Network Update

CSCF Staff Meeting
2011-4-21

A copy of these slides is in:
http://www.cs.uwaterloo.ca/cscf/internal/presentations/

What's new with the network?

- VLAN numbering

- DNS conversion: Tuesday 2011-4-26

- Network outage: Thursday 2011-4-28

- Server network change: 129.97.152 going away, replaced with 129.97.167 pair (MC, DC)

- IP space recovery, one down, two to go

- Printers moving to private network

- Misc: Campus VPN, unmanaged switches, ...

VLAN numbering

- IST has changed (again) the VLAN numbering standard

    – Details to be published

- There will be no way whatsoever to associate a VLAN number with an IP address range, except to look it up somewhere:

    – https://www.cs.uwaterloo.ca/twiki/view/CF/VLANInforma

    – ONA switch page

VLAN numbering, 2

- Example:
  - 129.97.167.0/25 is VLAN 422 (MC)
  - 129.97.167.128/25 is VLAN 421 (DC)

- There is no guarantee of uniqueness between buildings: VLAN 421 in MC could be entirely different from VLAN 421 in DC

- Force yourself to use the Wiki reference!

- ONA will be modified to (try to) make VLAN selection less error-prone (e.g. dropdowns)

DNS conversion

- Last major component of DNS change: *.cs.uwaterloo.ca to become a zone cs.uwaterloo.ca

    - Still have research groups to do

- Scheduled for: Tuesday April 26, 0700h to 0930h

- Nameserver daemons restart and cache flush following 1015h Maintain update

DNS conversion, 2

- Be aware of DHCP client settings: DHCP will be issuing the wrong hostname and domain information

    - Most DHCP clients don't seem to care much

    - Could affect search rules

    - Anyone with hand-crafted resolv.conf needs to be aware

- Inventory and DNS not yet in synch: continue to make inventory names with the dotted form

DNS conversion, 3

- The xhier-distributed */etc/hosts* will no longer be useful at boot-time for systems that do not correct their own hostname in */etc/hostname.interface*

    - The dotted version of the name won't be there

    - Systems can't resolve their own name, and won't boot

- We are working on a replacement package that will re-construct the /etc/hosts to support the legacy names

Network outage

- Full network outage Thursday April 28, 0700h to 0800

- IST updating firmware in all four core routers

Server network renumbering

- 129.97.152.0/24 was always intended to be split into two networks, one per building

- We have acquired 129.97.167.0/25 and 129.97.167.128/25

- Will migrate "one-at-a-time" over the summer

  – 129.97.152 must be given back by the end of August

  – Less painful that breaking half of the network all at once

Server network renumbering

- Renumbering co-incident with moving insecure Solaris8 to a private network

- We will be moving our DNS servers to a private network, so 129.97.152.10 and 129.97.152.100 will be going away

- Pop quiz:
  - What are the VLAN numbers for the nre server networks 129.97.167.0 and 129.97.167.128?

IP space recovery

- VLAN 79 all done – thanks everyone!

- VLAN 78 and 75 to go

- We will be keeping VLAN 74 as our only non-firewalled public network

Moving printers to private networks

- There appears to be no good reason to put printers on the public Internet
  - Abuse potential
  - Security leaks
- Will be working over the summer to identify and move printers to 172.19
  - People who really want to print from off campus can use the campus VPN

Miscellaneous

- Campus VPN up and running, see:
  http://ist.uwaterloo.ca/cs/vpn/index.html
    - Some rough edges in CS because our firewall
      or systems are too restrictive

- Unmanaged switches: IST would like to get rid
  of them, but I've advised that we depend on
  them (for various reasons)