



**Calhoun: The NPS Institutional Archive
DSpace Repository**

Information Technology and Communication Services (ITACS) ITACS Technology News (Newsletter), 2010-2020

2007-07

Naval Postgraduate School ITACS Information Technology and Communications Services / July 2007

Monterey, California. Naval Postgraduate School

<http://hdl.handle.net/10945/302>

This publication is a work of the U.S. Government as defined in Title 17, United States Code, Section 101. Copyright protection is not available for this work in the United States.

Downloaded from NPS Archive: Calhoun



Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

**Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943**

<http://www.nps.edu/library>



PROFILE PROBLEM RESOLUTION

Over the past several months, many members of the campus community experienced a systemic problem having to do with user profiles. Corrupted profile issues typically involve interrupted network connectivity with a server, coupled with the large profile size; however, this instance of profile corruption was the inability to load one specific file while the profile was being downloaded. After collecting data and going through a number of troubleshooting protocols, ITACS was able to isolate the problem.

In May, a Microsoft emergency response technician visited NPS to assist in assessment and problem resolution. This step confirmed actions already taken by ITACS and provided additional troubleshooting approaches. Microsoft and ITACS determined that the root cause of the profile issue was the Symantec anti-virus, version 10.1.X. Symantec was then contacted and they worked with Microsoft and ITACS to identify the precise issue with the DoD-mandated version of the anti-virus product - SAV 10.1.6.

Once isolated, Symantec provided a patch for their anti-virus product that, thus far, has shown to be effective in resolving this problem. To date, there have been no new profile issues with the patched anti-virus product.

WIRELESS UPGRADE

The former wireless infrastructure at NPS provided adequate wireless coverage to only 45% of campus, and consisted of a heterogeneous mix of equipment that was installed on an *ad hoc* basis over the years. Because of these factors, and the rate at which the wireless network grew, management and maintenance of that network was difficult. In addition, most of that wireless equipment was nearing the end of its expected lifecycle (3-5 years); therefore, expanding the

current network infrastructure would be far too costly in terms of both equipment and human capital.

Next Generation Wireless:

ITACS evaluated several products in the areas of wireless infrastructure, security and network access control. In the area of wireless infrastructure, demonstrations and discussions were conducted with representatives from Cisco Systems, 5G Wireless, and Mesh Dynamics. Demonstrations and discussions with Bradford Networks, Nevis Networks, ForeScout Technologies, and Impulse Technologies were held in the area of security and access control.

To ensure that every wireless device that connects to the NPS network is in compliance with certain security standards (e.g. up-to-date anti-virus software, required security patches, operating system updates), it was determined that a network access control appliance would be required.

The solution proposed by Mesh Dynamics met all the required criteria and added the ancillary benefit of providing the possibility of expanding the NPS wireless network beyond the physical footprint of our wired network. In a mesh system, access points not physically attached to the network will automatically find other mesh access points with physical connectivity to the network using a wireless backchannel. For instance, if NPS wanted network connectivity at an off-campus facility in downtown Monterey, one would only need to install a Mesh Dynamics AP and connect it to a power supply to expand the wireless network to that facility. This would be significantly less expensive than physically expanding the wired network to that facility, assuming there is good line of sight between access points, which can be as wide as 15 kilometers.

Using the new system, students will have the access in every classroom on campus; retrofitting classrooms with Ethernet jacks will no longer be necessary;



professors can conduct classes on the quad; visitors to NPS will now have an easier time connecting to the wireless network; and the workload of both the Network Operations Center and the Technology Assistance Center — with respect to wireless connectivity — will decrease significantly.

ITACS has been working with both Mesh Dynamics and Bradford Networks to install the new wireless system at NPS. As of late July, all outdoor access points have been installed, are functioning, and are serving customers throughout the campus. Integration with Cisco indoor access points is currently taking place; there are just 15 more units to be deployed. The network access control appliance is operational and is checking systems for vulnerabilities (antivirus and security patches). The few remaining issues to resolve are slowness when verifying Windows Vista computers and enabling dynamic VLAN assignments for guest access, which ITACS is working to resolve.

NAVSEA VISIT

As part of the certification and accreditation process of the NPS unclassified networks, representatives from NAVSEA visited ITACS in mid-July. The team made several suggestions to help NPS achieve its accreditation, and stated that although the NPS network is the most complicated network on which they have ever worked, it is also the best managed and documented. Of particular interest to the NAVSEA group was ITACS' Configuration Control Board (CCB) process, which tracks and documents changes to the NPS networks. The NAVSEA team asked for copies of ITACS' documentation so that they can use it as a model to improve their CCB process. Accreditation of the NPS network is expected to be achieved by the end of the calendar year.

