Campus Network
4-12-05

Present: Tony Houdeck, David Belgarde, Jay Smith, Brandon Thorvilson, John Wold, Roy Beard, Larry Fisk, Chad Bushy, Doug Osowski, Ron Braley, Kevin Danielson, Corey Quirk, Brent Logan, Renetta Johnson, Harold Bruce, Jeff Cox and Bonnie Jundt

Absent: Zeke McKinney, Dale Ricke, Corey Shock, Barry Pederson, Don Larson and Karl Martin

Minutes from March 8, 2005 – Approved

Ron announced his resignation from UND, effective May 31st. He is currently reassigning responsibilities and will participate in hiring his replacement. He plans to be out of the office after April 22nd but will be monitoring email and will try to be at our meeting in May.

Internet1 Sprint upgrade – Bonnie

The Internet upgrades to OC12s in Fargo and Bismarck have been completed. We had general consensus from everyone present that it is a noticeable improvement. Brandon stated that video has improved at the Medical School. Harold noted a performance problem on the Gamble subnet today and has opened a Remedy ticket.

The Allot NetEnforcer continues to be used for traffic shaping. Peer-to-peer limits remain as they were defined prior to the upgrade. The limit for connections in residence halls was raised from 256K to 512K with little noticeable change in overall traffic patterns, indicating that with peer-to-peer limited as it is, there isn’t a significant pent up demand for remaining applications.

Bandwidth needs will be re-evaluated in June to determine if UND, and other institutions in the University System, will require more bandwidth than currently allocated by HECN. UND bandwidth to STAGENet was increased from 90 Mbps to 121 after the OC12 upgrade.

FY05 Campus network infrastructure upgrades

• Cabling update – Larry

Except for 4 locations where ice was in the way, the pulling of singlemode fiber to all buildings is complete. Splicing and terminations are done in the core in Merrifield and are currently being done in buildings, with about a dozen buildings complete. It will be done in all buildings by the end of May.

Work continues with upgrades to copper cabling in buildings. An audit of all communications rooms on campus has been completed for a record of what we have and to identify where we have needs and outstanding issues.

• Equipment – Kevin

Nothing has changed since our last meeting. We received the equipment and will begin upgrades after spring semester. The Business School is planning to fund additional equipment in Starcher Hall for gigabit connections for some systems.

Campus Electronic Integrated Communications Infrastructure Budget – The Next Three Years

An updated version of the 2003 integrated communications planning document was sent to Jim Shaeffer last month. It reflects progress made in the last two years, recommendations for the next three years, and associated budget information to work in the direction that is most important to the campus. This network sub-council is instrumental in identifying the needs and everyone’s input is greatly appreciated. Key areas of interest include higher bandwidth, wireless networking and network security.

Wireless discussion

Areas of campus that have recently expressed an interest in either creating or expanding wireless network access include, but may not be limited to:

• Armory
• Babcock
Installation of wireless includes a site survey, cabling, power-over-ethernet switches, access points, antennas, firewall services, authentication, and wireless management.

Ron proposed that a team might be formed to help provide direction and support for wireless networking throughout campus, i.e., develop expertise and get involved in site surveys, installation and support. There is a need for discussion to develop campus wireless policies, e.g., where campus supported wireless coverage is provided in a building, it is necessary to eliminate rogue devices, etc.

The current process of adding wireless coverage starts with an area of campus identifying the need and a funding source. A request should be submitted to ITSS. The network analyst whom is primarily responsible for networking in that particular building works with the building contact (typically the LAN administrator) and leads the project. He works with Kevin Danielson and Larry Fisk for a consistent design within the campus network and a site survey is done to plan for cabling, antennas, access points, etc.

Ron stressed the importance of enforcing the network connection policy, and further developing wireless policies, to maintain manageability of network devices in a wireless environment.

**ConnectND and Ancillary update**

Doug announced that AutoCad testing went well. He is setting up a curriculum for training employees.

Kevin is leading the implementation of redundant networking equipment for ConnectND over the next 6-7 weeks. A VPN concentrator was added and we are hopeful that it will resolve many of the disconnect issues that were reported. Redundant firewalls will be added for automatic failover. 3750 stackable gigabit switches with multiple uplinks will be added in each environment.

**State Network RFP – Bonnie**

The Information Technology Department is responsible for higher education, K12 and state government wide-area-networking. Our current contract for the state network expires in July 2006 so an RFP is being developed. Some of the goals include increased bandwidth, reliable and survivable service, higher levels of security and privacy, anywhere and anytime connectivity and low-cost network access throughout the state. The RFP is scheduled to be released in July and a vendor chosen by September 30th. Implementation should be complete in the June-July, 2006 timeframe to be ready for fall semester.

