



# UNCW Data Network Modernization

Board of Trustees

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# Project Scope

- Access layer of data network is failing: nearly 90% of components are past end of life/support
- Old equipment can't support needed security and management features
- This project modernizes the access layer – replaces all outdated network switches and upgrades/expands wireless access to meet current needs
- Replacement will take 6 to 9 months with minimal disruption to campus
- Project expected to begin this summer



# UNCW Data Network and Wifi Modernization

## **ACTION ITEM:**

- We are requesting authorization to transmit this action item to the BOG for approval of the short-term use of unrestricted university funds, to be coupled with funds from Housing, NetComm, and Educational & Technology fees, to make a capital investment not to exceed \$7M for the upgrade and modernization of the university's access layer and wireless network infrastructure
- These unrestricted funds will be replenished over a 5 year period from Educational & Technology Fees previously approved by the UNCW BOT and the BOG for this purpose



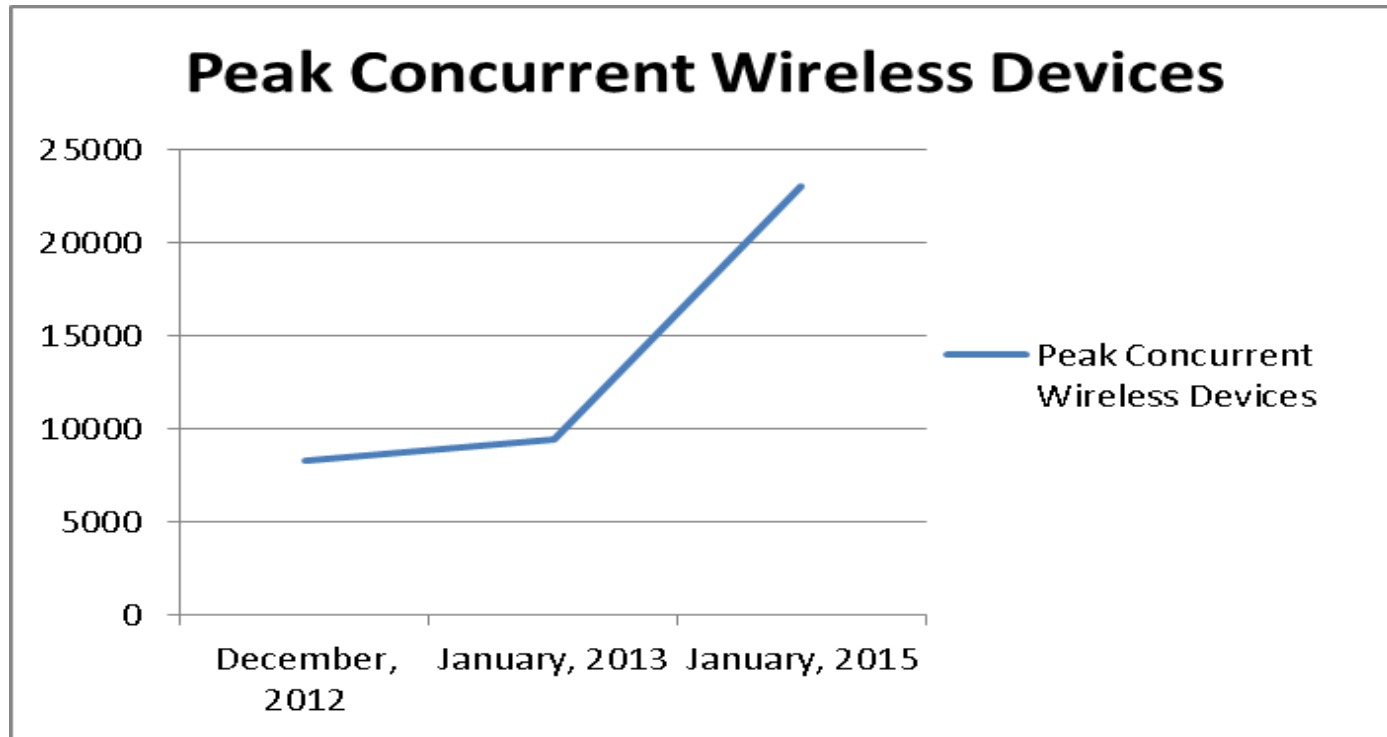
# Payback Over 5 Years

- Total project cost not to exceed \$7M
  - Anticipate five annual payments of \$1.4M
    - Education & Tech Fee increase = \$701,445\*\*
    - Housing = \$388,101
    - NetComm = \$140,000
    - University Reserves = \$310,454
  - This model provides an ongoing source of funding for phased lifecycle replacement of equipment

