CHIPS
MAGAZINE

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AGILE - LETHAL - CUTTING EDGE
NAVAL TECHNOLOGY

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Features

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Volume XXIV Issue II

On the covers: The U.S. Navy s Littoral Combat Ship (LCS), an entirely new breed of U.S. Navy warship. A fast, agile and networked surface combatant, LCS s modular, focused-mission design will provide combatant commanders the required warfighting capabilities and operational flexibility to ensure maritime dominance and access for the joint force. Artist concept provided to the U.S. Navy courtesy of General Dynamics. All LCS images available on Navy NewsStand at http://www.navy.mil/.

Editor's Notebook

Naval technology is cutting edge, lethal and agile — just like our fighting forces. You will find high-tech operations everywhere the Navy and Marine Corps answer the nation's call to service — sea, air and land. Places you would expect — and some places that you wouldn't — like in the Navy and NASCAR partnership, which you can read about in this issue.

Agility is the watchword for expeditionary naval forces who respond to diverse missions whether engaged in major combat in Afghanistan and Iraq, anti-piracy operations in the Indian Ocean, humanitarian assistance and disaster relief in Leyte, Republic of Philippines, or search and rescue operations in the Red Sea.

But the Chief of Naval Operations reports that the Navy is tackling new missions every day in ways that don't involve ships. More than 10,000 Sailors are currently on the ground in the U.S. Central Command area of operations, 4,000 of whom are in Iraq. Recently, the Navy took command of the detainee mission in Guantanamo Bay, Cuba, and a new high-security prison in Iraq. In April, a Navy admiral will take command of the Joint Task Force Horn of Africa in Djibouti.

The CNO has discussed the increasing demand for Special Operations Forces and the creation of a Foreign Area Officer Community. Soon, the Navy will have a riverine capability that will extend the reach of the newly established Navy Expeditionary Combat Command and Expeditionary Security Force into the world's shallow waterways.

Training and working with U.S. allies and coalition nations will be instrumental in securing the Navy's success in these new mission areas.

Whether assisting our friends and allies worldwide at sea or on shore, projecting a forward presence or combating terrorism, the limits of Sea Power seemingly know no bounds.

Welcome new subscribers!

Sharon Anderson
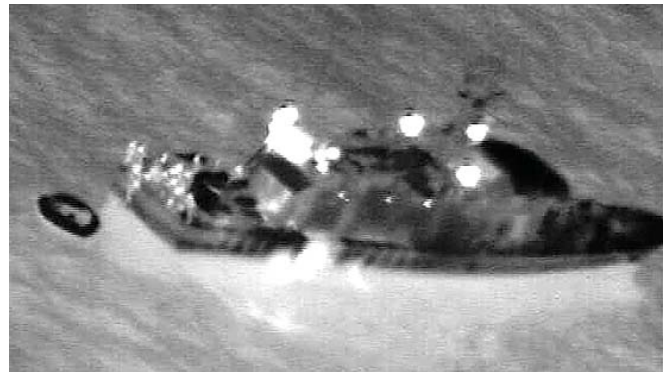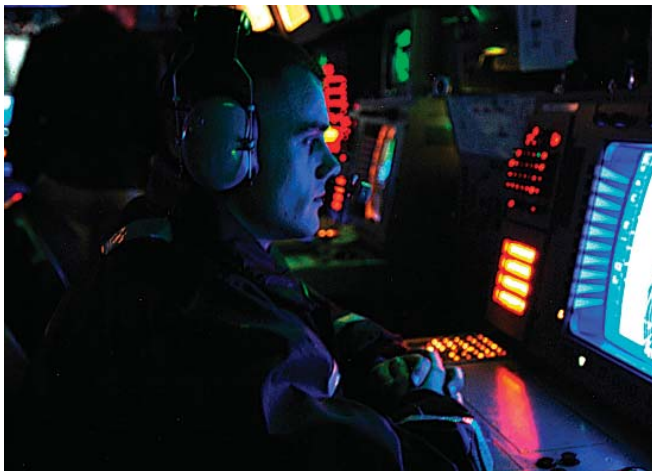
Feb. 4, 2006 - Infrared image taken from U.S. Navy P-3C Orion maritime patrol aircraft, assisting in search and rescue operations for survivors of the Egyptian ferry Al Salam Boccaccio 98 in the Red Sea, shows a rescue vessel alongside a life raft. The aircraft, assigned to the Golden Swordsmen of Patrol Squadron (VP-47), flew for almost 15 hours during the mission to assist local authorities in the search efforts. VP-47 is homeported at Marine Corps Base Hawaii, Kaneohe Bay, and is currently supporting missions in the U.S. Central Command area of operations. U.S. Navy photo.

Jan. 21, 2006 - Crew members assemble on deck with small boats in tow aboard a dhow suspected of piracy, after being intercepted by the U.S. Navy destroyer USS Winston S. Churchill (DDG 81). Upon receiving a report of an attempted act of piracy from the International Maritime Bureau in Kuala Lumpur on the morning of Jan. 20, Churchill and other U.S. naval forces in the area located this vessel controlled by suspected pirates and reported its position in the Indian Ocean. U.S. Navy photo by Chief Information Systems Technician Kenneth Anderson.

Norfolk, Va. (March 29, 2006) – With his ship in port, Fire Controlman 2nd Class Edgar Friedrichs, stands watch in the Combat Information Center (CIC), during the Fleet Synthetic Training-Joint Exercise (FST-J) aboard the USS McFaul (DDG 74). FST-J replicates at sea war conditions without participating units needing to deploy from their homeport. A combination of U.S. Navy units, joint and coalition forces participated in FST-J. Joint forces included Air Force Control and Reporting Center, Eglin AFB, Fla., and AWACS Distributed Mission Operations Center Kirtland AFB, N.M. Army units included 108th ADA, 31st ADA, and U.S. Army RTOS Trainer Fort Bliss, Texas. Coalition forces included the British Maritime Warfare School in Portsmouth, U.K., and PJHQ, Northwood, U.K. For the first time German units from Command and Control Systems Command Wilhelmshaven, Germany participated. U.S. Navy photo by Photographer's Mate 2nd Class Lolita M. Lewis.

Several years ago, the Department of the Navy (DON) implemented the use of smart cards as data storage and identification (ID) cards. We led the way in smart card implementation, and eventually, our smart card efforts evolved into the Department of Defense (DoD) Common Access Card (CAC), which is now the standard ID card for all DoD personnel.

The CAC has become integral to the way the DON and the entire DoD conduct secure logical access, online transactions, and physical access. There are 4 million CACs with Public Key Infrastructure (PKI) digital certificates in use throughout the DoD — the largest and most successful PKI/smart card initiative in the Western Hemisphere.

Recent mandates are requiring the use of the CAC for enhanced security and identity management. Homeland Security Presidential Directive-12 (HSPD-12) requires all federal agencies to issue "Personnel Identity Verification" cards to all civilians, military and support contractors. HSPD-12 requires the adoption of a common identification standard governing the interoperable use of identity credentials to allow physical and logical access to federal government facilities and systems. It also mandates a secure and reliable identification that is based on a sound vetting process for verifying an individual's identity, is strongly resistant to identity fraud, can be rapidly authenticated electronically, and is issued only by accredited providers. For DoD, the CAC will be our HSPD-12 identity card.

The DoD is also accelerating the implementation of PKI digital certificates for access via cryptographic logon to DoD networks and authentication to secure Web sites by summer of 2006. The Joint Task Force for Global Network Operations (JTF-GNO) has issued a tasking that addresses this implementation.

Aligning to a common smart card/PKI solution across all of DoD has been a great accomplishment. We are now using the CAC for applications that range from digitally signing and encrypting e-mail, to arranging travel, managing food service, and tracking weapons issuance.

The acceleration of our efforts to use the CAC across the Navy-Marine Corps team to: (1) gain access to our networks and secure Web sites; (2) replace labor intensive paper-based processes with electronic solutions that use digital signatures; and (3) implement a consistent enterprise-wide approach to physical access to our bases and facilities will not only improve the protection of our people and information systems, but also reduce costs.

While the JTF-GNO timeline is very aggressive, our shared commitment to this effort is crucial. I encourage you to fully support these efforts to accelerate the implementation of CAC and PKI technology and to continue to identify additional uses for these powerful identity management tools as we work together to achieve our vision of network-centric operations.

Dave Wennergren

DEPARTMENT OF THE NAVY - CHIEF INFORMATION OFFICER
W W W . D O N C I O . N A V Y . M I L

Understanding the war on terror …

Adm. William J. Fallon, the "silver fox," flight officer and warrior for more than 39 years, talks about the global war on terror and the new technologies needed to meet the mission challenges ahead.
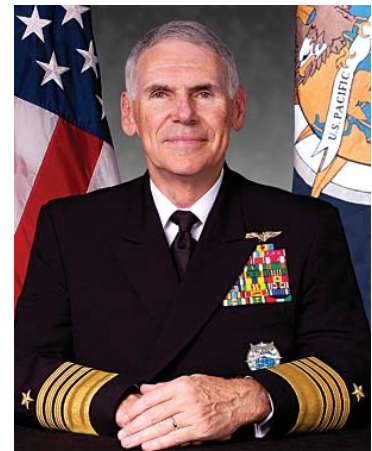
Adm. William J. Fallon
Commander, U.S. Pacific Command

The No. 1 focus area in the Pacific is the war on terrorism. It is the No. 1 issue for our nation. This war today is a worldwide challenge in which national will and perception are paramount features. This is a real problem, and I welcome your feedback.

From where I sit (or fly, since I spend most of my time in the air), I get the feeling that the majority of American people don't quite get it. This is not a slam, it is not an indictment or accusation, it is just an observation. While there is a lot of talk about the war, I don't think most of us truly understand what it is that we are involved in. I can offer that probably the No. 1 reason is that this conflict does not fit the concept and vision of a war as we have known it — at least in my lifetime.

This war is not specific to Iraq or Afghanistan, although these countries seem to garner most of the attention. It is quite understandable, since we have a couple hundred thousand of our best and brightest men and women engaged in conflict in those spots. They are in challenging circumstances every day. We are suffering some not insignificant casualties, and many sacrifices are made by these men and women.

But this is not the only place in which this war is being waged.

This fact seems to elude a lot of people. It is not just a conflict in which we have staged actors lined up force-on-force as in conventional warfare. There was that type of fighting in the first several weeks of the thrust into Iraq, but that is not the way it is now. In fact, we are facing a global, non-state terrorist threat in which our overwhelming conventional capability is being challenged asymmetrically.

We do not have a problem when we are challenged force on force. Ask any of our leaders or Soldiers, Marines, Airmen or Sailors in Iraq or Afghanistan, and I expect that you would hear that virtually in every conflict we have prevailed. But this is not traditional conflict as we understand it.

The principal weapons in this conflict are IEDs, improvised explosive devices. The intent is to maim and kill as many human beings as possible. The other weapon of choice is the suicide bomber. Interestingly, the key tool of this war is something very different than what has been used in other conflicts — the Internet. Enemy leaders have stated openly that the most important tool for them is the ability to communicate ideas and thoughts, and shape opinions using the Internet. That ought to be of high interest to all of us.

What makes this particularly challenging is that these tools, and the way they are being used in our society, which is very open, very trusting, and very much inclined to act in a free and unfettered manner, make us vulnerable. This is a real problem because philosophically we do not want to encumber ourselves with more security, more restrictions, and more things which confine and challenge us. The enemy seeks to exploit the freedoms and liberties which we cherish.

We are winning on the battlefield everyday. I just spoke to the Chairman of the Joint Chiefs of Staff Gen. Peter Pace, and Commander, U.S. Central Command Gen. John Abizaid, and many of our other leaders, who have been in the field the last couple of weeks. They have been to Afghanistan and Iraq, and they report that they sense a growing confidence among our people in the field and, more importantly, among the Iraqis with whom they are dealing. As the capabilities of Iraqi and Afghan security forces grow, this is beginning to have a ripple effect in Iraqi society.

This confrontation in which we are engaged is not going to be over any time soon. No matter how fast the Iraqi and Afghan security forces can pick up the burden to defend themselves, these are only two battlefields in this war.

Our enemies have a lot of patience, and they take the long view. But they have weaknesses. They make mistakes, and they have made a lot of mistakes in Iraq. I think that some of these recent desperate measures they have taken, including mass bombings of their own people, are beginning to have a very negative effect on their ability to win hearts and minds. Their own supporters are turning against them in significant numbers.

You only have to ask our people who are serving there or those who have recently returned to compare their experiences of

"Interoperability with our allies, friends, partners and nonmilitary entities is essential for us to get our job done. Long gone is the solo flyer."

recent months to a year ago. What I hear increasingly is that more and more of the Iraqi people are coming to our people, or to their own security forces, fingering the bad guys or the locations of IEDs.

The terrorists that we are challenged by thrive in areas of instability and insecurity. Our efforts in Iraq and Afghanistan are in trying to deny these sanctuaries to the enemy. But they have lots of other places in the world from which they are operating or could operate.

Let me segue into the Pacific Command area of operations. One of the key objectives of our staff, our subordinate commanders, our component commanders and all of the people in PACOM, is to work throughout the vast area. This area contains 50 percent of the world's territory, has 60 percent of the world's population, and 4 of the 5 largest gross domestic products of the world, including the United States, Japan, China and India. Fifty percent of the world's energy goes through one spot in the ocean, a mile-wide span in the Strait of Malacca. These are mind-numbing statistics. This region is critically important to the security of this nation.

One of our major undertakings in the Pacific and in Asia is to try to build the capability and capacity of our partner countries to deal with these insecurities and instabilities. Somebody brought to my attention that the number of countries in the United Nations has almost tripled since the U.N. began in 1945 with 50 countries. That sounds terrific. Unfortunately, half of these nations are dysfunctional, failed or failing entities.

It is this background that provides an attractive foundation for terrorists to operate in. It is not something that we are used to dealing with. We are challenged conceptually in getting our minds and our capabilities wrapped around this challenge to be able to work effectively against them, so that all of us, not just the people in the United States, but people throughout the region and throughout the world are able to enjoy the growth, prosperity and freedoms that we cherish.

It is axiomatic that this growth and prosperity will not occur unless stability and security underpin them. I salute my predecessors who have served in uniform the last five decades, who have worked intensely to provide security and stability throughout the Pacific region. In every country I have visited in the Pacific Rim, the majority of the people acknowledge openly that stability in the region has been and is underpinned by U.S. military power first and foremost.

We have help from tremendous allies like Australia. We do not have a stronger ally in the world than our good friends "down under." We have a strong relationship with Japan. I could go around "the Rim" and name all of our partners.
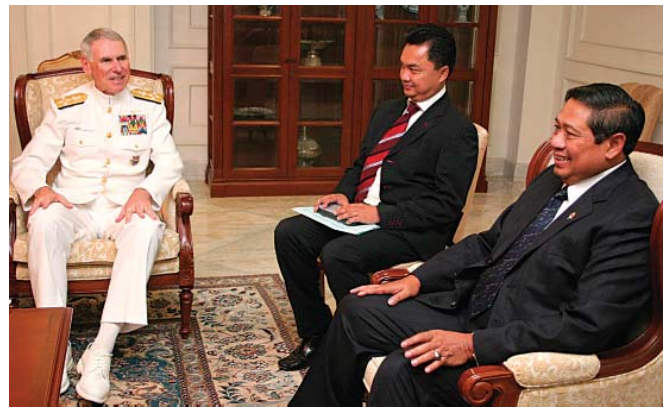
Jakarta, Indonesia – Adm. William J. Fallon, commander, U.S. Pacific Command, far left, meets with Indonesian President Susilo Bambang Yudhoyono, far right, at the palace in Jakarta, Indonesia, Feb. 23, 2006. The two met to discuss security issues in the region including joint efforts in combating terrorism. Photo courtesy of the Office of the President of the Republic of Indonesia.

Think of the changes since the end of World War II. Japan has grown into a phenomenal economic powerhouse of democracy, a model, in many respects, for others to follow. Look at the Philippines, Taiwan, Thailand, India, and Indonesia, the most populous Muslim country in the world with 250 million people, all nations with great potential.

Indonesia has some terrorist problems and networks. The networks get some support from the population, but my observation is that the majority of the people reject this ideology. Indonesia is fertile ground for trouble because economically it is still a developing nation. In its last national election, 76 percent of eligible Indonesian voters voted. Compare that to our voting record. You talk about democracy! They are working on it.

India, with one billion people, is a functioning democracy. It is different in many respects culturally, but they are aligned with us philosophically, in form of government and respect for rule of law. In this area, there is a tremendous amount of good going on, and we have to capitalize on those things that are going in our favor to help build stability.

The governments in Southeast Asia, Indonesia, the Philippines, Malaysia, Thailand and Bangladesh are not the strongest in the world. They have very difficult borders to defend and individual feelings of mistrust with some of their neighbors.

Largely, underdeveloped countries with poor populations, who need the basics of life, are susceptible to the siren song of terrorists who say, "Look at what you have; we will give you something better." They do not tell them the truth about what comes with this something better. They tell them, "We will give you strong leadership." They do not tell them where they want to lead them, and that is down the road to the terrorist infrastructure that we see manifested in so many places.

As we look to the future, our ability to counter this worldwide threat is going to be underwritten and made possible by things

that have not been our traditional focus. Because of the state-on-state nature of defense in the past, we have tended to focus on heavy metal — big ships, big tanks, big airplanes — and lots of them.

But today the requirements are a little different, we need speed, agility and persistence. When we talked to Gen. Abizaid about what is at the top of his list of priorities, he said it is the ability to have real-time, continuous intelligence information fused instantaneously to his operational people so they can act quickly. We need to act with small units against small units. That is the challenge today.

Sept. 11 was real, ugly and nasty. We lost a lot of people. We are losing and have lost a lot of people in the fights since then. Why doesn't this register with us? Why can't we see that this problem has not gone away? The many institutions in this country that have worked together to increase the security to prevent follow-on events are wonderful and deserve our praise.

Terrorist acts are going to happen again — almost guaranteed. Our enemies are still out there and seek to exploit our vulnerabilities. They are working overtime, and they are patient. They are biding their time. But I think we can prevail in this conflict.

We are going to need technical help. We are going to need hardware. We will need people who can think, connect the dots and pull things together. We need persistence. We need to be able to look at areas that are suspect and wait these terrorists out — and when they pop out — be able to do something about it.

There are a lot of characteristics of this combat environment that you in industry and government can help us with. Those in AFCEA and the U.S. Naval Institute can also be of great assistance. The forum that you offer in which people can sit down and start thinking and talking about these challenges is important.

From the PACOM theater, a vast area with lots of activity and many partners, communication and information exchange are key requirements. We cannot do our job without them. Through your good work in the technical field we are getting swamped with information and data. Turning that information into something that is useful that we can act on is a real challenge. That needs to be a top priority.

Interoperability with our allies, friends, partners and nonmilitary entities is essential for us to get our job done. Long gone is the solo flyer.

Good advice that I was taught early on is that you don't go into a fight without a wingman. When we do things, whether it is a combat operation or humanitarian operation, we do it with others. It is impossible to do the job unless we can talk to these people and exchange information in words, data or video.

One other point, I am tired of spending money, time and effort trying to connect the dots for technology equipment that does not "talk" to one another. Let's agree on some open standards and enforce them. Policy-makers, please make it happen.

For us, we need to curb our appetites so that we do not get overwhelmed by every new toy industry comes to show us. If it does not use open standards, and it cannot talk to any other device that we have in the field, I do not want to talk about it.

This is not a bottomless pit of resources, and the taxpayer is more than justified to demand that we do this more efficiently and more effectively.

We have joint operating environments today, and I would not think of doing anything, unless it is in concert with our sister services, allies, friends and nongovernmental institutions. We can leverage our talents and capabilities when we work together.

Whether it is tsunami relief, security in the Malacca Strait, trying to build capacity in Southeast Asia or trying to build confidence in Northeast Asia, Japan, Republic of Korea or China, PACOM is there. It is critical to work together in our own country and with our allies in this challenge we face worldwide.

We are blessed to have our men and women in uniform, who are carrying this fight daily to the enemy in some of these distant battlefields, serving so well in uniform in Iraq and Afghanistan. With the people we have, with their caliber and capabilities, with the tools you have provided our men and women in uniform, and the other organizations of government in this country, we can prevail.

I have confidence in our capabilities, certainly in our people, and I think that if people understand us better, we will have the will to prevail.

The stakes are really high.

"… I am tired of spending money, time and effort trying to connect the dots for technology equipment that does not 'talk' to one another. Let's agree on some open standards and enforce them. … If it does not use open standards, and it cannot talk to any other device that we have in the field, I do not want to talk about it."

– Adm. Fallon
Jan. 12, 2006

U.S. Pacific Command is a joint command directing and coordinating the employment of U.S. forces in peace, crisis or war to advance U.S. interests as an active player, partner and beneficiary in pursuit of a secure, prosperous and democratic Asia-Pacific community. USPACOM, in concert with other U.S. government agencies and regional military partners, promotes security, deters aggression and advances regional cooperation in the Asia-Pacific region. Go to http://www.pacom.mil for more information. **CHIPS**

Q & A Session with Adm. William J. Fallon
Commander, U.S. Pacific Command

After Adm. Fallon delivered his remarks to the audience at WEST 2006 in San Diego, Calif., Jan.12, 2006, he responded to questions from the audience. WEST is sponsored by the Armed Forces Communications and Electronics Association (AFCEA) and U.S. Naval Institute.

Q: You mentioned how important it is work with the coalition. Are you concerned in the area of warfare and communications technology that we are going to leave the coalition behind?

A: The bottom line answer is, no. I am not concerned because there are capabilities, attributes and professional areas of expertise that people throughout the spectrum can bring to this challenge.

The most important tool in this challenge today is right here, right between our ears, and that is understanding the problem. It's the ability and willingness to think and apply ourselves to the challenge. The hardware things we can deal with. I don't care much that everybody has the same equipment. I do care that we can exchange information. Let people use the tools they have and just be able to exchange information.

Q: Is PACOM involved in anti-piracy efforts?

A: Piracy has been around for a long time. In the Asia-Pacific region, there are pirates operating. We have had a problem in the Malacca Strait for some time and in the Horn of Africa. Most of it is criminal activity that stems from loosely governed areas that are poorly patrolled, insecure and unstable. People have little in the way of material goods and see attractive targets float by and decide to do something about it. We are trying to encourage those nations that are in the neighborhood to cultivate their capabilities to deal with piracy.

I would point to the Malacca Strait as an area where we have seen a lot of progress in the last year alone. There are varying capabilities, and there is a lot of will, but the tools have been missing. Countries want to do something, but they have been deterred by lack of resources. Their leaders have taken this 'bull by the horns,' and there are active patrols in the Malacca Strait by four countries. They have agreed on an inaugural program, called 'Eyes in the Sky,' to try to increase their ability to patrol, and they are exchanging information.

The United States has just been given authority, by virtue of a waiver that the Secretary of State signed, to engage with the Indonesians to provide foreign military financing and to work with them to a degree that we could not have before to help increase their capabilities. The countries in the Malacca Strait have now agreed on a concept of operations and a construct for work. The levels of piracy in that area show trend lines going down.

Q: How is PACOM working with U.S. Northern Command on issues of maritime domain awareness and maritime security?
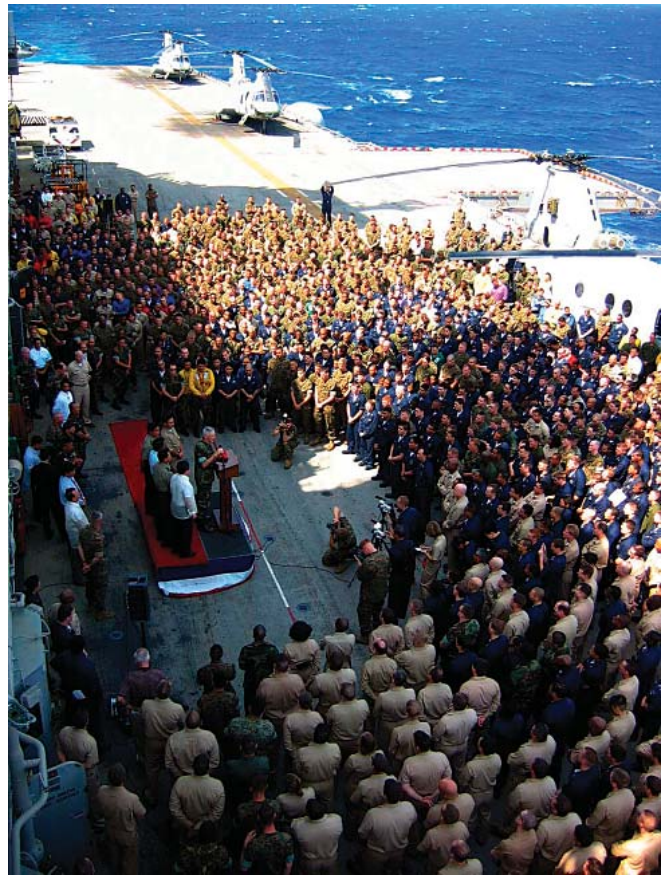
Aboard USS Essex at sea - Commander, U.S. Pacific Command, Adm. William J. Fallon, visited USS Essex (LHD 2) March 2, 2006, to thank the crew and embarked 31st Marine Expeditionary Unit Marines for their hard work during the Leyte humanitarian assistance, disaster relief efforts following the Feb. 17th landslide on Leyte Island. U.S. Navy photo by Journalist 1st Class James Evans Coyle.

