ITACS
Information Technology and Communications Services
Naval Postgraduate School, Monterey, California
Technology News March 2007

REGIONAL INFRASTRUCTURE PROJECT

Provost Leonard Ferrari is establishing a regional collaborative project related to Homeland Security. The multi-institutional venture involves NPS, Monterey County, the City of Monterey, and other higher education and research institutions. The proposal will be submitted by the County for State HS funding. Dr. Christine Cermak has worked on the infrastructure piece of the proposal with local CIO colleagues. The Provost is working with NPS faculty and other institutions on the research/academic portions of the proposal.

NETWARCOM

The Navy Cyber Defense Operations Center (NCDOC), a subordinate command within NETWARCOM spent the month of March reviewing the results of the system scans, network device configuration files, Information Assurance Vulnerability Management compliance as well as our compliance with DoD Ports, Protocols and Services guidance. The NCDOC team leads, **LCDR Boshonek** and **Mr. Anthony Brown,** are expected to release the final report by the end of April. The initial findings, reported in an exit meeting, described the network security on both the .mil and .edu unclassified networks as appropriate.

WEB ADVISORY COMMITTEE

The Web Advisory Committee, chaired by **Dr. Fran Horvath**, was established to guide the progress of the NPS-wide web initiative. The Committee held its first meeting on March 22, and discussed the overall project, roles and responsibilities and the group's next steps. **Dr. Christine Cermak** and **Dr. Julie Filizetti** attended the first meeting of the Committee, provided background on the work done to date, and stressed the importance of the web initiative for the entire campus. Dr. Cermak also reminded everyone that the project was made possible by the contributions of the deans, who requested IMET funds for web development, and then contributed those to one, university-wide effort.

SYNCHRONOUS LEARNING SYSTEM

The Office of Continuous Learning (OCL) has partnered with ITACS to bring the synchronous collaboration system *Elluminate* live to NPS. *Elluminate* is a web-based collaboration system that supports video and voice over IP, text chat, an interactive white board, application sharing, document sharing, and video sharing. *Elluminate* sessions can be recorded for later viewing and the system will be completely integrated with Blackboard. NPS is in the process of procuring an unlimited site license for *Elluminate* as well as the requisite server hardware. A task force consisting of representatives from OCL, ITACS and NPS Faculty has been formed to guide the implementation. The first NPS classes using *Elluminate* are scheduled to be taught during the summer quarter. Training sessions will be conducted later this spring.

INSTRUCTIONAL TECHNOLOGY

During the spring quarter, Instructional Technology will be supporting 47 Video-Tele-Education (VTE) classes going out to approximately 50+ distant sites and reaching 750+ distant students, which marks the highest number of VTE classes ever supported.

AGED FILE MIGRATION

On March 22, ITACS began testing a 50-terabyte storage system that costs one-third of a traditional SAN system, which will be used to store files that have not been accessed for over 120 days. Files stored on the new system are noted on the user's screen by a black icon on the lower left-hand corner of documents. Transfer of existing old files will be staged, transferring 500GB per server until migration is complete. ITACS expects to begin the migration beginning the second week of April provided there are no discrepancies in testing.

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WIRELESS

The wireless implementation project will be completed in two phases, and incorporates outdoor antennae and access points provided by Mesh Dynamics. The modular solution deploys slide-out/plug-in Access Points that will provide nearly 100% coverage of the campus. On January 29 the wiring of all the access points was completed, and on March 1 phase I of the wireless project went live, making all Mesh Dynamic access points fully operational. Phase II incorporates Bradford Networks, which is providing the network access controller (NAC) that will monitor aspects of security and ensure that the client base has updated security patches and signatures, is scheduled to go live by April 30. A three-tiered access system has been established, including NPS personnel, conference groups and one-day guests. Testing in both directions and mapping of the entire campus for signal strength will be completed by April 13. Once the maps have been generated by Mesh Dynamics, ITACS will distribute them, and post a copy on the wireless project's website. NPS has agreed to do a case study on the project for Mesh Dynamics.

