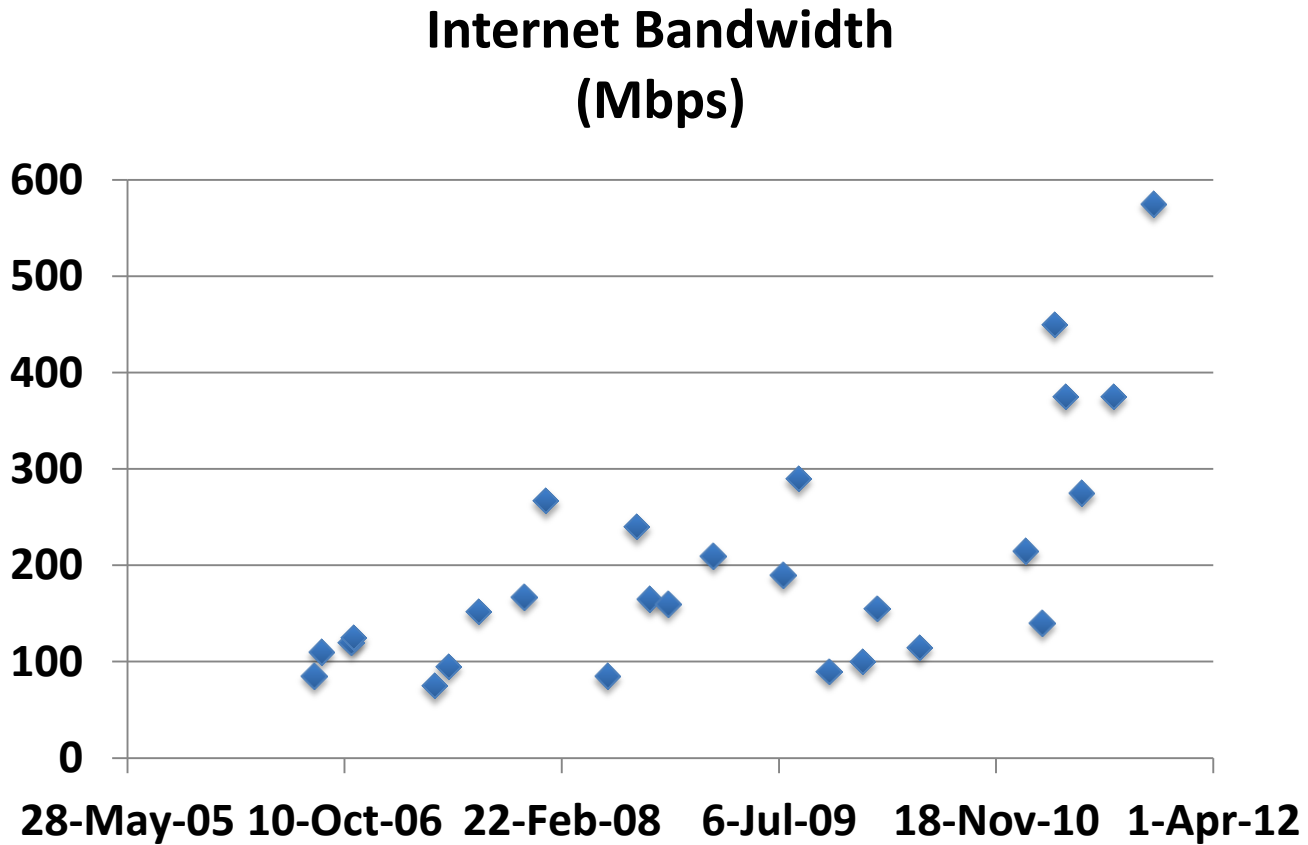


# **An Enterprise (Institutional) View of Networking at CSU**

Pat Burns, VP for IT

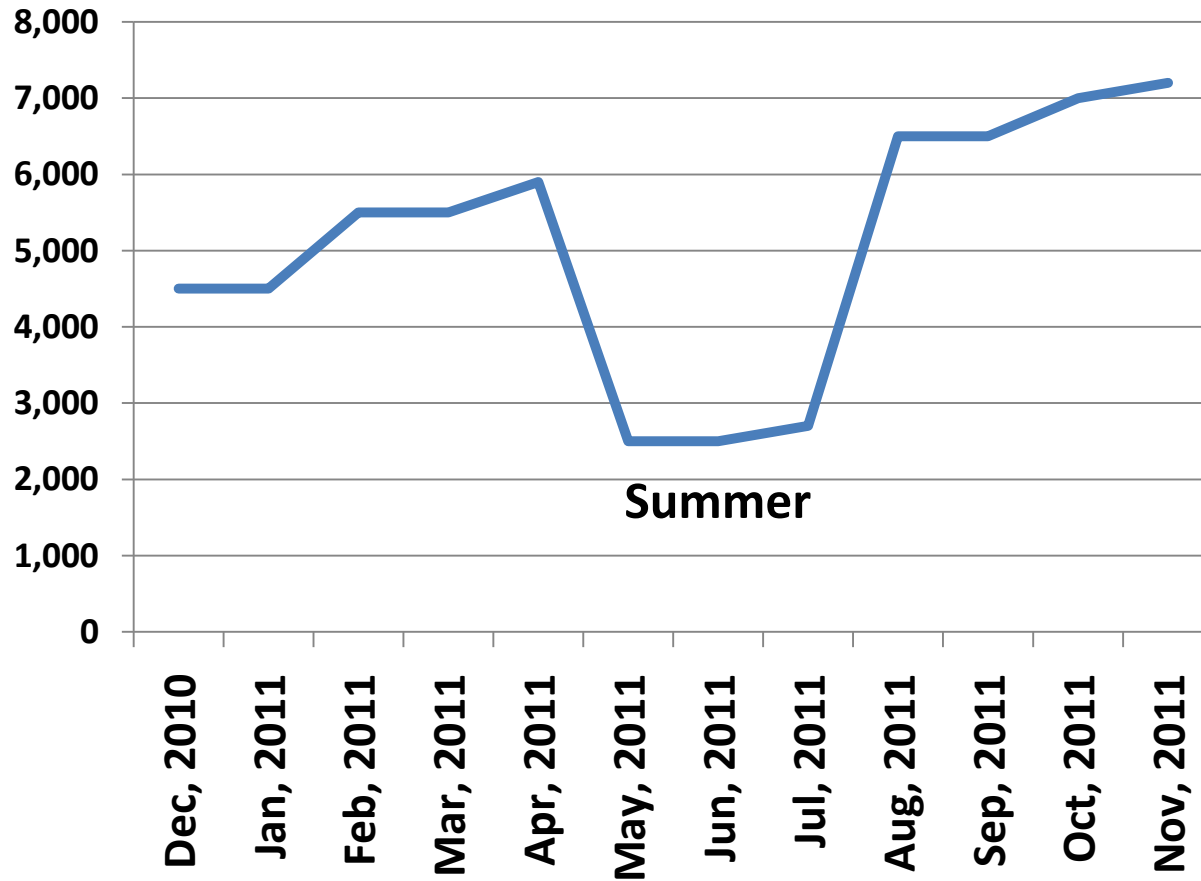
Dec. 1, 2011

# Internet Capacity Trend



# Wireless Users

No. of Wireless Users



# 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

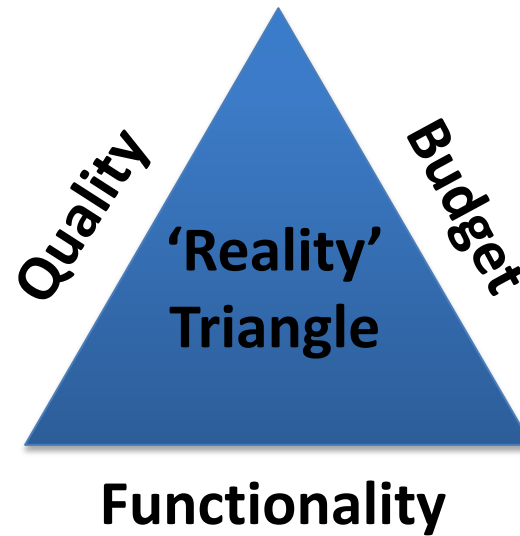
“Youse guys think this is easy. Well, it ain’t, see?”