A: Commander USNORTHCOM Adm. Tim Keating has responsibility for the U.S. mainland. I have responsibility for the Hawaiian Islands and Pacific states in this regard. We are trying to have a seamless, integrated set of staffs, so that we have common procedures and common understanding of the challenges and needs. So that if some event occurs, we are not going to have any seams that we will have to bridge with a translator or procedure.

As a nation, we are growing our capability. The missile defense challenge is one of our big challenges. There is interceptor capability that is in the ground now in Alaska called Sea-Based X-Band Radar. We have cooperation ongoing with the Japanese for X-band high-definition radar that will be installed in Japan soon. This involves close collaboration between the United States and Japan.

As we 'game' through scenarios, we are trying to anticipate challenges that might threaten us and to make sure that we are working constantly to both understand and be able to act on a problem in a coherent fashion. Both Adm. Keating and I are confident that we are moving in the right direction. **CHIPS**

Interview with *Vice Admiral Barry M. Costello*
Commander, Third Fleet

Third Fleet's area of responsibility covers more than 50 million square miles of the Pacific. Its capabilities include more than 35,000 Sailors, 72 naval ships, 32 submarines and 21 maritime patrol and reconnaissance aircraft. Third Fleet Carrier Strike Groups (CSGs) carriers are: USS Nimitz (CVN 68), USS Carl Vinson (CVN 70), USS Abraham Lincoln (CVN 72), USS John C. Stennis (CVN 74) and USS Ronald Reagan (CVN 76). Expeditionary Strike Group (ESG) amphibious ships are: USS Tarawa (LHA 1), USS Peleliu (LHA 5), USS Boxer (LHD 4) and USS Bonhomme Richard (LHD 6).

CHIPS asked Vice Adm. Costello to talk about the 3rd Fleet mission and comment on some of the cutting edge technologies that 3rd Fleet Sailors are using.

CHIPS: What does 3rd Fleet bring to the CNO's Sea Power 21 vision?

Vice Adm. Costello: Third Fleet uses Sea Power 21 as the foundation for the principal domains: Integrated Training, Maritime Homeland Defense (MHLD) and Operational Agent (C3F is the Pillar Lead for Sea Shield).

The Sea Shield responsibility focuses on protecting global defense assurance. The 21st century sets the stage for tremendous increases in naval precision, reach and connectivity, ushering in a new era of joint operational effectiveness. Innovative concepts and technologies will integrate sea, land, air, space and cyberspace to a greater extent than ever before. In this unified battle space, the sea will provide a vast maneuver area from which to project direct and decisive power around the globe.

To realize the opportunities and navigate the challenges ahead, there must be a clear vision of how the Navy will organize, integrate and transform. Sea Power 21 is that vision. It will align efforts, accelerate progress and realize the potential of people. Sea Power 21 will guide the Navy as we defend our nation and defeat enemies in the uncertain century ahead.

The training conducted, experimentation executed and the MHLD efforts each have a positive effect on the Navy's way ahead. Each supports the other and all are interrelated.

CHIPS: In an interview with Vice Adm. Harvey Johnson, Commander, U.S. Coast Guard Pacific Area, the admiral talked about the close relationship between the Coast Guard and the Navy.

Vice Adm. Costello: The Third Fleet has an excellent rapport with the U.S. Coast Guard and works very closely with Vice Adm. Johnson. Last May, the Navy and Coast Guard participated in exercises Lead Shield III/Roguex V in Long Beach, Calif.

The purpose of the exercise was to test the port of Long Beach's readiness against a terrorist attack.

The combined exercise involved 24 local, state and federal agencies in an effort to disrupt a simulated terrorist attack, respond to the consequences, and maintain steady port operations.

Another objective of the exercise was to strengthen force protection and homeland defense of seaports and coastal waters. This maritime homeland defense exercise was instrumental in helping fine-tune our anti-terrorism defense program.

Conducting exercises of this nature are invaluable to not only the military but the country as well. The two main components were Lead Shield, which exercises anti-mine warfare capabilities; and Roguex, which focuses on the ability to interdict and secure a rogue vessel.

The series of exercises helped test the Navy and Coast Guard command and control relationship, and coordination in a defense scenario that focused on expanded maritime interdiction operations.

CHIPS: Sea Fighter (FSF 1) is a test platform for the Littoral Combat Ship and is manned with a joint Navy and Coast Guard crew of only 26 personnel. What is Sea Fighter's current role?

Vice Adm. Costello: Sea Fighter is a multi-mission test vessel designed as a proof-of-concept for numerous warfighting capabilities. Sea Fighter might prove useful enough to be the model for a new class of coastal combat ships. The vessel is extremely fast, with a top speed of 50-plus knots an hour.

Even in rough seas (with up to 7-foot waves), the ship can do about 40-plus knots an hour. The ship has a number of capabilities such as a boat dock and a flight deck large enough for two helicopters. The ship overall is designed to test concepts and technologies planned for use in the larger Littoral Combat Ship.

CHIPS: What are some of the advantages of having a mixed crew of Navy and Coast Guard personnel?

Vice Adm. Costello: There are numerous advantages of having a mixed crew of Navy and Coast Guard personnel:

It enhances interoperability and fleet awareness.

It helps strengthen an already strong relationship between the Navy and the Coast Guard.

"It's amazing how the technologies today allow interconnectivity with coalition forces, interagency and local law enforcement."

Far right: A modified rigid hull inflatable boat (RHIB) called "Spartan Scout." The Spartan Scout was created by the Naval Undersea Warfare Center in Newport, R.I., and will make future unmanned missions for a number of applications. Photo courtesy of Landon Hutchens of Naval Sea Systems Command. Near right: The U.S. Navy's test platform Sea Fighter (FSF 1), developed by the Office of Naval Research, arrives at her new homeport of San Diego, Calif., Aug. 1, 2005. This high-speed aluminum catamaran will test a variety of technologies that will allow the Navy to operate in littoral waters. With a base crew of 26, Sea Fighter will also provide a platform for the evaluation of minimum manning concepts on future naval surface ships. U.S. Navy photo by John F. Williams.

It allows for both services to exchange ideas and knowledge.

The mixed crew adds depth and functionality.

Training, an important ingredient linked to the majority of things that are done in the Navy, is also strengthened as both services benefit from gaining valuable data and experience. This was indicative during last year's Navy and Coast Guard involvement in Exercise Lead Shield III/Roguex V.

CHIPS: Are there any new technologies that you are excited about because of what they can do for the warfighter?

Vice Adm. Costello: That's the best part about the Sea Trial program — it's structured to highlight those innovations that can do the most for the warfighter. Some of the most promising technologies are in unmanned vehicles — air, surface and undersea. They dramatically improve knowledge of the battlespace and speed of command.

Another exciting area is the mission modules for Littoral Combat Ship. The flexibility technology brings to this new class of ship is very promising. Recently, for example, biometrics were tested on board ships to assist in the prosecution of terrorists operating on the sea. It's amazing how the technologies today allow interconnectivity with coalition forces, interagency and local law enforcement.

CHIPS: What is the Spartan Scout?

Vice Adm. Costello: Spartan Scout is an unmanned surface vehicle (USV) currently under development as part of an Advanced Concept Technology Demonstration project. This specific USV integrates a 7-meter rigid hull inflatable boat (RHIB) core command and control system with an integrated sensor and weapon system package, and is envisioned to be a primary force leveler against asymmetric threats.

The general concept for USVs like Spartan Scout is to enable the battle force commander to match asymmetric threats with an appropriate response. Nothing short of impressive, the USV is being evaluated as a force-protection system against asymmetric threats such as small boats, able to rapidly establish the plot of possible threatening craft around the carrier strike group and provide real-time observation of maritime interdiction boardings.

The unprecedented combination of unmanned, high speed, mission-tailored precision sensors and weapons all knitted together by a high-speed network will provide the eyes, ears, situational awareness, and firepower a commander needs to engage and defeat the right targets, with the right effects, at the right time. Spartan Scout typifies the constant thirst for technology and is indicative of the Navy's forward looking vision.

CHIPS: The Swedish submarine HMS Gotland recently participated in a Joint Task Force Exercise (JTFEX) with Third Fleet and the USS Ronald Reagan Carrier Strike Group off the coast of Southern California. The exercise was an opportunity to enhance overall anti-submarine warfare (ASW) proficiencies and further strengthen the relationship between Sweden and the United States. Was the exercise successful?

Vice Adm. Costello: HMS Gotland is deployed to San Diego to promote interoperability between U.S. and Swedish forces. Gotland played a number of roles during the joint exercise which mutually benefited the U.S. and Swedish navies by enhancing overall anti-submarine warfare proficiencies further strengthening the relationship between the two countries.

With more than 140 quiet diesel submarines in the Asia-Pacific, and the spread of associated platform technologies, it is important for the Navy to maintain preeminence in this area. Having HMS Gotland integrated into training fostered interoperability and enhanced ASW proficiency.

CHIPS: Were you testing new technologies in a coalition environment during JTFEX?

Vice Adm. Costello: JTFEX provides many training opportunities. The exercise involves real-world exercise scenarios that cover the range of Pacific and Middle East maritime operations.

Everything from simulated battle force strike capability to boarding suspicious vessels and, of course, our training incorporates a coalition environment. The Navy continues to look at new technologies and how they can be tested and deployed to the fleet.

CHIPS: What were your objectives in JTFEX?

Vice Adm. Costello: The primary objective in any JTFEX is to provide carrier strike groups (CSGs) or expeditionary strike groups (ESGs) with the necessary training until they attain my 'Certified for Deployment' endorsement. This certification enables these trained and capable forces to forward deploy.

In other words, the C3F staff trains our maritime force, and upon completion of the mandatory exercises, the commanders and their strike groups are certified as 'ready for deployment.' The CSGs/ESGs will be ready to operate in both the Pacific and Middle East depending on the needs of the combatant commanders and the Joint Staff.

CHIPS: Rim of the Pacific involves two weeks of intense multinational war games. Will RIMPAC 2006 test any new technologies?

Vice Adm. Costello: Currently, the C3F staff is preparing for the RIMPAC exercise scheduled this summer off the coast of Hawaii. During this exercise, navies from the Republic of Korea, Japan, Chile, Peru, Canada, Australia and the United Kingdom will work with the United States.

RIMPAC is first and foremost a training exercise, but Third Fleet also leverages events to do Sea Trial testing and experimentation. The schedule is not finalized. However, plans to test or experiment with approximately 30 new technologies, including several ASW and Mine Warfare (MIW) systems are being developed for the new LCS class of ship.

To ensure other navies can participate, the Third Fleet staff and the staff at the Commander, Pacific Fleet are developing a Coalition Forces Pacific (CFP) Combined Enterprise Regional Information Exchange System (CENTRIXS) network that will allow maximum collaboration and data exchange with coalition forces during the exercise.

Additionally, there are Sea Trial events planned with other navies that test the integration of coalition systems (technologies) and tactics to ensure maximum efficiency with our coalition partners in real-world operations.

Effective coalition communication is important. Is the same equipment being used, is it the right equipment, are all units participating familiar with the policies and procedures to operate together? These are just a few of the many questions that come to mind.

Effective communication is paramount and cannot be stressed enough. This challenge intensifies with the addition of the warfighting element. The Third Fleet staff has noted these issues, and will effectively incorporate them into all of the scenarios and war games. **CHIPS**

Sea Fighter Fact Sheet

The test platform, Sea Fighter (FSF 1), developed by the Office of Naval Research, is homeported in San Diego, Calif., under the operational control of Commander, Third Fleet.

Sea Fighter is used to evaluate the hydrodynamic performance, structural behavior, mission flexibility and propulsion system efficiency of high speed vessels.

Sea Fighter will test mission flexibility with interchangeable "mission modules" (standard 20-foot containers) housed in Sea Fighter's large mission bay. The mission bay can house 12 containers, permitting the vessel to be quickly reconfigured to support a variety of potential missions, including battle force protection, mine countermeasures, anti-submarine warfare, amphibious assault support and humanitarian support.

A multi-purpose stern ramp allows Sea Fighter to launch and recover manned and unmanned surface and sub-surface vehicles up to the size of an 11-meter rigid hull inflatable boat (RHIB). Sea Fighter can simultaneously operate two MH-60S helicopters from its flight deck.

Sea Fighter provides a platform for the evaluation of minimum manning concepts on future naval surface ships. A base crew of 26 (Navy and U.S. Coast Guard) personnel are responsible for all operations and basic maintenance, requiring a significant shift in the normal levels of manning currently used to accomplish various missions and tasks.

Sea Fighter will also test "paperless" navigation through the use of the Sperry Marine Electronic Chart and Display Information System (ECDIS) and Voyage Management System (VMS). Typically, the ship operates with just three watchstanders and one roving patrol to monitor and configure engineering systems. This reduced manning is supported by a level of automation and sophisticated monitoring of systems and equipment previously absent on U.S. Navy ships.

Sea Fighter conducts exercises in support of risk reduction for the Navy's Littoral Combat Ship (LCS) as an "LCS surrogate."

General Characteristics: Sea Fighter (FSF 1)
Type: Aluminum-hulled, wave-piercing catamaran
Date Deployed: Aug. 1, 2005
Propulsion: Two GE LM2500 Gas Turbine Engines; two MTU 16V 595 TE 90 Propulsion Diesels; four Rolls-Royce 125SII Waterjets
Length: 262 feet (79.9 meters) overall; 240 feet (73 meters) at waterline
Beam: 72 feet (22 meters)
Displacement: 950 tons
Draft: 11.5 feet (3.5 meters)
Speed: 50+ knots
Range: in excess of 4,000 nm @ 20+ knots

- Fact Sheet from the Office of Naval Research

For more information about Commander, U.S. Third Fleet go to http://www.c3f.navy.mil.

Innovation abounds at the Usability Engineering and Research Lab

By Dan Lulue

The Usability Engineering and Research Laboratory (USER Lab), of the Space and Naval Warfare Systems Center (SSC) San Diego, is just over one year old. In the last year its mission and capabilities have evolved from performing software usability studies to becoming a center where the disciplines of knowledge engineering, business process modeling, and user-centered design (UCD) are practiced on a daily basis.

Numerous projects have benefited from the multidisciplinary approach pioneered by the UCD team. Extensive process and domain modeling was done on behalf of U.S. Pacific Command and the Joint Intelligence Center Pacific. Other projects include the Border and Transportation Security network and, most recently, the Naval Facilities Engineering Command's antiterrorism/force protection program.

The domain models created through the methods used by the UCD team are used by software developers to write mission process Web services and, by human factors engineers, to design supervisory control and decision-support user interfaces.

Perhaps the lab's greatest success has been in the area of innovation. Innovation can be most easily seen in the design room where warfighters and watchstanders collaborate with UCD staff to identify roles, tasks and workflows for day-to-day activities, high-tempo exercises and critical real-world events.

Innovation of the type practiced in the USER Lab doesn't just happen. According to leading innovation expert, Dr. John Kao, innovation occurs at the edges of organizations. Kao states that innovators must have foresight, they must be able to tell a story in a compelling manner, and they must execute successfully.

The evidence of all of these activities is just what visitors see when they tour Building 368. The tour usually starts at the UCD space, and then moves to the human performance and usability test area at the building's north end. Here one encounters the ergonomic, four-node Multi-Modal Watchstation pod that was designed for the air defense warfare domain. The watchstations are part of the usability testing facility that also includes video taping equipment, a one-way, glass-fronted observation room, and user interaction monitoring and recording systems.

User-centered design is an agile process that borrows heavily from lightweight software development methodologies such as Extreme Programming.

Wikipedia defines UCD as: "a design philosophy and a process in which the needs, wants, and limitations of the end user of an interface or document are given extensive attention at each stage of the design process. User-centered design can be characterized as a multi-stage problem solving process that not only requires designers to analyze and foresee how users are likely to use an interface, but to test the validity of their assumptions with regard to user behavior in real-world tests with actual users. The chief difference from other interface design approaches is that UCD tries to bend and structure the functioning of a user interface around how people can, want or need to work, rather than the opposite way around."

SSC San Diego's UCD designers and engineers "beef up" the UCD process by adding current best practices from the knowledge engineering and business process modeling disciplines. Both fields contain a variety of tools and approaches that engineers choose from as they craft successive requirements-design-develop-test cycles. Knowledge engineering provides useful lexicons and ontologies that add rigor to the UCD domain and task models.

Business process management provides process diagrams that are drawn using standard notations such as Unified Modeling Language and Business Processing Modeling Notation. Engineers are then able to design optimal mission and decision-support user interfaces, and help customers reform their organization by supporting the reengineering of current practices and processes.

Each UCD cycle combines up-front research, discovery and analysis to yield low-fidelity wireframe prototypes that converge into interactive high-fidelity prototypes. Prototypes are tested with participating fleet and command personnel. Different types of tests are administered ranging from cognitive walk-throughs, to heuristic evaluations, to formal inspections.

Regardless of the test type, the results are fed back into the UCD process just in time for the next design-a-little, code-a-little, test-a-lot cycle. After a full year of operation the agile USER Lab has become a highly-prized resource that promotes discovery and innovation to support SSC San Diego's mission.

For more information about SSC San Diego, go to www.spawar.navy.mil/sandiego/.

CHIPS

Dr. Bela Feher, usability test coordinator, works with a test participant.

New SPAWAR Commander Outlines Near, Long-Range Goals

Rear Adm. Bachmann Seeks to Solidify Ties with Fleet, Acquisition Community

Rear Adm. Michael C. Bachmann addresses TEAM SPAWAR personnel during an assumption ceremony Feb. 23 at SPAWAR Headquarters in San Diego. Bachmann relieved Rear Adm. Will Rodriguez, left, who served as acting commander since November 2005.

The new head of the Space and Naval Warfare Systems Command (SPAWAR) is no stranger to San Diego sites and scenery — but since his assumption of command Feb. 23 — he's had little time to enjoy them.

By Steven A. Davis

Significant changes occurring in the Navy and within the Navy's acquisition community have provided Rear Adm. Michael C. Bachmann a host of opportunities and challenges that have kept him focused on the command's future and evolving mission.

As SPAWAR commander, Bachmann serves as the FORCEnet chief engineer and is responsible for developing the architecture and standards for the Navy's vision of network-centric warfare for the 21st century. In addition to developing the FORCEnet architecture, he is the chief engineer for the Navy's command, control, communications, computer and intelligence, or C4I, systems.

Chief of Naval Operations (CNO) Adm. Michael Mullen's stated goals of sustained combat readiness, the need to build the right force of the future, and the need to transform the Navy's manpower and personnel system are significantly impacting the way TEAM SPAWAR conducts business. In addition, the Navy's acquisition chief, Dr. Delores M. Etter, Assistant Secretary of the Navy for Research, Development and Acquisition (ASN RDA), is fine-tuning the acquisition community's structure and focus.

"It's no surprise that networks are now considered an indispensable necessity for daily fleet operations," explained Bachmann, who was recently nominated to receive his second star. "And today, our program executive offices (PEOs) and labs are delivering FORCEnet capabilities that allow our warfighters, joint and coalition partners the ability to rapidly respond to virtually any threat around the globe."

Bachmann has extensive acquisition experience through a wide variety of afloat, shore-based and joint duty assignments, including a previous assignment at SPAWAR. He assumed command of the Naval Tactical Command Support System in November 1995. The Department of Defense ACAT I program was selected into the Secretary of the Navy Acquisition Hall of Fame in April 1998, nominated for the Office of the Secretary of Defense (OSD) Packard Award, and awarded the OSD Certificate for Acquisition Excellence. Prior to arriving at SPAWAR, Bachmann was the vice commander at the Naval Air Systems Command.

As the Navy's architecture for transformational efforts, FORCEnet must integrate warriors, sensors, command and control, platforms, and weapons into a networked combat force. This requires an environment in which information at all levels is accessible, assured and actionable. It's for this reason that FORCEnet is fleet-centric by design, focused on the warfighter and decision makers at all levels.

FORCEnet's development requires unprecedented expertise and collaboration from across the Navy. For this reason, the CNO established the Naval NETWAR FORCEnet Enterprise (NNFE), which is based on the previously established Naval Aviation Enterprise construct. This collaborative effort follows the industry model of a chief executive officer (CEO), chief financial officer (CFO) and chief operations officer (COO).

The Naval Network Warfare Command, or NETWARCOM, which represents warfighters who rely on C4I systems to accomplish their missions, is the CEO. The CEO prioritizes and integrates requirements from the fleet and identifies optimum current and future readiness levels.

The CFO role is fulfilled by the Office of the Chief of Naval Operations, which evaluates the financial soundness of programs and develops financial plans to support warfighting priorities.

As FORCEnet's chief engineer, SPAWAR fulfills the COO role by aligning the processes by which the joint, interoperable architecture is designed. This role requires extensive collaboration with the Navy's acquisition community, which includes partner program executive offices and ASN RDA.

"Having participated in the Naval Aviation Enterprise for the last couple of years, it's really a great framework for success all around. Its initiatives are focused on the fleet, driven by the fleet and provide metrics that ensure we will meet the CNO's readiness cycles. It's really the right approach," Bachmann said.

The vast and varied challenges facing this FORCEnet stakeholders group are daunting. The key to success is linking the systems engineering process to the prioritization and the resourcing so the path established from the outset is architecturally sound and fiscally executable, and provides the capabilities required by the warfighter.

The architecture and standards developed today must result in a fully networked force of the future. Additionally, early FORCEnet capabilities must be implemented in a way that provides tomorrow's warfighter the greatest tactical and strategic advantage.

"The CNO has clearly defined his objectives for 2006, and it is apparent that the Naval NETWAR FORCEnet Enterprise is contributing to the attainment of these objectives," said Bachmann, "and we are committed to bring the CNO's objectives to fruition."

The Navy's acquisition community has also undergone changes that affect TEAM SPAWAR. Etter was named ASN RDA in September 2005, and as Bachmann explained, "She acts quickly and decisively and is accelerating the PEO/systems command dialog across the Navy. She immediately addressed such questions as 'What's the best way for the acquisition community to be organized?'"

On Feb. 23, ASN RDA announced a restructuring in the Navy's information technology arena. Rear Adm. James B. Godwin, who had previously served as NMCI's Direct Reporting Program Manager, was designated as the lead for the newly-established PEO for Enterprise Information Systems. PEO EIS is responsible for initiatives of the former PEO Information Technology and now includes NMCI, Base Level Information Infrastructure – ONE-NET and Navy Enterprise Resource Planning.

The restructuring also affected PEO C4I and Space, which added another essential joint-oriented program to its organization. The Distributed Common Ground System-Navy (DCGS-N) program, which provides time-critical fire control solutions and situational awareness support for command and control planning, will now report to Program Executive Officer Dennis Bauman.

Rear Adm. Michael C. Bachmann addresses TEAM SPAWAR personnel during an assumption ceremony Feb. 23 at SPAWAR Headquarters in San Diego.

With only a few weeks on the job and several more East Coast trips already planned, Bachmann has outlined an ambitious agenda by which his tenure will be evaluated:

√ Support NNFE and NETWARCOM to more effectively deliver FORCEnet capabilities to the fleet;
√ Increase support and strengthen relationships with PEOs;
√ Move TEAM SPAWAR more toward competency alignment;
√ Make TEAM SPAWAR as efficient and effective as possible.

One of Bachmann's first directives was to clarify how SPAWAR Headquarters and its associated PEOs (PEO Space Systems, PEO C4I and Space, and PEO EIS), systems centers and field activities should be referred. With the advent of NNFE, it became clear that using the term "SPAWAR Enterprise" would likely cause confusion among government and industry partners, academia and the fleet.

Accordingly, the SPAWAR corporate organization has been renamed "TEAM SPAWAR" to help alleviate any confusion between the organization and the collaborative enterprise organizations established by the CNO.

"One message we've received from the CNO is 'Do not sit on the fence with game-changing ideas. Figure out a way to get those ideas heard and to the fleet. Don't let the system crush innovative new ideas.' And I plan to take the CNO up on that offer," Bachmann said.

For more information about SPAWAR, go to www.spawar.navy.mil/. **CHIPS**

David Wennergren Elected Vice Chairman of CIO Council

The Federal Chief Information Officers Council announced the election of David M. Wennergren to the position of vice chairman Jan. 19, 2006.

The CIO Council serves as the principal interagency forum for improving practices in the design, modernization, use, sharing and performance of federal government agency information resources.

The Council's role includes developing recommendations for information technology management policies, procedures, and standards; identifying opportunities to share information resources; and assessing and addressing the needs of the federal government's IT workforce.

"I am pleased the Federal CIO Council elected Dave to this position," said Office of Management and Budget (OMB) deputy director for management and chair of the Federal CIO Council, Clay Johnson. "His leadership and insight will be essential as we continue to deliver results for the American taxpayer by achieving the goals of the President's Management Agenda."

