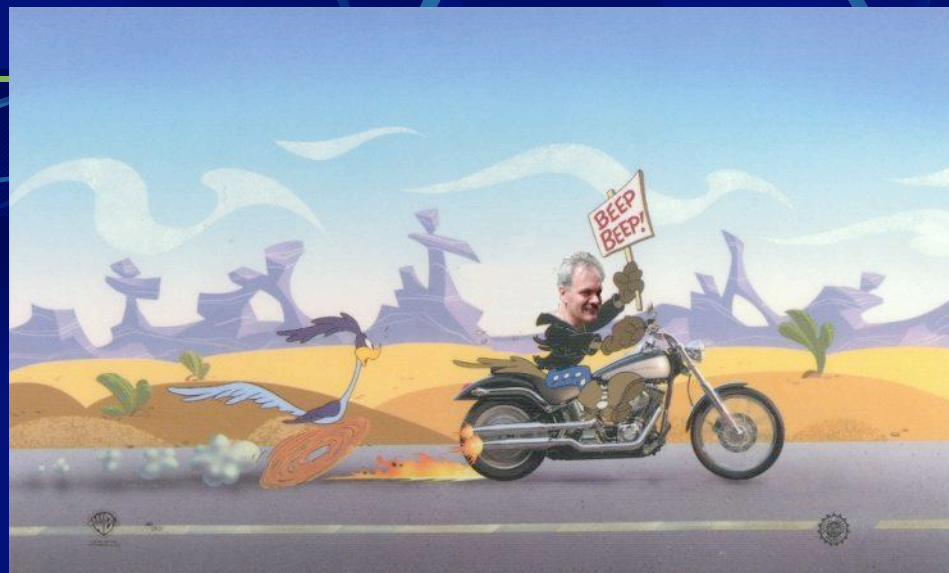


The Network



Apartment Net



Our Mission



- Wire all Columbia-owned graduate student and faculty apartment housing
- Provide really sweet FastEthernet service for the tenant
 - Possibly GigEthernet “Platinum” service in the near future for a “Platinum” price

Details



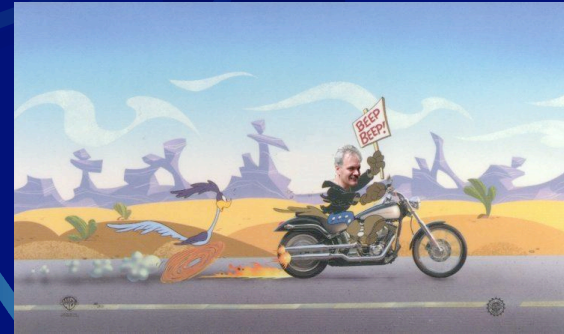
- Students pay \$25/month per jack
- Faculty/Staff pay \$40/month per jack
- \$175 Installation fee for faculty/staff if the phase has passed

The Right Stuff



- Surveys – AcIS, IRE
- Advertise
- Design – AcIS, Optec, Twins, Izzo
- Mechanical Construction
- Riser Installation
- Fiber Loop
- Horizontal Installations
- Hardware Installation
- Network Stuff
- Support
- Stats

Surveys



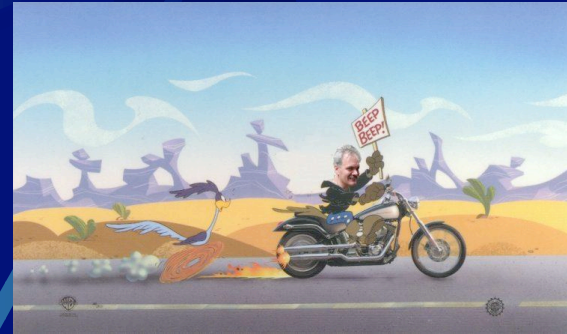
- How many apartments per floor are there?
- How many bedrooms per apartment?
- Can I drill through that?
- Can the cabling be exposed here?
- Can we run piping through the lobby?
- Crown mold or wiremold?
- We need this space to build a closet.
Thanks.
- Make friends with the super and all the porters

