CSU’s Subnet Managers Meeting
Wednesday, Sept. 21, 2011

Enjoy the Equinox!
Agenda

• Information Systems update – Alan Hill
• Campus Cloud – Ed Peyronnin
• RamCT Update – Kevin Nolan
• Licensing Update – Diane Noren
• VOIP on Campus – Kyle Haefner
• Middleware Update – Randy Miotke
• Windows Update – Joe Volesky
• Network Update – Greg Redder
• Security Updates – Steve Lovaas
Technical Demo

• Implementing Echo 360 Lecture Capture Solution
  – Dave Carpenter & Aaron Darnell, CAHS
Information Systems – Alan Hill

• Systems that will have updates in spring 2012:
  – Kuali, Banner, HR
  – ODS upgrade by year end

• FAMweb and CSU login
  – Live last month
  – Parents login to see their student’s transcripts, grades, pay bills, etc.
  – They create a user name to login

• IS hardware migration- servers to VM cluster that will be managed by ACNS
• **Current State:**
  - ~350 phones
    • IDRC
    • Engines Lab
    • Denver
    • Sterling
VoIP – con’t

Progress:

• Cost Model
• Training
• Ordering (Phones and Data)
• Help/Support
• Network Infrastructure
Campus Cloud

- Ed Peyronnin presented a DRAFT overview on Data Center Consolidation project.
RamCT Update – Kevin Nolan

• Moving to RamCT Blackboard Learn 9.1
  May/summer term 2012
  – Hosted with BB

• Pilot – spring 2012

• Migrating approx. 5,000 sections

• Communications

• Training

9/21/2011
RAMTech Licensing – Diane Noren

• Acrobat Pro Site License
  – Need FTE counts by end of Month
  – Estimated Cost $8.00 per FTE

• Symantec Anti-virus
  – Year 3 of 3 year contract
  – Cost $3.61 per computer

• ChemOffice
  – Will be contacting Departments for billing

• Microsoft Campus Agreement
  – Will be going to bid this year
  – Need any changes for the bid
  – If you have not paid for MCA, I will be contacting you
Apple

• OS X-Lion
  – Only way to purchase without paying tax
    VOLUME purchase of 20 + (1 activation code)
  – We need to pool orders

• App Store Purchases-iPad & iPhone
  – Purchase Voucher @RAMtech ($100, $200 etc.)
  – Each department that wants to purchase Apps needs to set up a Facilitator account not associated with a credit card or specific user.
    http://support.apple.com/kb/HT2534
  – The Program Manager will then send each facilitator access codes to use the Vouchers.
  – CSUappst@colostate.edu is the Program Manager email
ACNS Middleware – Randy Miotke

- Level of Assurance (LoA) at CSU
- Central authorization services – Grouper
Level of Assurance (LoA)

- LoA 1: Little or **no confidence** exists in the asserted identity
- LoA 2: **Confidence** exists that the asserted identity is accurate
- LoA 3: There is **high confidence** in the asserted identity’s accuracy
- LoA 4: There is **very high confidence** in the asserted identity’s accuracy
Level of Assurance (LoA)

"On the Internet, nobody knows you're a dog."
Level of Assurance (LoA)

- Accuracy of an identity
- Strength of the authentication token
- Reliability of the controls and procedures that protect the credential store
Level of Assurance (LoA)

- InCommon Federation Requirements
  - Bronze equivalent is LoA 1
  - Silver equivalent is LoA 2
Level of Assurance (LoA)

- Silver needed for access to Federal resources
- Collaborative efforts between, Human Resources, Research, Information Systems and ACNS
- Policies being developed this fall
- Technology and process in place for a pilot in Spring 2012
Central Authorization Services

- Discovery work on central authZ
- Test instance of Grouper being built
- Manage groups, roles, permissions
- Delegated administration
- Substantially reduced security risks
Update on Exchange Search Issues

- Ongoing problem with Exchange “Content Index” corruption continues
  - Outlook/OWA users *not in Cached Exchange Mode* experience incorrect/incomplete/no results

- Case with Microsoft was opened on July 20
  - Difficult to troubleshoot
  - Many red herrings found – eventually disproven
  - Escalated to highest level within Microsoft Support
  - Interim Update / Update Rollup 5 – both dead ends
Exchange Search - Workaround