Mr. Wennergren has been with the Department of the Navy (DON) for more than 25 years and currently serves as its chief information officer, a position he has held since 2002. He also serves as the chair of the Department of Defense (DoD) Identity Protection and Management Senior Coordinating Group, which provides senior oversight and coordination of biometric, smart card, and PKI initiatives across the entire Defense Department.

Reporting directly to the Secretary of the Navy, Mr. Wennergren provides top-level advocacy for the development and use of information management/information technology, and creation of a unified IM/IT vision for the Navy-Marine Corps team. He develops strategies, policies, plans, architectures, standards and guidance, and provides process transformation support for the entire Department.

Mr. Wennergren is the DON's eGovernment and knowledge management champion, serves as the IM/IT workforce leader, addresses emerging technologies and issues, ensures the availability, integrity, and protection of the Department's information systems, and serves as the Department's Critical Infrastructure Assurance Officer.

Additionally, he ensures that the development and acquisition of IT systems are interoperable and consistent with the Department's vision.

In his role as co-chair of the Federal CIO Council Best Practices Committee, Mr. Wennergren reinvigorated best practices efforts across government and industry. He conducted a series of best practices seminars on important IT initiatives that brought together innovative leaders from government, industry, and academia to provide federal CIOs with ideas and insights.

Continuing in this effort, Mr. Wennergren led the redesign of the Federal CIO Council Web site, created collaboration sites for Federal Communities of Practice, and created "The Solutions Exchange," a clearing house of federal best practices solutions. He also developed the Federal CIO Boot Camp, an intensive training seminar for new federal CIOs and deputy CIOs.

"The Federal CIO Council plays a crucial role in championing and aligning the transformation efforts of federal agencies. I am excited about the opportunity to serve as vice chair of the Council and I look forward to continuing to work with the CIO community, OMB and industry to further the strategic use of information technology in delivering improved services to our citizens and the nation," Mr. Wennergren said.

The CIO Council was established by Executive Order 13011, Federal Information Technology, July 16, 1996. A charter for the Council was adopted Feb. 20, 1997,

Karen Evans, OMB's administrator for E-Government and Information Technology, welcomes David Wennergren, Department of the Navy Chief Information Officer, as the new vice chair for the Federal CIO Council.

and was codified by the E-Government Act of 2002. The chair of the CIO Council is the OMB deputy director for management, and the vice chair is elected by the CIO Council from its membership.

Additional members of the Council include liaisons to other executive councils, committees and boards, including the chair of the Information Technology Resources Board, and representatives from the Chief Financial Officers Council and the Procurement Executive Council. Also included as members are a representative from the Office of Science and Technology Policy and representatives from OMB's Office of Information and Regulatory Affairs.

The CIO Council serves as a focal point for coordinating challenges that cross agency boundaries. The CIO Council operational committees, through subcommittees and working groups, meet these challenges by producing the work products of the CIO Council. In addition, the CIO Council, in partnership with other federal executive councils, addresses challenges that cut across disciplines, such as financial management and procurement.

For more information about the the CIO Council go to http://www.cio.gov/. For more information about the DON CIO go to http://www.doncio.navy.mil/. **CHIPS**

DON Federal 100 Award Winners

Five information technology leaders from the Department of the Navy (DON) were among this year's Federal 100 Award winners.

The Department of the Navy Chief Information Officer (DON CIO) believes that outstanding IT leaders throughout the DON should be recognized for their contributions — both within and outside the Department. So when the opportunity to recognize some of its leaders for the Federal 100 Awards arose, the DON CIO nominated five of them — and all five were winners!

Federal Computer Week magazine presents the Federal 100 Awards each year to the top executives from government, industry and academia that had the greatest impact on the government information systems community for the previous year. The winners' accomplishments were recognized in the March 20 issue of Federal Computer Week magazine.

The 2006 awards were presented at a black-tie gala March 20 at the Ritz-Carlton Hotel in McLean, Va. The DON Federal 100 Award winners follow.

Mr. Robert J. Carey is the DON deputy CIO for Policy and Integration. Mr. Carey won the Federal 100 Award for leading information assurance strategy and policy development and implementation efforts that have significantly improved the security of DON systems and networks; and for integrating Department and service-level IT governance, policy development and execution into a single and more efficient management team.

Rear Adm. Cecil D. Haney is the deputy Chief of Staff for Plans, Policies and Requirements, U.S. Pacific Fleet. In his collateral duty as chief knowledge officer, he sets the vision and policy for applying knowledge management (KM) as a mission enabler throughout all USPACFLT commands. Rear Adm. Haney won the Federal 100 Award for implementation of the Enterprise KM tool; and creating a knowledge-sharing environment among the USPACFLT staff to ensure the lessons learned and momentums gained at the headquarters staff are available throughout USPACFLT's area of responsibility.

Capt. Fred Mingo is the commanding officer for the Space and Naval Warfare Systems Command, New Orleans. Prior to Hurricane Katrina's landfall, under the leadership of Capt. Mingo, SPAWAR-SYSCEN New Orleans successfully implemented its continuity of operations plan, which calls for its Customer Support Center services and computer operations to be transferred to the Naval Air Station Joint Reserve Base in Fort Worth, Texas. Capt. Mingo displayed uncommon compassionate leadership and sensitivity to the plight of those employees who literally lost everything they owned as he orchestrated the transition of his personnel back to work.

Capt. Mingo won the Federal 100 Award for exemplary leadership and commitment to people and mission as commanding officer of SPAWARSYSCEN New Orleans, in the preparation and response to the challenges of Hurricane Katrina, and successfully implementing a continuity of operations plan enabling operations to continue unhindered.

Ms. Sharie J. Bourbeau is the deputy director, C4/deputy CIO for the U.S. Marine Corps. She is responsible for providing the oversight, planning and direction for all IT capabilities supporting both the warfighting and business environments. She is responsible for influencing combat development capabilities to support interoperability within the Marine Corps enterprise architecture supervising the coordination of capability and system development fielding and sustainment, and acting as Operating Force advocacy for all expeditionary C4 issues.

Ms. Bourbeau won the Federal 100 Award for exemplary leadership to the Headquarters Marine Corps C4 staff during their transition to the Navy Marine Corps Intranet; baselining the Marine Corps' enterprise architecture portfolio; eliminating duplicate applications; and spearheading the development of an IT professional career development road map.

Mr. Ray A. Letteer is the U.S. Marine Corps' senior information assurance manager. Reporting to the Director, Headquarters U.S. Marine Corps, Command, Control, Communications, and Computers, he provides top-level advocacy in the development and use of information assurance and security; computer network defense; and creation of a unified, enterprise IA vision, strategy and policy for the Marine Corps.

Mr. Letteer won the Federal 100 Award for his substantive contributions to IA efforts at the Marine Corps, DON and DoD level, including his leadership and guidance as the co-chair of the DON IA Workforce Working Group, posing the Marine Corps and Navy to move quickly in implementing new IA training standards outlined in DoD Instruction 8570.1. **CHIPS**

Spotlight on Free Electron Lasers

By Nancy McGuire

Imagine a laser that is powerful enough to burn through steel, yet precise enough to serve as a microsurgical scalpel. Now imagine that you could tune the wavelength of the laser to fit the application: micromachining, sensing and analysis, or long-distance transmission through sea spray in the atmosphere over the open ocean.

Although much development remains before they can go to sea, tunable free electron lasers (FELs) with these capabilities already exist at several laboratories around the world. The FEL delivers intense beams of light that are more powerful than beams from a conventional laser and can be tuned to desired wavelengths. Conventional lasers produce specific single wavelengths of light, depending on the electronic properties of the gas, crystal or semiconductor material that is used as the lasing medium.

In the FEL, electrons are stripped from their atoms. The electrons gain energy as they "surf" a radio frequency wave through a linear accelerator (linac). From there they are steered into a "wiggler," where a series of magnets steers the electrons along a zigzag path, causing them to release some of their energy in the form of photons. As in a conventional laser, the photons are bounced between two mirrors and then emitted as a coherent beam of light.

The Office of Naval Research (ONR) has long been interested in the potential of directed energy weapons for shipboard defense at the speed of light. Recently, ONR has funded development of a laser that could operate in a maritime environment and be consistent with the Navy's planned all-electric ship.

One promising technology, the high power infrared FEL, provides intense beams of laser light that can be tuned to atmosphere-penetrating wavelengths. FEL operators can adjust the wavelength of the laser's emitted light by adjusting the distance between the magnets in the wiggler.

Free electron lasers show promise for a wide array of applications in defense and manufacturing, and they support advanced studies in chemistry, physics, biology and medical science.

Quentin Saulter, ONR's program director for FEL research, was recently named one of 63 "Modern-Day Technology Leaders" by the editors of US Black Engineer and Information Technology magazine (http://www.blackengineer.com).

"No other laser can provide the same benefits to manufacturing, medical research, biology and basic physics," Saulter said. "The Navy has chosen the FEL because of its multi-mission capabilities. Its unique high-power and 24-hour capabilities are ideal for Department of Defense, industrial and scientific applications."

ONR has sponsored free electron laser research at Brookhaven National Laboratory, Argonne National Laboratory, Los Alamos National Laboratory, the Naval Research Laboratory, the Department of Energy's Thomas Jefferson National Accelerator Facility (Jefferson Lab), the University of Maryland, Vanderbilt University and Stanford University.

The Tunable Energy Recovered High Power Infrared FEL at Jefferson Lab, in Newport News, Va., delivered 10 kilowatts (kW) of infrared laser light in July 2004, making it the most powerful tunable laser in the world. R&D Magazine (http://www.rdmag.com) recognized this feat by giving the laser an R&D 100 Award in 2005 as one of the "100 Most Technologically Significant New Products & Processes of the Year."

Jefferson Lab's free electron laser (FEL) - photo shows the vacuum container (silver cylinder) enclosing one of the mirrors at one end of the laser cavity.

The Jefferson Lab FEL is based on something called an energy recovered linac. Electrons are released from the source and are accelerated in a superconducting linear accelerator (linac). After emerging from this linac, the electrons pass into a laser cavity which has a wiggler at its center. This wiggler causes the electrons to oscillate and emit light which is captured in the cavity, and used to induce new electrons to emit even more light. After exiting the optical cavity the electrons then travel around the loop at the top and back into the linac. Here they give up most of their energy to a new batch of electrons, making the process highly efficient. Photo shows the bend that the electrons go around after they exit the wiggler/laser cavity on their way back around to the linac.
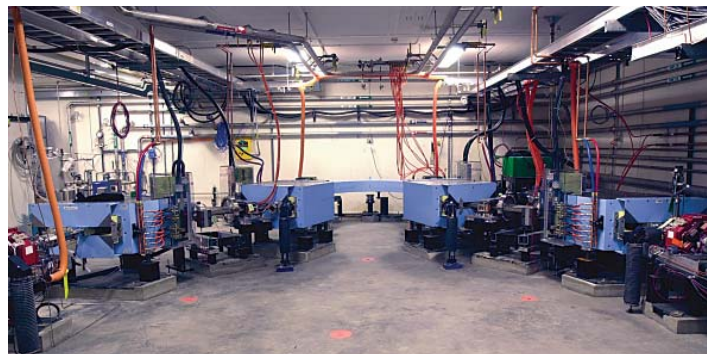
Photo shows the wiggler that causes the electrons to emit photons inside the optical cavity. The wiggler sits between the two mirrors.
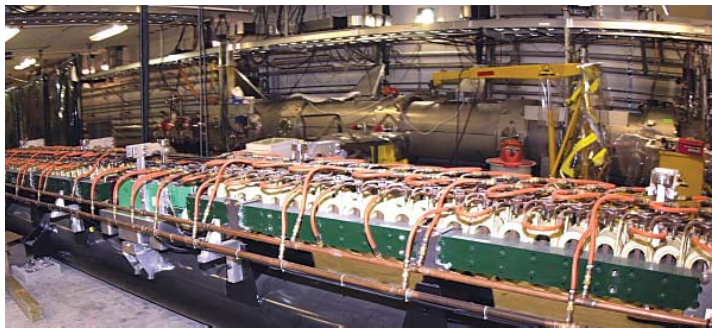
Photo shows the cryostat that encloses the super-conducting niobium radio frequency linac. Go to the Jefferson Lab's Web site (http://www.jlab.org/FEL/) for more information on the FEL.
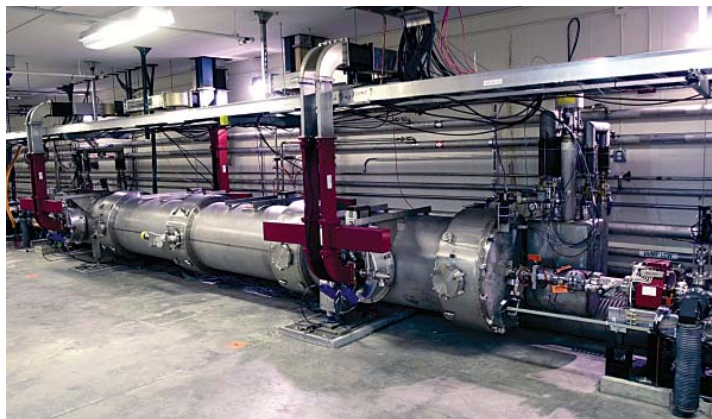
To date, the Jefferson Lab FEL has been able to maintain a 10 kW average power level, coupled with a 0.5 – 1.7 picosecond pulse length at 75 MHz in the 1–14 µm wavelength range. Other free electron laser groups are looking to adopt these technologies over the next several years.

This FEL uses a superconducting radio frequency accelerator and an energy-recovering electron recirculator, which provide significant savings in energy consumption and operational costs. FELs based on Jefferson Lab's superconducting electron-accelerating technology are being developed to process plastics, synthetic fibers, advanced materials, and metals as well as components for electronics, microtechnology and nanotechnology.

ONR is funding the operation and optimization of the 10 kW FEL, and plans several studies on topics including laser materials damage and atmospheric propagation to assess the potential of new laser-based shipboard defense strategies.

The Navy is also interested in ultraviolet and terahertz light, or T-rays, which the FEL can produce at world-record powers. Prospective benefits include: better detection of concealed weapons, hidden explosives and land mines; instant "finger-printing" of chemical and biological terror materials in envelopes, packages or air; and much more.

T-rays are electromagnetic radiation of the safe, non-ionizing kind. They can pass through clothing, paper, cardboard, wood, masonry, plastic and ceramics. They can penetrate fog and clouds but not water or metal.

The Navy intends on using lessons learned from the development of the 10 kW FEL to begin design and construction of a 100 kW FEL over the next four years. Eventually, the Navy plans on moving the 100 kW laser to an over water test site.

The Navy aims to build on its laboratory partnerships and its support of the FEL, scaling to the megawatt power level needed for speed-of-light shipboard defense.

For more information about ONR, go to http://www.onr.navy.mil/. **CHIPS**

DON IM/IT Sessions

AFCEA Transformation TechNet
May 8-10, 2006 in Hampton, Va.

The Department of the Navy Chief Information Officer (DON CIO) will be leading Information Management (IM) and Information Technology (IT) sessions at the AFCEA Transformation TechNet Conference in Hampton, Va. The general conference is scheduled for May 9-10 with DON CIO sessions starting a day earlier on May 8.

The DON CIO-led sessions will be open to all attendees. The conference will be held at the Hampton Roads Convention Center. There is no cost for government and military personnel for the general conference, but registration is required. The agenda for the DON CIO-led sessions and the DON IM/IT Excellence Award nomination criteria are available on the DON CIO Web site at http://www.doncio.navy.mil/.

The overall conference agenda and registration details for events as required, are available by accessing the AFCEA Transformation TechNet Web site at http://www.afcea.org/events/transformation/. Please join us!

FORCEnet Engineering

Conference Announcement

Due to the increased focus of the Naval NETWAR FORCEnet Enterprise (NNFE), the June 6-8, 2006, FORCEnet Engineering Conference is canceled. The FORCEnet Engineering Conference's sponsor, the Space and Naval Warfare Systems Command (SPAWAR), will be developing other venues within the construct of the NNFE to accomplish FORCEnet development goals.

SPAWAR anticipates holding this event under Naval Network Warfare Command sponsorship in a broader and more inclusive fashion with a tight focus on achievable conference objectives during fiscal year 2007.

In the office, in the fleet and on the field …
the DON IT Umbrella Program has you covered

By Linda Greenwade and Sharon Anderson

It was June 18, 1988, when the Assistant Secretary of the Navy for Financial Management chartered the establishment of the Department of the Navy Information Technology (DON IT) Umbrella Program with acquisition approval authority by the Assistant Secretary of the Navy Research, Development and Acquisition and the Chief of Naval Operations.

Since 1988, the Umbrella Program has assisted the Department of Defense (DoD) and DON in making efficient use of IT dollars. The Umbrella Program provides management, technical expertise and financial resources to support the timely and cost effective placement of acquisition vehicles for hardware, software and services. We provide full service from contract conception to the end of contract life.

We collect and analyze requirements from you, our customers, and assist with preparation of life cycle documents, Request for Proposal/Request for Quote (RFP/RFQ) and source selection. What's more, we ensure that the products and services under the Umbrella Program comply with DON and DoD IT policies. After contracts have been awarded, our project managers continue to provide world-class customer service.

The Umbrella Program is a member of the DON Enterprise Licensing Integrated Product Team which provides support to the SmartBUY program. SmartBUY is a federal government-wide software enterprise-licensing project developed by the General Services Administration (GSA), in coordination with the Office of Management and Budget.

Its purpose is to consolidate the purchasing power of the federal government by focusing volume requirements to obtain optimal pricing and preferred terms and conditions for widely used commercial-off the-shelf (COTS) software.

Umbrella Program software project managers (SPM) also represent the Navy in joint source contracts and source selection.

Through the ITEC Direct storefront (http://www.itec-direct.navy.mil), customers can: make direct purchases using the government credit card; contact SPMs and obtain customer service; browse our product line; review policy notices; and access small business contracts.

ITEC Direct offers easy to use point and click shopping to great values on the items you need most. But the DON IT Umbrella Program is so much more than just a convenient way to order hardware, software, office products and services.

Agile business systems and net-centric operations require robust, integrated standards-compliant tools, and that's what the Umbrella Program delivers. The Umbrella Program combines the systematic business strategies of the DoD and DON into a customer friendly solution that means big savings for you in both time and money.

As a key component of the DoD Enterprise Software Initiative (ESI), the Umbrella Program fulfills the Navy's duties as the executive agent for office automation tools, enterprise resource planning (ERP) software and enterprise application integration software.

ESI product agreements include: the entire Microsoft product line; Section 508 tools; Adobe; Oracle; Novell; TOWER Software; Business Objects' Crystal Reports and Crystal Enterprise; Telelogic; NetIQ; Symantec; Quest Software; Red Hat Linux; WinZip; Gartner Research and Advisory Services; and much more.

Thank you for allowing us to serve you for 18 great years!

Please call us for assistance with all your IT needs. Go to the DON IT Umbrella Web site for contact information:

www.it-umbrella.navy.mil/

CHIPS

DON IT Umbrella Program FAQs

1. How do I use the Blanket Purchase Agreements (BPAs) in the Umbrella Program? My contracting officer said we need to compete, even though I point out that BPAs have been pre-competed?

The contracts and BPAs under the Umbrella Program can be used like any other ordering vehicle of the same type. Most of the BPAs were awarded based on an applicable GSA Schedule so ordering is the same as any GSA order. As such, policies indicate that a number of pricing quotes should be reviewed, and there are multiple methods of obtaining pricing, e.g., review of GSA Schedules, formal quotes, etc.

Not all of the BPAs were competitively awarded and, in those cases, competition in the truest sense is necessary. One should always follow the policies and guidelines established by local contracting offices.

2. My contracting shop says that we can't use the Umbrella Program because all the vendors are big companies, and we have to use small business firms?

Not all of the Umbrella Program vendors are large businesses. There are many small business vendors. Go to the ITEC-Direct Web site at http://www.itec-direct.navy.mil, and click on the Small Business Showcase under the Features list for assistance.

3. How do you pick the products or product lines that are offered?

Products or solutions are chosen based on an identified requirement, which can be an existing installed base (for which there is a maintenance requirement), a standard product selection or where a future requirement has been identified. Requirements are gathered from DoD.

4. How do you pick the vendors that are in the Umbrella Program?

Vendors are selected using various methods, competition, the sales model of the original equipment manufacturer, e.g., direct sales, reseller or distributor models, etc.

5. I have noticed that sometimes the BPA prices are not cheaper than GSA prices, or I am not happy with my quote because I have found my items to be cheaper using other vehicles. Who should I call?

We would like you to provide feedback to the Umbrella Program primary point of contact for the vehicle. We can use this information in our research or future discussions with vendors. However, keep in mind that you may not be comparing apples to apples when looking at pricing.

The vehicle terms and conditions should also be reviewed because they are a significant factor in pricing. For example, the Enterprise Software Initiative (ESI) has terms that allow transferability within the user base. In this way, software which is no longer needed by the purchasing organization can be shared with other organizations within the DON or DoD. The DoD and DON can reap substantial cost avoidance savings by sharing assets within its organizations. Software asset management is something that DoD is very interested in, and our terms and conditions allow that tracking.

In other cases, maybe the warranty period is longer than a lower priced product vendor. There can be many details that influence price, and it is best to understand those by talking with the cognizant project manager.

6. What guidance or regulations exist for using ESI vehicles?

In addition to each service component's implementing guidance and policy, the Defense Acquisition Regulation Supplement (DFARS) Subpart 208.74 provides policy and procedural guidance. In addition, the recent reissue of the Defense Acquisition System Policy (DoD 5000 series) mandates the leveraging of, and coordination with, the DoD Enterprise Software Initiative when the use of commercial IT is considered viable. Finally, relevant provisions of the DoD Chief Information Officer Guidance and Policy Memorandum of July 26, 2000, may also be incorporated into software directives and instructions.

7. Who can my contracting officer contact for DFARS compliance information?

Contracting officers can always contact the procuring contracting officer or project manager identified on the Umbrella Program Web site at http://www.it-umbrella.navy.mil or in the body of the contract or BPA.

8. What if I have a requirement for software that is not on the ESI list of "Designated Software," but I think it is a good candidate for a DoD-wide Enterprise Software Agreement?

You can either contact a DoD ESI Working Group member (703-602-0980, ext. 169 or 703-607-5658) or submit your recommendation via the ESI Web site at http://www.esi.mil/.

You may be contacted for additional information, and if the ESI Working Group concurs with your recommendation, you may be asked to help identify requirements and participate in the acquisition process.

Web sites to remember:
DON IT Umbrella Program: http://www.it-umbrella.navy.mil
ITEC Direct: http://www.itec-direct.navy.mil
ESI: http://www.esi.mil

CHIPS

Interview with Lt. Cmdr. David R. DeMille Officer in Charge SPAWAR Systems Facility Pacific

SSFP delivers forward deployed presence in the Western Pacific

The Space and Naval Warfare (SPAWAR) Systems Facility Pacific (SSFP) provides engineering and installation services for both afloat and ashore systems supporting FORCEnet in the Western Pacific. SSFP's assigned area of responsibility (AOR) is immense encompassing Singapore, Diego Garcia, Australia, American Samoa and New Zealand. Guam's strategic location generates a lot of military interest at all levels up to the Secretary of Defense.

CHIPS asked SSFP Officer in Charge Lt. Cmdr. David DeMille to discuss the facility's mission and its strategic location.

CHIPS: Who are SSFP's customers?

Lt. Cmdr. DeMille: One of best things about working out here in the trenches is the extreme variety of customers we get to work with. It is always professionally satisfying to work directly with fleet units, from the submarines stationed in Guam to visiting aircraft carriers. We may be called to help on any of our fleet platforms.

We also provide a wide gamut of services for the many Navy regional commands in support of their missions, from designing the emergency operations center for the Commander, Naval Forces Marianas, to extremely high frequency (EHF) troubleshooting at Naval Computer and Telecommunications Station (NCTS) Guam, to ONE-NET support for Naval Hospital Guam, or even SIPRNET conferencing for Helicopter Sea Combat Squadron Twenty-Five (HSC-25).

Our customers are not limited to Navy commands. We also support Military Sealift Command (MSC) and Maritime Prepositioning Ships (MPS). We have worked with various Air Force commands on Andersen Air Force Base supporting the Joint Worldwide Intelligence Communications System (JWICS), and we are working with the Army to support the Commonwealth of Northern Mariana Islands' efforts to develop an emergency operations center.

We have worked with MSC and the U.S. Coast Guard in Singapore. We are looking forward to working with the U.S. Marine Corps Marine Expeditionary Force when the MEF moves to Guam.