**Needs**



**Budgets**



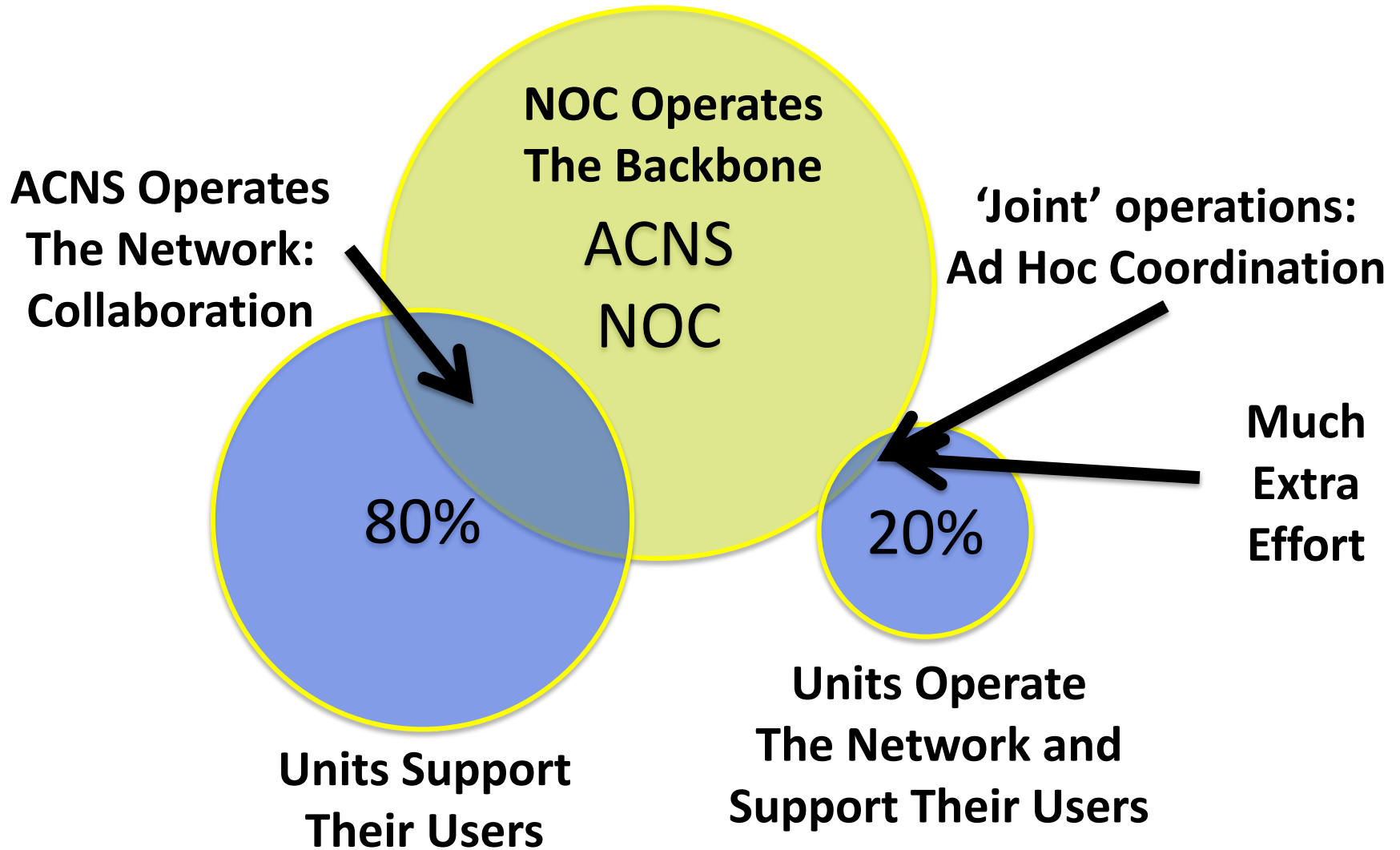
# Burgeoning Misalignment

- 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





**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**

**Individual Cat. 3  
Copper connections**

**Copper bundle**



**\$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'

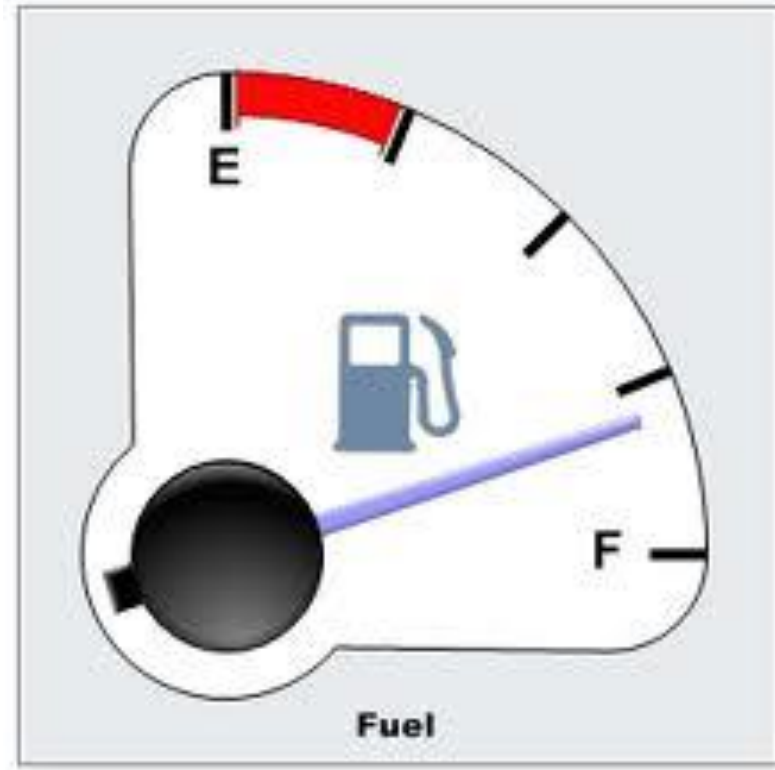


