

# Designing the Perfect Network Firewall & Understanding Network Routing

Allen Hancock  
Mac Consulting Group, Inc.



# Configuring a Top Performing Network Firewall

- Top brands and models in use today
- Basic firewall
- Most common advanced settings
- Troubleshooting the stuff you got wrong
- [macconsultinggroup.com/routing](http://macconsultinggroup.com/routing)





# Some Top Brands

	Modular	License	VPN	DNS Handling	Support
Cisco	Yes	\$\$\$	Built in, Mac Client	DNS Reply Modification	Paid
Sonicwall	cli	\$\$\$	IPSecuritas		Paid
Netgear	no	\$	IPSecuritas	No	Free
Zyxel	cli	\$	IPSecuritas	Forward	Free
Kerio	partial	\$\$	Mac Client	Easy	Resellers: free
DD-WRT	cli	\$0	Built in	Easy	Forums
PFSense	Yes	\$0	Built in	Yes	Forums
Airport	No	1 time	Pass through	None	AppleCare



# WAN Routing

- Static vs Dynamic Addressing
- Multiple IP Addresses
- Bonding IP addresses



# Port Forwarding

- What is a port
- Forwarding ports into a given device
- NAT Rules direct traffic
- Firewall Rules allow/deny based on path



# DNS Considerations

- Who's providing DNS
  - Server vs Hardware
- Loopback, local DNS, DNSMasq
  - Prevents the need for a full DNS



# VPN Connectivity

- VPN clients - and not wanting to have to deal with them, was the impetus for my deep research into routers.
- Flavors of VPN:
  - PPTP, IPSec, L2TP over IPSec, SSL
- VPN Endpoint: Router or Server?
- How to manage user/passwords?





# Troubleshooting

- Configure your laptop to be a syslog server
- Port mirroring & wireshark
- Joking around with the ISP



# Choosing content filtering

- Configure your laptop to be a syslog server
- Lightspeed Systems
- iPrism



# Resources

- [macconsultinggroup.com/routing](http://macconsultinggroup.com/routing)