In addition to all that, we have also worked with the Republic of Korea Navy and Indian Navy supporting real-world operations patrolling the Straits of Malacca. We have participated in international exercises like Tandem Thrust, Foal Eagle and Rim of the Pacific (RIMPAC). We were involved in homeland security
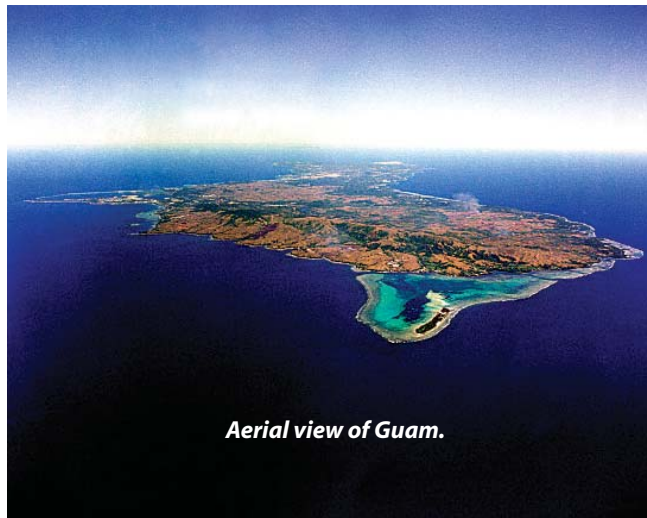
Aerial view of Guam.

tasking for the Ministry of Defense in Singapore. We even received a request from a visiting Mexican ship for technical assistance last year.

CHIPS: How can you respond to so many customers with a staff of just 20 civilian employees and 2 contractors?

Lt. Cmdr. DeMille: That's such a great question, I'm glad you asked. The answer is twofold, and it really highlights the strengths of the entire SPAWAR team: individual acumen and teamwork. The engineers and technicians in Guam are forged through high-tempo, wide-ranging, hands-on requirements into extremely effective instruments.

Our people are well-traveled, professional and highly skilled, spending more time in the field than behind a desk. However, it is important to remember that we are not just an office of twenty-something people, we are the face of SPAWAR in the region. We could not succeed without our ability to draw on that vast pool of resources.

The fundamental foundation of our success is the outstanding teamwork of our supervisors, Regional Shore Installation Manager and Ship Supervisors combined with our customers, sponsors and 'TEAM SPAWAR.' I cannot emphasize enough the tremendous support we (and our customers) enjoy from the SPAWAR teams in Hawaii, San Diego, Calif., Charleston, S.C., and around the globe.

A few of SSFP's major teammates include the Installation Management Divisions on both coasts, the In-Service Engineering Agents (ISEAS) and many subject matter experts.

CHIPS: What are the advantages of having a SPAWAR presence in the Western Pacific?

Lt. Cmdr. DeMille: There are many benefits to being co-located with critical fleet assets near the front lines. Two of the most obvious benefits involve cost savings and rapid response times. Being locally positioned saves the customers from travel and per diem expenses, which can really add up.

It takes at least a day just to get to Guam from San Diego and that does not account for the administrative time to prepare and pack. Another complication we avoid is the time difference. Right now, Guam is 18 hours ahead of San Diego, noon Monday in San Diego is 0600 Tuesday in Guam. That makes long-distance support a real challenge.

Back row, in uniform, left to right: Officer in Charge SPAWAR Systems Activity Pacific Cmdr. Paul A. Herbert and Officer in Charge SPAWAR Systems Facility Pacific Lt. Cmdr. David DeMille with SSFP personnel.

In addition to providing local expertise with an immediate response capability, we also maintain fleet forward deployed spare assets for the submarine fleet. Our direct interaction improves the customer experience through better service resulting in higher satisfaction. It also allows us to provide valuable feedback to the SPAWAR community on what's really happening out here at the tip of the spear.

Another critical function we serve is to support SPAWAR personnel traveling in the AOR. SPAWAR personnel on travel are required to notify the local SPAWAR office of their itinerary. This provides many benefits to the traveler, including coordination of local security requirements, customer liaison, and support for personal safety or health concerns. For example, if a typhoon were to hit, we would ensure all visitors are safe, have food and water, and provide accountability information back to headquarters.

On the other hand, failure to coordinate travel increases a project's risk. I recall an incident a few years ago when we discovered a team in Guam that had come to work on a submarine, but were unable to do so because the sub was underway. Close coordination precludes unfortunate incidents like this from occurring. We also provide tangible work benefits to visiting personnel like a safe, secure place to have material shipped, network access, or other resources like tools, labor or local cell phones.

There are other, less obvious, benefits. For example, we provide an opportunity for personnel to come to Guam for a few years on permanent change of station (PCS) orders. It's a great chance for motivated people with a lot of potential to really grow and interface with customers 'where the rubber meets the road.' When they return to their previous positions, they bring with them a new wealth of experience and perspective that benefits our entire organization.

CHIPS: Can you talk about some of your strategic partnerships, for example, how you work with Naval Sea Systems Command?

Lt. Cmdr. DeMille: This is another area where I think Guam is leading the way (of course, I might be slightly biased). We have a working partnership with NAVSEA to provide BQQ-10 sonar system support to the submarines.

We were asked to assist with the NAVSEA Acoustic Rapid COTS Insertion installations during the availability of local submarines. The partnership worked so well that we have been retained to help provide rapid technical assistance and support to the submarines for these sonar systems. We have also teamed with NAVSEA navigational aids folks to support the Ring Laser Gyro Navigation system on submarines and USS Frank Cable (AS 40).

Our relationship with these NAVSEA systems has worked so well that new opportunities are opening left and right. For example, we are looking at partnering to provide local support for the submarine AN/BYG-1 Combat Control System.

CHIPS: Many would envy your duty location. What's a typical workday in Guam like?

Lt. Cmdr. DeMille: I'm not sure I can define a typical workday here. We often have folks on travel to Singapore, Diego Garcia or elsewhere. An engineer might spend one day working on a shore system at NCTS and the next working on the waterfront with a submarine or an MSC ship. I can say with certainty that the work is both rewarding and challenging.

The weather in Guam is always warm, and there are often short rain showers. The relaxed atmosphere on the island extends to a refreshing camaraderie in the office. We often share lunch together, almost like a family potluck gathering. I've even been known to step outside the office with a machete to harvest fresh coconut to snack on during the workday.

Let me just wrap-up by saying that we are proud of the opportunity we have to sharpen the edge out here at the tip of the spear. And, on a personal note, it's the people of SPAWAR Guam that have made this one of the most enjoyable and rewarding experiences I have had in the Navy.

For more information about SPAWAR, go to www.spawar.navy.mil/. **CHIPS**

CAN YOU HEAR ME NOW?

Preparing for the
WORLD RADIOCOMMUNICATION CONFERENCE 2007

By the DON CIO Telecom/RF Spectrum/Wireless Team

Unprecedented progress in the development of radiocommunication services has resulted in an increased demand for radio-frequency spectrum worldwide. Because much of the radio-frequency spectrum must be shared among nations, the International Telecommunication Union (ITU), a specialized United Nations agency, convenes World Radiocommunication Conferences (WRCs) every three to five years. These conferences consider proposals to modify the spectrum allocation tables as technology and services require.

The next conference, WRC-07, is scheduled to be held in Geneva, Switzerland, Oct. 15 through Nov. 9, 2007. All 189 member nations of the ITU are invited to prepare for, and attend these conferences. Preparations for WRC are intensive, and occur via the ITU Radiocommunications sector (ITU-R) study groups and their associated working party meetings, as well as in national and regional forums.

In the United States, the National Telecommunications and Information Administration (NTIA) is responsible for coordinating the executive agencies' participation in the ITU's World Radiocommunication Conferences. The Federal Communications Commission (FCC) coordinates this effort for U.S. private sector interests. Within the Western Hemisphere, the United States participates within the Inter-American Telecommunication Commission to develop support for U.S. objectives and proposals.

The NTIA receives recommendations for U.S. preliminary views and proposals for WRCs from the Radio Conference Subcommittee (RCS), a subcommittee of the Interdepartmental Radio Advisory Committee (IRAC). This subcommittee is tasked with preparing for WRCs, including the development of recommended U.S. proposals.

NTIA determines which proposals will be put forward by the executive branch to be considered in the national preparation process. NTIA also works with the FCC and the State Department to create the United States of America Preliminary Views and U.S. Proposals for the WRCs.

On behalf of the Department of the Navy (DON), representatives from the DON Chief Information Officer collaborate with other military department personnel, Department of Defense (DoD), miscellaneous government agency staff and commercial participants.

WRC-related documents, which will serve as the technical baseline for decisions to be made at WRC-07 by member nations, are developed through various U.S. working parties and presented as U.S. views to the ITU-R. Numerous meetings are held within DoD to reflect its interests in the various agenda items.

During the upcoming WRC-07, there are a number of agenda items directly affecting Navy and Marine Corps radio-frequency spectrum use. One item, based on studies concerning wireless services, is referred to as International Mobile Telecommunications Advanced (IMT-Advanced). The IMT-Advanced is a follow-on effort of the Third Generation Wireless (3G) project, which led to spectrum auctions and systems relocation. The frequency band 3400-3700 has been identified as a candidate to support this commercial effort.

The DON CIO has been engaged in international discussions since the item was reported by the 2003 World Radiocommunication Conference. The DON has serious concerns related to this proposal since the United States and many of its allies, including Japan, Combined Communications-Electronics Board nations (Australia, Canada, United Kingdom and New Zealand), France, Norway, Spain, Saudi Arabia, and NATO operate critical airborne and shipborne radar systems in the 3400-3700 MHz band.

Previous studies have proven that due to the physics of radar, most other radio frequency-based applications cannot operate with stability in the same band. A variety of IMT-Advanced scenarios could cause displacement of U.S. Naval systems and significant disruption in radar operations throughout the Navy and Marine Corps. The selection of operating bands for IMT-Advanced remains a high priority issue for the DON, and the DON CIO expends considerable resources to nurture a solution that is acceptable to Departmental objectives.

Although a few of the proposed changes enhance DON and DoD use of the spectrum, several proposals, in addition to IMT-Advanced, may introduce new services affecting vital land mobile, radar and satellite bands. In fact, the space science community is seeking increased protection that would adversely affect current DON and DoD assignments and operations.

The tables and graphics on the following pages provide an expanded context to associate ITU agenda items with potential to influence specific U.S. Naval spectrum systems.

The watchword for international discussions is constant vigilance!

For more information, contact the DON CIO Telecom/HF Spectrum/Wireless Team at DONSPECTRUMTEAM@navy.mil. CHIPS

Department of the Navy High Priority Issues*

for the 2007 World Radiocommunication Conference

AGENDA ITEM: 1.12
SYNOPSIS: Intent is to change the existing satellite network coordination procedures for existing and new satellites and satellite constellations.
WRC ISSUE: Due to the DON's heavy reliance on SATCOM, this item, though largely administrative, could cause considerable delays in SATCOM acquisitions.

AGENDA ITEMS: 1.20 & 1.21
SYNOPSIS: Intent is to initiate studies to determine adequate protection measures to protect passive Earth Exploration Satellite Services (EESS), space research and meteorological satellites.
WRC ISSUE: If implemented, the studies could lead to significant measures to protect EESS, space research and meteorological satellites from adjacent emissions, and out-of-band emissions from DON radar as well as flight test telemetry services.

AGENDA ITEMS: 1.13, 1.13.1, 1.13.2, & 1.13.3
SYNOPSIS: Intent is to consider reallocation of some fixed and mobile HF spectrum in the 4-10 MHz band for amateurs and commercial broadcasters.
WRC ISSUE: The loss of HF frequencies in the 4-10 MHz range, which are heavily used by the Navy and Marine Corps for fixed and mobile communications due to their unique over-the-horizon capability to support long-haul and Near Vertical Incidence Skywave (NVIS) communications, would negatively impact Navy and Marine Corps HF communications.

AGENDA ITEM: 1.3
SYNOPSIS: Intent is to upgrade the status of radar operating in the 9 GHz frequency band, and to consider increasing the allocation to the Earth Exploration Satellite Service (EESS).
WRC ISSUE: This WRC item could be of benefit to DON radar because it would increase the status of radar within the band, effectively providing additional protection against interference from other users. An additional allocation to the EESS would be unlikely unless it was shown to be compatible with radars in the band.

AGENDA ITEM: 1.4
SYNOPSIS: Intent is to identify additional spectrum for Personal Communications Systems (PCS) (e.g., cellular phones), a continuing IMT-2000 initiative that ended in the reallocation of the 1710-1755 MHz band for 14 of 16 protected DoD areas within the U.S. Industry has also signaled its intention to identify the 3400-3700 MHz band for wireless services.
WRC ISSUE: Although this WRC item is intended to evaluate a number of frequency bands, the 1755-1850 MHz band is heavily used by the DON for Unmanned Aerial Systems (UAS) and Digital Wideband Terrestrial Systems (DWTS), and is immediately adjacent to the 1710-1755 MHz band, making this band a leading candidate for further PCS spectrum reallocations. The 3400-3600 MHz band is critical for Navy long-range radar operations, and an allocation to the wireless industry in the Western Hemisphere would be extremely detrimental to U.S. Navy radar operations.

AGENDA ITEM: 1.5
SYNOPSIS: Intent is to identify additional spectrum for aeronautical tele-command and high bit-rate aeronautical telemetry supporting commercial and military aviation testing.
WRC ISSUE: The Marine Corps has significant concerns with any reallocation in the 4.4-4.95 GHz band (one of three bands under consideration) because it supports critical Unmanned Aerial Systems (UAS) and wideband terrestrial multi-channel communication systems.

AGENDA ITEM: 1.6
SYNOPSIS: Intent is to consider additional allocations for the aeronautical mobile (R) service between 108 MHz-6 GHz.
WRC ISSUE: Although there are numerous frequency bands identified for possible consideration, an initial Federal Aviation Administration (FAA) recommendation identified the 960-1024 MHz band as critically important to the DON's Joint Tactical Information Distribution System (JTIDS) operations within the United States and abroad. After considerable coordinating actions by the National Telecommunications and Information Administration (NTIA) and the DON, the FAA proposal was modified to protect Department JTIDS operations in a coordinated U.S. position. However, other nations, and particularly NATO, may not be influenced by the U.S. position.

AGENDA ITEM: 7.2
SYNOPSIS: Intent is to identify and establish future WRC items.
WRC ISSUE: Outcome of future WRCs will impact DoD acquisition programs and operational capabilities.

*Note: There are 28 individual WRC-07 agenda items. The Office of the Department of the Navy Chief Information Officer (DON CIO), in coordination with OPNAV N71 and HQMC C4, has identified that seven of the 28 agenda items are of high interest and concern for the DON. The DON CIO is engaged in U.S. and regional preparatory activities supporting the Department of Defense to influence the outcome of the seven high-interest WRC items.

TACTICAL SATELLITE COMMUNICATIONS (TACSAT)

F/A-18F SUPER HORNET

ADVANCED HAWKEYE

EXPEDITIONARY FIGHTING VEHICLE (EFV)

TACTICAL SATELLITE (AN/PSC-5, AN/WSC-3, PRC-148, MUOS)
225-400 MHz
WRC Item 1.12 changes the existing satellite network coordination procedures for adding satellites to existing constellations or deploying new constellations and could complicate satellite constellation deployments.
[IMPACT: Capability delay, cost increase]

JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)
960-1215 MHz
WRC Items 1.6.1 and 1.6.2 consider additional allocations for civil aviation aeronautical mobile and satellite services in various bands from 1.6 MHz to 6 GHz and threaten the current and continued use of JTIDS within the U.S. and abroad.
[IMPACT: Loss of operating capability]

TACTICAL AIR NAVIGATION SYSTEM (TACAN)
960-1215 MHz
WRC Items 1.6.1 and 1.6.2, in addition to having potential impact, could cause constraints upon the current use of TACAN supporting USN and USMC air operations.
[IMPACT: Some loss of operating capability]

HF AUTOMATIC LINK ESTABLISHMENT (ALE) RADIOS (PRC-150)
2-29.999 MHz
WRC Items 1.13 - 1.13.3 are intended to reallocate additional spectrum for amateur and commercial broadcasters, allocate spectrum for frequency adaptive systems, and review existing allocations, and threaten to reduce available radio frequencies in the 4-10 MHz range that are heavily used by the Navy and Marine Corps for over-the-horizon and Near Vertical Incidence Skywave (NVIS) communications.
[IMPACT: Degradation of communication capability]

CH-53E SUPER STALLION

HF SINGLE CHANNEL RADIO (PRC-104, MRC-138, URC-107, URC-132)
2-29.999 MHz
WRC Items 1.13 - 1.13.3, in addition to limiting available radio frequencies to USN and USMC HF Automatic Link Establishment (ALE) radios, would also limit available spectrum for single channel HF radios.
[IMPACT: Degradation of communication capability]

UNMANNED AERIAL SYSTEMS (UAS) (PIONEER/DRAGON EYE)
1710-1850 MHz downlink (Dragon Eye)
4400-4950 MHz downlink (Pioneer)
WRC Items 1.4, 1.5, and 1.6 seek additional global spectrum allocations for Personal Communications Services (PCS), aeronautical telemetry, and civil aviation services (respectively), and threaten DON UAS in two critical, congested frequency bands.
[IMPACT: Loss of operating capability]

PIONEER UNMANNED AERIAL VEHICLE (UAV)

WEAPON SYSTEMS (MULTIPLE RADAR ENABLED WEAPON SYSTEMS)
Multiple bands
Multiple WRC Items including items 1.2 and 1.2.1 intend to initiate compatibility analysis studies of passive and active services including radio astronomy services and space services and could threaten the current use of Navy and Marine Corps radar that enables numerous weapons systems aboard Naval ships and various USMC platforms.
[IMPACT: Loss of operating capability]

USS IWO JIMA (LHD-7) WASP

SEA SPARROW MISSILE SYSTEM

AN/TRC-170 MULTI-CHANNEL RADIO SYSTEM

WORLD RADIO CONFERENCE (WRC)
All bands
WRC Item 7.2 is intended to identify and establish future WRC items that ultimately impact spectrum access for the Navy and Marine Corps throughout the world.
[IMPACT: Outcome of this and future WRCs impact DoD acquisition programs and operational capabilities]

CLOSE-IN WEAPONS SYSTEM

WIDEBAND TERRESTRIAL MULTI-CHANNEL (TRC-170 MICROWAVE RADIOS)
4400-4950 MHz
WRC Items 1.5 and 1.6 intend to expand spectrum allocations for aeronautical telecommand, high bit-rate aeronautical telemetry and aeronautical mobile services, and could reduce the available spectrum for the Marine Corps primary wide-band terrestrial radio systems for voice, data and video services.
[IMPACT: Loss of communication capability]

WORLD RADIOCOMMUNICATION CONFERENCE

AN/TPS-59 RADAR

AN/TSC-93 SATCOM TERMINAL

AN/MRC-142 DIGITAL WIDEBAND TERRESTRIAL SYSTEM

AEGIS COMBAT SYSTEM

JTIDS
TACAN

RADAR (TPS-59, TPS-63, APS-145, SPY-1)
Multiple Bands
Multiple WRC Items including items 1.4, 1.17 and 1.20 intending to initiate compatibility analysis of passive and active services as well as radio astronomy services and space services, globally re-allocate spectrum for Personal Communications Services (PCS), and re-allocate spectrum for aeronautical and satellite services could impact the effectiveness of Navy and Marine Corps Tactical Ballistic Missile (TBM), Long Range Air Surveillance, and Airborne Surveillance radar in the affected bands.
[IMPACT: Equipment modification requirements, additional constraints upon, or potential loss of radar effectiveness in affected bands]

SATCOM (CHALLENGE ATHENA, WSC-8, FLTSATCOM, INTELSAT, WIDEBAND-GAPFILLER, USC-38(V), WSC-6, TSC-85, TSC-93, GBS, OTHERS)
Multiple bands
WRC Items 1.20 & 1.21 — Intent is to initiate studies to determine adequate protection measures to protect passive Earth Exploration Satellite Services that could impose significant restrictions on existing DON satellite constellations, equipment and use.
[IMPACT: Equipment modification requirements, potential loss of operating capability]

DIGITAL WIDEBAND TRANSMISSION SYSTEM (MRC-142, SRC-57)
1350-1850 MHz
WRC Items 1.2, 1.21, and 1.4 are intended to initiate analysis of passive and active services as well as radio astronomy services and space services, and globally re-allocate spectrum to support Personal Communications Services (PCS) and threaten to further reduce available spectrum for the only terrestrial ship-to-shore digital, wideband, transmission system.
[IMPACT: Loss of communcations capability]

ENHANCED POSITION LOCATION REPORTING SYSTEM (EPLRS)
420-450 MHz
WRC Item 1.4 that intends to re-allocate additional spectrum for Personal Communications Services (PCS) threatens to reduce radio frequencies supporting the Navy and Marine Corps use of EPLRS.
[IMPACT: Loss of operating capability]

EPLRS

WEATHER RADAR
Various Bands
Similar to the DON's air and weapon system radars, multiple WRC items could reduce the effectiveness of DON's weather radar capabilities due to the items' intent to initiate compatibility analysis of passive and active services as well as radio astronomy services and space services.
[IMPACT: Loss of capability, increased cost]

LASERS (WEAPONS SYSTEMS, RANGE FINDERS)
Frequencies above 275 GHz
WRC Item 7.2, that establishes all future WRC agenda items, is expected to introduce initiatives intended to establish regulatory status for frequencies above 275 GHz that may threaten the current Navy and Marine Corps use of lasers supporting multiple capabilities including weapons systems, range finders, and future communications.
[IMPACT: Loss of capability, increased cost]

GBU-24 LASER GUIDED BOMB

CLASS AMPHIBIOUS ASSAULT SHIP

MARINE CORPS WARFIGHTING LAB QUANTICO, VA

DON, USN AND USMC RESEARCH, DEVELOPMENT, AND ACQUISITION
All bands
The increased sharing requirements likely to occur from WRC 07 decisions will challenge the DON's RD&A communities to develop "cutting edge" technologies and provide enhanced capabilities to the Navy and Marine Corps as expeditiously as possible.
[IMPACT: Increased cost and delayed delivery]

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NAVAL RESEARCH LAB MONTEREY, CA

DEPARTMENT OF THE NAVY'S HIGH-PRIORITY WORLD RADIOCOMMUNICATION CONFERENCE AGENDA ITEMS WITH U.S. NAVY AND U.S. MARINE CORPS INTERESTS
(VERSION 2.2 / UNCLASSIFIED / 14 DEC 2005)

Department of the Navy
Selected Equipment and Descriptions

Aegis Combat System: The Aegis Combat System provides Navy ships a detection to kill capability that includes an advanced, automatic detect and track, multi-function phased-array, high power AN/SPY-1 radar that provides simultaneous search, track and missile guidance functions.

Close-in Weapons System (CIWS): CIWS, also called "Phalanx," provides Navy ships a "last-chance" defense against anti-ship missiles and littoral warfare threats that have penetrated other fleet defenses. Phalanx automatically detects, tracks and engages anti-air warfare threats such as anti-ship missiles and aircraft.

Digital Wideband Terrestrial Systems (DWTS): The Navy and Marine Corps use DWTS for wideband, terrestrial, data communications providing ship-to-shore and shore-to-shore voice, video, and information technology (IT) capabilities.

Enhanced Position Location Reporting System (EPLRS): is a digital, netted radio that provides secure, jam-resistant radio frequency connectivity and positional location capabilities to the Navy and Marine Corps. While the preponderance of EPLRS equipment is with the Marine Corps, the Navy's amphibious assault ships have been upgraded with EPLRS. EPLRS now provides a critical ship-to-shore USN-to-USMC link.

High Frequency Automatic Link Establishment Radios (HF ALE): HF ALE radios provide single-channel communications to the Navy and Marine Corps similar to legacy non-ALE HF radios. However, HF ALE radios excel in "over-the-horizon" transmissions due to the automatic selection of the best available frequency for a given communication path. Due to the limited number of available Tactical Satellite (TACSAT) channels within a given theatre, HF ALE is proving to be a reliable over-the-horizon communications replacement for TACSAT.

Joint Tactical Information Distribution System (JTIDS): JTIDS is a high capacity, secure, jam-resistant, digital, communication system that provides the U.S. Navy, U.S. Marine Corps, U.S. Air Force and U.S. Army, situational awareness and NATO interoperability. JTIDS is currently fielded on most Navy ships, aircraft and many ground platforms that contribute to the DoD's anti-air and air-to-air capabilities.

Radio Detection and Ranging (RADAR): A method of detecting distant objects and determining their position, velocity or other characteristics by analysis of very high frequency radio waves reflected from their surfaces.

Satellite Communications (SATCOM): The term "SATCOM" generically includes high-capacity, wide-band satellite constellations, and ship and shore-based equipment that transmit and disseminate voice, video, imagery, telemedicine, and intelligence and surveillance data throughout the Navy and Marine Corps.

Sea Sparrow Missile System: The Navy's Sea Sparrow air-to-air missile is radar-guided with high explosive warheads to provide a ship-to-air, anti-missile defense. Sea Sparrow provides an all-weather, all-altitude operational capability, and it can attack high-performance aircraft and missiles.

Tactical Satellite (TACSAT): The term "TACSAT" generically includes single-channel satellite constellations and ship and shore-based equipment that transmit and disseminate primarily voice communications throughout the Navy and Marine Corps.

Unmanned Aerial Systems (UAS): The Navy and Marine Corps have a number of UAS including "Pioneer," "Dragon Eye" and "Fire Scout" that provide tactical unmanned aerial support to forward deployed U.S. Naval forces. DON UAS provide invaluable real-time video capabilities that effectively contribute to immediate U.S. Naval intelligence.

