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COVER

The Department of the Navy is making transformative changes in business information technology, including data center consolidation, data standardization and reducing duplicative and underused applications. DON CIO Terry Halvorsen said, "Beyond cutting costs, IT business transformation presents a unique opportunity to identify and implement more efficient, agile and effective ways to purchase, operate and maintain business IT."

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CHIPS 30-YEAR ANNIVERSARY

Editor's Notebook – A U.S. Sailor's Life for Me

The Department of the Navy is moving smartly to consolidate data centers and gain control of information technology assets and capabilities to capitalize on future IT investments and become more cost efficient. The slate of articles and interviews in this issue illustrates just how quickly the department is replacing costly legacy systems, improving cyber security and reducing the number of software applications it supports.

The Navy is celebrating several anniversaries in 2012 that define its very essence and underscore the need for a strong Navy as a fearsome fighter from the sea with global reach.

In April, the Navy with its seafaring partners, the Marine Corps and Coast Guard, commence the commemoration of the War of 1812, the first declared war in our nation's history. Two-hundred years ago, the Royal Navy was the most powerful in the world positioning its 1,000 ships in the Atlantic and fighting the Napoleonic Wars in France. With dominating force, the Royal Navy blockaded Europe and the American East Coast in the early 1810s seizing American merchant vessels and forcing their crews into Royal Navy service. It was intolerable to our fledgling nation that Britain would interfere with our freedom of the seas and impress our citizens. Visit ourflagwasstillthere.org to read this fascinating history. For information about War of 1812 bicentennial events, visit facebook.com/Navy1812 and twitter.com/Navy1812.

On March 5, 1942, the U.S. Navy Seabees (Construction Battalion) took form as an engineering unit whose purpose was to build shore facilities in combat areas for the Navy and the Marine Corps. Years later the *Bees* are still busy all around the world.

This year, Naval Special Warfare celebrates the 50th anniversary of the first two Sea, Air and Land Teams. SEALs are conducting some of our nation's most critical missions, proving they are as relevant today as they were when they were first created in 1962.

The Office Of Naval Intelligence celebrates its 130th anniversary, and the Navy Information Warfare/Cryptology community celebrates its 77th anniversary in 2012. The Navy Supply Corps celebrated its 217th anniversary Feb. 23, commemorating a history that traces back to 1795.

These are just a small sampling of the memorable events in naval history. President Teddy Roosevelt said, "The deeds of our Navy form a part of history over which any American can be pardoned for lingering."

Today, the men and women of the Navy and Marine Corps continue to engage in a history steeped in honor, courage and professionalism, and thousands of youngsters continue to dream of a *Sailor's life for me*.

In January, CHIPS staff exhibited CHIPS with one of our sponsors, the DoD Enterprise Software Initiative Navy software product team from SPAWAR Systems Center Pacific in an exhibit hosted by SPAWAR HQ at the West Conference, held concurrently with the DON IT Conference, hosted by CHIPS' other sponsor, the DON CIO, in San Diego.

Welcome new e-subscribers!

Sharon Anderson

DON CIO Terry Halvorsen discussing information technology business reform at the DON IT Conference in San Diego in January. Photo courtesy of AFCEA International.

The commanding officers of Space and Naval Warfare Systems Centers Pacific and Atlantic, Capt. Joseph Beel and Capt. Mark Glover, respectively, in the SPAWAR exhibit at the West Conference. Below, Suzi Ellison (left), program manager for the DoD ESI Navy software product team at SPAWARSYSCEN Pacific, with team member Kim Boisvert. Bottom two photos by Rick Naystatt/ SPAWAR HQ.

A MESSAGE FROM THE
DON CIO

Transforming Business IT for a More Effective Department

Two years ago, Adm. Mike Mullen, former chairman of the Joint Chiefs of Staff, called the national debt the greatest threat to national security. He also emphasized the importance of good fiscal stewardship and the need for Department of Defense leaders to work together to cut spending, which had doubled from 2000 to 2010.

Since then, Department of the Navy leadership has come together to scrutinize budgets and focus on maximizing the return on investment for every dollar spent. While not easy, it is vital that the department transforms business operations for greater effectiveness and efficiencies. As the defense budget has been significantly reduced and will likely stay flat for years to come, it is imperative that department personnel work together to find savings. By achieving savings through transformation of DON business IT systems and processes, the department can maximize funding for mission critical systems and continue to ensure the nation's security.

Beyond cutting costs, IT business transformation presents a unique opportunity to identify and implement more efficient, agile and effective ways to purchase, operate and maintain business IT. This is one of those moments in which department personnel have the opportunity to positively impact the long-term future of the DON. While it may be a significant near-term challenge, the DON will reap the benefits for years to come.

Up to now, many decisions were made without full purview of activities occurring across the department. This lack of enterprise focus resulted in a proliferation of systems, applications and data centers that meet individual requirements, but add network complexity and cost. To streamline operations and processes, greater transparency and collaboration at the enterprise level are necessary. While challenging in an agency as large and dispersed as the department, great strides are being made in collaborating to identify areas for improvement and savings, and in implementing changes.

An example is the Feb. 22, 2012, memo "Mandatory Use of Department of the Navy Enterprise Licensing Agreements" signed by the DON CIO, the Assistant Secretary of the Navy for Research Development and Acquisition, and the Assistant Secretary of the Navy for Financial Management and Comptroller, which mandates the use of enterprise licensing agreements. Purchasing as an enterprise increases buying power and provides better visibility into IT spend. This memo is available at: www.doncio.navy.mil/PolicyView.aspx?ID=3777.