• Users experiencing this issue have two options:
  – Turn on Cached Exchange Mode
    • Note that Windows Search must be configured to index OST files – we’ve seen instances where this isn’t set!
    • [http://help.mail.colostate.edu/tt_indexing_options.aspx](http://help.mail.colostate.edu/tt_indexing_options.aspx)
  – Request that mailbox be moved to a mailbox database where Content Indexing is disabled
    • Note that in this case, search no longer works from OWA
    • We have a workaround for this, but it requires user action: [http://help.mail.colostate.edu/tt_search_folders.aspx](http://help.mail.colostate.edu/tt_search_folders.aspx)
Windows Advisory Group – Joe Volesky

• Next meeting scheduled for Oct 12, 2011
• Windows 8 will be one of the topics
• Additional agenda items should be sent to Joe.Volesky@colostate.edu
UTFAB – Jason Huitt

• University Technology Fee Advisory Board is taking proposals for 2011 – 2012 projects.

• Fill out the UTFAB Supplemental Proposal Form

  – Funding criteria located on web page above.

9/21/2011
ARE YOU COMING TO BED?

I CAN'T. THIS IS IMPORTANT.

WHAT?

SOMEONE IS WRONG ON THE INTERNET.
Agenda

• Traffic updates
• Building updates
• Statistics and Monitoring tools
• Switch labeling and color codes
• Wireless Tips and Tricks
Traffic Update

• Internet Traffic
• “Outages”
• Changes at FRGP and on campus...
Internet Traffic

Broke 1.8G last week

Daily stats from last week:
“Outages”

• Wednesday, July 6, 7:20AM-8:05AM:
  – Level3 stopped sending default route some weeks/months earlier. This went unnoticed. So, when we tested dropping the Qwest link, campus lost default route.
  – Default routing oversight fixed by relying on FRGP to send default route, not providers!
    • This should prove more reliable as there is a better communication path and FRGP Engineers have a vested interest in ensuring default route exists to customers more so than Level3 did!
  – Previously 15 months of 100% uptime for Internet access!
FRGP and campus changes

- Qwest no longer a provider for FRGP
- TeliaSonera is now an Internet provider for FRGP
- Internet2 Commercial Peering Service and NLR TransitRail merging...
- 2nd 10G “landed” at CSU, but not installed as production
The diagram illustrates the FRGIP network with the following connections:

- **Internet**
  - TeliaSonera
  - Level3
  - Internet2
  - NLR

- **CSU-Pueblo**

- **SCONE**

- **FRGIP**
  - 2.5G wavelength
    - (10G wavelength pending)
  - 2.5G wavelength & 10G wavelength
    - BISON

- **CSU**

- **FCCN**
Building updates

- CIC
- Departmentally funded
- Construction
CIC

CIC Phase 1 (FY 11 funding)
  – OT
  – Clark A
  – Clark C
  – Shepardson
  – ARBL
  – VTH
  – A/Z
  – NESB
CIC

CIC Phase 2 (FY 11 funding)

- Eddy
- Aylesworth
- Rockwell
- Weber
- CS (10G)
- CMAPP (10G)
- Gifford (by end of September)
- Plant Sci (10G, by end of September)
Departmentally funded

- Rec Center – due soon, pending fiber
- Spruce/Routt – DCE upgrade for distance learning
- Admin – at 100M, waiting on dual 1G links
- Gibbons – pending funding
- Yates – network chargeback, eliminated 1 more large campus router!
- 1G backup links to rows 8 and 9 at E7
Construction

– Morgan remodel (ongoing)
– Alder Hall
– Washington Elementary
Statistics and Monitoring tools

- Traffic graphs and switch access now available via:

  secure.colostate.edu/subnetmgrs

E-mail noc@colostate.edu with questions and for login information.

Nagios monitoring tool to be available soon!
Traffic graphs
Switch access
Patch Cord Cable Information

• Type, Colors
• NEW → Labeling!
• Switch names
• IDF/MDF notes
MDF/IDF Patch Cord Color Standards:

- **Red/Grey:** Data
- **White:** VOIP
- **Green:** Security Cameras, CardKey, Meters, EMS, Facilities
- **Yellow:** Wireless
- **Violet:** A/V
- **Orange:** Switch-switch links
- **Light blue:** Departmental specific

Please...use the proper length cable. (Place a data service order if at all possible, please.)