Satellite Program Celebrates Key Milestone for Naval Operational Support

GFO Spacecraft General Layout

By Andrea V. Houck

Orbiting since 1998, the Geodetic/Geophysical Follow-On (GFO) satellite program is vital to the Navy's ability to characterize the ocean environment. The Navy recognized an important milestone Feb. 10 by marking the eight-year anniversary of the GFO program, a highly successful satellite program that measures sea surface heights and wave height by using a radar altimeter. The satellite continues to provide critical meteorological and oceanographic (METOC) data to ships at sea and to a variety of modeling centers across the country.

"The GFO challenge was to deliver a sophisticated altimeter system at relatively low cost," explained Navy Lt. Cmdr. Therese Moore, the METOC space project manager at the Intelligence, Surveillance, Reconnaissance and Information Operations Program Office (PMW 180). "The small satellite approach has exceeded Navy's expectations. GFO data have proven critical to the Navy's characterization of the ocean needed for battlespace awareness. Although the satellite is starting to show its age, it continues to operate beyond its design life."

GFO provides considerable "bang for the buck" when compared to many commercial and government satellite programs. GFO's total on-orbit cost was $85 million, which included development, building the satellite, testing and launch. PMW 180, which reports to the Navy's Program Executive Office (PEO) for Command, Control, Communications, Computers, Intelligence and Space, was responsible for the satellite's procurement.

The GFO transmits precise oceanographic information directly to Navy ships at sea and shore-based facilities. This small satellite was designed to enhance environmental modeling and effectiveness of weapon and sensor systems. Utilizing a space-borne altimeter, the GFO provides a highly efficient method for collecting the necessary information to support environmental predictions and to enhance warfighting capability.

GFO's ocean observation precision is within 3.5 centimeters, a standard that is critical both to naval planners and to oceanographers. Oceanography is vital to the success of anti-submarine warfare. The satellite also supports optimum track ship routing, ocean circulation and currents analysis, and monitors effects of tropical cyclones and severe storms for fleet safety at sea and storm surge in port.
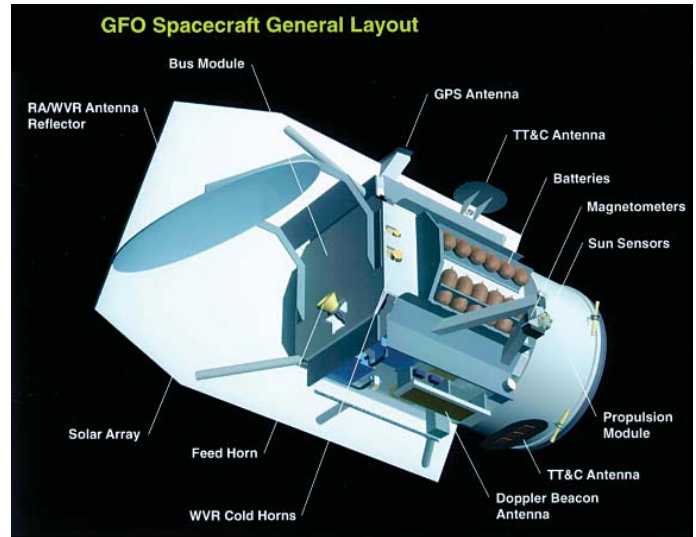
Launched from Vandenberg Air Force Base, Calif., the organization responsible for all Defense Department space and missile launch activities on the West Coast, the GFO encountered early difficulties with intermittent and periodic resets of its flight computer and global positioning system (GPS). To resolve the computer-reset problem, a series of software uploads were performed to update the on-board computer operating system. Challenges with GPS performance were resolved by using satellite laser ranging to provide precision orbit capability.

"The GFO team successfully delivered a highly sophisticated on-orbit capability for relatively low cost," said Jay Berkowitz, the former SPAWAR METOC Systems deputy program manager, who now serves as the METOC space-based sensing capability technical lead for the University of Texas at Austin (Applied Research Laboratories).

According to Berkowitz, the program management team followed a "hands-on lightly" philosophy that fostered an efficient work culture to ensure the project was on cost and on schedule.

GFO, the follow-on to the GEOSAT-A program, has been controlled by the Naval Satellite Operations Center, Point Mugu, Calif., since its launch in 1998. In addition to providing critical naval operations support, GFO remains fully operational and continues to provide support to NASA, the National Oceanic and Atmospheric Administration, and to a variety of academic communities.

The GFO Technical Team celebrates an important milestone Feb. 10 at the Naval Satellite Operations Center, Point Mugu, Calif., for surpassing eight years of success with the satellite program.

The Space and Naval Warfare Systems Command, or SPAWAR, is recognized for its Office of the Chief Engineer who designs the architecture and standards for FORCEnet, the Navy's vision for network centric warfare.

SPAWAR teams with its PEOs to acquire, align and field more than 100 command, control, communications, computers and intelligence programs to make FORCEnet a reality. **CHIPS**

Navy Announces Graduate Education Voucher Program

By Ed Barker, NETC Public Affairs

Commander, Naval Education and Training Command (NETC) recently released information for the fiscal year (FY) 2006 Graduate Education Voucher (GEV) program, which offers eligible, unrestricted line (URL) officers the opportunity to receive funded graduate education during off-duty hours.

Significant changes to this year's program include the realignment of degree program category allotments based on Navy requirements. As in previous years, officers must choose a course of study that is relevant to their Navy career to align the program along the lines of the Professional Military Education Continuum.

The GEV program is open to URL active duty officers, paygrades O-3 through O-5, in designators 111X, 112X, 113X, 114X and 13XX. Quotas for FY06 are as follows: Surface Warfare - 47; Submarine - 40; Aviation - 47; Special Warfare/Special Operations (SPECWAR/SPECOPS) - 6. Quotas by degree program and warfare areas are available in NAVADMIN 018-06, posted on the Navy College Program's GEV Web page at: https://www.navycollege.navy.mil/gev/.

The GEV program is targeted at officers with demonstrated superior performance and upward career mobility who are transferring or have recently reported to shore duty. The shore duty requirement is so they will have sufficient time for completion of a graduate program. Officers who have already received a graduate degree that was funded by a Department of Defense or Veteran's education benefit are ineligible. But, those currently enrolled in qualifying graduate degree programs using Tuition Assistance, other financial assistance programs or paying privately may apply.

The program benefits cover all graduate education costs (tuition, books, registration/application fees), to a maximum of $20,000 per year for up to 24 months from the time of enrollment (not to exceed $40,000 total). Some restrictions apply and enrollment in the program carries a service obligation up to a maximum of 36 months. NAVADMIN 018/06 contains additional information on specific program requirements. Interested officers should submit written requests to their detailer, per the NAVADMIN.

For those not qualifying for the GEV program, assistance is still available through the Tuition Assistance program and other graduate education programs as listed on the Navy Personnel Command Web site at http://www.npc.navy.mil/CareerInfo/Education/GraduateEducationPrograms/. For information on the GEV Program, visit the Navy College Program GEV Web site at https://www.navycollege.navy.mil/gev/. For more information about Navy education and training, visit the NETC Web site at https://www.netc.navy.mil/.

CHIPS

United Services Military Apprenticeship Program Offers Civilian Certification for Navy Jobs

By Eva Kowalski
Training Support Center Great Lakes Public Affairs

By simply fulfilling the requirements of their rating, Sailors may be eligible to receive an apprenticeship certificate recognized in the civilian sector just by registering with the United Services Military Apprenticeship Program (USMAP).

"All you have to do is just your everyday job," said Kenneth Ledbetter, subject matter expert of the USMAP Registrar from the Naval Education and Training Professional Development Technology Center, Pensacola, Fla. "You're taking your training from the Navy in your daily job, and you're being given the chance to get your apprenticeship completed and earn a journeyman certificate through the Department of Labor."

USMAP has undergone numerous changes since it was developed in 1976. Some of the latest enhancements to the program include online registration and online program follow-up for its members. Most recently, the program was realigned to fit under the Certifications and Qualifications vector of the Five-Vector Model (5VM), which has been continually under development since it was first launched June 23, 2003.

The 5VM is accessible through Navy Knowledge Online. It is divided into five vectors (Professional Development; Personal Development; Military Education and Leadership; Certifications and Qualifications; and Performance), allowing Sailors to keep track of their careers in the Navy and receive credit for their accomplishments.

USMAP, managed by the Naval Education and Training Command (NETC), is a formal military training program that provides active duty Coast Guard, Marine Corps and Navy service members the opportunity to improve their job skills and complete their civilian apprenticeship requirements while they are on active duty. Service members get recognition for their jobs in the civilian world just by logging their hours during on-the-job training (OJT) and meeting the knowledge specifications of the program. According to Ledbetter, USMAP is the largest apprenticeship program in the military, with 13,054 members enrolling in fiscal year 2005.

"The basic requirements are: you have to be active duty, working on a trade, have a high school diploma or GED, and you have to work toward completing 'A' or 'C' schools or any courses relating to your rate that will equate to the required hours of classroom instruction," Ledbetter said.

The Department of Labor requires 144 hours of classroom instruction for every 2,000 hours of OJT. Completion times vary from one to four years. The trades average from 2,000 to 10,000 hours. An average Sailor doing an eight-hour job can complete 2,000 hours in a year.

"We have 124 trades in which we offer apprenticeship certification. That covers every rating in the military except for three: air traffic controller, cryptologic technician (interpretive) and musician," Ledbetter said.

Most trades take up to four years to complete (8,000 hours). Sailors start logging hours as soon as they register for the program. It's important to register for the program as early as possible, since hours must be tracked as they are met, though higher ranking Sailors will receive a waiver for up to 50 percent of the OJT requirements.

"Providing our Sailors, Marines and Coast Guardsmen with opportunities to validate their skills through the USMAP certification is a vivid example of the Navy's commitment for life-long learning," said Vice Adm. Kevin Moran, commander of NETC. "We are making the Navy an employer of choice for people looking for career opportunities that offer long-term growth potential while in uniform — and beyond — if they decide to move on to careers in the private sector."

For more information, Sailors are encouraged to discuss USMAP with their career counselors and visit USMAP online at https://usmap.cnet.navy.mil/. **CHIPS**

Integrated Learning Environment to deliver right training at the right time …

By Jon Gagné, NETC Public Affairs

Navy Knowledge Online (NKO), the Navy's Sea Warrior Web portal for knowledge management, will soon debut a new Integrated Learning Environment (ILE) Web site designed to provide needed information and guidance to government and contractor personnel who develop Navy training and performance support tools.

"Besides being more visually appealing," said Jake Aplanalp of the

Human Performance Center in Orlando, Fla., and an ILE Content Team member, "the new ILE Web site is the authoritative source of information, policy, guidance, standards and specifications, broken down into manageable pieces, updated, and placed in easy-to-find drop-down menus. Other features like updated points of contact, contracting information and ILE content creation tool descriptions are also included."

To fully support the Sea Warrior strategic vision, an ILE implementation team was assembled consisting of personnel from a host of Naval activities throughout the manpower, personnel, training and education enterprise. Their goal was to ensure the ILE provided individually tailored high-quality learning, training aids and electronic performance supports for Sailors. To realize their goal, the team was tasked with providing the managerial, procedural and business framework necessary to implement an affordable, stable and reliable information technology environment. The new Web site is one of many efforts the implementation team have undertaken to support their overarching goal.

ILE Content Team lead Jerry Best, of the Human Performance Center in Orlando, and his team developed the new Web site for the Navy. For the past several weeks it has been online for review and has received favorable feedback from industry and government. All the documentation contained within the site will be in "final" format by mid-February and will continue to be updated.

"Our objective as an implementation team is to ensure that the ILE has the right functions and tools available to assist Sailors in managing their education and training needs via NKO," said Dean Norman, ILE implementation team member from the Naval Personnel Development Command.

Most importantly, the ILE needs to be a reliable source for users. Distance learning, which is to be available to a large number of people on a regular basis, requires program content that is user-friendly, easily accessible and fully functional over the Internet, according to Norman.

Programs and multiple system interfaces that once operated independently of each other will now, through ILE, be managed as a single integrated capability. Employing the NKO Web portal, the ILE will provide access to a learning management system, data warehouse and technical data repository in a "seamless" fashion that is transparent to users but powerful in capability.

To view the new Web site, visit: http://navyile.fedsun.navy.mil/. For the latest updates on training visit the Navy Knowledge Online Web site at https://www.nko.navy.mil/. **CHIPS**

NAVY & NASCAR

A high-tech team on the road to excellence

By JO1 Sonja Chambers
Navy Recruiting Command Public Affairs Office

Daytona, Fla. (Feb. 15, 2006) - Members of JR Motorsports push the No. 88 Navy "Accelerate Your Life" Chevrolet Monte Carlo to pit row before practice at the Daytona International Speedway. U.S. Navy photo by Chief Photographer's Mate Chris Desmond.

Today's U.S. Navy is the most high-tech navy in the world. In addition to being a technology leader, the U.S. Navy is known for its pride in professionalism and teamwork — qualities which are also evident in NASCAR.

The Navy and Dale Earnhardt Jr.'s JR Motorsports (JRM) have brought similar cultures of teamwork and high-tech excellence together in pursuit of victory in NASCAR's 2006 Busch Series.

To get this partnership up and running takes a trained group of mechanics, engineers and information technology professionals very similar to a team of Navy Sailors who work to keep ships and aircraft running smoothly.

The scope of engineering and technology skills used for mission success by the Navy and NASCAR spans nearly every high-tech discipline.

Mechanical engineering helps NASCAR engines achieve 700-plus horsepower at 9,700 rpm for 500 miles. Micro-tolerances and near perfect metallurgy are achieved through sophisticated testing methods.

These rigorous methods are similar to those used to produce reliability in high performance Navy aircraft, marine gas turbines and nuclear propulsion components. In addition, aerospace engineering helps race cars and Navy aircraft achieve maximum performance through wind tunnel testing and computer-aided design.

NASCAR rules require that their cars remain stock in appearance, but advanced aerodynamics play a role in reducing wind drag and improving safety. High-speed airflow creates aerodynamic factors that JRM technicians and Navy aviation technicians must understand, and harness for performance and safety advantage.

NASCAR engine builders, much like Navy propulsion and aircraft power plant engineers, test and analyze a variety of synthetic lubricating fluids that provide optimum performance. Custom formulations are being continually chemically-engineered to achieve reliability and speed gains under competitive conditions, and for the Navy, under combat conditions where losing is not an option.

Both Navy and JRM information technology professionals are the heart and soul of the operation. During a race, pit row computers help the JRM team make rapid operational decisions

El Centro, Calif. (Feb. 27, 2006) - Aviation Machinist's Mate 1st Class Patrick Palma, left, and U.S. Marine Sgt. Deo Harrypersaud, right, prepare Busch Series NASCAR driver Mark McFarland, prior to a VIP demonstration flight with the U.S. Navy flight demonstration team, "Blue Angels," on board Naval Air Facility El Centro. McFarland, is the No. 88 driver for the U.S. Navy's "Accelerate Your Life" Chevrolet Monte Carlo. Team owner and Nextel Cup driver Dale Earnhardt Jr., also received a VIP flight, and took time for an autograph session with Sailors and Marines on board the Air Facility. U.S. Navy photo by Photographer's Mate 2nd Class Patricia R. Totemeier.

based on data such as tire wear, fuel loads, track conditions, weather and engine sensors.

Navy engineers and combat systems technicians use computer technology in a similar way to monitor critical system performance for battlespace dominance.

As the Navy and NASCAR team grows stronger, the Sailors and JRM technicians that make up the team show that anything can be accomplished with pride, world-class training and teamwork.

For more information go to the Navy Recruiting Command Web site at http://www.cnrc.navy.mil/.

CHIPS

The inside track ...

Senior Chief Navy Counselor Jeffrey Priest has the enviable job of traveling with the Navy's NASCAR 2006 Busch Series No. 88 "Accelerate Your Life" car as the Navy's JR Motorsports program manager. CHIPS asked Priest to talk about the response to Navy in NASCAR March 1, 2006.

CHIPS: I had no idea that driving in NASCAR is so high tech.

NCCS Priest: I had no clue myself. I have learned a considerable amount about NASCAR and the Navy's involvement with it. It is high tech. The things these guys do with aerodynamics and wind tunnels, computer models and their equipment is just unbelievable.

CHIPS: What is your role in the Navy-NASCAR partnership?

NCCS Priest: I am the liaison between the Navy, the agency and the team, JR Motorsports. I get the Sailors 'down in the pits' every week. We take an admiral and his guest, and six Sailors, two of which are selected for honorary pit crew. They get to wear the team uniform, and they catch tires or push toolboxes. Some of them have never seen a race before, and they love it.

CHIPS: How are the Sailors selected?

NCCS Priest: Navy Recruiting Districts take care of the selection. For example, next week, we are in Las Vegas and NRD San Diego selects the top-performing recruiters and Sailors of the Year. This past week we were in California, and we had some fleet representation. We took three Seabees into the pits with the Sailor of the Year from the Recruiting District, a Sailor of the Year from a Seabee unit and the recruiters of the year.

CHIPS: What do fans think about a Navy car in NASCAR?

NCCS Priest: They love it. We were in Fontana, Calif., for the race and I was escorting Commander, Navy Recruiting Command Rear Adm. Jeffrey Fowler to pit row to watch qualifying. As we walked through the crowd fans started whooping and hollering, 'NAVY, NAVY.' The team signed some autographs for the crowd. In Las Vegas, Commander, U.S. Fleet Forces Command Adm. John Nathman will be attending as the VIP. A different admiral attends every race.

CHIPS: Has the Navy car had an effect on recruiting?

NCCS Priest: We generated over 1,000 leads this past weekend in Fontana. The initial impact is yes; it is definitely making a difference. Those leads are good for 18 months, and we will continue to work those for 18 months. It is more of an awareness tool, getting the message out to those who influence — moms, dads, aunts, uncles, older siblings and friends. We want to let them know that the Navy is still hiring, and we are an employer of choice.

I don't know why we did not associate sooner with the high-tech aspects of NASCAR. We all know the Navy is high tech. The partnership, the teamwork, the speed, the agility of the guys on the NASCAR team, and the Sailors that I love to work with every day are so similar. People come up and say, 'I am glad the Navy is running in it' or 'I am rooting for the Navy team' or 'I love this car.'

CHIPS: Technology is so much a part of the lives of young adults. They love all the gadgets: iPods, BlackBerries ...

NCCS Priest: They are wired. Young people today are looking at being able to work with high-tech tools. Getting the message out that the Navy is a high-tech corporation and employer of choice is important. We have SEALs (Sea, Air, Land), we have Seabees, and all kinds of opportunities for these young men and young women to be a part of a team.

We have a young lady named Katie Muir who is an employee of JR Motorsports and a shocks specialist. She builds the shocks for the cars ... One of the honorary pit crew members this past week in Fontana was a woman boatswain's mate first class. She really enjoyed working with the pit crew. I think women are even more interested in NASCAR and the high-tech cars from what I've seen.

I used to think the pit crew just carried wrenches, but they use high-tech tools just like Navy pit crews. We were with the Blue Angels on Monday, and they had to change the engine out in about 45 minutes on the No. 1 plane. Somebody asked me, 'How long does it take these NASCAR guys to change an engine out?' Trackside, they can do it all in 45 minutes. There is another similarity. The Navy pit crew on that plane is performing at the same high level as the pit crew in NASCAR.

CHIPS: It all sounds great. Does any one experience stand out?

NCCS Priest: What I enjoyed the most was a young Sailor, a second class recruiter, who had never been exposed to NASCAR. We took him down in the pits year before last and to this day I still talk to him. He watches the race every weekend. He absolutely loves it, and he pulls for the Navy team. That's what I get enjoyment from. I go to every race. I have been to 75 or 76 races, and I enjoy seeing the young Sailors that we bring into the pit enjoy themselves.

We had a constructionman recruit, one of the Seabees' honorees, a quiet guy — before the race started. He had a grin on his face the entire day. I asked him if he was having fun and he said, 'Senior Chief this is the greatest thing I have ever done.' He was down there in his dress whites looking sharp, representing the Navy.

My hope and my belief is that one day when that young man has to make a decision to get out or stay in the Navy, he is going to think back on all the things he has done like this NASCAR event, the deployments overseas and seeing the world. He will look back and say, 'I have done some good things in the Navy, I am going to stick around.'

We provide an opportunity for young men and women to do something positive with their lives, to make a career choice, not just select a job. These guys in the Busch Series are one step from making it to the major leagues just like the Navy is helping move Sailors along in their careers.

CHIPS: What is the next level for the drivers and pit crews moving up in NASCAR?

NCCS Priest: The Nextel Cup. Our driver last year, David Stremme, drove with us for a year. He got the call up, and he is now driving No. 40 in the Nextel Cup Series. He is still a friend and he loves Sailors. He comes down and meets the Sailors on the weekends even though he is no longer driving the Navy car. **CHIPS**

Deployable telecommunications ensure the right data to the right place at the right time

By Gene Simon, DLA Information Operations

The Defense Logistics Information Service's mission is to provide interoperable, integrated, quality logistics data and IT solutions across the Department of Defense, federal agencies and international partners. These solutions optimize the effectiveness and efficiency of the supply chain.

Warren Barber, from DLA Europe J-6, demonstrates Tachyon equipment to U.S. Navy Lt. Cmdr. Timothy Wade, from DRMS, and U.S. Army Maj. John Dreska, forward commander of the DLA Contingency Support Team-Afghanistan.

FORWARD SUPPORT

With the Defense Logistics Agency's increased emphasis on forward support to the warfighter, there is a critical need to be able to access the latest logistics information to support DLA personnel deployed to forward areas.

Members of in-theater DLA Contingency Support Teams and Defense Reutilization and Marketing Office (DRMO) sites must have the latest data to fulfill their missions as key advisers and service providers of critical logistics functions for the combatant commands and their front line commanders.

Helping commanders get the "right item to the right place at the right time" means being able to access real-time asset visibility information, coordinate complex disposal operations and maintain contact with the DLA, the Defense Reutilization and Marketing Service (DRMS), and other DLA activities that assist representatives in theater.

To keep this information flowing, the Defense Logistics Information Service (DLIS) established a contingency support capability to plan, develop and implement information technology (IT) solutions to ensure deployed personnel receive the communications support they need.

Support for forward-deployed personnel includes offering an IT contingency support package capable of voice and data support. Since each area where personnel deploy offers different operational scenarios, flexibility must be a key component of the IT solution design.

TACHYON BROADBAND SATELLITE

Among the possible solutions is the Tachyon Broadband Satellite. Coupled with the Secure Traffic Accelerator Remote and Secure Traffic Accelerator Central, Tachyon provides fast, secure end-to-end delivery of encrypted data to and from DLA local area networks and remote LANs.

The Tachyon is capable of providing real-time data connectivity, Voice-over-IP and video teleconferencing. These units are currently available for deployment in the United States, Europe, Southwest Asia and Central Asia.

Tachyon systems are already in service at DRMS sites — Logistics Support Area Al Asad and Anaconda in Iraq — and they have been very successful. A third system was recently deployed to the DRMO in Bagram, Afghanistan. *(See story on the next page.)* Service is currently not available in Africa or East Asia (China and Korea). East Asia service is expected to be available during the second quarter of fiscal year 2006.

These systems have been extremely reliable and continue to meet the needs of our customers. Four additional systems have been procured and will be staged at DLIS Battle Creek, Mich., to support future contingency operations.

DLIS SUPPORT

Contingency support efforts are another example of how DLIS uses its expertise in information operations to assist all areas of DLA in accomplishing its mission of serving the warfighter.

Chad Gandy and Warren Barber, both with DLA Europe J-6, troubleshoot tech problems with the Defense Logistics Information Service J-6 in Battle Creek, Mich.

DLIS is a recognized leader in employing best practices to develop and deliver tailored solutions for customers' evolving needs.

For more information on DLIS, visit http://www.dla.mil/dlis or call (877) 352-2255.

DLA provides supply support, and technical and logistics services to the U.S. military services and several federal civilian agencies. Headquartered at Fort Belvoir, Va., the agency is the one source for nearly every consumable item, whether for combat readiness, emergency preparedness or day-to-day operations. More information about DLA is available at http://www.dla.mil/. **CHIPS**

Teamwork bridges continents, connects the Defense Logistics Agency to its customers in Bagram, Afghanistan

By Marcia Klein
DLA Public Affairs

Standing: Chad Gandy and Warren Barber, both with DLA Europe J-6, and Patrick Lee, team leader for the J-6 Europe Forward Information Technology/ Communications Support team, finish installing a Tachyon satellite dish.

DELIVERING TACHYON TO IRAQ

Bringing 21st century technology to the battlefield means overcoming primitive conditions — and dangers such as landmines, improvised explosive devices (IEDs) and mortar attacks — conditions not generally encountered in the typical workplace. But these hazards are all "in a day's work" when teamwork and cooperation across the enterprise are among your "weapons."

