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- This project modernizes the access layer – replaces all outdated network switches and upgrades/expands wireless access to meet current needs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
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 Points

Wireless Access point growth 2007-2014 – 750%
UNCW Access Layer Network Port Utilization

Currently at max port capacity on access layer switches
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