\*\*Includes the \$39 increase in the Tech Fee in FY 15-16 & \$27 increase in FY 16-17 approved by the Board of Governors

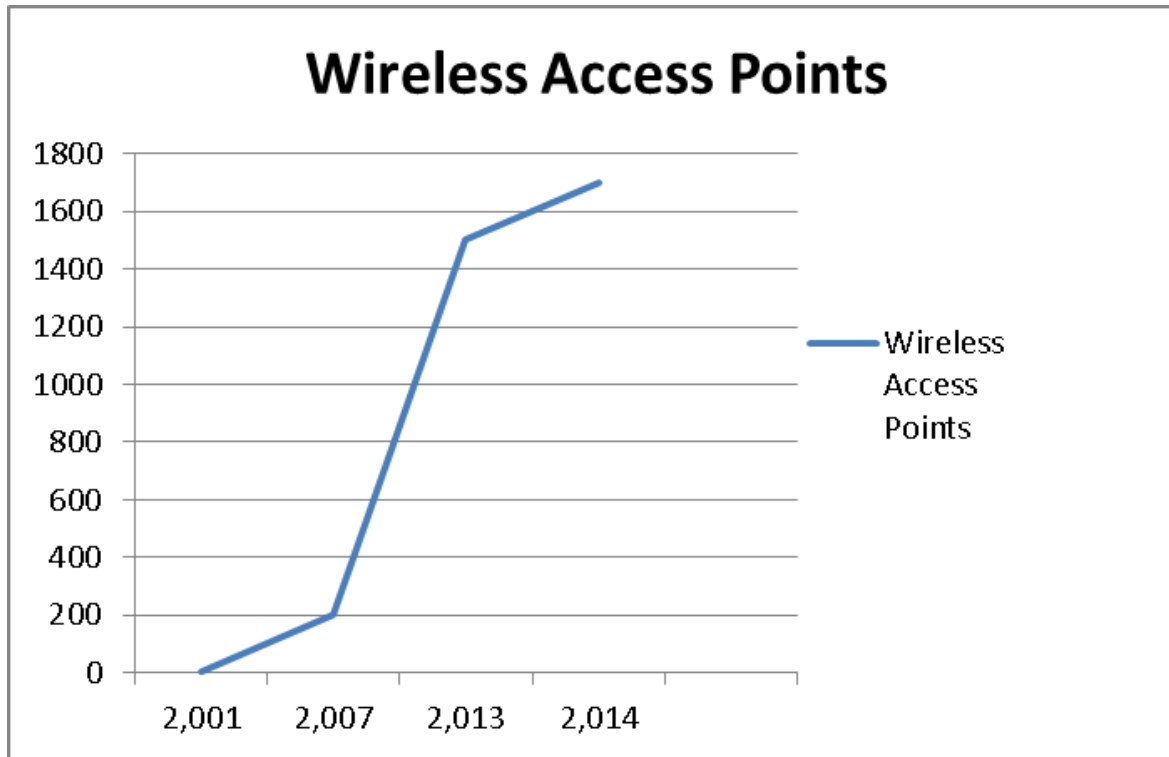


# UNCW Peak Concurrent Wireless Devices



