DEPLOYING IPv6

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OUR NETWORK

- Assign IPv6 addresses to external-facing interfaces
- Update firewall rules and DNS
- Add another gateway/firewall for ipv6.
OUR NETWORK

The Internet

Corporate firewalls

NAT
v4 Gateway:
SMTP
DHCP

Mercurial
SSH and Homes
NFS

ipv4 DMZ g/w
ipV6 gateway
radvd
radvd
DHCP

10.13.0.0/23
10.13.2.0/23

NAT

Wireless

10.13.0.0/23

DMZ

Wired

Random Desktop

Random research
gadget

Backup Server
TRAPS FOR THE UNWARY

- router-advertisements don’t cross routers (duh!)
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The Internet

NAT v4 Gateway:
- SMTP
- radvd
- DHCP

Mercurial
- SSH and Homes
- NFS

ipV6 gateway
- radvd
- DHCP

Wireless
- 10.13.2.0/23

Static Routes

10.13.0.0/23

Random Desktop

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DMZ

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- Asymmetric routing fragile and often broken
- Use link-local addresses in static routes \texttt{fe80::...}
SUCCESSES

• Can access web, ssh, mail via ipv6 from outside
• Can access external ipv6 sites
• Can ssh into machines inside
• DMZ allowed externals to demo mobile ipv6 apps.
ISSUES

• Routing
ISSUES

• Routing
  – Could use split-horizon DNS
  – Or keep adding static routes...
ISSUES

• Routing

• Naming

  – Autoconfigured nodes are anonymous:

$ who

ISSUES

- Routing
- Naming
- DHCP/PXE boot still ipv4
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- DHCP/PXE boot still ipv4
- Other dhcp-discovered services (nameservers, NTP servers) more complex than with ipv4 at present. — expect changes soon.