EECS Network
(Wired)

• Major Fork Lift Upgrade in 2002.
• Goals included increasing redundancy, reliability and bandwidth. Reduce complexity.
• Replaced all network hardware
• Changed vendors from Nortel and Cisco to Extreme Networks.
• Most of project completed over summer.
• All cross-connect cables changed also.
Nortel Networks

Project: Cory Hall Cell to Frame Conversion

Designer: Fred Archibald
Date: 7/1/2001
Revision: D
Contact: Fred Archibald
Customer: UC Berkeley
EECS Dept.
Current EECS Net

• Completely switched Ethernet infrastructure.
• 10/100 Mbit delivered to all users over Cat 5 UTP.
• Load shared redundant gigabit risers over multimode fiber.
• Currently using layer 3 switches from Extreme Networks
Hardware


- Extreme Alpine Edge switches (64 Gigabit non blocking switch fabric) Mostly L2 only.
4B Comm Closet, 442 Soda: AFTER
5B Comm Closet, 542 Soda: AFTER
Wireless Networking

• First Generation Production WLAN
• Based on AT&T, Avaya, Agere, Proxim Orinoco AP-1000 Product 802.11b Only
• MAC Based Radius Authentication
• WEP Encryption
• Lacked scalability, ability to support 11a, newer encryption and authentication
Current Infrastructure

• “Switch” Based with “Thin” Access Points from wireless startup Airespace
• A True Enterprise Class Platform
• Supports 11b and 11a (11g too but who cares ?)
• Support for WEP, WPA, 802.1x and Web Authentication over SSL
Current Infrastructure Cont.

• Support for multiple WLANs using the same radios in a VLAN like model
• APs can connect to multiple switches offering redundancy
• Currently supporting a production 11b WLAN, a Guest 11b WLAN and a “beta” 11a WLAN
• Coverage in all of Cory & Soda, some HMMB and Euclid Cafes
Soda Hall
AirespaceNetwork

POEdevice

5B
529 535 soda

4B
530 417 hallway
531 420 hallway
532 442 hallway

3B
531 342 soda
534 308 soda
536 330 soda

Airespace_soda.vsd
Wireless Futures in EECS

• Transition from Wireless Switch to AP communication from L2 to L3
  Support EECS Wireless services in remote areas

• Investigate the delivery of “AirBears” over the EECS Airespace infrastructure
Wireless Lessons Learned

- Still a relatively young technology
- Encryption in the client is more complex to configure
- Not all wireless cards are created equal!
- 802.11 client has too much control
- Zero config clients are more trouble than they are worth
- Academic enterprise is likely more difficult than corporate
Thank You