Advertise



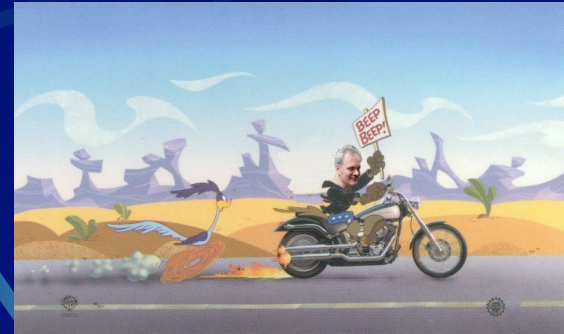
Building address, Project URL, Fees, Catchy “Got Net” Phrase

Design



- Are there distance issues?
 - Butler Hall, 542 West 112th, 410 RSD
- Are there existing utilities in the MDF area?
- How many risers per floor?
 - Is one 4" EMT going to be sufficient?
- Measure for fiber cable length(s).
- Is it possible, safe to drill in this area?
- Will we need sleeves in the basement to reach the MDF?
- What type of switch will we need?

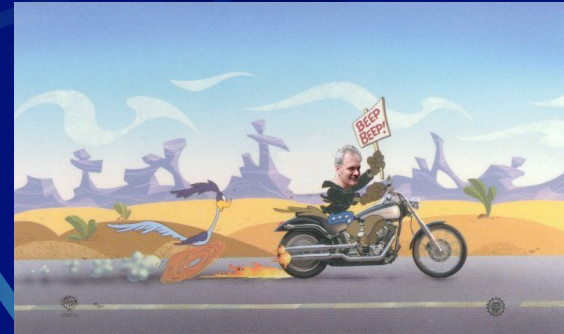
Mechanical



- Core Drilling
- EMT Piping
- IDF installation



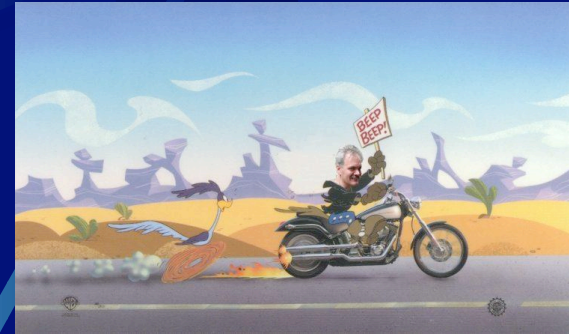
Mechanical



- Closet Construction (MDF)
- MDF Electrical
- Relay Rack/Ladder Rack
- Wiremold



Risers

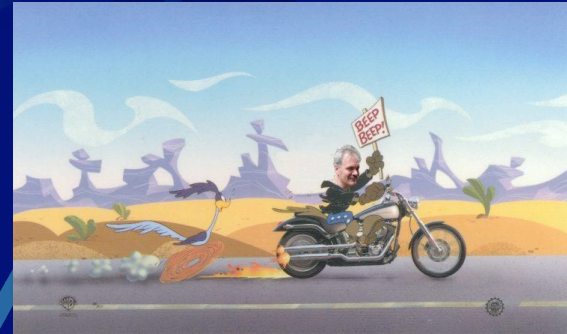


- Avaya: An end-to-end solution
 - Category 6 UTP
 - Patchmax MDF/IDF Patch Panels
 - MGS400 Information Outlets
 - Gigaspeed Patch Cables
 - Certified installers



Risers

- Remember: 4" EMT + Avaya 1071 UTP = 144 cables
- Pull and Punch Down



Fiber!