"The coordination between all the partners was extremely valuable and led to the overall success of the mission," said Patrick Lee, team leader for the J-6 Europe Forward Information Technology/ Communications support team. The team installed the first Tachyon satellite-based Internet system at the first Defense Re-utilization and Marketing Service (DRMS) location on Bagram Air Base, Afghanistan.

Two other Tachyon systems had already been installed at DRMO locations in Iraq. Lee's team also included Warren Barber and Chad Gandy both from DLA-Europe J-6. Logistics support for the Afghanistan mission was provided by the DLA Contingency Support Team-Afghanistan (DCST-AF) and DRMS representatives at Bagram.

The Tachyon system allows the user or local network to connect to the Internet just as if the user were in a normal DLA office environment, according to Lee. Before this successful installation, there was no computer capability or Internet access at the Bagram DRMO.

"This was a major accomplishment for those of us who were working to establish the first working DRMO operation in Afghanistan. It's amazing to think that our current DRMS/Temporary Excess Storage Site (TESS) was a minefield as recently as November," said Army Maj. John Dreska, forward commander of the DCST-AF.

TEAM 4TH E

Lee said his team is "battle hardened" because they have all spent a lot of time in Iraq. They flew to the DRMO TESS yard over the New Year's holiday weekend to install the system, but that was really the end of the journey — the beginning was months earlier with coordination across several departments in DLA and ended when the Air Force transportation office delivered the satellite system to the DRMS TESS yard in Bagram.

For each mission, the J-6E team chooses a different team name.

"For this mission we called ourselves 'Team 4th E.' [That] comes from Jack Welch, the former CEO of General Electric, whose fundamentals for excellence included the concept of four Es — energy, energize, edge, execution [and passion]. We are good at all of those, but nothing matters unless you can execute that fourth E, and that is what we do," Lee said.

Although Team 4th E had installed the system in other locations, each Tachyon system is physically unique and has different requirements for installation. This particular system had been pre-configured for another location, which meant that the team had to ensure that the correct hardware and software were available for conditions in Bagram.

As expected, conditions in Bagram were primitive and challenging.

"[One logistical hurdle] was the extreme cold — below freezing — which we were subject to for 12 to 14 hours a day as we installed the system," Lee said.

THE BAGRAM DRMO

The Tachyon system will allow DRMS personnel at Bagram to access the DRMS intranet, which gives them links to the applications vital to their day-to-day operations and to the DAISY/VIPER property accounting system, which they use to track DRMS inventory.

"This installation was more challenging than the other ones in Iraq … especially the couple of nights when we had to work until midnight and later to get the job done and coordinate with support assets in Germany and Battle Creek, Mich.," Lee said.

Lee added that there was no heat at the site, which was the top of a cargo container. The team had to connect the Tachyon system to three computer workstations located in nearby wooden buildings.

The Bagram DRMO opened Dec. 16, 2005. The successful installation of this system was one of the last steps to make the DRMO completely functional.

"I couldn't be prouder of the hard work and dedication of all the team members who helped make this mission a success. We've had a lot of obstacles to overcome, and we're still working through some issues at this point in time. But, we're here to take on this mission and our customers couldn't be happier with our presence in Afghanistan," Dreska said.

"The success of this mission is a clear indication that DLA organizations work well together and are committed to 'one team, one fight,'" Lee said. **CHIPS**

Information Technology Operations During Hurricane Katrina

By David Hasenkampf and John A. Lever

To prepare for natural disasters, catastrophes or other events that could disrupt operations or cause loss of data, NAVOCEANO reengineered infrastructure, procedures and processes to mitigate the impact of disaster-related events on its computing infrastructure …

Mix a Category 4 hurricane with network equipment, and you have a less than ideal environment for mission essential oceanographic data processing. But as recent events have shown, operations can continue with proper planning, preparation, teamwork, improvisation — and a little bit of luck.

Supporting Fleet Operations

The Naval Oceanographic Office (NAVOCEANO), located at Stennis Space Center, Miss., is responsible for collecting and processing real-time oceanographic data to provide up-to-date environmental information in support of U.S. Navy fleet operations. To accomplish this, NAVOCEANO has a fleet of seven ships to conduct oceanographic survey operations.

NAVOCEANO has two primary information technology (IT) components: N6, the NAVOCEANO Engineering and Systems Department, which directly supports the office's primary oceanographic production capability, and N7, the NAVOCEANO Major Shared Resource Center (MSRC), which is the major Navy component of the Department of Defense (DoD) High-Performance Computing (HPC) Modernization Program. The MSRC fulfills NAVOCEANO's supercomputing requirements. Both departments work together to form a complete IT capability for NAVOCEANO.

The Oceanographic Information System (OIS) constitutes NAVOCEANO's scientific computing enterprise. The maintenance, sustainment and operations of the OIS are conducted by the Information Systems Division. To prepare for a disruption to operations that could be caused by natural disasters or other catastrophic events, the Information Systems Division instituted redundancy for its computing infrastructure.

Several years ago, the OIS underwent major reengineering to migrate the majority of its storage capacity to storage area network, a technology that moves storage from individual workstations or servers to centralized managed areas that have built-in redundancy and backup.

Preparation

DoD regulations and directives require that owners of information systems prepare a disaster recovery (DR) and continuity of operations plan (COOP) for the possibility of a destroyed or disabled IT infrastructure. While our DR and COOP are not fully complete, NAVOCEANO has placed significant emphasis in this area over the past few years and has made great strides in this direction.

In fiscal year 2001, with assistance from the National Technology Alliance (NTA), the office conducted an evaluation of internal IT capability. Included in the study was an analysis of data recovery and restoration as well as recommendations regarding practices and procedures. NAVOCEANO combined recommendations from this study with DoD directives, and developed appropriate practices and standardized operating procedures.

This advance planning and preparation were crucial, enabling NAVOCEANO to immediately restore IT capability during and immediately after Hurricane Katrina.

Execution

Hurricane Katrina struck the Louisiana and Mississippi Gulf Coast on Monday, Aug. 29, 2005. The timing and path of the storm were troublesome, given that the storm did not take dead aim at the Central Gulf region until Aug. 26. This left little time for preparation.

Management executed the first stage of preparations Aug. 27, with phone calls going out to all IT personnel to ensure employee safety and sufficient manning at the site. Phone calls were made again on Sunday to ensure all the bases were covered.

As a result, NAVOCEANO had 20 percent of its IT staff on-site during the hurricane and confirmed that most of the remaining personnel had left the area for their safety. At this stage, the National Hurricane Center predicted that Katrina would hit late morning Aug. 29. The IT staff, who would ride out the storm on-site, arrived with their families on Sunday afternoon, settled in and prepared for the next day.

The three things IT capabilities need are: power, communications and a cool dry environment. Unfortunately, we were about to lose all three.

At 0705 the first major squall line passed through the Stennis Space Center area and immediately took out the commercial power feeds to our facility. Although NAVOCEANO is equipped with a number of backup generators, the transfer switch of one unit failed. As Murphy's Law would dictate, this unit supplied power to the N6 servers and communications devices, and resulted in complete IT systems failure. Something we refer to as a "hard crash."

Generator power was soon reestablished. Then the IT team had to reestablish capability. We had adequate staffing on hand but not our full scope of expertise. At this stage, documentation and procedures were critical. Over the next 16 hours, the IT staff repaired file systems and brought up 80 servers and more than 100 terabytes of data back online as well as all internal communications capabilities.

During this time we discovered that we were taking on water. Upon further examination, we found that water was coming in from a door on the floor above us. The door, an emergency fire exit, was bearing the full brunt of Hurricane Katrina's winds and rain. The water was coming in around the gaps of the door as if a fire hose were directed at it from the outside, and there was no stopping it! If you can't stop it, mop it — and we did — for the remainder of the storm.

The MSRC provides supercomputing and petabyte-scale storage for the Naval Meteorology and Oceanography Command and for the DoD research and development community. MSRC support includes operational modeling for both NAVO-CEANO and the Fleet Numerical Meteorology and Oceanography Center.

This critical facility was reengineered in two phases several years ago to "harden" it *(hardening, in this instance, refers to what must be done to secure a system or facility)* against natural disasters and other catastrophes. In the first phase, all permanent data and archival storage capabilities were moved to a hardened facility capable of withstanding Category 5 hurricanes and tornados.

In the second phase, the MSRC relocated a subset of the computational systems and high-speed networks that could backup any losses in the primary center. Uninterrupted power supply and diesel generators support the hardened facilities.

Is anybody out there?
As the eye of Hurricane Katrina approached, we steadily lost our ability to talk with the outside world. In addition to losing our external network communications, we lost telephone service. Enter the MSRC. During Katrina, the MSRC operated without failure. The only weak area was the loss of external commercial carrier interexchange facilities from Gulfport to New Orleans.

Within 48 hours of Katrina's landfall, the MSRC obtained mobile satellite communications facilities that were used to provide phone services and data connectivity to the Defense Research and Engineering Network and the Internet. Within 96 hours, our organization resumed general

network connectivity and interim phone communications via mobile satellite. We were back in business.

NAVOCEANO is currently working with NASA and regional telecommunications carriers to install and activate diversely routed local and interexchange carrier services for Navy activities at Stennis Space Center to avoid complete dependence on the Gulf Coast commercial communications infrastructure.

Ocean Modeling
NAVOCEANO is the Navy's center for ocean modeling, and it executes a large and tightly coupled suite of databases and applications that work together. These include systems that ingest ocean observations from deployed sensors and satellites through data assimilation and numerical modeling such as these below:

•*Modular Oceanographic Data Assimilation System (MODAS)*, the Navy's real-time primary source of sound speed fields;

•*Altimetry Data Fusion Center (ADFC)*, the collection point of satellite altimetry data to drive the ocean models;

•*Navy Coastal Ocean Model (NCOM) and Navy Layer Ocean Model (NLOM)*, the world's only operational global ocean models;

•*Shallow Water Analysis and Forecast System (SWAFS)*, the Navy's only operational three-dimensional data assimilation ocean model.

All of these systems (and others) work together to produce a comprehensive global picture of the ocean environment.

Individuals from the Oceanography Department and its supporting contractors, as well as their colleagues from the Engineering Department, MSRC and Warfighting Support Center, worked to bring the Navy's daily ocean model forecasts back to operational status in the days immediately following Hurricane Katrina.

Their expertise in areas ranging from real-time satellite and in situ data feeds, to computer systems and ocean modeling, was essential in making sure that the interruption to Navy consumers of daily

analyses and forecasts of sound, speed, currents and waves was minimal.

The keys to the success of the recovery were found in the human capital of the oceanographers and physical scientists, whose combined understanding of the diverse fields of science and the computing software base led to resumption in essential operations.

While a complete configuration managed software baseline is necessary for recovery, it is not sufficient. Also required are the boundary conditions for the models, and the skill to select and calibrate the proper starting conditions to monitor the models' progress as they reconverge to an accurate state.

What is noteworthy is that many of these individuals worked tirelessly with the full knowledge that their homes and possessions had been destroyed by the storm.

The full story of our recovery will be fully documented in the context of lessons learned. But without preparation, we would not have been able to easily restore our capabilities — even with a full staff. The ability to adapt and adjust to fit the situation can only be done when you can quickly assess your existing status and know your options.

In the Future
While we do not look forward to the next hurricane, we do take pride and satisfaction in our team and our ability to perform under harsh conditions.

Many of our employees lost their homes, and as an organization, we are focused not just on the full recovery of our production levels, but on the people and family that we refer to as NAVOCEANO.

Human Performance Improvement: a Proven Process

By Susan Lawson

Human Performance Technologists (HPTs) agree that there are a myriad of solutions that are both scientifically-sound and cost-effective to facilitate performance improvement. HPTs can be found in business and academia, and they have also developed a substantial presence in government civilian and military organizations. One example is the Navy's Human Performance Center (HPC), headquartered at the Fleet Combat Training Center Dam Neck in Virginia Beach, Va.

The HPC serves the Navy as a Human Performance Improvement (HPI) command. Its mission focuses on the identification and removal of all factors that could prevent a Sailor, a team or an organization from achieving its highest level of performance.

"Organizations need to move away from the idea that training is performance; it is not. The goal for a performance technologist is to get our customers to a place where they want to be as an organization, which often does not include [employee] training," said HPC Career Management Directorate head, Ethan Sanders.

"Companies often expend a great deal of time and money on training employees, believing that additional training will remedy performance problems. Yet, training arises as a key performance inhibitor only about 12 percent of the time," Sanders said.

Over the past year, the Performance Center's HPTs completed 33 human performance improvement projects. Their recommendations resulted in a 37:1 return on investment benefit-to-cost ratio, clearly indicating the command's substantial contributions to Navywide performance improvement.

The HPC has the largest concentration of performance technologists in the world — 140 HPTs. Forty-one of these professionals are certified performance technologists. HPC's performance technologists advance mission readiness efforts through their facilitation of HPI processes.

Additionally, they help Navy organizations realize their goals by systematically applying standardized, metrics-based performance improvement processes that aid in the identification and removal of performance deficiencies.

To enhance its human performance efforts, the command has developed professional alliances with the International Society for Performance Improvement (ISPI) and the American Society for Training and Development (ASTD). While ASTD provides fundamental courseware for developing an HPT's understanding of performance improvement theory and practices, ISPI manages the qualification requirements mandated for HPTs to become Certified Performance Technologists (CPTs).

These relationships help advance the field of human performance and allow best practices and lessons learned to be shared. According to Capt. Matt Peters, HPC's commanding officer, "The HPC is convinced that there is great benefit in partnering with the various organizations in the human performance field."

From their alliance, ASTD, ISPI and HPC have often discovered that training, beyond requisite skills instruction, is not the primary cause of performance deficiencies. More specifically, the HPI process lends itself to the understanding that additional job-specific training, beyond that provided for critical job skills, is typically the least relevant factor in improving workplace performance.

There are many other factors that impede success such as a lack of clarity in performance objectives, improper tools and ineffective processes.

Unlike continuous training programs, HPI moves beyond the preparatory stages of perfunctory learning. It addresses workplace performance issues that require a host of solutions and takes into consideration many workplace factors in its improvement assessments and recommendations.

HPI frequently offers more far-reaching and positive results than traditional recursive training efforts. There are occasions, though, in the HPI process when training is identified as a key performance factor. When that occurs, HPTs seek measurable and objectives-based training founded on the principles set forth by the "Science of Learning." SL provides strategies that develop a combination of knowledge, skills and abilities (KSAs) that increase learning effectiveness.

SL is unique from other training solutions because it focuses on acquiring KSAs, rather than on utilizing them. Because the Science of Learning is embedded in the HPI process, technologists use SL systematically to provide the most comprehensive training solutions and interventions. Therefore, SL is not an independent training tool; it serves as a performance strategy and an integral part of the HPI process.

The first step in the HPI process initiates improvement by determining mission related goals. These goals are defined in terms of desired results. HPTs assist in determining the worth of the goal to ensure that it truly contributes to the success of the organization.

Once the organizational goals have been identified, HPTs then measure accomplishment toward that goal. As solutions

> "Companies often expend a great deal of time and money on training employees, believing that additional training will remedy performance problems. Yet, training arises as a key performance inhibitor only about 12 percent of the time."

are implemented, it becomes evident whether the goal has been positively affected. Once a correlation surfaces, HPTs define all the performance factors that contribute most directly to the successful attainment of that goal.

During the intermediate phases of HPI, the performance technologist seeks to pinpoint the root causes of the problem (organizational, process, people) that inhibit performance. It is vital that a consistent and effective approach using the Human Performance Technology model be applied with every project the HPC undertakes.

Upon completion of an organization's holistic evaluation, HPTs develop recommendations and provide clients with strategic support in the final phases of the HPI process. In essence, HPI methodologies allow technologists to identify performance gaps, characterize them in measurable or observable ways, and select proper interventions to apply them in a controlled manner.

HPTs begin with the end result in mind, and HPI canons give credence to their analyses and determinations. As a whole, the performance improvement process establishes a framework that supports an organization's pursuit of optimal performance and desired outcomes. Training alone cannot do this.

Those outcomes are reflected in the HPC's fiscal year 2006 projections, which estimate the Navy's overall savings at $140 million based on the HPC's 57 performance improvement projects currently underway.

The Human Performance Center has established a community of practice and forged ahead in the field of human performance. By using HPI methods and best practices, the HPC supports mission readiness throughout the Navy.

Visit the HPC online at

http://www.hpc.navy.mil/.

CHIPS

LSD 41/49 MPDE Availability-Center for Naval Engineering Case Study Human Performance Center Virginia Beach, Va.

Background

Engineering assessments on board LSD 41/52 diesel propulsion class ships identified a downward trend in operational availability. A study was conducted by the Diesel Engine Steering Committee, who identified deficiencies with the Colt-Piel stick 2.5 Main Propulsion Diesel Engine (MPDE). According to the study, 60 percent of the deficiencies were directly related to inadequate maintenance or training procedures. The Center for Naval Engineering was tasked to conduct an analysis of LSD class engineering readiness, specifically addressing manning, personnel training, and operating and maintenance practices.

Objective

Utilizing a Human Performance Improvement Model and HPI methodologies, the goals of the LSD 41/52 HPI project are to reduce high priority downtime by 50 percent by the end of fiscal year 2006. Additionally, a long-term goal of the project is to increase the number of hours between overhauls to 20,000. An overall desired organizational impact to the fleet will be an improvement to the mission readiness of LSD class ships.

Performance Gap

Analysis of past and current data showed that the engines are only available 55 percent of the time. Additionally, the engines require overhaul at 13,000 hours. The MPDE failures have resulted in an estimated cost of $40 million a year to maintain 48 engines. A root cause analysis revealed that the Navy does not maintain the engines in accordance with the original equipment manufacturer's recommendations. We also found that personnel with diesel experience on board L-class ships do not want to return to duty on an L-class ship again, and there is no structured on-the-job (OJT) training. Additionally, the ships have a poor quality assurance system that results in poor depot level work being accepted by the ships' company. Since there is no longer a requirement for trend analysis, maintenance personnel are unable to recognize when a failure is about to occur. In many cases, the personnel on board did not have access to technical manuals for the engines. The data also showed that many of the publications are outdated and require revision. Lastly, Sailors do not have the tools to work on the engines. In several instances, maintenance personnel were unable to produce even basic tools.

Benefits

The HP detachment team developed several recommendations to achieve the desired performance goal. Solutions involved developing a more effective quality assurance system which holds ships accountable for poor diesel engine practices. There should be an incentive program that would entice personnel with diesel engine experience to return to this class of ship and a structured OJT plan in place for crew training. Another recommendation was to re-establish the trend analysis program and develop a self-sufficient engineering support team. This would allow technicians to recognize failures before an issue cascaded into a depot level repair. Lastly, the publications associated with the engines should be reviewed for accuracy and updated appropriately.

Status

Fleet Forces Command and Naval Sea Systems Command (NAVSEA) are currently working these issues. CHIPS

Converting Data into Information for Improved Customer Support at the Surface Combat Systems Center

By Steve Krumm

The terms "data" and "information" are often used interchangeably. However, information is actually processed data used for enhanced decision making. Data analysts at Surface Combat Systems Center (SCSC), Wallops Island, Va., collect data from scheduling software and convert it into information that managers at multiple levels of the organization use to make decisions that result in improved customer service.

SCSC provides high-fidelity Aegis and Ship Self-Defense System (SSDS) combat systems in a maritime environment in support of Navy surface combatants. SCSC provides a service: use of our combat systems for testing. Customers conduct their combat system testing and training events on our combat systems in the ship configuration they specify.

SCSC customers schedule their events using an Oracle-based application called, "Scheduling Activity Module" or SAM. SAM enables customers to create a scheduling request for a date, time and combat system configuration for 500 available equipment sets. SAM produces a weekly schedule, and customers conduct their events, which are set up and supported by the SCSC staff.

Providing a service is different than producing a product, something tangible that customers take away with them. Quality is defined by the customer rather than a product's conformity to specifications that could be sampled by quality assurance methods.

At the conclusion of their events, customers evaluate the quality of the service they received using an online questionnaire in SAM. Questions asked are below.

Amount of lost time? [in Hours]
Event Objectives accomplished? [None, Some, Most, All]
Was the system ready on time? [Yes, No]
Was the system configured as you requested? [Yes, No]
Was the system operational for the event's scheduled duration? [Yes, No]
Did you have SCSC equipment problems? [Yes, No]
Did you have SCSC software problems? [Yes, No]
Did you have customer software problems? [Yes, No]
Did you have any other problems (weather, power, etc.)? [Yes, No]

Based on the customer's response, SAM calculates a summary site grade *(1-5, with 1 being the best)* for the event. All data pertaining to the event *(description, configuration, date, times, customer evaluation, etc.)* are kept in the database for later analysis.

Two basic types of SAM data analysis are performed: customer satisfaction and demand (utilization and forecasting). Producing information about customer satisfaction is the primary focus of SAM data analysis. Daily event reports are produced, and problems with customer events from the previous day are discussed during a morning staff meeting.

Tabular results, as shown in Table 1, are included in a weekly departmental situation report, so managers can compare the current week's performance with the 12-month average for corrective action, if necessary. Monthly bar charts show customer lost time and readiness metrics by week. Lost time is the number of hours that were scheduled for a customer event, but not available to the customer due to a problem.

Metric	Aegis Complex	SSD Facility
Customer Satisfaction Grade	1.071	1.11
Average Grade (12 mos.)	1.140	1.104
System Hours	480	203
Customer Hours	214	128
Number of Customer Events	36	18
Customer Lost Hours	9.5 (4%)	0
Average Customer Lost Hours (12 mos.)	9.6	2.2
Events Not Operational for Entire Event	3	1
Events Not Configured as Requested	1	1
Events Not Ready on Time	3	1

Table 1. Weekly Customer Support Summary.

Readiness metrics are the weekly tally of negative customer responses from the event evaluations shown above. Lost time greater than the average and events "not ready on time" or events "not configured as requested" (the latter two are generally within the purview of the SCSC staff to prevent) are scrutinized to improve customer support processes. For example, average customer lost hours during a 12-month period (9.6) is calculated by the sum of weekly lost hours over the last 12 months divided by the number of weeks during the last 12 months. In this example, the SSD Facility did not experience a loss of customer hours during the week shown.

One example for improving customer service was the formation of a team, which included all stakeholders, to reduce the number of customer events that were not ready on time and not configured as requested. The team developed setup procedures and interface configuration checklists, which are now used by the SCSC staff during event setup and turnover of the lab to the customer.

A service-oriented Statistical Process Control chart (p Chart), see Figure 1, is also produced. The chart shows the percentage of defective customer events. Event defects are grouped into seven categories: SCSC equipment, personnel requested were not available, etc. A Pareto chart is used to show the number of defects in each category. These charts are used by management
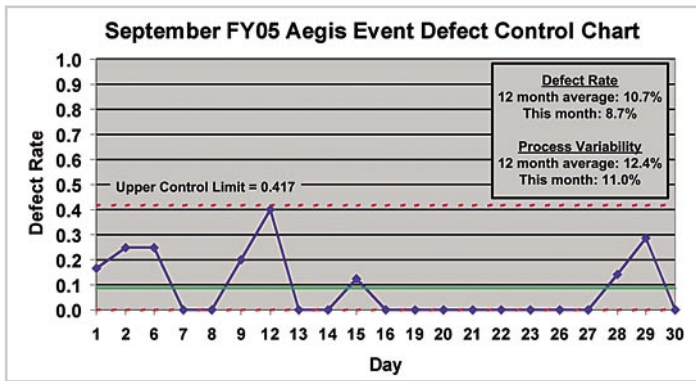
Figure 1.

for process improvement to help determine if the root causes of customer event defects are common causes *(inherent problems in the process such as procedures or training)* or special causes *(random problems such as the illness of a key staff member)*.

The second type of analysis performed is customer demand (utilization and forecasting). Knowing the quantity of products produced or service provided is important for a number of reasons: scheduling, staffing, maintenance, etc. Basic site utilization is tracked by system hours, which are the total number of hours combat system equipment is used for any purpose.

System hours are comprised of customer events, set up by SCSC staff, installation and testing of new combat system equipment, and both preventive and corrective maintenance. Customer hours, a subset of system hours, are the number of hours that SCSC customers use the combat system to accomplish their mission objectives. These are the actual hours of service provided *(billable hours in a for-profit organization or units produced in a production organization)*.

The difference between system and customer hours can be thought of as overhead hours. Reduction of overhead hours, for example, may be a good cost-saving opportunity in the future, but you can't compare results if you don't collect the data now.

Forecasting is accomplished using historical data from SAM. Both SCSC customer and system hours exhibit "seasonality" over a 12-month period. Think of customer demand for snow shovels,

Figure 2.

and you understand the concept of seasonality. SCSC customer and systems hours also exhibit a trend. Trend is increasing or decreasing customer demand over a period. To model both seasonality and trend, Winter's Model was selected.

Winter's Model is an exponentially smoothed, adaptive model used to forecast monthly system or customer hours, up to 12 months in advance. Separate charts are produced for the SCSC Aegis and SSDS facilities since their customer bases are different. Figure 2 shows fiscal year 2005 actual and forecast customer monthly hours at the SCSC Aegis Complex. The blue solid line indicates the number of hours actually used by customers and the red dashed line is the Winter's Model forecast.

