Issue: *FSHN network connectivity issue (Buildings 461 and 475)*

In August, FSHN experienced a networking event that disrupted connectivity for a few days. The B120 Cisco 4900m was seeing a large broadcast storm occurring, which made it incapable of seeing BPDUs, and thus loopguard kicked in and shutdown the interface.

Router log entry:

Aug 12 09:51:03 EDT: %SPANTREE-2-LOOPGUARD_BLOCK: Loop guard blocking port GigabitEthernet2/18 on VLAN0109.

While waking the HP switches within FSHN, ITSA found a switch on the 4th floor that was reporting that port F2 was sending "Excessive Broadcasts." However, there was something extremely odd with this port, there were no MAC addresses associated with it.

Switch log entry:

W 08/13/14 13:48:20 FFI: port F2-Excessive Broadcasts. See help.

```
HP ProCurve Switch 4000M        FSHN 4th Floor            13-Aug-2014  16:47:08

============================- TELNET - MANAGER MODE -============================
                Status and Counters - Port Counters - Port F2

  Link Status      : Up

  Bytes Rx         : 4,116,826,130       Bytes Tx         : 70,418
  Unicast Rx       : 0                   Unicast Tx       : 0
  Bcast/Mcast Rx   : 51,852,469          Bcast/Mcast Tx   : 635

  FCS Rx           : 0                   Drops Tx         : 0
  Alignment Rx     : 0                   Collisions Tx    : 0
  Runts Rx         : 0                   Late Colln Tx    : 0
  Giants Rx        : 0                   Excessive Colln  : 0
  Total Rx Errors  : 0                   Deferred Tx      : 0
```

```
HP ProCurve Switch 4000M        FSHN 4th Floor            13-Aug-2014  16:48:42

============================- TELNET - MANAGER MODE -============================
              Status and Counters - Port Address Table - Port F2

  MAC Address
  -------------
  ______________
```

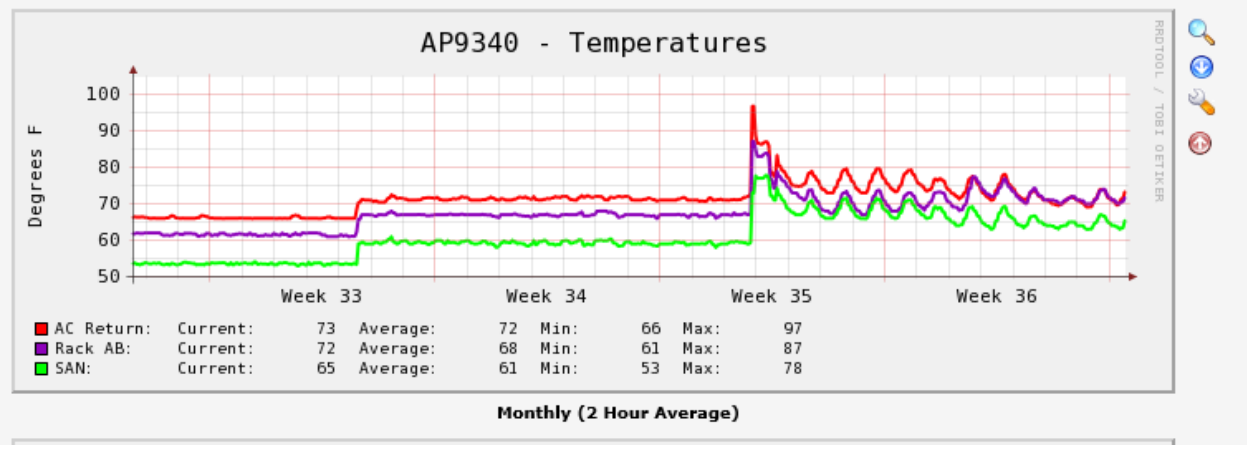
Resolution:

ITSA disabled the port and tracked the source to a SOHO switch that was plugged into itself.

Issue: *Building 120 Air Handler*

On August 27th at 7:49pm, ITSA experienced a data center power outage. The outage was caused by an electrical short in one of the compressors within the air handler that then tripped the main power breaker. IFAS FacOps, the after-hours crew, had by-passed the bad compressor and got the AC working with the remaining "good" compressor.

With the help of EI&O, ITSA was able to secure a spot cooling unit to augment the degraded cooling of our air handler. As you can see by the below graph, the IFAS datacenter is maintaining adequate temperatures.