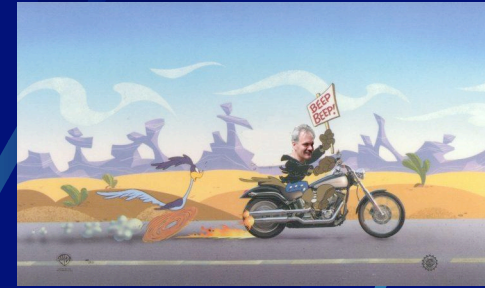


- Any well-balanced network diet must contain a lot of FIBER!
- Corning – custom outdoor single mode cable – **Ask me what's special about it**
- Corning – patch panels, couplers, patch cables, Uni-cam connectors
- Mid-spanning to maintain continuity
- Verizon/Time Warner “Diac-Proof” Design



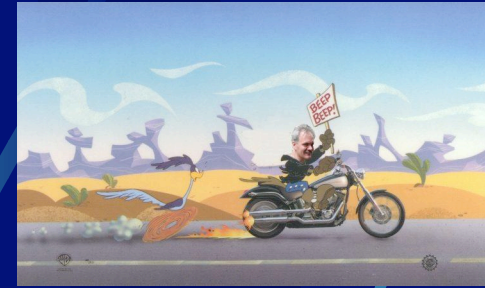
Fiber!

- Each block has a concentration/origination address
 - Some exceptions (satellite addresses like 410/415/435 RSD)
- Common courtyard provides redundant path in most cases
- Catalyst 4506 with G-BIC modules to uplink each block to the backbone
- Some future phases will require trenching in order to reach the backbone



Horizontals

- IDF to apartment
 - Cross-connect riser cable to horizontal cable inside the IDF
 - Forms one continuous path to the switch in the basement
- Scheduling
 - “Yay!” posters.....yay.
 - Cool web-based system a la Medina and Crosswell



Horizontals

- Down the hall, through the wall, and into professor so-and-so's bedroom we go
 - Ride the picture molding, surface-mounted LD-5 molding down to the jack
 - Renovated apartment exceptions
 - Work with IRE agent to pre-install pathways for cable within the apartment



Hardware

- Phases 1-4 – Catalyst 29xx switches
- 1500 kva UPS
- Catalyst 4506 concentration switches
- Moving to Catalyst 3750 switches
 - Cool, “stack-wise” technology
 - 1 RU – 48 ports
 - Free Software Upgrades!



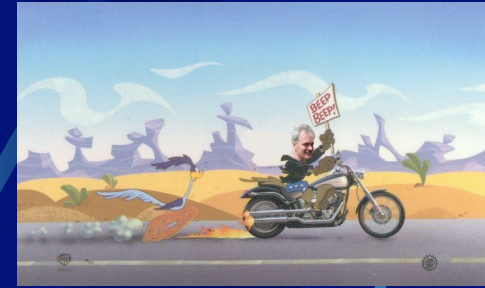
A Live MDF!

Network Stuff



- Each phase of buildings on a new VLAN
- Dynamic DHCP address pool per VLAN
- Right now tenants can have as many IP addresses as they need within reason
 - Hublets and Airports are allowed

Support



● Revisits

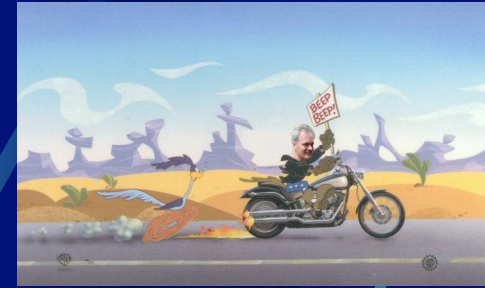
- “I just moved in. According to the website my building has been wired. Where’s my jack?”

● Trouble

- “My jack stopped working.”
- “My jack has never worked, and it has taken me 3 months to report it.”

Support

- Helpdesk
- Kathryn, RHNO
 - House calls
- AptNet public web page
 - Building status
 - Schedule slippages



Stats

- Phase 4 wrapping up today and Monday
- Phase 5 90% complete by 4/30
- Phase 6 – Looking to complete by Fall 2004



Stats

- As of March 8
 - 1167 jacks installed
 - 42 buildings completed (53 by next week)
 - 67 buildings remain
 - We have wired 48% of the units in the 53 buildings that have network infrastructure

