

APRICOT 2009

Conference Network Design

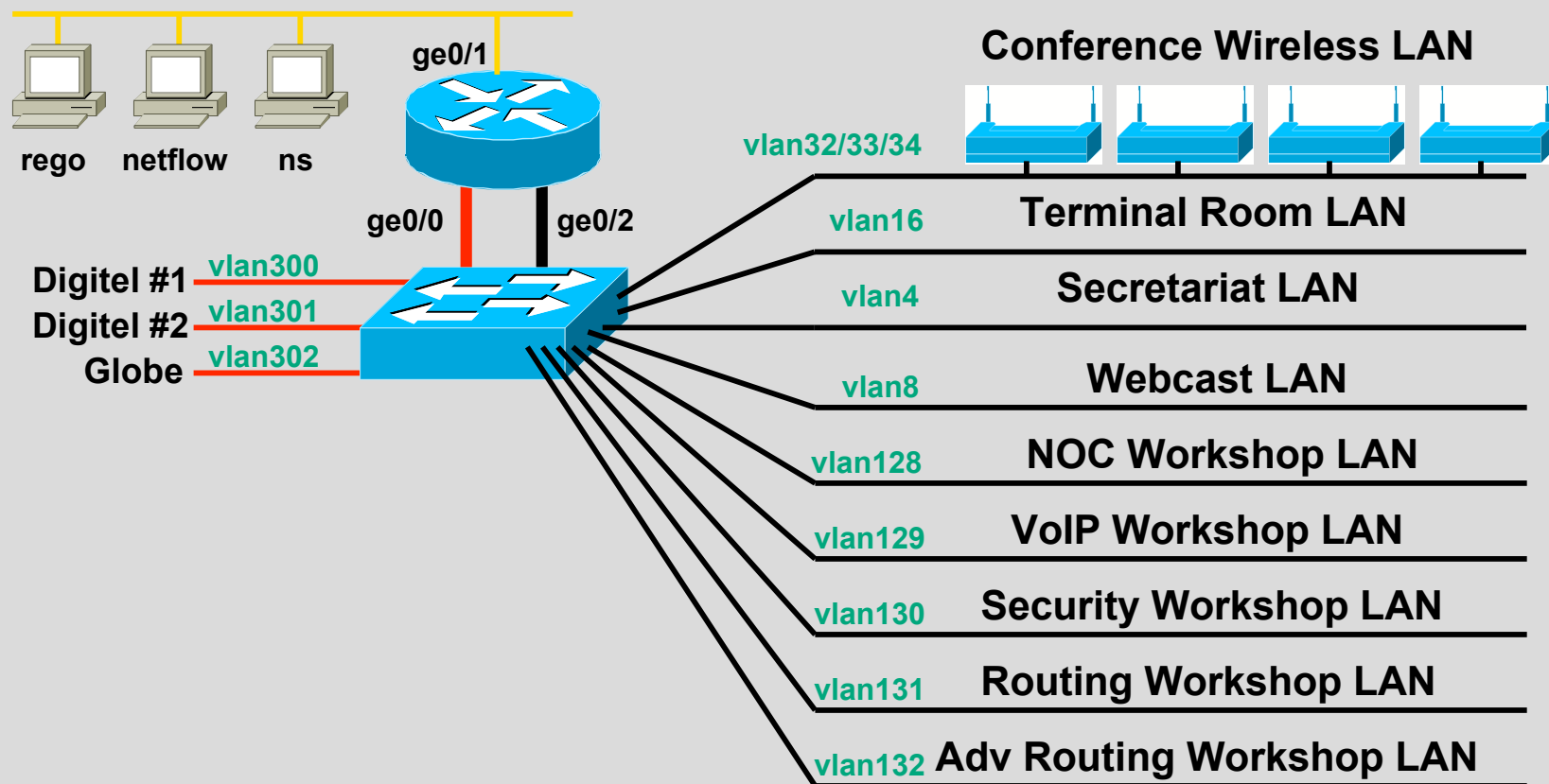
Internet Connectivity

- Provided by:
 - Digitel (Primary and backup links)
 - Full IPv4 BGP Feed and Default route
 - Providing IPv6 transit (Full BGP Feed)
 - Globe
 - Full IPv4 BGP Feed only
- Full BGP feeds are used for demo during the Routing Workshops
- Selective filtering on upstream links to keep “bad stuff” in and “bad stuff” out

Conference Network

- One router and one core switch
- Network split into several vLANs
 - Router routes between each
- Ethernet jack in each room connected to switch
 - Subsidiary switches used if more than one vlan required per room

Conference Network Schematic



Wireless Network

- Access Points have 802.11b/g and 802.11a radios
- 6 different SSIDs
 - Three use 802.11b/g
 - Minimum speed is 11Mbps
 - Three use 802.11a
 - Minimum speed is 18Mbps
- Each vlan mapped to different a/b/g SSIDs

APRICOT Conference Network

- Standard network - vlan32
 - **SSID: apricot**
 - IPv4 and IPv6 dual stack
- IPv6-only network - vlan34
 - **SSID: apricot-v6**
- IPv6-only network (for Windows XP) - vlan33
 - **SSID: apricot-xp-v6**
- For 802.11a support
 - SSIDs have "-A" suffix