The seasonality of SCSC customer demand is clearly seen in this chart. Organizations that produce non-perishable products can meet seasonal customer demand by producing more during non-peak periods. However, that is not an option for organizations that provide services. They must either attempt to regulate customer demand or have sufficient surge capacity to meet peak customer demand.

Although SAM data are contained in a database on the local area network (LAN), analysts must extract and process the data to perform calculations to produce charts and report results. This is a labor-intensive activity that produces static results. SCSC is currently implementing a command dashboard to automate the display of information.

Each department will have an area to deposit its data, and the dashboard software will produce graphs to allow analysts and managers to view and drill-down to information online in near real-time. The dashboard software also enables information to be aggregated and displayed in different ways such as using color gauges to help data-overloaded managers to quickly understand the importance of what they are seeing.

SCSC is transforming data into information to improve customer support to realize our vision, "Our oceanfront warfare systems operate together as a premier proving ground to support the fielding and sustaining of improved warfighting capabilities."
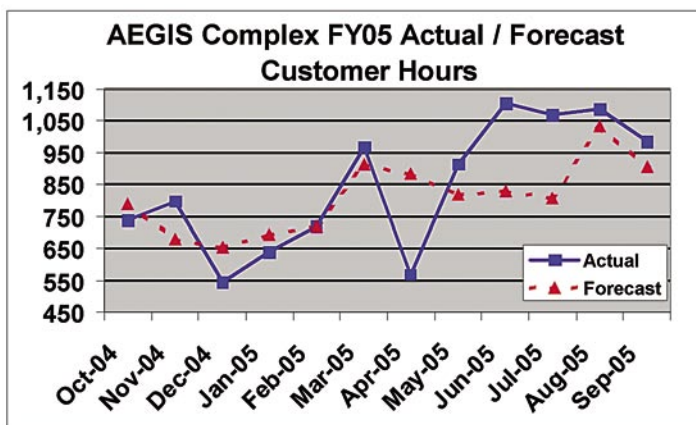
The Surface Combat Systems Center, Wallops Island, Va., provides a maritime test environment, an operational team, and combat systems of high fidelity to conduct realistic test events in support of lifetime support engineering activities and the upgrade of tactical computer programs. SCSC provides key services for performing systems developmental and operational tests, and for research, development, test and evaluation of potential upgrades in all areas of detection, control and engagement.

For more information go to the Surface Combat Systems Center Web site at http://www.scsc.navy.mil/.

CHIPS

The Lazy Person's Guide to Controlling Technologies: Document Formats – an Open and Shut Case

By Retired Air Force Major Dale J. Long

Welcome to the continuing saga of how technology controls our lives. This installment of the Lazy Person's Guide will address digital documents: what they are, how they function and what leverage they exert in our work environment. We will examine text, tags and the march of formats from basic text to desktop publishing capabilities that put the modern equivalent of a printing press on everyone's desktop. But first, as is often our custom, we start with a visit with Zippy.

Zipped Archives

We received our annual invitation to Casa Zippy for their New Year's Day Football Finger Food Fiesta. The party was not for Zippy and me, but for our wives. Zippy and I will watch football as an excuse to tweak a surround sound system to recreate stadium crowd noise.

Our wives, however, are die-hard football fans: Zippette is a Pittsburg Steelers fan and my wife is a lifelong Cleveland Browns fan. Since those two teams were playing each other on New Year's Day, there was no way Zippy and I were going to come near them during the game. Even Zippy's twins, now three-years-old, know to make themselves scarce on Sunday afternoons when the "Moms" are watching football on television.

Zippy, the children and I found ourselves in the safest room in the house: the basement. Zippy's basement is not your average hole in the ground. Most basements range from cement floors and cinder blocks to a finished space with carpet. Zippy's basement resembles nothing less than the North American Aerospace Defense Command's operation center in Cheyenne Mountain, with enough electronics hardware to run a large multinational corporation.

There is a room in Zippy's basement that should be in the Smithsonian Institution. It contains a working version of almost every personal computer (PC) and operating system (OS) produced since the original Apple I back in 1976. Some people play with model trains in their basements; Zippy plays with old computers. Despite being the computer equivalent of a guy who cuts a hole in the floorboard of his sports utility vehicle so he can drive it onto a frozen lake and use it as an ice fishing shanty, Zippy has managed to keep all his relics operational.

Zippy has been keeping digital records as a matter of obsession for more than 25 years. He has financial records in VisiCalc in Apple and PC formats, and both old Mac and new Windows versions of Excel. He has a huge collection of old UseNet files, original short fiction and research papers in AppleWorks, WordStar, WordPerfect (WP), Microsoft Word (four versions), Encapsulated PostScript (EPS), and WriteNow. His favorites are game programs and saved games on Commodores, Amigas and Apple IIs. If there is a "nerdvanna" in the afterlife, it probably looks just like Zippy's basement.

However, Zippy's collection illustrates one of the major issues in computing: proprietary applications and formats. The reason he has these old computers is to maintain the use of information and applications despite changes in technology over the last 30 years. Old applications and formats never die; they just become obsolete.
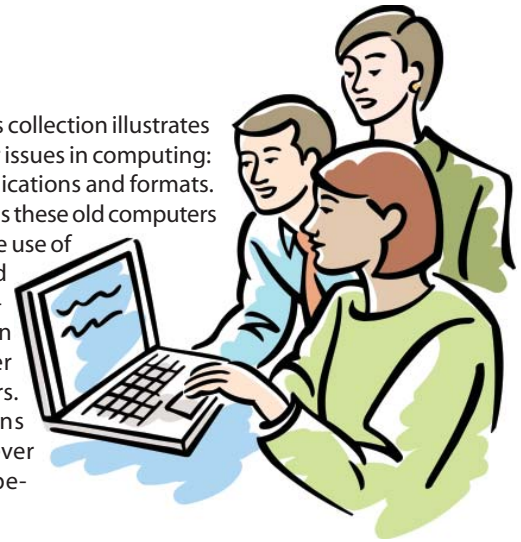
As more people and organizations migrate to newer systems and software, the pressure increases on the holdouts to join them. We are given the choice of replacing or upgrading to keep up with the technological Joneses or risk ending up stuck in a computing backwater unable to share or receive documents with the rest of the world. To understand why formats matter, let's take a brief look at how they work.

Tagging Text

In the beginning, there was American Standard Code for Information Interchange (ASCII), and ASCII was all anyone had in the early days of the Advanced Research Projects Agency Network (ARPANET). First codified in 1963 by the American National Standards Institute, ASCII was derived from telegraphic codes and first entered commercial use as a seven-bit teleprinter code promoted by Bell Data Services. Originally, it only had uppercase letters and a few odd substitutions for some special characters.

ASCII was upgraded in 1967 to include lowercase letters and enhanced control codes like ACKnowledge, ESCape and DELete. Other than upper- and lowercase lettering, ASCII did not allow for anything in the way of formatting. Early teleprinters worked much like typewriters. ASCII mirrored whatever the printer could produce based on typewriter-style output.

The ASCII text format enabled the development of text editors, computer software capable of editing plain ASCII text. Much like the keypunch machines they eventually replaced, the first editors worked on one line at a time because mainframes of that era generally did not have display screens, just line-feed printers that printed plain text on paper.

The revolution began in earnest when computer monitors became less expensive and more common, facilitating the development of full screen editors that let users see and work on pages of text instead of individual lines. One of these early editors was "vi," which is

still a standard application on Unix and Linux systems today. Other well-known text editors include EMACS (Editor MACroS), Microsoft Notepad and SimpleText. Inevitably, computer users wanted more complex text output from computers.

Text Markup

I have written in *CHIPS* about the earliest forms of complex text markup (http://www.chips.navy.mil/archives/94_apr/file12.html): Generalized Markup Language (GML) and Standard Generalized Markup Language (SGML). While they are important as the ancestors of modern formatting, most people using computers today have no contact with them. Therefore, we will start the discussion with two formats present on almost every modern computer: Rich Text Format (RTF) and Hypertext Markup Language (HTML).

The RTF document file format was originally developed by Microsoft in 1987 for sharing documents across computing platforms. Most word processors can read and write RTF documents. RTF allows simple text formatting, including: **boldface**, *italics*, <u>underline</u> or some ***<u>combination</u>*** of the three. These are probably the most common text attributes. RTF is normally limited to applying formatting to 7-bit ASCII text, though it is possible to produce other characters in Arabic or Cyrillic through the use of special codes.

Accompanying RTF were changes in printers from typewriter-like keys and "print balls" to dot matrix printers that could reproduce fonts and characters in different sizes and shapes without requiring the operator to physically replace parts of the printer for every new font. Computer monitors also progressed, from displaying simple monochrome text to rendering millions of colors. Advances in all three (printers, displays and formatting) have been inextricably linked over the last 25 years, with advances in one area enabling or driving improvements in the others.

HTML is arguably the most pervasive text formatting system in the world due to its presence on millions of Web pages. HTML is a simple subset of SGML and probably the simplest tagging schema ever. For example, the formatted text in the previous paragraph would be tagged as follows:

boldface = **boldface**
<i>italics</i> = *italics*
<u>underline</u> = <u>underline</u>
<i><u>combination</i></u> = ***<u>combination</u>***

Tags are like on and off switches. In HTML the "hairpin" brackets identify the text within them as a tag, not content. The tag inside the brackets preceding the text turns the desired formatting on and the tag with the "/" following the text turns the formatting off. Web browsers interpret HTML tags and present the text in various sizes, styles, colors and fonts based on what the tags instruct. While the various schemas used by word processing and other applications that use text vary in complexity, they all follow the same basic process of enclosing the formatted text within coded tags. In RTF, for example, boldface text would be tagged like this.

{\b boldface} = **boldface**

As you can see, in RTF the affected text is enclosed within the curly brackets along with its tag.

One more format that deserves mention is Extensible Markup Language. XML, like HTML, is a subset of SGML and is a general-purpose markup language from which special-purpose markup languages like Geography Markup Language (GML), Real Simple Syndication (RSS), Mathematical Markup Language (MathML), Physical Markup Language (PML) and MusicXML have been created. XML-based systems facilitate data sharing across different systems and particularly systems connected via the Internet.

The differences in formatting structure and codes between HTML, RTF and every scheme that tags and formats text illustrate a crucial facet of text formatting. While all formatting schemes tell applications how to display or reproduce text, they differ from each other in ways both large and small. Therein lies the crux of the issue.

Open and Shut Case

As the people who write software applications come up with new, innovative ways to format content they add new tags to their formats. As formatting evolves, the people developing these applications have two choices: open their formats so everyone can use them, or keep them closed so they only work well with their own software.

Let us look at Microsoft as an example of how formats help influence behavior. In the late 1980s when Microsoft was trying to facilitate the spread of Microsoft Disk Operating System (MS-DOS) and Windows PCs, Microsoft released RTF as an open standard to facilitate the transfer of documents between computers. However, RTF had fairly limited formatting capability. The king of IBM word processing software in 1990 was WordPerfect, which had extensive formatting capability even as a DOS application and a 90 percent market share.

Soon after its release of the Windows shell for MS-DOS, Microsoft released Word, a more sophisticated word processor with "what you see is what you get" (WYSIWYG) display capability and the ability to import WordPerfect files into Word's document (.doc) format. Unlike WordPerfect, which allowed you to "reveal" the codes formatting the text in a separate window, MS Word kept the formatting codes hidden to shield the user from needless complexity.

Aside from the obvious advantages of the WYSIWYG interface, and that Microsoft bundled more than just a word processor into MS Office, there was one technical detail that greatly facilitated the migration of users from WordPerfect to MS Word. MS Word could read and convert WP documents much more cleanly than WP could do in the other direction.

Over the next five years, MS Word assumed a dominant position in the marketplace, and Microsoft Office application files became default standards for most commercial and government agencies. Even if organizations did not use Microsoft applications, they still had to find a way to work with Microsoft file formats, if they wanted to exchange information with other groups that did.

MS Office file formats have evolved every time the associated application evolves. When MS Word went from version 2.0 to version 6.0, the file format changed. The result was that those people still using Word 2.0 could not read version 6.0 document files, which was the default file format for Word 6.0. Every organization that migrated to Word 6.0 put pressure on any holdouts to upgrade to stay compatible.

I submit that most organizations, public and private, create the vast majority of their electronic files in some closed, proprietary format. Word processing documents, spreadsheets, presentation slides, databases, e-mail, network directories — virtually all of the electronic files in the government and commercial world are in some proprietary, closed format.

This reliance on closed formats raises a few issues. First, the more documents an organization has in a proprietary format, the less likely it is to migrate from the applications that can read those documents. Thus, the need to access documents stored in these formats can create an organizational dependency. When the company that produces that application upgrades to a new version, the organizations that use it are compelled to buy the upgrade whether or not it makes a functional difference to operations.

On another level, closed document formats interfere to a great extent with enterprise electronic records management. Aside from the issues associated with accessing documents produced by different versions of an application, managing collections of documents across an agency becomes very problematic when the application bundles multiple documents into files that can only be accessed by the parent application.

This is generally the case with both database applications and e-mail programs. And while you can build retention and disposition rules into individual databases, e-mail records stored in one or more files that contain multiple e-mails defy any management other than manual intervention by the e-mail account user.

Alternatives

If you are happy with proprietary document formats, you can keep on using whatever software you are committed to currently. Most users just want to get their work done with the least amount of fuss possible. If, however, you are tired of the inability to manage documents and records independently of the applications that created them, you may wish to consider using applications compatible with the Organization for the Advancement of Structured Information Standards (OASIS) Open Document Format (ODF) for Office Applications standard.

OASIS is a global consortium working on the development, convergence and adoption of e-business and Web service standards. At present, OASIS initiatives include open standards for Web services, e-commerce, security, supply chains, computing management, applications, documents, XML and interoperability. ODF is an open document file format for saving and exchanging editable office documents such as text documents, spreadsheets, charts and presentations based on an XML-based file format originally created for OpenOffice.org software applications.

OpenOffice.org is a free, open source software application that includes word processor, spreadsheet, presentation, vector drawing and database components. It is available for most current computing platforms, including Microsoft Windows, Unix, Linux and Mac OS X and supports the OpenDocument standard for data interchange. Sun Microsystems released the source code in July 2000, but it hasn't caught on with users.

However, because open source Linux OS has spread successfully, IT managers are becoming more receptive to open source in general. The chief information officer of Massachusetts announced last year that beginning in 2007 all official electronic documents in the commonwealth must comply with the OASIS ODF standard.

On another front, open source databases like MySQL (Structured Query Language), INteractive Graphics REtrieval System (Ingres) and PostgreSQL are becoming more popular. Version 5 of MySQL, the current open source leader, was downloaded 4 million times in the first three months after its release in October 2005. If only one of every thousand downloads becomes an active business application that means 4,000 organizations would be using an open source database.

Oracle, IBM, and Microsoft are countering by bundling more and more applications with their databases. Oracle, for example, has in recent years acquired Siebel, PeopleSoft and J.D. Edwards. All three offer high-end applications functionality that open source databases cannot.

References and Closing

For more information on OASIS standards, visit the OASIS Web site at: http://www.oasis-open.org/specs/index.php. For more information on open source databases, see: http://www.businessweek.com/technology/content/feb2006/tc20060206_918648.htm.

Will open source eventually displace proprietary software in the market? As with any IT purchase there will be costs, benefits, break-even points and functionality issues. But I believe that with Linux giving open source credibility and the ease of using open document standards, we will see some movement toward open source standards. Open source true believers are a little more optimistic. They have adopted a quote from Mohandas K. Gandhi to refer to the proprietary standards they seek to supplant:

"First they ignore you, then they laugh at you, then they fight you, then you win."

Until next time, Happy Networking!

Long is a retired Air Force communications officer who has written regularly for CHIPS since 1993. He holds a Master of Science degree in Information Resource Management from the Air Force Institute of Technology. He is currently serving as a telecommunications manager in the U.S. Department of Homeland Security. **CHIPS**

Enterprise Software Agreements Listed Below

The **Enterprise Software Initiative (ESI)** is a Department of Defense (DoD) initiative to streamline the acquisition process and provide best-priced, standards-compliant information technology (IT). The ESI is a business discipline used to coordinate multiple IT investments and leverage the buying power of the government for commercial IT products and services. By consolidating IT requirements and negotiating Enterprise Agreements with software vendors, the DoD realizes significant Total Cost of Ownership (TCO) savings in IT acquisition and maintenance. The goal is to develop and implement a process to identify, acquire, distribute and manage IT from the enterprise level.

Additionally, the ESI was incorporated into the Defense Federal Acquisition Regulation Supplement (DFARS) Section 208.74 on Oct. 25, 2002, and DoD Instruction 500.2 in May 2003.

Unless otherwise stated authorized ESI users include all DoD components, and their employees including Reserve component (Guard and Reserve) and the U.S. Coast Guard mobilized or attached to DoD; other government employees assigned to and working with DoD; nonappropriated funds instrumentalities such as NAFI employees; Intelligence Community (IC) covered organizations to include all DoD Intel System member organizations and employees, but not the CIA nor other IC employees unless they are assigned to and working with DoD organizations; DoD contractors authorized in accordance with the FAR; and authorized Foreign Military Sales.

For more information on the ESI or to obtain product information, visit the ESI Web site at http://www.esi.mil/.

Software Categories for ESI:

Business and Modeling Tools

BPWin/ERWin

BPWin/ERWin   Provides products, upgrades and warranty for ERWin, a data modeling solution that creates and maintains databases, data warehouses and enterprise data resource models. It also provides BPWin, a modeling tool used to analyze, document and improve complex business processes.

Contractor: Computer Associates International, Inc. (DAAB15-01-A-0001)
Ordering Expires: Upon depletion of Army Small Computer Program (ASCP) inventory
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Business Intelligence

Business Objects

Business Objects   Provides software licenses and support for Business Objects, Crystal Reports, Crystal Enterprise and training and professional services. Volume discounts range from 5 to 20 percent for purchases of software licenses under a single delivery order.
Contractor: EC America, Inc. (SP4700-05-A-0003)
Ordering Expires: 04 May 10
Web Link: http://www.gsaweblink.com/esi-dod/boa/

Collaborative Tools

Envoke Software (CESM-E)

Envoke Software   A collaboration integration platform that provides global awareness and secure instant messaging, integration and interoperability between disparate collaboration applications in support of the DoD s Enterprise Collaboration Initiatives.

Contractor: Structure Wise (DABL01-03-A-1007)
Ordering Expires: 17 Dec 06
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Database Management Tools

IBM Informix (DEAL-I/D)

IBM Informix   Provides IBM/Informix database software licenses and maintenance support at prices discounted 2 to 27 percent off GSA Schedule prices. The products included in the enterprise portion are: IBM Informix Dynamic Server Enterprise Edition (version 9); IBM Informix SQL Development; IBM Informix SQL Runtime; IBM Informix ESQL/C Development; IBM Informix ESQL/C Runtime; IBM Informix 4GL Interactive Debugger Development; IBM Informix 4GL Compiler Development; IBM Informix 4GL Compiler Runtime; IBM Informix 4GL RDS Development; IBM Informix 4GL RDS Runtime; IBM Informix Client SDK; IBM Informix Dynamic Server Enterprise Edition (version 7 and 9); and IBM Informix D.M. Gold Transaction Processing Bundle.

Contractor: IBM Global Services (DABL01-03-A-0002)
Ordering Expires: 30 Sep 06
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Microsoft Products

Microsoft Database Products   See information under Office Systems on page 48.

Oracle (DEAL-O)

Oracle Products   Provides Oracle database and application software licenses, support, training and consulting services. The Navy Enterprise License Agreement is for database licenses for Navy customers. Contact Navy project managers on the next page for further details.
Contractors:
Oracle Corp. (DAAB15-99-A-1002)
Northrop Grumman   authorized reseller
DLT Solutions – authorized reseller
Mythics, Inc. – authorized reseller
Ordering Expires: 31 May 06
Authorized Users: This has been designated as a DoD ESI and GSA SmartBUY contract and is open for ordering by all U.S. federal agencies, DoD components and authorized contractors.
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

www.it-umbrella.navy.mil

Special Note to Navy Users: On Oct. 1, 2004, and May 6, 2005, the Navy established the Oracle Database Enterprise License, effective through Sept. 30, 2013. The enterprise license provides Navy shore-based and afloat users to include active duty, Reserve and civilian billets, as well as contractors who access Navy systems, the right to use Oracle databases for the purpose of supporting Navy internal operations. Navy users in joint commands or supporting joint functions should contact the NAVICP Mechanicsburg contracting officer at (717) 605-3210 for further review of the requirements and coverage.

This license is managed by the Space and Naval Warfare Systems Center (SPAWARSYS CEN) San Diego DON Information Technology (IT) Umbrella Program Office.

The Navy Oracle Database Enterprise License provides significant benefits including substantial cost avoidance for the Department. It facilitates the goal of net-centric operations by allowing authorized users to access Oracle databases for Navy internal operations and permits sharing of authoritative data across the Navy enterprise.

Programs and activities covered by this license agreement shall not enter into separate Oracle database licenses outside this central agreement whenever Oracle is selected as the database. This prohibition includes software and software maintenance that is acquired:

a. as part of a system or system upgrade, including Application Specific Full Use (ASFU) licenses;
b. under a service contract;
c. under a contract or agreement administered by another agency, such as an inter agency agreement;
d. under a Federal Supply Service (FSS) Schedule contract or blanket purchase agreement established in accordance with FAR 8.404(b)(4); or
e. by a contractor that is authorized to order from a Government supply source pursuant to FAR 51.101.

This policy has been coordinated with the Office of the Assistant Secretary of the Navy (Financial Management and Comptroller), Office of Budget.

Web Link: http://www.it-umbrella.navy.mil/contract/enterprise/deal/Oracle/oracle.shtml

Sybase (DEAL-S)

Sybase Products Offers a full suite of software solutions designed to assist customers in achieving Information Liquidity. These solutions are focused on data management and integration; application integration; Anywhere integration; and vertical process integration, development and management. Specific products include but are not limited to: Sybase's Enterprise Application Server; Mobile and Embedded databases; m-Business Studio; HIPAA (Health Insurance Portability and Accountability Act) and Patriot Act Compliance; PowerBuilder; and a wide range of application adaptors. In addition, a Golden Disk for the Adaptive Server Enterprise (ASE) product is part of the agreement. The Enterprise portion of the BPA offers NT servers, NT seats, Unix servers, Unix seats, Linux servers and Linux seats. Software purchased under this BPA has a perpetual software license. The BPA also has excep tional pricing for other Sybase options. The savings to the government is 64 percent off GSA prices.

Contractor: Sybase, Inc. (DAAB15-99-A-1003); (800) 879-2273; (301) 896-1661
Ordering Expires: 15 Jan 08
Authorized Users: Authorized users include personnel and employees of the DoD, Reserve components (Guard and Reserve), U.S. Coast Guard when mobilized with, or attached to the DoD and nonappropriated funds instrumentalities. Also in cluded are Intelligence Communities, including all DoD Intel Information Systems (DoDIIS) member organizations and employees. Contractors of the DoD may use this agreement to license software for performance of work on DoD projects.

Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Enterprise Architecture Tools

Rational Software (AVMS-R)

Rational Software Provides IBM Rational software licenses and maintenance support for suites and point products including: IBM Rational RequisitePro; IBM Rational Rose; IBM Rational ClearCase; IBM Rational ClearQuest; and IBM Rational Uni fied Process.
Contractor: immixTechnology, (DABL01-03-A-1006); (800) 433-5444

Ordering Expires: 26 Mar 09
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Enterprise Management

CA Enterprise Management Software (C-EMS2)

Computer Associates Unicenter Enterprise Management Software In cludes Security Management; Network Management; Event Management; Output Management; Storage Management; Performance Management; Problem Manage ment; Software Delivery; and Asset Management. In addition to these products there are many optional products, services and training available.

Contractor: Computer Associates International, Inc.
(W91QUZ-04-A-0002); (800) 645-3042
Ordering Expires: Effective for term of the GSA FSS Schedule
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Citrix

Citrix Provides a full range of Metaframe products including Secure Access Man ager, Conferencing Manager, Password Manager, Access Suite & XP Presentation Server. Discounts range from 2 to 5 percent off GSA Schedule pricing plus spot dis counts for volume purchases.
Contractor: Citrix Systems, Inc. (W91QUZ-04-A-0001); (772) 221-8606
Ordering Expires: 23 Feb 08
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Microsoft Premier Support Services (MPS-1)

Microsoft Premier Support Services Provides premier support pack ages to small and large-size organizations. The products include Technical Account Managers, Alliance Support Teams, Reactive Incidents, on-site support, Technet and MSDN subscriptions.

Contractor: Microsoft (DAAB15-02-D-1002); (980) 776-8283
Ordering Expires: 30 Jun 06
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

NetIQ

NetIQ Provides Net IQ systems management security management and Web analytics solutions. Products include: AppManager; AppAnalyzer; Mail Marshal; Web Marshal; Vivinet voice and video products; and Vigilant Security and Management products. Discounts are 10 to 8 percent off GSA Schedule pricing for products and 5 percent off GSA Schedule pricing for maintenance.