# Needed Transformation

- 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

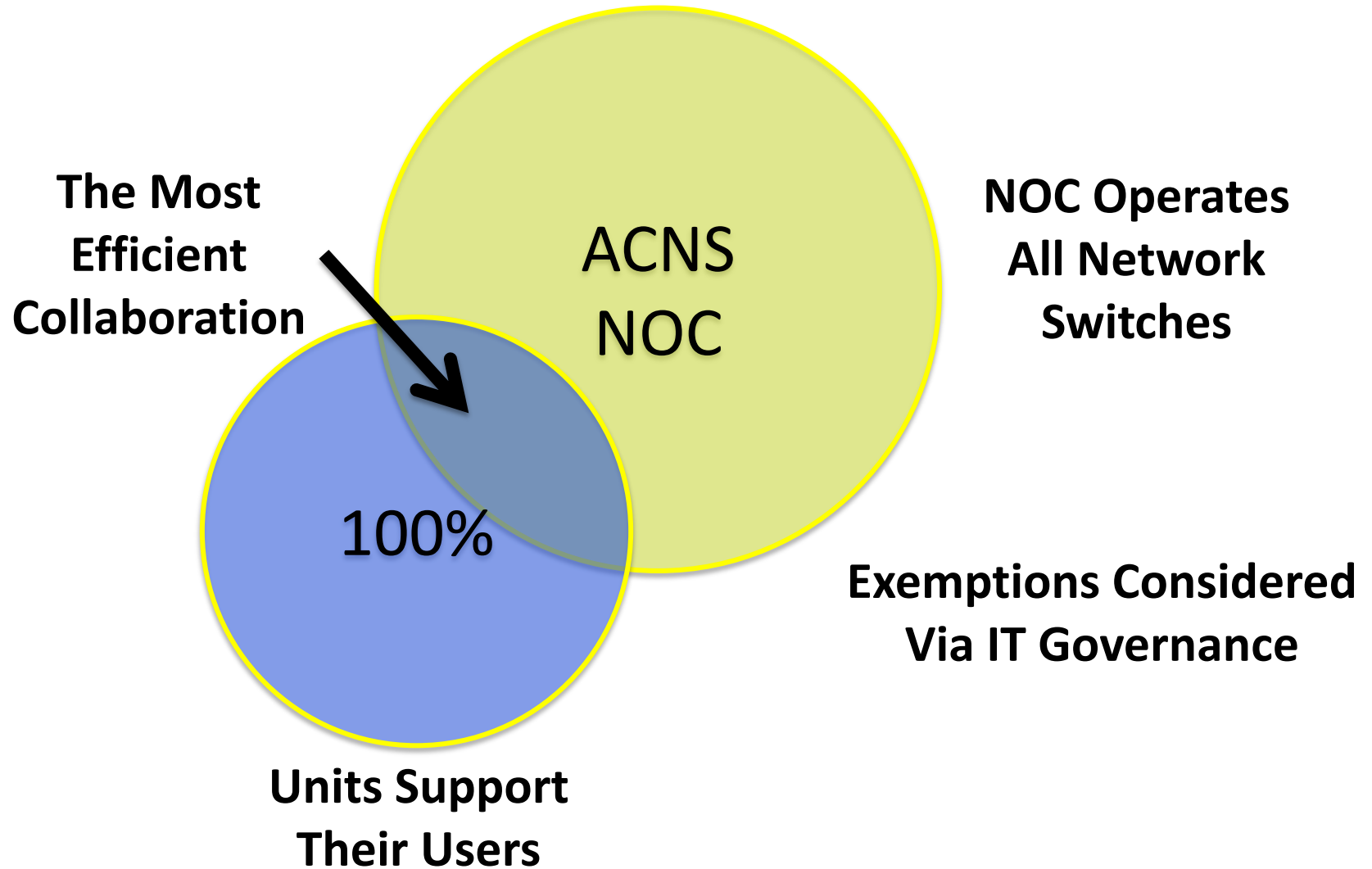




# A New, Shared, Collaborative Network Operations Policy

- 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



# 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