NAVAL POSTGRADUATE SCHOOL
ITACS
INFORMATION TECHNOLOGY AND COMMUNICATIONS SERVICES

TECHNOLOGY NEWS DECEMBER 2009

CENIC/CALREN 10GBPS UPGRADE

NPS implemented a significant upgrade, which was completed in early December, to the Educational and Research Network (ERN). The NPS ERN Network has a 1 Gbps peering connection to the CENIC HPR Network which was upgraded to a 10Gbps service as CENIC and NPS install Dense Wave Division Multiplexing (DWDM) optics technologies to support the new architecture. Associated with this upgrade are additional redundant paths to CENIC Points of Presence (POPs), and border firewall upgrades to support future research and education traffic flows. This upgrade is the foundation for future network service demands including grid storage/computing, virtualization, disaster recovery, distance learning, advanced video telepresence, and other initiatives. The DWDM architecture currently implemented is strategically scalable to support multiple 10Gbps circuits to connect to CENIC and other networks, including CENIC DC, CENIC HPR, CENIC XD, Internet2, DREN, Monterey Peninsula DoD-Net, and Teragrid. With the new architecture hardware will not need to be replaced; the 10Gbps port capacity will simply be expanded, ensuring NPS network growth for nominal non-recurring costs in the years ahead.

CONSTRUCTION TRAILER OFFICE SPACES

ITACS has prepared for the campus renovations over the winter break by installing 12 data and telephone ports in both office trailers, and over 30 data connections in the two classrooms trailers. There is one telephone in each classroom, and one multi-function device in each of the office trailers. Wireless is available in all of the trailers. Staff in the Technology Assistance Center (TAC) is available to help meet customers' requirements; therefore, for help please contact TAC at Ext. 1046.

INFINIBAND INSTALLED ON HAMMING

On November 9 and 10, Sun Microsystems sent a team of engineers to NPS to install an "infiniband" interconnect to the hamming supercomputer. Infiniband is a networking technology that allows a cluster of computers to communicate with one another at very high speeds. In this case, the Sun infiniband hardware allows the servers to exchange data at rates of up to 20 gigabits per second, a huge improvement over standard "gigabit Ethernet" which has a peak rate of 1 gigabit per second. Perhaps more importantly, the "latency" for infiniband (the time it takes to initiate a network communication) is on the order of 1 microsecond, versus approximately 100 microseconds for gigabit Ethernet.

Over the coming weeks, the Research Computing team will perform benchmark tests using the infiniband interconnect. NPS researchers have requested that the entire cluster be upgraded to use infiniband; however, due to budget constraints, only about 25% of the hamming supercomputer was upgraded to the infiniband interconnect at a cost of approximately $60,000.

CYBERSECURITY TRAINING UPDATE

The All-Hands briefings that took place in October and November as part of Cybersecurity and Privacy Awareness Month, which provided an alternate to the 5-hour required online courses for NPS constituents, were well-received. As a result, ITACS offered two more all-hands sessions on December 3 and December 10, 2009.

The training will be offered periodically throughout 2010, depending on demand. About 20% of the NPS resident population has taken the condensed course.

KUALI FINANCIAL UPDATE

Mr. Jack Shishido, Supervisory Analyst, reported to the IT Task Force Committee that all DORS accounts will be loaded into Kuali before the end of December, after which Kuali will mimic DORS. On January 18, 2010 formal training for Principal Investigators, Administrative Officers, etc., will begin, allowing actual transactions to be executed on the system. Training is expected to be completed by the end of February 2010.

Mr. Tom Halwachs heads the Kuali *ad hoc* working group, which includes Ms. Sue Netzorg, Ms. Elisabeth Ramirez-Fagan, Mr. Lloyd Sukon, Ms. Toni Dickerson, Ms. Val Moule, Ms. Trish Genegabus, Ms. Bartomina Valle, Ms. Jodie Dodge, Ms. Laura Ann Ikner-Price, Mr. Paul Effinger, Mr. Chan Burns, Ms. Gidget Rose, Ms. Linda Bittner, Ms. Maria Morales, and Mr. Ron Helmrick. Additional support is provided by Mr. Kevin Little, Ms. Colleen Nickles, Dr. Gil Howard, Ms. Rumi Escobido, Mr. Bill Shewchuk, and Ms. Mary Anne Egan.

