An Enterprise (Institutional) View of Networking at CSU

Pat Burns, VP for IT

Dec. 1, 2011
Internet Capacity Trend

Internet Bandwidth (Mbps)

Dec. 1, 2011 Networking at CSU
Wireless Users

No. of Wireless Users

Summer

Dec, 2010
Jan, 2011
Feb, 2011
Mar, 2011
Apr, 2011
May, 2011
Jun, 2011
Jul, 2011
Aug, 2011
Sep, 2011
Oct, 2011
Nov, 2011
Evolving Expectations

• The network must be up 24x7x365
• Emerging needs for high capacity
  – Academic needs
    • Lecture capture
    • Distance ed
  – Research needs
    • ‘Big data’
  – Life and safety
    • Video surveillance, need 1 Gig
  – Great growth in wireless (support is very difficult)
The Drill Sergeant

“Youse guys think this is easy. Well, it ain’t, see?”
Needs

Budgets

Quality

Budget

‘Reality’

Triangle

Functionality
Burgeoning Misalignment

• The NOC is currently overwhelmed with operational issues
  – The current model is not sustainable, but
  – The network needs to get better, and
  – New and emerging needs are not being addressed sufficiently

Proposal: simplify the environment via a better, uniform collaboration model, to facilitate the needed transformation.
Current Operations

ACNS Operates
The Network: Collaboration

80%

Units Support Their Users

20%

Units Operate The Network and Support Their Users

NOC Operates The Backbone

‘Joint’ operations: Ad Hoc Coordination

Much Extra Effort

Dec. 1, 2011
Networking at CSU
NEW UNIFIED COMMUNICATIONS: IMPOSES MUCH MORE STRINGENT REQUIREMENTS ON THE NETWORK – BUT, THE NETWORK IS NOT READY FOR THIS
Current Telephone Environment

- Nortel sl-100 Telephone Switch in Glover
- > 99.9999% Availability
- High-quality, highly reliable dependable for life and safety
- $50 per MAC (Move, Add, or Change)
PERSPECTIVE
How do we get better?
Approach

SIMPLIFY, THEN TRANSFORM!
Network Operations Policy Would

• Avoid additional costs
• Increase network manageability
• Increase network availability
• Increase operational efficiency and effectiveness
• Allow buildings to be upgraded based upon needs, rather than diverting limited funds to support dual-networks
• Provide funding for edge switches
• Save departments MAC charges of $50 each
  – Take advantage of local staff, no need to ‘roll a truck’
Needed Transformation

• New network operations policy
• Configuration of telco closets
  – Power, AC, UPS – ‘life & safety’ decisions
• Continue to upgrade network 10X everywhere, split off buildings, and provide 10 Gig connections to researchers as needed
• Deploy VoIP and decommission telephone switch
  – Including in 157 GA classrooms for distance delivery
• Expand and improve wireless
• Edge switch funding model from Telecom
• Develop cable records
• Evolve to IPv6
• Etc.
Moving Forward

• Let’s ‘move the needle’ just a little bit
• So, together, we can
  – Make the network better
  – Manage the network holistically
  – Transform the network, to accommodate the next generation of needs
A New, Shared, Collaborative Network Operations Policy

• The NOC configures all network-connected switches – a single ‘cook’
  – Preconfigures ports
  – Accommodates local funding
  – Collaborates with unit IT staff

• Individual IT staff
  – Performs Moves, Adds, Changes – save $50 per user
  – Isolate and debug network problems on switches
  – Coordinate with the NOC, as needed, additionally

• Exemption requests handled via our IT governance process
Proposed Collaborative Operations

The Most Efficient Collaboration

100%

Units Support Their Users

NOC Operates All Network Switches

Exemptions Considered Via IT Governance

Dec. 1, 2011

Networking at CSU
Upon Policy Adoption

• Utilize the IT governance process to consider exemption requests
  – Consider and agree upon special cases, e.g. BSL, IDRC, etc.

• VP for IT, director of ACNS, and manager of the NOC would meet with all affected IT staff to explain and coordinate the collaboration
Finis