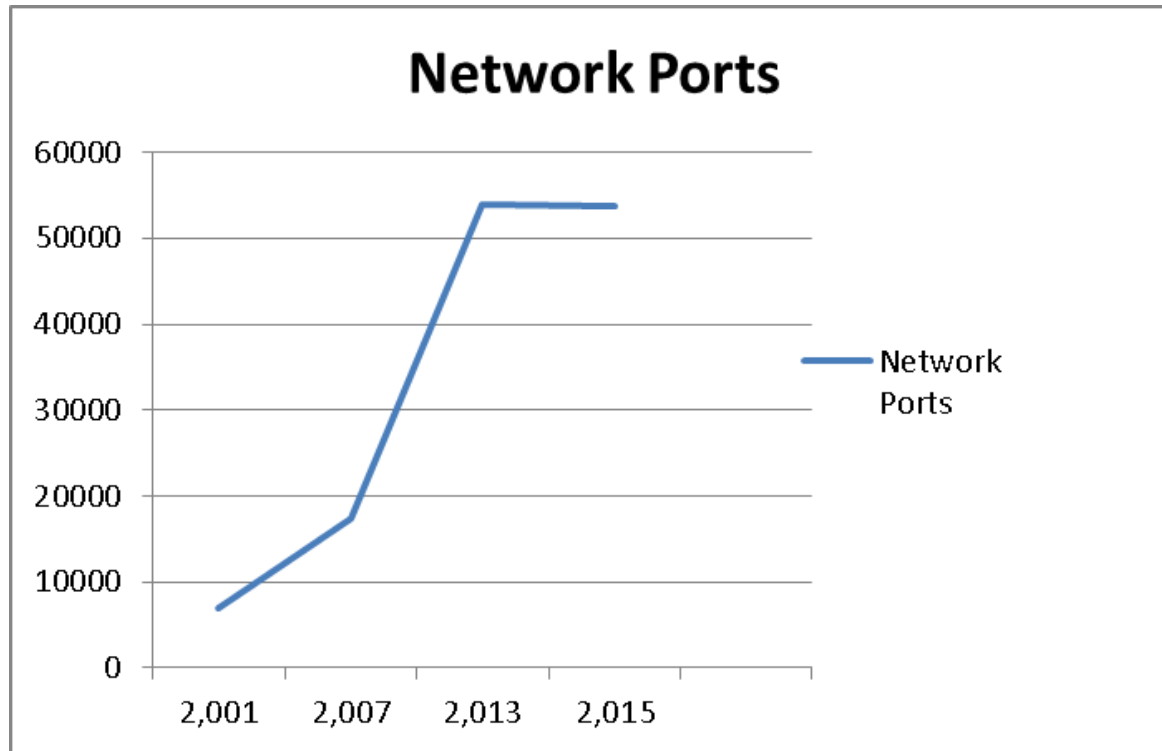
- Peak Concurrent Wireless Devices – 176% growth in 2 years!
  - December, 2012 - 8,312
  - January, 2013 9,418
  - May 2014 10,420
  - **January 2015 >23,000**