**Network update (accomplishments, projects, issues, Q&A) – Each attendee**

**Ron**

On the system side we will be doing server virtualization. Using Dell 2650s, we’ll be using VMware to consolidate servers and assign resources to services. It allows for virtualization of storage at the same time. We will also be moving clients from Novell Netware to Microsoft Active Directory this summer.

**Tony**

We are implementing our Novell server. We will be contacting ITSS to change some DHCP to static IP addresses.

**Doug**
We are implementing some Dell 2850 servers and will be replicating servers for reliability at the Steam Plant. We purchased a couple of server racks, one for Facilities and one at the Steam Plant. The building automation servers will be moved into the racks.

**Renetta**

We aren’t meeting the needs of our students for computer access so we are looking into expanding our labs. We’ve written a grant and are looking for funding. We are interested in providing wireless. Many of the laptops have wireless network interface cards and we are sending students to Tabula for network access. We are looking at minimally covering the 1st floor. Larry offered an estimate for an access point for the lounge area on first floor.

**David**

Equipment was ordered and has arrived for replacing video units at many of the higher education sites after the semester ends. IVN now supports 368 units.

**Kevin**

SSL is being implemented in ConnectND. The encryption is done in a module in a content services switch.

**Brent**

We are looking at implementing wireless in an area at the Arena. We will purchase our own equipment and will be using the recommendations set for campus. We’ll continue to watch for standards and requirements set by campus.

**Harold and Jeff**

We’re interested in expanding wireless coverage to 2nd and 3rd floors in Gamble.

There was some discussion regarding the general use email policy for campus-wide use of U-mail and the need to communicate that policy to all students. According to Corey, all incoming students receive the information. It is also posted on the ITSS web site.

We’ve added independent and redundant cooling systems for our server rooms, along with creating redundancy in power sources and network interface cards.

Two accounting classrooms will be under construction this summer.

The need for local DNS control on campus is critical to us. Issues with certificates for the email server and with address records and nicknames in the und.edu domain need to be resolved. Review of the current DNS policy that requires nodak.edu for all address records is in progress and will affect the outcome of these email issues.

**John**

We will be installing WLSE this summer to manage our wireless network. We’ll be upgrading all access points to also support 802.11g. We are considering the Cisco ACS RADIUS server. We’ll be looking into 802.1x authentication and looking at encryption on our wireless network. We’re considering assigning VLAN at login.

We will be installing two PIX 525 firewalls at the network perimeter and also using them for VPN access.

The four supII modules in our 6509 switches were replaced with 720s. We also upgrading from our 3500 switches to 2950s.

**Larry**

We’re moving a couple of our servers over to the machine room at ITSS.

**Brandon**

The equipment has arrived and we’re ready for installation of network equipment in the Neuroscience building. Barry and Don are in Minot at the new UND Medical Education Building getting everything set up for their opening on april 18th. Darren Studney is in Minot getting the network equipment installed.

**Jay**

In the last week we’ve had a couple of issues with IP conflicts with our servers. The same problem has been reported from other areas within the Union. Darren has been looking into it. There continues to be various issues with connecting to the wireless network in some areas at the Union. The problem seems to be unique to HP laptops or Gateway tablets.

**Chad Bushy**
We’re continuing with our planning for Blackboard and how it will work with PeopleSoft, especially with the issues associated with naming conventions. Service pack 3 was installed on the test Blackboard server and it appears to have fixed some issues we were having with U-mail so we are getting ready to install it on the production server.

Corey
We have a wireless access point at Rural Technology that was installed by ITSS. We have another that has been there for a couple of years and is not currently requiring authentication. Some private entities may be using it and I’m concerned that they may install their own access points if we take it away without enough planning.

There is some old Type1 cabling on the 2nd floor of Gustafson that needs to be removed. Corey will send the information to Larry.

There is good pricing on the Dell 2850 servers if anyone is looking for servers. We’re working with ITSS to move a couple of servers to the machine room. There are issues with lack of space in the server racks.

The wireless access point in Gustafson needs to be moved to provide coverage in the conference room. Larry will follow-up with Corey to get it moved.

Roy
We’re in the planning stages for adding at least one new building and possibly as many as four. Construction should start this fall.

Internet Storm Center – Kevin
At the SANS Security Conference we were introduced to the Internet Storm Center, accessible at isc.sans.org. There are handlers that take in information from many sites regarding the latest security issues. There are graphs of TCP port compromises. There are reports available for networks that show the last 30 days of activity of wormed machines. For example, you can drill into your specific subnet to see if anything has been reported. It is interesting information that can show trending over a 30 period of 30 days.

Next meeting – May 10, 2005