NETC News

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FOR IMMEDIATE RELEASE

News Release #228-12

Dec. 28, 2012

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Navy Training commander sees benefits of desktop virtualization at Gulfport training center

GULFPORT, Miss. - Naval Education and Training Command (NETC) announced Dec. 28 that the commander of NETC visited the Center for Naval Aviation Technical Training Unit (CNATTU) Keesler Air Force Base to see firsthand how the learning site has successfully implemented a Virtual Desktop Initiative (VDI).

VDI is a five year plan to deploy the VDI to more than 36,000daily users and will replace 80 percent of the more than 23,000 desktop computers in more than 2,500 classrooms at 68 learning sites around the world.

Rear Adm. Don Quinn, NETC commander, was briefed by Cmdr. Jonathan Vorrath, CNATTU Keesler's commanding officer, about the learning site implementation of VDI and how they use it to train students. Desktop virtualization provides multiple student and instructor workstations from a centralized server environment, which eliminates physical workstations residing in an electronic classroom.

"CNATTU Keesler is the first learning site to implement the virtual desktop initiative (VDI), which will expand throughout the NETC domain," said Quinn. "We have thousands of computers. To keep pace with current technology, security risks and software, each computer currently has to be updated. When you virtualize a classroom you shift from multiple updates to an update of a single server. In this case, we went from 152 computers to three servers. Now when we update, we only have to do it three times instead of 152. It's a huge time and money saver."

Besides being a money saving venture, Quinn says he is also pleased by how VDI saves electrical power and time, and benefits the students.

"There's also a power issue - instead of running 152 desktops we now have only 152 monitors and three servers. So we save on electricity, manpower, and time," Quinn said. "In terms of mission effectiveness, the most important thing is speed. It's so much better for the students. It's reliable, it's faster, and instructors now spend less time fighting technology and more time teaching. It is clear that once we incorporate this change in more than 2,500 electronic classrooms containing more than 23,000 computers that this is a huge deal for NETC and the Navy."

Spearheaded by NETC's Information Technology Services Department (N6), the initiative stemmed from a mission imperative requiring cost effective delivery of training content.

During the planning process, the integrated project team determined VDI should be phased in throughout the domain because of diverse training environments and multiple stakeholders with varying requirements. For example, the Center for Surface Combat Systems Detachment West's

mission is to provide surface ship combat systems training, which varies significantly from the Center for Service Support Learning Site San Diego, whose mission is to provide training to the Navy's administrative, logistics, and media communities.

Because several training applications are learning site specific, the team needed to consider each site and decided which workstations, programs and applications could be delivered as a service to the student. The virtual system requires no desktop operating system or disk drives, and no virus or spyware monitoring requirement. It would also need to have full Universal Serial Bus (USB) capability to support thumb drives, and dual monitor capability but no refresh requirements due to software updates or new applications, and no media, graphics or memory restrictions.

Desktop virtualization separates the different computing layers and executes all of them on a secure server, which allows end users to access all of the data and applications without being tied down to a specific hardware device.

According to Cmdr. Sean O'Brien, NETC's deputy chief Information Officer, it reduces desk-side support costs by up to 40 percent through centralized desktop and application deployment and management, and improved desktop reliability.

"Productivity and flexibility is boosted by providing users with anywhere and soon any-device access to their work," O'Brien said. "Security of the user's data is also bolstered, and it simplifies disaster recovery by separating processing and storage from desktop hardware and lowers operational expenses by extending the life of peripheral desktop hardware."

”The benefits of virtualization are that it’s engineered to meet current requirement, it’s expandable for future demand and provides a standardized solution for student application loads,” he said.

O’Brien says the successful implementation of VDI is the result of outstanding cooperation and teamwork.

“The success of this project is the result of close collaboration of the dedicated VDI integrated project team and CNATT's commitment and willingness to work closely with the team to ensure that all training delivery requirements were incorporated into the solution design,” he said. “Traditionally Information Assurance (IA) is done on the backside when a project is completed and then needs to be made IA compliant, which generally delays deployment and requires rework because of IA requirements that don’t work. We brought IA in from the beginning to ensure that compliancy was designed and built into the system.”

Using the lessons learned from the initial roll out at the Keesler training unit, NETC can template the process across the domain.

“An important part of the process was ensuring that the documentation was written conversationally so non IT technicians could read the instructions and understand how to set up the system,” said Angie Chase, Electronic Classroom program manager. “This is truly the first step towards being a cloud computing environment. When you talk about cloud computing you’re talking about accessing information from anywhere at any time, but it’s more than that, it’s delivering software, the desktop, data and computing power as a service.”

The team also looked at security.

“VDI creates a much more secure environment. In a VDI environment, when a student logs in and then logs off, any changes to the operating system disappear,” said David Thomas, project IA compliance lead. “In a secure VDI environment if a student generates or downloads a virus or malware from the Internet to the desktop, when they log out it’s gone for good. What do viruses and malware do? They effect changes to your operating system. With the VDI environment you get a fresh pristine operating system every time you log in.”

Cmdr. Vorrath says students and instructors benefit by desktop virtualization, and it could benefit other commands as well.

“VDI creates ease for students to log in to the programs and the ease for our administrators that maintain those systems. It benefits the students because the technicians we have that to do the trouble shooting will be able to focus more on customer issues instead of having to worry about security updates on each individual desktop or individual system program updates,” he said. “When you think about all of the desktops across the Navy and all of those systems that have to be deployed as a result of NMCI, it would be an incredible cost saving.”

"Our first step in VDI is a huge success. I knew that before I visited here, but I wanted to look the people who made it happen in the eye and thank them," said Quinn. "It took multiple players from multiple organizations to make this happen and I am proud of them."

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