NEXT GENERATION NETWORK UPGRADE

During its March 22 meeting, the IT Task Force endorsed *Campus Area Network Life Cycle Replacement Request for Proposals*, a document that contains procurement-sensitive information in support of a network upgrade. The procurement, for dual-path backbone fiber and 10+gig capable electronics only, will provide adequate multimode and limited single mode fiber optic cable and twisted pair copper cable covering over 10 miles of conduit in the ground, and includes over 100 access points, over 6,000 wall jacks and jack-to-jack coverage throughout the campus, and useable conduits in every academic building. Two 48-strand pipes running to Ingersoll Hall and to Hermann Hall will provide the hardware needed to support IPv6, upgrade the Internet to 10 gigs, provide three sites in every building, increase phone capabilities by 25%, and by centrally managing the asset, will allow the Network Operations Center to resolve problems without going into the field. Reasons noted for the upgrade are to enhance the security, reliability and service of the network, to allow for growth, to prepare for changes in technology and to stay competitive with peer institutions. Currently, no building has sufficient single mode fiber optic cable to support emergent technologies, no diverse paths to the network core or IPv6 hardware capabilities or power over Ethernet to support VoIP, and little support for *ad hoc* research networks. Allocation of additional bandwidth would require installation of inter-building fiber.

The basis for the Next Generation Network infrastructure plan is to eliminate single points of failure by providing diverse paths for each academic building; to support *ad hoc* research networks by providing academic buildings a connection to the network core and the ability to connect with any other academic building; to support emerging technologies and diverse mode, high-speed data, voice and video transmissions. The network requires an upgrade due to increasing demands through video applications, research and collaboration, web-delivered services, wireless and distributed learning students and the continued growth of the network, which quadrupled in the last three years, coupled with the support issues created by using dissimilar equipment, including the lack of patches and upgrades and the inability of ITACS to isolate and solve problems on the network at the port level.

Implementation of the plan will begin approximately 60 days after FISC responds, which is expected to be between 100 – 180 days. NAVFAC will be responsible for handling the fiber install portion; FISC will handle the electronics.

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CENIC

CENIC, the state higher education network, held its Annual Conference in La Jolla, California, during the week of March 12. The agenda focused on faculty with major proposals regarding high-speed networks, including **Dr. Larry Smarr,** Director of the California Institute for Telecommunications and Information Technology at the University of California San Diego, who demonstrated the Institute's visualization facilities. Dr. Smarr was instrumental in supporting NPS in obtaining its membership in CENIC. 3-D and 4K resolution projects were also shown to the audience, which highlighted not only the groundbreaking work that is being done by researchers and scientists, but also the value of high-speed networks.

At the CENIC Conference, **Mr. Joe LoPiccolo** and **Mr. Jon Russell** of the New Technology and Innovation Center presented on wireless mesh technology; **Dr. Amela Sadagic** of the MOVES Institute presented on innovation adoption; and **Mr. Harry Thomas, Mr. Tracy Hammond** and **Dr. Christine Cermak** presented on high definition videoconferencing.

Discussion regarding the use of two wavelengths by NPS for connection through MCIT to the CalREN Digital California and High-Performance Research networks was conducted with CENIC personnel in mid-March. In addition, ways to increase bandwidth to NTC San Diego (Buchanan Street) were also discussed with the CENIC fiber infrastructure engineer. A proposal using a DS3 (45 Mbps) circuit to this location from a CalREN connected site in the San Diego area is being considered.

Report from the Technology Assistance Center (TAC)

From March 1 through March 29, 2007, the Technology Assistance Center (TAC) received a total of 2,670 requests for assistance, 2,327 of which were resolved by the Tier 1/Tier 2 areas. 343 of the remaining calls were answered by other ITACS departments/groups.

Partnerships and Outreach

On February 28, two groups from the CNO Strategic Studies Group (SSG) in Information Systems visited NPS. Information Officer **Mr. Doug Burns** and officers from the SSG met with **Dr. Christine Cermak** and ITACS managers **Mr. Hank Hankins, Ms. Terri Brutzman, Mr. Joe LoPiccolo and Mr. Tom Halwachs** to discuss the NPS infrastructure and services as a possible model for other venues.

Dr. Christine Cermak met with the Faculty Council Executive Committee on March 5 to report the role of advisory committees in the work of administrative support areas like Institutional Advancement, ITACS, and the web project.

A group from NMCI is expected to visit NPS in August/September 2007, to finalize the details for the installation of 51 NAVFAC seats beginning in mid-October or early November.