Resolution:

A new compressor is currently being installed. It is expected to be completed by September 12th.

Issue: *McCarty D Connectivity issues (Building 498)*

Users were complaining of generalized and sporadic network disruptions. These included but not limited to:

- *Workstations periodically cannot connect to the network (receiving self-assigned address)*
- *Workstations are periodically receiving a duplicate IP address message*
- *Workstations email client (Outlook) is not synchronizing with the Exchange server periodically*
- *Workstations email client (Outlook) requires re-authentication with the Exchange server periodically*

From our fact gathering, it was known that these issue appeared to have started within the December 2013 timeframe, occurs regularly on the first floor with sporadic occurrences on other floors and time varied - but most occurrences were in the early morning hours prior to 8am.

With the assistance of EI&O and Net-Services, we were able to track down several issues within McCarty D. They are outlined below:

DHCP Option 252 (DHCP-INFORM packets)

http://social.technet.microsoft.com/Forums/windows/en-US/84176a7b-aa63-4c5d-bf80-d3888ee110fa/when-will-microsoft-fix-web-proxy-autodiscovery-protocol-wpad?forum=w7itpronetworking

If DHCP option 252 was not set, the client would continually make DHCP-INFORM requests against the DHCP server. This event wasn't causing any problem and is happening on every UF subnet that offers DHCP, without option 252, to windows clients. At most, there is only an insignificant amount traffic would is generated on the network.

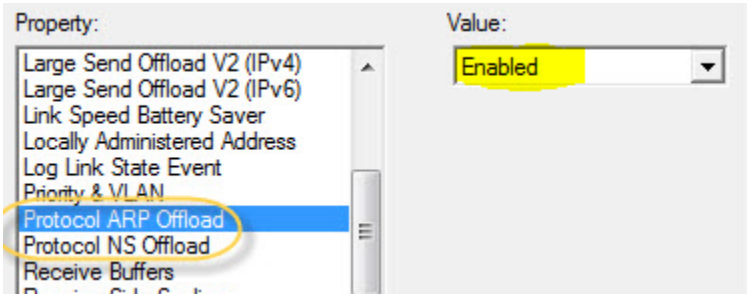
Resolution:

Add Option 252 to the local DHCP scope and set the value to Null

Intel(R) 82579LM incorrectly responding to ARP requests

https://communities.intel.com/message/184028

When a computer, running Windows with an Intel 82579LM NIC, has the advanced option "protocol ARP Offload" set to **ENABLE** and the system is in sleep mode, the workstation will respond to ARP requests even after the DHCP lease had expired. This causes other workstations on the network to receive a "Duplicate IP address" popup message.



Resolution:

ITSA implemented a fix via Group Policy Preferences that appears to address maybe 80% of the systems. However, we re-evaluating this fix and will be implementing a more comprehsive solution soon.

IPv6 multicast flood during sleep from i217-LM

https://communities.intel.com/thread/48051?start=0&tstart=0

When a Microsoft Windows workstation with an i217-LM NIC and a driver version prior to 12.10.30.X was in S1 sleep mode, the workstation would flood the network with ICMPv6 'Multicast Listener Report' messages. This would result in huge traffic loads causing network devices to drop packet and create a variety of networking issues.

Resolution:

Update NIC driver with (Microsoft's or Intel's) latest version.

Issue: *Outlook Client issues*

James Oulman, Microsoft and ITHD are working to define the Outlook client problem. Once that has been done, they will work on a fix.

Resolution:

Outlook connectivity issues are still outstanding.

Issue: *DC replication issues*

While deploying a new version of the IPCC.exe application, ITSA noticed that there were UFAD Domain Controllers that had inconsistencies with their NETLOGON share. So, ITSA wrote an application, ReplChk.exe, which would check a single file checksum on the source NETLOGON share and compare it with all other UFAD DC NETLOGON shares.

Resolution:

The problem was reported to EI&O and the UF Windows team worked with Microsoft to fix the issue.

Project: MPSv2.5 Deployment

Completed July/August Deployments:

- Bay
- Escambia
- Gulf
- Jay (WFREC)
- Liberty
- Walton
- Milton (WFREC)
- Hillsborough
- Collier
- ONA

Planned September Deployments:

- Wakulla
- Franklin
- Calhoun
- Marianna
- Jackson
- Washington
- Gadsden
- Jefferson