Dashboard takes on AFCENT's coordination battle

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5/6/2008 - **SHAW AIR FORCE BASE, S.C.** -- Air Force communicators assigned to U.S. Air Force Central Command communications have taken on a monumental cyber battle and are showing signs of victory with the roll out of Commander's Dashboard recently.

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The problem - disjointed information flow

The problem faced was the warfighting command's Airmen used many different systems, internet, intranet, and xtranet sites to store, share and refer to information. It becomes a colossal problem in a command where more than 99 percent of the people assigned to USAFCENT only stay for an average of six months or less during a tour. New folks come in and have to learn a new system, a new filing method and a new job and then remember to pass that on to their replacements a few months later.

Many locations and bases use "shared and network drives" to store large amounts of information. Another problem was that all bases did it differently and other bases or sites didn't have access to each other's files.

For example, if a person is deployed to Balad Air Base, Iraq, for four months, some of the information the Airman uses is provided by the Combined Air and Space Operations Center, in a different country. Sharing and updating information between the two bases was tedious and depended largely on email.

Another challenge is that the commander of AFCENT wears three hats - he's the AFCENT commander, the 9th Air Force commander and the Combined Force Air Component Commander (CFACC) in the U.S. Central Command theater of operations. Under his AFCENT hat he has numerous locations throughout Central, South and Southwest Asia, and the Horn of Africa. As the 9th AF commander, he has eight wings or groups located in the Southeast United States. As the CFACC, he is responsible for the air wars in Operations Iraq Freedom and Enduring Freedom.

The solution - one dashboard view of all sites

"We needed to get everyone on the same page with where they were storing and the way they were sharing information between here at Shaw and the folks forward," said Bill Strickland, technical director at the AFCENT Network Operations and Security Center (NOSC). "We also needed instant access between the sites on updates in a secure environment."

The need was clear -- the way to get there was not. The idea of a command single information source began in 2003 but didn't really take off until Lt. Gen. Gary North, commander of USAFCENT, voiced his concerns with the networking challenges in 2006.

"He wanted to see a common working environment between here and at deployed locations," Mr. Strickland said. "He wanted one AFCENT across the board, across the pond."

With that in mind, the NOSC team developed a concept and a plan. Then they began testing software and hardware to determine what would work best for the massive task at hand.

The servers - Microsoft SharePoint

The team decided to use Microsoft Office SharePoint servers as the backbone of the system that would eventually connect Shaw AFB, S.C., to 26 other bases or sites worldwide with similar equipment. The servers would have to facilitate collaboration of efforts at all levels of an organization, and after much effort, trials and

testing, and a few other software additions, the CC's Dashboard was born.

The Dashboard is currently working on the secure network, SIPRNET, between Shaw and the Combined Air and Space Operations Center in Southwest Asia. Also, many other sites throughout the theater will be on Dashboard soon. Air Combat Command is tied in as a trusted partner and a trust is currently being worked with U.S. Central Command. The remaining 9th AF bases will soon be reconfigured as well.

One of the many challenges that the builders of the Dashboard faced was security of the network. There are two firewalls that users pass through and additional authentication if the user is outside of AFCENT. Many of the security measures in place will be invisible to the user as they operate in the background.

For example, if a user wants to download and update a document, the user can simply check out, edit and check in a document.

The user's credentials will be checked for authentication in order to edit the document, once authenticated, the document is processed with those user's privileges. After that, the system triggers a replication process through the software application called Syntergy.

The replication - key to successful knowledge management

"We decided that we needed an event-driven replication process," Mr. Strickland said. Which basically means that every time anything is done to a document in the system, an automated signal is sent to all connected servers to let them know an update was made to shared information in real-time. The document could be loaded at the CAOC, changed by someone at USAFCENT Headquarters, updated on the server back at the CAOC and throughout the AOR in less than 5 minutes.

"Replication is the key to this system," Mr. Strickland said. "It allows you to pick up and operate from virtually anywhere in the world."

With all the replication to various server farms in the AOR and stateside, the system is near fail safe. All sites, once running, will be replicated to each other. There are backup server farms which are replicating information making the redundancy nearly indistinguishable from the original. This type of assurance is built in case of a catastrophic failure of any system.

"Many times when you're building a network, a COOP (continuity of operations -- a backup site capable of handing essential processes in the event of a systems failure) is a nice thing to have," said Paul Font, senior network systems architect. "But in this scenario, it's a necessity."

The library - built with rotating bookshelves

Also necessary for the Dashboard to be successful and useful was operator input. The users of the many different systems that were previously used were asked for input on what they would like to see incorporated into the new system. Their inputs were tallied and a complex system of files and information storage was created.

"It's like a library -- a very, layered library -- when you walk in the door, who you are determines what you can see on the book shelves," said Lt. Col. Mark Lipin, USAFCENT NOSC director. "A foreign partner would see fewer books than a U.S. military user."

The "libraries" can be secured in such a way that one user who works in Personnel, may only have visible relevant books or files to their needs; and a person working in Finance, would have visible a completely different set of books. If a person needed access to different sets of books, they would have to be credentialed for that permission. Also, a non-U.S. user of the CC's Dashboard would have visible a completely different set of books, or files, than a U.S. user.

The authority of the network is that it creates a powerful segmentation of data capability available to the users. The network creators, "simply built the library," Colonel Lipin said. "It's up to the users to ensure useful, relevant information is on their book shelves."

What makes it unique - old school meets new school

The uniqueness of the CC's Dashboard is that it's the first for the Department of Defense, and possibly ever, that massive amounts of information will be shared over a network connecting multiple countries and sites via satellite feeds.

Continuous replication of information and uploading and editing files, makes the information found on the Dashboard the same whether the user is in Afghanistan, South Carolina or downtown Baghdad.

The CC's Dashboard will help move the Air Force's information management into a knowledge management realm.

The sites within Dashboard are tailored for each section in USCENTAF. All the A-Staff and special offices have a unique site for their information and knowledge exchange. All the sites look similar. "Per General North, we wanted to be able to go anywhere on the site with three clicks," Colonel Lipin said.

Its simplicity for the user is its most notable feature of the system. From "three clicks and you're there" to the background colors on each page -- simplicity drives the site. For example, the USAFCENT pages are all tan. The 9th Air Force pages are blue and the CFACC pages are purple. The tan, obviously designates the wartime mission in the Central Command area of responsibility, which includes Southwest Asia. The blue pages represent the garrison missions of the 9th Air Force. And the purple represents the mixture of the CFACC's joint mission with other services and allied nations.

With a system built to handle the air war, and all the information it takes to fight it, great concern was taken on how a user can find the information he or she needs within seconds. So a powerful search tool was added to ease the burden of finding one document out of a database this size.

Often, valuable time is lost because a person "can't remember where I saved that document" -- but with the Dashboard's search tool, those days are gone, Colonel Lipin said. "This search tool will be the user's best friend."

The CC's Dashboard is enabling the warfighter to come one step closer to winning the battle in cyberspace by allowing content to be visible from one side of the globe to the other within a matter of seconds. It's one more tool in the warfighter's inventory to make the tough job of fighting and winning America's wars a bit easier.