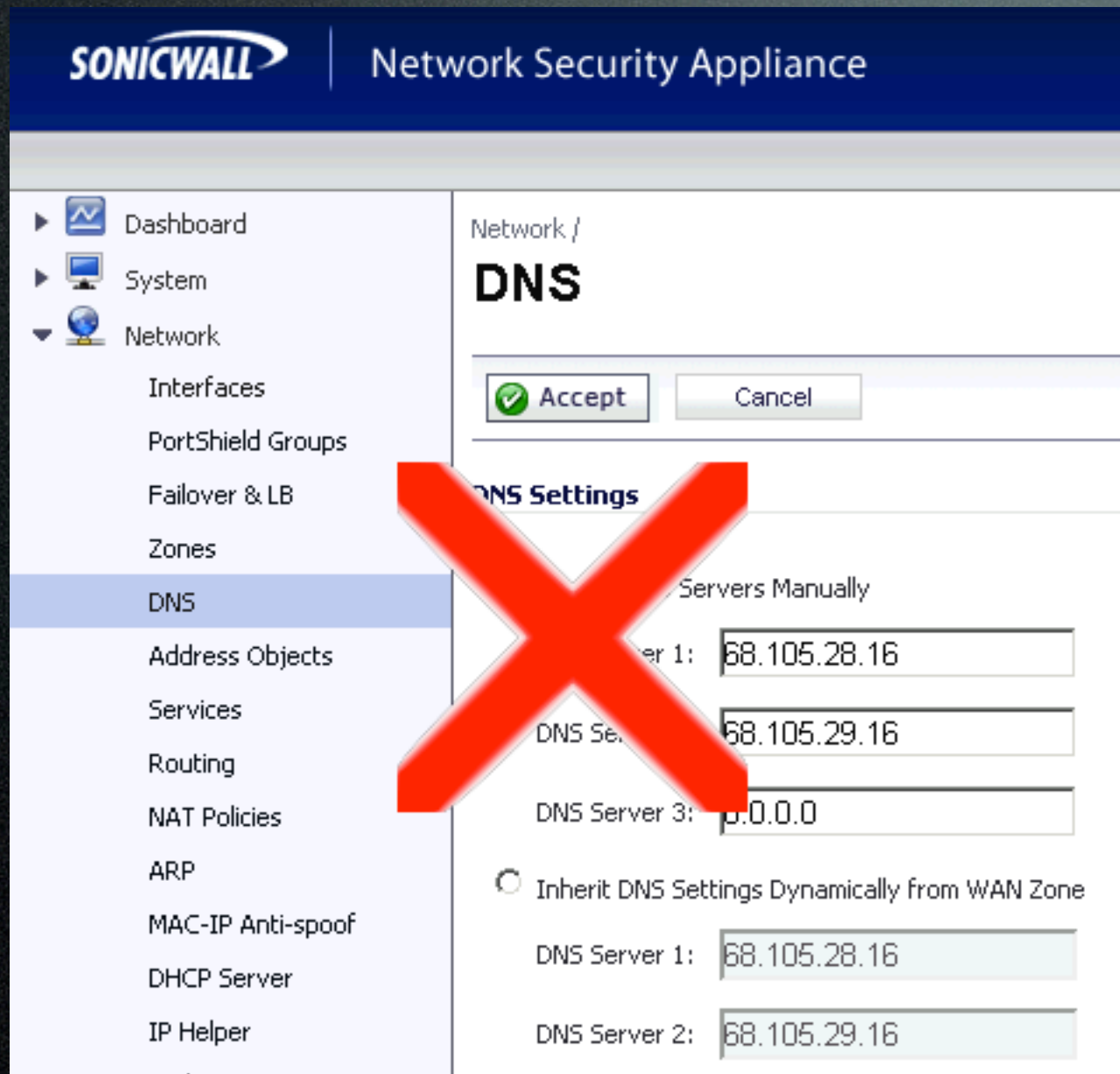
Use semicolons (;) to separate individual hostnames in a row.

Control DNS at the Router



Control DNS at the Router

It's called DNS
NAT LoopBack



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

- Dynamic DNS
 - Providers - Free or Paid
 - DNS Update Clients
 - Software vs Router-embedded
 - Other services they provide (like backup mail server)

DNS Troubleshooting

- Using the built in resolution libraries vs query tools like nslookup dig
- DNS change propagation times / ttl
- dscacheutil -flushcache
- Host lookup:
 - host server.domain.com
 - host server.domain.com 8.8.8.8

DNS Troubleshooting

- Hosts PreferencePane
 - <http://permanentmarkers.nl/software.html>
- Very handy, don't forget it's there though!





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Q&A

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