

Minutes
Network Infrastructure and Services
Advisory Subcommittee
November 29, 2011

Present: Morgan Allen, Mike Coleman, Jeff Crowder, William Dougherty, Kevin Foust (for Wendell Flinchum), Mark Gardner, Richard Hach, Carl Harris, Joe Hutson, Brian Jones (by phone), Leigh LaClair (Facilities guest), Zack Morris, John Nichols, Dale Pokorski, John Pollard, Pat Rodgers, Glenda Scales (by phone), and Brenda van Gelder

Unified Communications Project: Joe Hutson provided an overview of the Unified Communications (UC) project to the subcommittee, leaving the floor open for questions. IP network infrastructure requirements and video capabilities were also discussed.

John Pollard pointed out the importance of distinguishing traditional conferencing services from video conferencing, and Mike Coleman suggested looking at both. Dr. Scales asked about interoperability and noted that her faculty want to be able to easily use video on demand. We're working with an already highly reliable IP network.

A goal of the UC project is to implement as much IP telephony as possible, although we may not be able to deploy it in every building due to infrastructure and scheduling constraints. The list of buildings provided at the last meeting classifies campus buildings based on the capability of communications technology infrastructure in those buildings to support IP telephony. In addition, NI&S will be collaborating with Facilities to plan for space needed in both administrative and academic buildings to support this project.

William Dougherty noted that a university announcement regarding the contract award is forthcoming.

Joe Hutson informed the committee that the University policy group had approved a transition from a bundled amenity (that currently includes voice, data, and cable TV) to a subscription model for residential telephone service. The policy group's recommendation is contingent on (1) the development of an optional subscription service, (2) installation of new common area phones, (3) installation of new phones in resident advisor rooms, and (4) cellular coverage and capacity increases.

Dale Pokorski asked about upgrades to wireless services. Joe Hutson indicated NI&S does not have final budget approval for the network infrastructure upgrades and detailed planning for those upgrades will commence following budget approval. William Dougherty noted that the planned wireless improvements do not include wall to wall wireless in the residence halls. NI&S will continue to work with residential programs to develop a plan for expanding the wireless service in the residence halls.

Joe Hutson indicated that we are still 6-8 months away from the start of the migration period to a new unified communications system. Dr. Scales indicated that departments will need to be briefed on the project and related billing. NI&S has been working with the Budget Office for several months. Joe Hutson indicated that NI&S would continue to work in collaboration with the Budget Office for any proposed changes to the rate model. NI&S will keep departments informed as progress is made.

Activities associated with the planning, design, and implementation of the core infrastructure will begin on December 1 and last for 6-8 months. At the end of the 6-8 months, NI&S will start to migrate users from the ROLM system to the UC system, beginning in the buildings on the "A" list. ROLM will be migrated to UC over the next 18-24 months.

Demos for the university community of the technology/core infrastructure pilot will be available in 3-4 months.

Dr. Scales did note department heads are interested in information in upcoming meetings and she would like to be prepared to address questions.

Ron Angert inquired about phasing out the cable TV plant and delivering that content over the IP network. Brian Jones responded that this may be a possibility in the future, but it is not currently a high priority because of the recently upgraded fiber infrastructure. Support for HD programming was recently added.

There was a question on IPv4 vs IPv6. Carl Harris noted that in general, network infrastructure upgrades can be made without respect to version. Joe indicated that the majority of the UC equipment is IPv6 capable and Carl indicated that both IPv4 and IPv6 capability are desired.

Ron Angert raised the issue of analog and Joe indicated the UC solution will support analog devices.

The group discussed caller ID.

The topic of communications capability in emergencies was discussed. In response to a question, Carl Harris indicated that the majority of buildings on campus currently do not have backup power resources in telecommunications equipment closets. Additional discussion focused on the need for backup power to support emergency notification applications continued. Brian Jones pointed out that backup power requires both a significant capital and operational investment.

Joe Hutson indicated that NI&S is very interested in working with Mike Coleman and his team to develop a plan to acquire and construct new telecommunications spaces to support the UC project.

Distributed Antenna System: In-building cellular coverage on campus varies widely, from areas where there is usable signal to many locations where there is no service. This service variability is primarily a function of the form concrete-rebar-Hokie Stone-based construction of most buildings on campus. It is also related to power and placement of the cellular services infrastructure by cellular providers in this region.

The solution involves the development of a campus and building-based distributed antenna system that is "vendor neutral"--in other words, a solution that is compatible with most of the local cellular services. Information Technology has taken the position that resolution of this services problem should not be a university financial obligation; it should be funded by the providers. We have begun a project which we believe will result in the implementation of a campus-wide, vendor neutral distributed antenna system over

the next 24 months, with most (if not all) of the cost of the project funded by all of the providers. We are attempting to tailor the financial model in such a way that the smaller carriers will be able to participate as well as the larger cellular providers. We hope to have improved cellular coverage in some locations operational in the fall of 2012.

The DAS project is complementary to the UC/Network Infrastructure improvement projects because it will improve in-building coverage for carrier-provided mobile devices that some university personnel choose as their first choice for university business. A temporary tower has been constructed at the Duck Pond Overflow Lot to address capacity issues that Verizon Wireless is currently experiencing. There is room for another carrier to participate. In addition, a Cell on Light Truck (COLT) was deployed near the Upper Chicken Hill Parking Lot during football season to address game-day capacity issues. Testing is currently underway to finalize the DAS design, including the potential deployment/feasibility of rooftop macro sites in addition to in-building DAS.

Handouts on the UC project overview and the network infrastructure improvement projects were distributed. William Dougherty sent committee members the building classification list which was discussed at the last two meetings.