APRICOT Conference Network

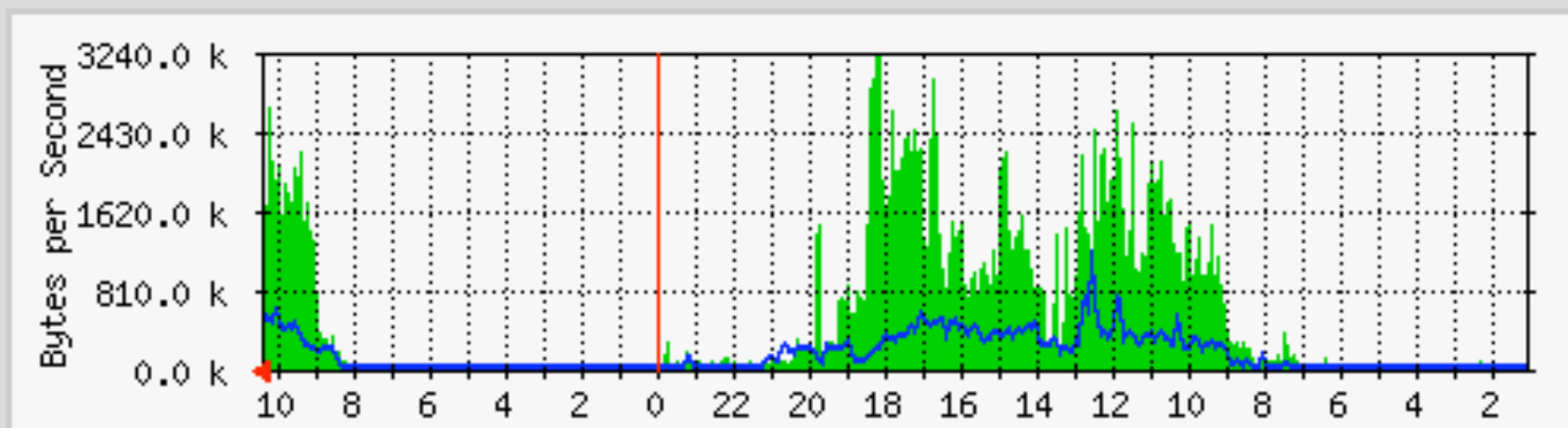
- IPv6-only network
 - No IPv4 at all
 - Native IPv6 to sites which support it
 - NAT-PT to those which do not
 - IPv6 DNS resolver: **2001:df9:1::3**
 - This is “totd” front end to the real resolver
 - DHCPv6 running
- IPv6-only network for XP
 - As above but has IPv4 resolver

Wireless Network

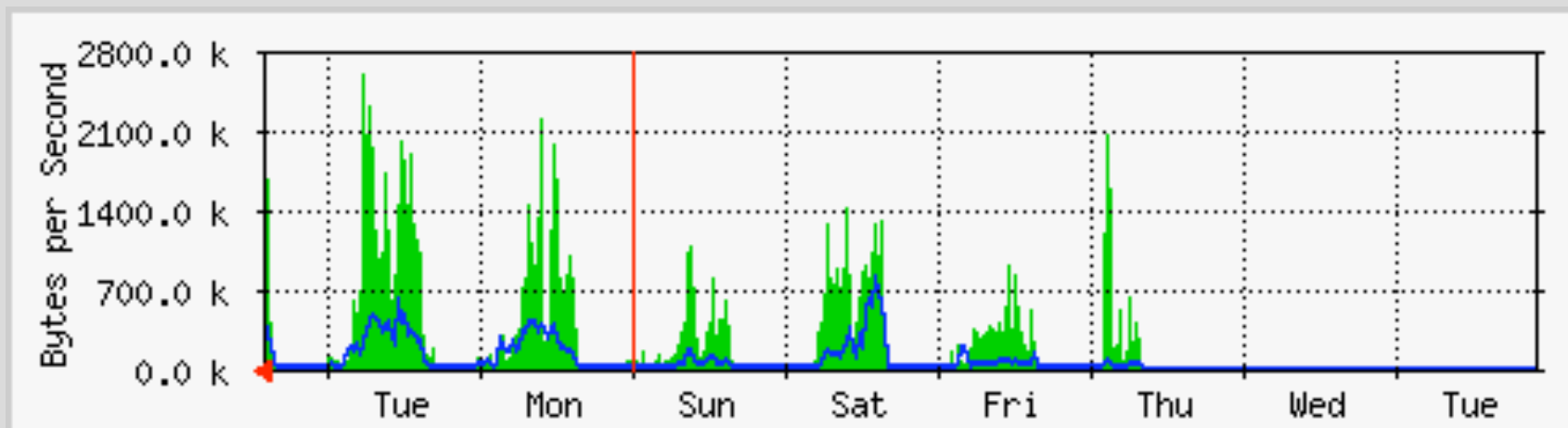
- Designed very carefully
 - 802.11b/g has only three non-overlapping channels (1, 6, 11)
 - Limits deployment
 - 802.11a has 5 non-overlapping channels (36, 40, 44, 48, 52)
- Ballroom has 4 APs, one running at low power
 - Cisco APs have tuneable, Ruckus APs (used in some rooms) do not

Traffic profiles

- Netflow data exported from router to neflow collector
 - netflow.conference.apricot.net/nfsen/nfsen.php
- MRTG used to graph interface loads from the router:
 - netflow.conference.apricot.net/mrtg/gw.html
- NAT-PT runs on conference router
 - DNS ALG runs on the name server



Traffic in last 24 hours



Traffic in last 7 days

Acknowledgements

- Bani Lara and team from ASTI for all network infrastructure support
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- Digitel and Globe for Internet connectivity