HIGH-PERFORMANCE COMPUTING (HPC)

Professor Douglas Fouts from ECE has moved his "SRC" supercomputer into the high-performance computing center in SP-301. Prof. Frank Giraldo (Math) has ordered a 32-processor Apple Cluster and Tom Christian (Shock and Vibration Lab) has ordered a 132-processor Linux cluster, both of which will be supported by HPC. Eight racks of active supercomputing clusters in the HPC Center, and one small supercomputer in Ingersoll Hall, are currently being supported by HPC.

Jeff Haferman, Eric Adint, and Donna Burych attended the 2007 IEEE International Symposium on High Performance Distributed Computing which was held June 25- 29 at the Monterey Hyatt Conference Center. Highlights were the keynote presentations from Satoshi Matsuoka of the Tokyo Institute of Technology, and Urs Hölzle, Senior Vice President at Google Corporation. Both speakers focused on how the computer industry is trying to become more "green" or energy efficient. Professor Matsuoka envisioned a day when buildings will be constructed using solar-powered microprocessor blocks, that is, buildings whose shells are computers powered by the sun. Dr. Haferman met with Dr. Rich Wolski from UCSB, who will be helping NPS HPC to build a computational "grid" that will link NPS and UCSB.

BUSINESS SOLUTIONS GROUP (BSG) NEWS

BSG Web Operations staff assisted with the launch of both the Naval War College and the International Defense Acquisition Resource Management websites on the .edu network.

General Military Training (GMT), required for all US Navy personnel, is now available through a web-based training application, which not only makes it more convenient for personnel to complete, but also helps leadership to track completion rates. For more details on GMT, please contact Todd Wyatt at ext. 2875.



DISASTER RECOVERY PLAN (DRP)

A copy of ITACS' Disaster Recovery Plan was distributed to the IT Task Force members at their July 13 meeting. The Disaster Recovery Planning team, tasked to develop a plan that will ensure the availability of ITACS' critical services in the event of a severe disruption to normal operations, identified and established a level of criticality for key applications and servers, gathered and drafted documentation to recover those applications and servers in the event of an outage, defined critical infrastructure areas, reviewed back-up and storage procedures, and developed a test plan. The scope of the plan incorporates infrastructure, environment and network connectivity, and includes definitions of disasters, a list of key applications of servers, data and communications information, standards for recovery times, and Standard Operating Procedures, testing, training and maintenance of the plan. Wireless, considered a non-critical area of recovery at this time, was not included in the plan.

The Plan itself will be available to the public, but, due to their sensitive nature, Standard Operating Procedures are compiled in binders which will be stored in the Data Center and will be available to authorized staff members in SharePoint. The Disaster Recovery Plan is intended to be a "living" document that will change over time.

Recommendations made by the team include refraining from any purchases at this time — the existing Tivoli Data Management System will suffice — investigating solutions to off-site storage, and supporting a campus-wide solution to communicating with faculty, staff and students in an emergency situation.

The Disaster Recovery Planning team will meet quarterly to review and to make any necessary changes to the plan.

The importance of establishing a campus-wide DRP into which the ITACS DRP can be incorporated was discussed, particularly because if ITACS' systems fail, normal methods of campus-wide communication — telephones, email, etc. — will not be operational and commands and procedures must be in place institutionally, not just for recovering *from*, but also *during* a disaster.

INSTRUCTIONAL TECHNOLOGY UPDATE

The Video-Tele-Education (VTE) crew will provide direct technical support for 42 VTE courses this quarter. Several course segments are using *Elluminate* in conjunction with the normal VTE delivery mode.

During the past two quarters, dividers were installed and unused equipment was excessed in the audio-visual shop. The changes, which have created a more professional appearance to the NPS audio-visual customers, are expected to be completed by the end of August.

REPORT FROM THE TECHNOLOGY ASSISTANCE CENTER (TAC)

From July 1 through July 27 the TAC received 2,540 requests for assistance, 2,214 of which were resolved by the Tier 1/Tier 2 areas. The remaining 328 requests were answered by other ITACS departments/groups.

During the month of July, TAC personnel also continued testing of both Windows Vista and Office 2007, and developing best practices for the implementation of the WSUS Server.