NEW COMPUTER ROOM AIR CONDITIONING UNITS

During this past summer, there were warm days were the temperature in the Data Center exceeded the cooling capacity of the cooling infrastructure that was in place. ITACS and NAVFAC (Public Works) defined the requirements to correct the problem. As a result, Public Works funded the replacement of the chillers on the roof of Ingersoll Hall and two computer room air conditioning (CRAC) units in the Data Center that function 50% - 75% more efficiently than the three units which were replaced. The outside chiller can now be turned off when the exterior temperature is below 50 degrees, adding additional efficiency, even with the loss of one CRAC unit. The excess capacity also allows the units to be run at higher temperatures, helping to reduce energy costs.

AUTOMATED SCHEDULING SYSTEM

Mr. Alan Pires provided an update to the IT Task Force on the new automated scheduling system, which, after a year of planning, development and testing, went live on September 18, 2009. The project represents a collaboration involving the NPS Registrar, Infosilem (Quebec) and EdataTech (Monterey). Prior to the implementation of the new system, the schedule was produced manually by one person.

Immediate changes for PYTHON users include significant user interface upgrades for department planners, instructors, students, academic associates and program officers. An update to the scheduling-related policy has also been issued: NAVPGCOLINST 1510.3D.

The new commercial off-the-shelf (COTS) system has several benefits, including software documentation, standardized metrics, and operational sustainability. The system can also be used as a simulator for running "what if" scenarios involving the reduction of classroom inventory. Key enhancements in the new system include the capacity to prioritize the needs of students who are about to graduate, to schedule alternate electives, to manage the special scheduling requests of faculty, and to view classroom attributes such as seating capacity, furnishings and instructional technology. The potential future benefits of the new system include a reduction in the time needed to schedule classes — from eight weeks to possibly three weeks; additional software modules that can be used for event scheduling; integration with self-

service room reservation systems; and integration with facilities management software.

PARTNERSHIPS AND OUTREACH

Because the alliance of the Naval Higher Education Information Technology consortium (NHEITC) is crucial, NPS has volunteered to assist the **Naval War College** in their search for a new Chief Information Officer. Dr. Christine Cermak currently serves on the CIO Search Committee for the **Defense Language Institute,** a position critical to continue the working relationship that NPS has with DLI.

The **CENIC Annual Conference** will be held from March 8-10, 2010 at the Hyatt in Monterey. As part of the conference, on March 8, 2010, participants will visit NPS, where Dr. Karl van Bibber, Vice President of Research, will provide a plenary address followed by presentations in the MAE auditorium, and an Open House sponsored by MOVES. A poster session and reception on the Quarterdeck will follow the afternoon's activities. Representatives from the Monterey Institute of International Studies, University of California Santa Cruz, California State University Monterey Bay, and the Defense Language Institute have been invited to participate in the poster session.

The link to the CENIC website is: http://www.cenic.org/, where information about the conference in March 2010 and CENIC's latest initiatives can be found.

TECHNOLOGY ASSISTANCE CENTER

From December 1 through December 28, 2009, the Technology Assistance Center (TAC) received 1,636 requests for assistance, 1,214 of which were resolved by the Tier 1/Tier 2 areas. The remaining 422 requests were escalated to groups outside of TAC for specialized assistance. This number represents a 1% decrease in requests for assistance from December 2008.

Requests for assistance were categorized as follows:

Phone: 665
Email: 557
Walk-in: 329
Web: 11
Technician: 74

This month, 97% of all calls were resolved within the Service Level Agreement (SLA). Those that were carried over are awaiting parts, pending information from the customers, etc.

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