# UNCW Wireless Access Points



Wireless Access point growth 2007- 2014 – 750%

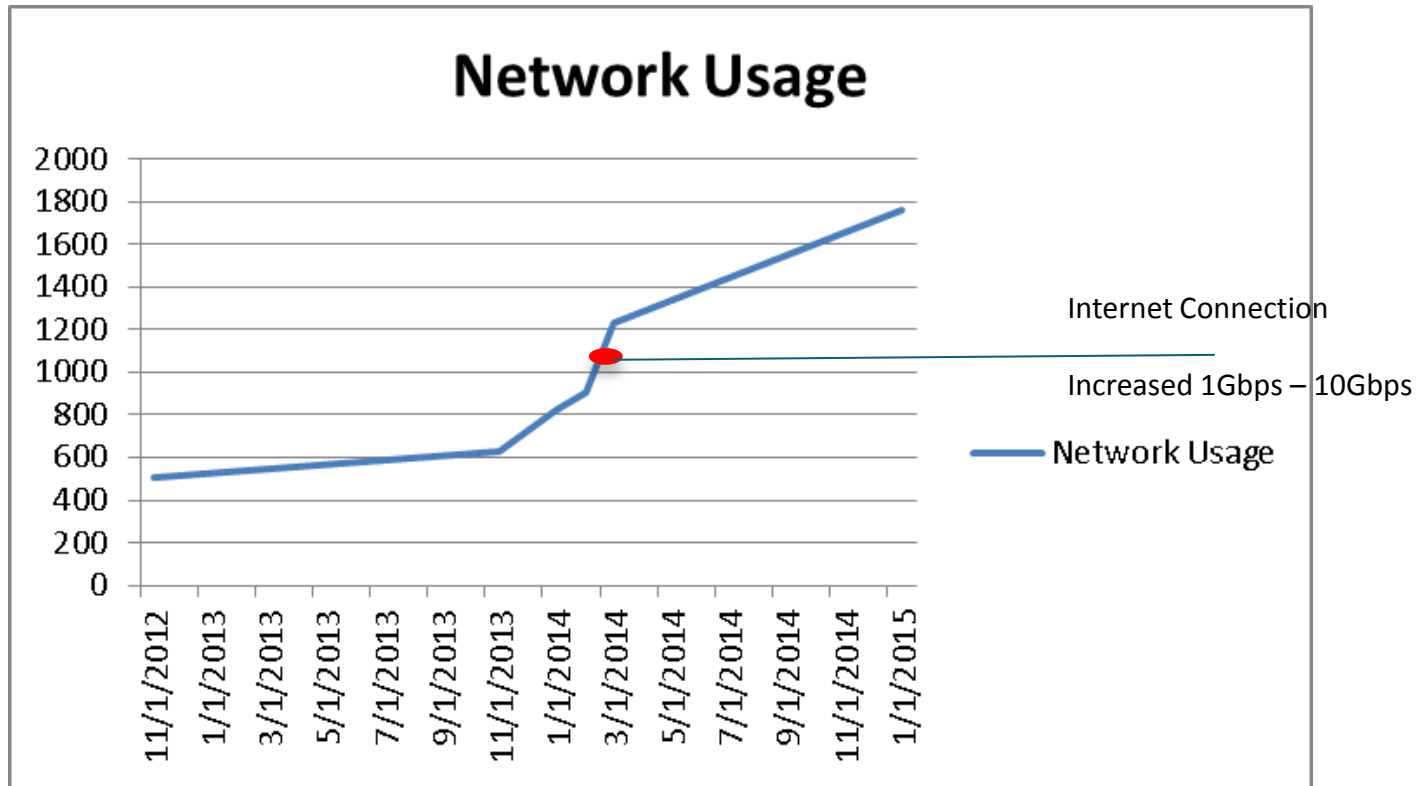
# UNCW Access Layer Network Port Utilization



Currently at max port capacity on access layer switches



# UNCW - Explosion of Internet Bandwidth Usage



**Internet bandwidth usage up over 250% in just over 2 years!**



# Wifi Survey Comments from Students

- “I was in the middle of studying for finals when my wifi signal died. I was not able to revive it.”
- “Just this morning in TL1010 phone stopped picking up wifi, a few other students said the same thing happened to them while we were trying to do in class research on climate change.”
- “It’s not awful but sometimes it’s super slow which gets frustrating in class when I want to get on blackboard and download powerpoints.”



# Benefits of a Modernized Switch / Wireless Access Point Infrastructure

- Increases wireless access point speeds from a maximum 54 Mbps to 1 Gbps.
  - The wireless access point has to be connected to a new Gbps access layer switch port in order to take advantage of this speed.
- Provides role-based access to the network which significantly enhances network access and security.
- Provides 10 Gbps capability between buildings where needed.
- Increases speed to desktops from 100 Mbps to 1 Gbps.



# Implementation Details

- A phased multi-year approach would be difficult as all buildings have the same critical needs. The campus community would suffer if equipment replacement is substantially deferred in any buildings.
- Cisco, along with its implementation partner Presidio, is offering turnkey installation services during off hours (10 p.m. to 5 a.m.) at no charge to UNCW.
  - Once equipment is received, installation should take 6-9 months.
- Proposal includes a new \$415,000 Intrusion Prevention System (IPS) with installation, configuration and 3 years support as a zero cost line item.



# Risks of Not Implementing

- Customer dis-satisfaction
- Impediment to student success
- Loss of competitive balance in the housing market
- Majority of equipment is beyond end of life
  - No more vendor support for issues or problems
    - 58% of equipment is end of support NOW
    - Increases to 89% after May 2015
    - Experienced 40 access layer equipment failures in 2014
    - **No more security updates**
- Can't implement security and management features enterprise wide on current equipment