Contractors:
NetIQ Corp. (W91QUZ-04-A-0003)
Northrop Grumman - authorized reseller
Federal Technology Solutions, Inc. - authorized reseller
Ordering Expires: 5 May 09
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

ProSight

ProSight Provides software licenses, maintenance, training and installation services for enterprise portfolio management software. The BPA award has been determined to be the best value to the government and; therefore, competition is not required for software purchases. Discount range for software is from 8 to 39 percent off GSA pricing, which is inclusive of software accumulation discounts. For maintenance, training and installation services, discount range is 3 to 10 percent off GSA pricing. Credit card orders are accepted.

Contractor: *ProSight, Inc.* (W91QUZ-05-A-0014); (503) 889-4813
Ordering Expires: 19 Sep 06
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Quest Products

Quest Products   Provides a full range of Quest Software Enterprise Management products and services including training. Product groups include Application Management and Database Management *(code quality and optimization, performance and ability, and change and configuration)* and Windows Management (Active Directory, Exchange and Windows).

Contractor: *Quest Software, Inc.* (W91QUZ-05-A-0023); (301) 820-4800
Ordering Expires: 14 Aug 10
Web Link: https://ascp.monmouth.army.mil/scp/contracts/viewcontract.jsp?cNum=W91QUZ-05-A-0023

Telelogic Products

Telelogic Products   Offers development tools and solutions which assist the user in automation in the development life cycle. The major products include DOORS, SYNERGY and TAU Generation. Licenses, maintenance, training and services are available.

Contractors:
Bay State Computers, Inc. (N00104-04-A-ZF13); Small Business Disadvantaged; (301) 352-7878, ext. 116
Northrop Grumman Computing Systems, Inc. (N00104-04-A-ZF14); (240) 684-3962
Ordering Expires: 29 Jun 07
Web Link: http://www.it-umbrella.navy.mil/contract/enterprise/telelogic/telelogic.shtml

Enterprise Resource Planning

Digital Systems Group

Digital Systems Group   Provides Integrated Financial Management Information System (IFMIS) software that was designed specifically as federal financial management system software for government agencies and activities. The BPA also provides for installation, maintenance, training and professional services.

Contractor: *Digital Systems Group, Inc.* (N00104-04-A-ZF19); (215) 443-5178
Ordering Expires: 23 Aug 07
Web Link: http://www.it-umbrella.navy.mil/contract/enterprise/erp_software/dsg/dsg.shtml

Oracle

Oracle *See information provided under Database Management Tools on page 45.*

SAP

SAP Software   Provides software license, installation, implementation technical support, maintenance and training services.

Contractor: *SAP Public Sector & Education, Inc.* (N00104-02-A-ZE77); (202) 312-3656
Ordering Expires: Effective for term of the GSA FSS Schedule
Web Link: http://www.it-umbrella.navy.mil/contract/enterprise/sap/sap.shtml

ERP Systems Integration Services

ERP Systems

ERP Systems Integration Services   Provides the procurement of configuration; integration; installation; data conversion; training; testing; object development; interface development; business process reengineering; project management; risk management; quality assurance; and other professional services for COTS software implementations. Ordering under the BPAs is decentralized and is open to all DoD activities. The BPAs offer GSA discounts from 10 to 20 percent. Firm fixed prices and performance-based contracting approaches are provided to facilitate more efficient buying of systems integration services. Five BPAs were competively established against the GSA Schedule. Task orders must be competed among the five BPA holders in accordance with DFARS 208.404-70 and Section C.1.1 of the BPA. Acquisition strategies at the task order level should consider that Section 803 of the National Defense Authorization Act for 2002 requirements were satisfied by the BPA competition.

Contractors:
Accenture LLP (N00104-04-A-ZF12); (703) 947-2059
BearingPoint (N00104-04-A-ZF15); (703) 747-5442
Computer Sciences Corp. (N00104-04-A-ZF16); (856) 252-5583
Deloitte Consulting LLP (N00104-04-A-ZF17); (202) 220-2960
IBM Corp. (N00104-04-A-ZF18); (301) 803-6625
Ordering Expires: 03 May 09
Web Link: http://www.it-umbrella.navy.mil/contract/enterprise/erp_services/erp-esi.shtml

Information Assurance Tools

Network Associates, Inc.

Network Associates, Inc. (NAI)   This protection encompasses the following NAI products: VirusScan; Virex for Macintosh; VirusScan Thin Client; NetShield; NetShield for NetApp; ePolicy Orchestrator; VirusScan for Wireless; GroupShield; WebShield (software only for Solaris and SMTP for NT); and McAfee Desktop Firewall for home use only.

Contractor: *Network Associates, Inc.* (DCA100-02-C-4046)
Ordering Expires: Nonexpiring. Download provided at no cost; go to the Antivirus Web links below for antivirus software downloads.
Web Link: http://www.esi.mil
Antivirus Web Links: Antivirus software available for no cost download includes McAfee, Symantec and Trend Micro Products. These products can be downloaded by linking to either of the following Web sites:

NIPRNET site: http://www.cert.mil/antivirus/av_info.htm
SIPRNET site: http://www.cert.smil.mil/antivirus/av_info.htm

Securify – NEW!

Securify   Provides policy-driven appliances for network security that are designed to validate and enforce intended use of networks and applications; protects against all risks and saves costs on network and security operations. Securify integrates application layer seven traffic analysis with signatures and vulnerability scanning in order to discover network behavior. It provides highly accurate, real-time threat mitigation for both known and unknown threats and offers true compliance tracking.

Contractor: *Patriot Technologies, Inc.*
Ordering Expires: 4 Jan 11 (if extended by option exercise)
Web Link: http://www.esi.mil

Symantec - NEW!

Symantec Provides the full line of Symantec Corp. products and services consisting of over 6,000 line items including Ghost and Brightmail. Symantec products can be divided into eight main categories that fall under the broad definition of Information Assurance. These categories are: virus protection; anti-spam; content filtering; anti-spyware solutions; intrusion protection; firewalls/VPN; integrated security; security management; vulnerability management; and policy compliance. *Notice to DoD customers regarding Symantec Antivirus Products: A DoD Enterprise License exists for select Antivirus products through DISA contract DCA100-02-C-4049 found below.*

Contractor: *immix Technology*

Ordering Expires: 12 Sep 10

Web Link: http://www.immixtechnology.com/esi/Symantec/ or http://www.esi.mil

Symantec Antivirus

Symantec This protection encompasses the following Symantec products: Symantec Client Security; Norton Antivirus for Macintosh; Symantec System Center; Symantec AntiVirus/Filtering for Domino; Symantec AntiVirus/Filtering for MS Exchange; Symantec AntiVirus Scan Engine; Symantec AntiVirus Command Line Scanner; Symantec for Personal Electronic Devices; Symantec AntiVirus for SMTP Gateway; Symantec Web Security (AV only); and support.

Contractor: *Northrop Grumman Information Technology*
(DCA100-02-C-4049)

Ordering Expires: Nonexpiring. Download provided at no cost; go to the Antivirus Web links below for antivirus software downloads.

Web Link: http://www.esi.mil

Antivirus Web Links: Antivirus software available for no cost download includes McAfee, Symantec and Trend Micro Products. These products can be downloaded by linking to either of the following Web sites:

NIPRNET site: http://www.cert.mil/antivirus/av_info.htm
SIPRNET site: http://www.cert.smil.mil/antivirus/av_info.htm

Trend Micro

Trend Micro This protection encompasses the following Trend Micro products: InterScan Virus Wall (NT/2000, Solaris, Linux); ScanMail for Exchange (NT, Exchange 2000); TMCM/TVCS (Management Console TMCM W/OPP srv.); PC-Cillin for Wireless; and Gold Premium support contract/year (PSP), which includes six POCs.

Contractor: *Government Technology Solutions*
(DCA100-02-C-4045)

Ordering Expires: Nonexpiring. Download provided at no cost; go to the Antivirus Web links below for antivirus software downloads.

Web Link: http://www.esi.mil

Antivirus Web Links: Antivirus software available for no cost download includes McAfee, Symantec and Trend Micro Products. These products can be downloaded by linking to either of the following Web sites:

NIPRNET site: http://www.cert.mil/antivirus/av_info.htm
SIPRNET site: http://www.cert.smil.mil/antivirus/av_info.htm

Xacta

Xacta Provides Web Certification and Accreditation (C&A) software products, consulting support and enterprise messaging management solutions through its Automated Message Handling System (AMHS) product. The software simplifies C&A and reduces its costs by guiding users through a step-by-step process to determine risk posture and assess system and network configuration compliance with applicable regulations, standards and industry best practices, in accordance with the DITSCAP, NIACAP, NIST or DCID processes. Xacta's AMHS provides automated, Web-based distribution and management of messaging across your enterprise.

Contractor: *Telos Corp.* (F01620-03-A-8003); (703) 724-4555

Ordering Expires: 31 Jul 08

Web Link: http://esi.telos.com/contract/overview/

Office Systems

Adobe

Adobe Products Provides software licenses (new and upgrade) and maintenance for numerous Adobe products, including Acrobat (Standard and Professional) Approval, Capture, Distiller, Elements; After Effects; Design Collection; Digital Video Collection; Dimensions; Frame Maker; GoLive; Illustrator; PageMaker; Photoshop; and other Adobe products.

Contractors:
ASAP (N00104-03-A-ZE88); Small Business; (800) 248-2727, ext. 5303
CDW-G (N00104-03-A-ZE90); (877) 890-1330
GTSI (N00104-03-A-ZE92); Small Business; (800) 942-4874, ext. 2224
Ordering Expires: 30 Apr 06 (Call for extension information)
Web Link: http://www.it-umbrella.navy.mil/contract/enterprise/adobe/adobe-ela.shtml

The DoD Adobe Enterprise Software Initiative team is currently negotiating terms and conditions for a new DoD 4.0 CLP (Contractual License Program), which will take effect May 1, 2006. In order to synchronize the current 3.0 CLP maintenance customers with the new agreement, we have removed the maintenance SKUs from our current Adobe ESAs (Enterprise Software Agreements). We are asking DoD customers to delay their purchase of maintenance until the first six-month period of the new agreement, from May 1, 2006 through Oct. 31, 2006. During this timeframe, all DoD customers that own legacy software licenses, i.e., software purchased prior to the implementation of the new 4.0 CLP, will be able to purchase the Upgrade Plan (formerly the 3.0 CLP) for those licenses.

Please note that under the new 4.0 CLP, this initial six-month period will be the only opportunity to obtain Upgrade Plan coverage for legacy products. We do not anticipate that there will be any new product releases from now through April 30, 2006, so your upgrade exposure is minimal providing your products are at the current shipping version. Should you have any questions, please contact the NAVICP contracting officer; (717) 605-2003. We will also be posting any new information and/or guidance to our DoD ESI Web site at www.esi.mil. We appreciate your patience during this transition period and will be happy to provide any assistance you may need.

Microsoft Products

Microsoft Products Provides licenses and software assurance for desktop configurations, servers and other products. In addition, any Microsoft product available on the GSA Schedule can be added to the BPA.

Contractors:
ASAP (N00104-02-A-ZE78); Small Business; (800) 248-2727, ext. 5303
CDW-G (N00104-02-A-ZE85); (847) 968-9429
Dell (N00104-02-A-ZE83); (800) 727-1100 ext. 37010 or (512) 723-7010
GTSI (N00104-02-A-ZE79); Small Business; (800) 999-GTSI or (703) 885-4554
Hewlett-Packard (N00104-02-A-ZE80); (800) 535-2563 pin 6246
Softchoice (N00104-02-A-ZE81); Small Business; (877) 333-7638 or (312) 655-9167
Softmart (N00104-02-A-ZE84); (610) 518-4000, ext. 6492 or (800) 628-9091 ext. 6928
Software House International (N00104-02-A-ZE86); (732) 868-5926
Software Spectrum, Inc. (N00104-02-A-ZE82); (800) 862-8758 or (509) 742-2208
Ordering Expires: 30 Mar 07
Web Link: http://www.it-umbrella.navy.mil/contract/enterprise/microsoft/ms-ela.shtml

Red Hat

Red Hat *(Netscape software formerly owned by AOL, not Linux)*

In December 2004, America Online (AOL) sold Netscape Security Solutions Software to Red Hat. This sale included the three major software products previously provided by DISA (Defense Information Systems Agency) to the DoD and Intelligence Communities through AOL. *Note: The Netscape trademark is still owned by AOL, as are versions of Netscape Communicator above version 7.2. Netscape Communicator version 8.0 is not part of this contract.*

August Schell Enterprises is providing ongoing support and maintenance for the Red Hat Security Solutions (products formerly known as Netscape Security Solutions) which are at the core of the DoD s Public Key Infrastructure (PKI). This contract provides products and services in support of the ongoing DoD-wide enterprise site license for Red Hat products. This encompasses all components of the U.S. Department of Defense and supported organizations that use the Joint Worldwide Intelligence Communications System (JWICS), including contractors.

Licensed software products available from DISA are the commercial versions of the software, not the segmented versions that are compliant with Global Information Grid (GIG) standards. The segmented versions of the software are required for development and operation of applications associated with the GIG, the Global Command and Control System (GCCS) or the Global Combat Support System (GCSS).

If your intent is to use a licensed product available for download from the DoD Download Site to support development or operation of an application associated with the GIG, GCCS or GCSS, you must contact one of the Web sites listed below to obtain the GIG segmented version of the software. You may not use the commercial version available from the DoD Download Site.

If you are not sure which version (commercial or segmented) to use, we strongly encourage you to refer to the Web sites listed below for additional information to help you to make this determination before you obtain the software from the DoD Download Site.

GIG or GCCS users: Common Operating Environment Home Page
https://coe.mont.disa.mil
GCSS users: Global Combat Support System
http://www.disa.mil/main/prodsol/gcss.html

Contractor: *Red Hat*
Ordering Expires: 06 Mar 07
Download provided at no cost.
Web Link: http://iase.disa.mil/netlic.html

WinZip

WinZip   This is an IDIQ contract with Eyak Technology, LLC, an "8(a)" Small Disadvantaged Business (SDB)/Alaska Native Corp. for the purchase of WinZip 9.0, a compression utility for Windows. Minimum quantity order via delivery order and via Government Purchase Card to Eyak Technology, LLC is 1,250 WinZip licenses. All customers are entitled to free upgrades and maintenance for a period of two years from original purchase. Discount is 98.4 percent off retail. Price per license is 45 cents.

Contractor: *Eyak Technology, LLC* (W91QUZ-04-D-0010)
Authorized Users: This has been designated as a DoD ESI and GSA SmartBUY Contract and is open for ordering by all U.S. federal agencies, DoD components and authorized contractors.
Ordering Expires: 27 Sep 09
Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Operating Systems

Novell

Novell Products   Provides master license agreement for all Novell products, including NetWare, GroupWise and ZenWorks.

Contractor: *ASAP Software* (N00039-98-A-9002); Small business; (800) 883-7413
Ordering Expires: 31 Mar 07
Web Link:
http://www.it-umbrella.navy.mil/contract/enterprise/novell/novell.shtml

Sun (SSTEW)

SUN Support   Sun Support Total Enterprise Warranty (SSTEW) offers extended warranty, maintenance, education and professional services for all Sun Microsystems products. The maintenance covered in this contract includes flexible and comprehensive hardware and software support ranging from basic to mission critical services. Maintenance covered includes Sun Spectrum Platinum, Gold, Silver, Bronze, hardware only and software only support programs.

Contractor: *Dynamic Systems* (DCA200-02-A-5011)
Ordering Expires: Dependent on GSA Schedule until 2011

Web Link: http://www.ditco.disa.mil/hq/contracts/sstewchar.asp

Research and Advisory BPAs
Listed Below

Research and Advisory Services BPAs provide unlimited access to telephone inquiry support, access to research via Web sites and analyst support for the number of users registered. In addition, the services provide independent advice on tactical and strategic IT decisions. Advisory services provide expert advice on a broad range of technical topics and specifically focus on industry and market trends. BPA listed below.

Gartner Group (N00104-03-A-ZE77); (703) 226-4815; Awarded Nov 02; one-year base period with three one-year options.
Ordering Expires: 27 Nov 06
Authorized Users: All DoD components and their employees, including Reserve Components (Guard and Reserve); the U.S. Coast Guard; other government employees assigned to and working with DoD; nonappropriated funds instrumentalities of the DoD; DoD contractors authorized in accordance with the FAR and authorized Foreign Military Sales.
Web Link: http://www.it-umbrella.navy.mil/contract/r&a/gartner/gartner.shtml

Records Management

TOWER Software - NEW!

TOWER Software   Provides TRIM Context software products, maintenance, training and services. TRIM Context is an integrated electronic document and records management platform for Enterprise Content Management that securely manages business information in a single repository through its complete life cycle. The TOWER TRIM solution provides: document management; records management; workflow management; Web-based records management; document content indexing; e-mail management; and imaging. The DoD Enterprise Software Initiative (ESI) Enterprise Software Agreement (ESA) provides discounts of 10 to 40 percent off GSA for TRIM Context software licenses and maintenance and 5 percent off GSA for training and services.

Contractor: *TOWER Software Corporation* (FA8771-06-A-0302)
Ordering Expires: 17 Feb 08 (5 Dec 10 if extended by option exercise)
Web link: http://www.esi.mil

Section 508 Tools

HiSoftware 508 Tools

HiSoftware Section 508 Web Developer Correction Tools Includes AccRepair (StandAlone Edition), AccRepair for Microsoft FrontPage, AccVerify for Microsoft FrontPage and AccVerify Server. Also includes consulting and training support services.

Contractor: *HiSoftware, DLT Solutions, Inc.* (N00104-01-A-Q570); Small Business; (888) 223-7083 or (703) 773-1194

Ordering Expires: 15 Aug 07

Web Link: http://www.it-umbrella.navy.mil/contract/508/dlt/dlt.shtml

Warranty: IAW GSA Schedule. Additional warranty and maintenance options available. Acquisition, Contracting and Technical fee included in all BLINS.

ViViD Contracts

N68939-97-D-0040
Contractor: Avaya Incorporated

N68939-97-D-0041
Contractor: General Dynamics

ViViD provides digital switching systems, cable plant components, communications and telecommunications equipment and services required to engineer, maintain, operate and modernize base level and ships afloat information infrastructure. This includes pier-side connectivity and afloat infrastructure with purchase, lease and lease-to-own options. Outsourcing is also available. Awarded to:

Avaya Incorporated (N68939-97-D-0040); (888) VIVID4U or (888) 848-4348. Avaya also provides local access and local usage services

General Dynamics (N68939-97-D-0041); (888) 483-8831

Modifications: Latest contract modifications are available at http://www.it-umbrella.navy.mil

Ordering Expires:
Contract ordering for all new equipment purchases has expired. All Labor CLINS, Support Services and Spare Parts can still be ordered through 28 Jul 07.

Authorized users: DoD and U.S. Coast Guard

Warranty: Four years after government acceptance. Exceptions are original equipment manufacturer (OEM) warranties on catalog items.

Acquisition, Contracting & Technical Fee: Included in all CLINs/SCLINs

Direct Ordering to Contractor

SSC Charleston Order Processing: (757) 445-1493 (DSN 565) (como@mailbuoy.norfolk.navy.mil)

Web Link: http://www.it-umbrella.navy.mil/contract/vivid/vivid.shtml

TAC Solutions BPAs
Listed Below

TAC Solutions provides PCs, notebooks, workstations, servers, networking equipment and all related equipment and services necessary to provide a completely integrated solution. BPAs have been awarded to the following:

Control Concepts (N68939-97-A-0001); (800) 922-9259, ext. 103
Dell (N68939-97-A-0011); (800) 727-1100, ext. 7233795
GTSI (N68939-96-A-0006); (800) 999-4874, ext. 2104
Hewlett-Packard (N68939-96-A-0005); (800) 727-5472, ext. 15614

Ordering Expires:
Control Concepts: 03 May 07 (includes two one-year options)
Dell: 31 Mar 07 (includes one one-year option)
GTSI: 31 Mar 07 (includes one one-year option)
Hewlett-Packard: 07 May 06 (includes one one-year option)

Authorized Users: DON, U.S. Coast Guard, DoD and other federal agencies with prior approval.

Warranty: IAW GSA Schedule. Additional warranty options available.

Web Links:
Control Concepts
http://www.it-umbrella.navy.mil/contract/tac-solutions/cc/cc.shtml
Dell
http://www.it-umbrella.navy.mil/contract/tac-solutions/dell/dell.shtml
GTSI
http://www.it-umbrella.navy.mil/contract/tac-solutions/gtsi/gtsi.shtml
Hewlett-Packard
http://www.it-umbrella.navy.mil/contract/tac-solutions/HP/HP.shtml

Department of the Navy Enterprise Solutions BPA
Navy Contract: N68939-97-A-0008

The Department of the Navy Enterprise Solutions (DON ES) BPA provides a wide range of technical services, specially structured to meet tactical requirements, including worldwide logistical support, integration and engineering services (including rugged solutions), hardware, software and network communications solutions. DON ES has one BPA.

Computer Sciences Corp. (N68939-97-A-0008); (619) 225-2600; Awarded 7 May 97

Ordering Expires: 31 Mar 07 (Call for extension information)

Authorized Users: All DoD, federal agencies and U.S. Coast Guard.

Web Link: http://www.it-umbrella.navy.mil/contract/don-es/csc.shtml

Information Technology Support Services BPAs
Listed Below

The Information Technology Support Services (ITSS) BPAs provide a wide range of IT support services such as networks, Web development, communications, training, systems engineering, integration, consultant services, programming, analysis and planning. ITSS has four BPAs. They have been awarded to:

Lockheed Martin (N68939-97-A-0017); (240) 725-5074; Awarded 1 Jul 97
Northrop Grumman Information Technology
(N68939-97-A-0018); (703) 413-1084; Awarded 1 Jul 97
SAIC (N68939-97-A-0020); (703) 676-2388; Awarded 1 Jul 97
Centurum Information Technology, Inc. (Small Business) (N00039-98-A-3008); (619) 224-1100; Awarded 15 Jul 98

Ordering Expires:
Lockheed Martin: 30 Jun 06 (includes one one-year option)
Northrop Grumman IT: 11 Feb 07 (Call for extension information)
SAIC: 30 Jun 06 (includes one one-year option)
Centurum: 14 Jul 06 (includes one one-year option)

Authorized Users: All DoD, federal agencies and U.S. Coast Guard

Web Links:
Lockheed Martin
http://www.it-umbrella.navy.mil/contract/itss/lockheed/itss-lockheed.shtml
Northrop Grumman IT
http://www.it-umbrella.navy.mil/contract/itss/northrop/itss-northrop.shtml
SAIC
http://www.it-umbrella.navy.mil/contract/itss/saic/itss-saic.shtml
Centurum
http://www.it-umbrella.navy.mil/contract/itss/centurum/itss-centurum.shtml

The U.S. Army Maxi-Mini and Database (MMAD) Program

Listed Below

The MMAD Program is supported by one fully competed Indefinite Delivery Indefinite Quantity (IDIQ) contract with GTSI Corp. The program is designed to fulfill high and medium level IT product and service requirements of DoD and other federal users by providing items to establish, modernize, upgrade, refresh and consolidate system environments. Products and manufacturers include:

	GTSI
Servers (64-bit & Itanium)	Compaq, HP
Workstations	Compaq, HP
Storage Systems	HP, Compaq, EMC, RMSI, Dot Hill, Network Appliances
Networking	Cisco, 3COM, HP, Enterasys, Foundry

Ancillaries include network hardware items, upgrades, peripherals and software. Services include consultants, managers, analysts, engineers, programmers, administrators and trainers.

MMAD is designed to ensure the latest products and services are available in a flexible manner to meet the various requirements identified by DoD and other agencies. This flexibility includes special solution CLINs, technology insertion provisions, ODC (Other Direct Cost) provisions for ordering related non-contract items, and no dollar/ratio limitation for ordering services and hardware.

Awarded to:
GTSI Corp. (DAAB07-00-D-H251); (800) 999-GTSI

Ordering: Decentralized. Any federal contracting officer may issue delivery orders directly to the contractor.

Ordering Expires:
GTSI: 25 May 06 (includes three option periods)

Authorized Users: DoD and other federal agencies including FMS

Warranty: 5 years or OEM options

Delivery: 35 days from date of order (50 days during surge period, Aug-Sep) No separate acquisition, contracting and technical fees.

Web Link: https://ascp.monmouth.army.mil/scp/contracts/compactview.jsp

Please join us for AFCEA Transformation TechNet

Meet the Department of the Navy Information Technology Umbrella Program Manager and software project managers at AFCEA Transformation TechNet at the Hampton Roads Convention Center, Hampton, Va., May 10 at 2:40 p.m., Room 102. Learn how you can reap significant savings by taking advantage of the volume buying power of the Navy and DoD.

For complete conference information go to the AFCEA Transformation TechNet Web site at: http://www.afcea.org/events/transformation/.

Thanks to our customers for 18 great years!

Web sites to remember:
DON IT Umbrella Program: http://www.it-umbrella.navy.mil
ITEC Direct: http://www.itec-direct.navy.mil
ESI: http://www.esi.mil