No “jump ropes” or “banjos”
Labeling

• Green, yellow and orange cables labeled at switch with switch and port information along with description of what is on other end, i.e.:  

148.245 port A21  
EMS unit
Switch names

15 characters:

- **Characters 1-3:**
  - Bldg name in small letters padded with trailing underscores if building is only 2 letters. Example: "cs_" for Computer Science or "lsc" for Lory Student Center

- **Character 4:**
  - Floor. "0"=basement, "1"=first, etc.

- **Characters 5-9:**
  - MDF/IDF Room# padded with leading and trailing underscores. Use trailing or leading underscore to pad 4 characters (whichever makes it more clear) use trailing and leading to pad 3 characters. Examples: "n317_" for room N317 or "_W05_" for room W5

- **Characters 10-15:**
  - Last 2 octets of IP address, zero padded, no period. Example: 201011 for 10.100.201.11
Switch names

IDF example

mrb3n310_032144

Bldg

Room

Floor

IP address (zero padded)
IDA/MDF notes

• Cable types:
  – Systimax (by Commscope)
  – Red & Light blue (Grey is historic) available through RamTech
  – Yellow, Green, White, Orange, Violet – installed by Telecom
  – Anything non Systimax voids warranty

IDFs/MDFs to be kept locked, not propped open, please.
Wireless tips & tricks

- The restaurant is so crowded that “...no one goes there anymore.” – Yogi Berra

- 5000+ simultaneous users on a regular basis.
More wireless tips & tricks

- CSU-NET clients will have a 10.84.x.x address, so everyone intending to offer services to “on-campus” IPs should allow 10.84.0.0/16
- If CSU-NET works, but you can’t reach some resources on campus, please let us know… it’s probably unintentional (see #1)
- For traffic headed off campus (to the internet), NAT will assign a 129.82 address
  - (so don’t be confused if you use something like whatismyip.com for troubleshooting an internal connectivity problem)
- Border firewall rules for these NAT addresses are exactly like the 129.82 range, including outbound SMTP blocking
- CSU-NET is authenticated and encrypted, so you don’t need to run the Cisco VPN client or the Juniper SSL gateway
  - (plus, we’ve seen some problems with iPads running the Junos Pulse client AND connecting to a secure wireless network)
More wireless tips & tricks

• Macs and wireless: sleep/awaken issues!
  – Toggle wireless on/off
  – Re-enter IP configuration information
  – Reboot
  – Clear out keychain entry

• Lion: Need latest Lion update

• Wireless in non-GA areas (non-UTFAB funded) are not redundant.

• Finally: verify set-up, especially XP/Vista: use documents at
  http://www.acns.colostate.edu/Connect/CSU-NET
Even more wireless tips & tricks

- 2.4 Ghz phones – bad!

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<th>Location 2 - Long (Mbps)</th>
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• ...Questions?

• Thank you!
Security – Steve Lovaas

• Passwords
  – Heads up: students will be required to change
  
  – Still working on details of who, when, how... more to come
  
  – Also want to talk about length/strength/change tradeoff for faculty/staff
Security – con’t

• Firewalls
  – Cisco Firewall Services Modules will be replacing ACLs on core routers
  – Exploring possibilities of Cisco FWSM and distributed manageability
  – Cleaning up old border firewall rules – please review yours
  – Looking into Juniper SRX line to replace SSG firewall series
Security – con’t

• Anti-malware
  – Symantec contract up for evaluation (extend, replace, augment, ...)
  – Convening a group to evaluate our options
  – Please email me if interested
  – SEP v12 running on the server, clients gradually migrating
  – SAV v10 no longer supported
  – Testing of a basic v12 setup works better than v10 on old machines
  – If you run your own instance, talk to Scott Dawson first for advice
Security - con’t

• Juniper SSL gateway
  – Upgraded to new hardware and software this summer
  – Several pending projects for Windows, Citrix, DFS
  – Will be adding Shibboleth option soon
  – Junos Pulse client for iOS (iPhone, iPad) – like NetConnect
  – Junos Pulse for Android – waiting on Google for VPN functionality
  – Mac/Linux native connection to Windows RDP
Technical Demo

• Implementing Echo 360 Lecture Capture Solution
  – Dave Carpenter, CAHS