Another example of collaboration is detailed in the article: "IT Vendor Business Case Analyses," on page 21. Working with stakeholders from across the DON, the Enterprise Software Licensing Integrated Product Team developed business case analyses that provide enterprise-level visibility of how much money is spent with specific IT vendors, insight into market and technology trends, and recommendations for managing vendor relationships. This information aids the department in optimizing resources and negotiating favorable contract terms. Additional changes include: no longer requiring use of commercial vendors for certain cybersecurity workforce certifications when a military option is available and optimizing mobile plan use based on need.

The memo "Guidance for Cybersecurity Workforce Operating System/Computing Environment Certification Compliance Process," which was updated Feb. 9, 2012, was the result of efficiency reviews directed by the Under Secretary of the Navy and the DON CIO. This memo is available at: www.doncio.navy.mil/PolicyView.aspx?ID=3743.

"Department of the Navy Policy on Mobile (Cellular) Services Cost Management," signed on March 13, 2012, provides interim policy stating that all mobile devices that overuse or underuse minutes for three consecutive months will be reviewed with the option to change to a more appropriate plan. This policy is available at: www.doncio.navy.mil/PolicyView.aspx?ID=3813.

Efficiency and transformation efforts continue in other areas such as data center consolidation (DCC), application rationalization and data standardization. DCC has the potential to save the department in excess of $1 billion by reducing the number of data centers, associated applications and operational costs. In addition to saving money, consolidation of the more than 150 data centers in the department into fewer, more modern, standardized and efficient enterprise data centers will enhance network security and reduce complexity. The article "SPAWAR: At the Tip of the Spear for the Navy's Data Center Consolidation Effort," on page 9 provides details about the consolidation process.

A natural partner of data center consolidation is application rationalization — fewer applications require less storage and reduce total cost of ownership. Many applications have been customized to meet organizational needs, are duplicative or exist in multiple versions. Maintaining duplicative and under-utilized applications uses valuable resources. The DON must balance enterprise-wide requirements against the needs of individual commands.

Finally, data standardization is necessary to ensure accuracy and enhance usability of DON information. One of the major obstacles in DON business decision making is the siloed nature of data. Standardization results in better business intelligence and transparency and, therefore, strategic decisions based on accurate data. It is also essential to auditability

These are just some ways we have begun to reduce costs and enhance operations, without impacting mission capabilities. If done correctly, in five years the department will look back at this turning point and see that collaboration and realignment led to some of the most strategic advancements. CHIPS

Terry Halvorsen

Q & A with Ms. Katherine E. Flattery
Corporate Director for Information Dominance (OPNAV N2/N6)

Ms. Katherine Flattery has spent most of her career in the resource management field. She has served in a variety of positions within Naval Intelligence throughout her career and is currently a member of the Defense Intelligence Senior Executive Service (DISES). As of October 2010, Ms. Flattery serves in the office of the Deputy Chief of Naval Operations for Information Dominance/Director of Naval Intelligence as the N2/N6 corporate director and manages and oversees all Information Dominance Corps manpower, personnel, training and education resources.

Ms. Flattery provided a written response to questions in late March.

Q: What is the state of the Information Dominance Corps (IDC) today?

A: The IDC is fully engaged around the world as a warfighting asset in the Navy's arsenal. Since [the former] Chief of Naval Operations Adm. Gary Roughead established the IDC in 2009, we've successfully come together to deliver dominant information capabilities as a crucial element of U.S. Navy, joint and national warfighting.

Our communities include intelligence, METOC (meteorology and oceanography), information warfare, information professional, and the space cadre, and we now have roughly 45,000 people — military (officer and enlisted) and civilian — working hard to achieve our goals.

The IDC can now more effectively and collaboratively lead and manage a specialized collective of officers, enlisted and civilian professionals who possess extensive skills in information-intensive fields.

Q: What is your role within the IDC leadership?

A. I report to Vice Adm. Kendall Card, Deputy Chief of Naval Operations for Information Dominance (N2/N6) as the corporate director for the IDC.

My goal as the corporate director for this corps of professionals is to ensure that our workforce has the right blend of formal education, training, certification and professional experience across a career continuum.

Also, along with other IDC leaders, I am charged with promoting the development of an IDC culture emphasizing operational context and warrior ethos while supporting the specialized requirements for information, intelligence, counterintelligence, human-derived information, networks, space and oceanographic disciplines.

Q: Has the vision for the IDC changed since coming together in 2009?

A: The vision has not changed. We are still focused on pioneering, fielding and employing game-changing capabilities to ensure information dominance over adversaries and decision superiority for commanders, operational forces and the nation.

> "The desired end state is for the IDC to deliver decision quality information and warfighting options to the commander and frontline warrior with assured C2 (command and control), exquisite knowledge of the battlespace, precise targeting, freedom of maneuver and action in and through cyberspace and the electromagnetic spectrum and power projection through the network."

Q: What is the desired end state for the corps?

A: The desired end state is for the IDC to deliver decision quality information and warfighting options to the commander and front-line warrior with assured C2 (command and control), exquisite knowledge of the battlespace, precise targeting, freedom of maneuver and action in and through cyberspace and the electromagnetic spectrum and power projection through the network.

Q: How will training and education assist (aid) in realizing the vision?

A: While we are delivering technical capabilities to the fleet, we also need to ensure that the Sailors we are training (and educating) have the knowledge, skills and abilities to effectively operate and maintain the equipment.

Beyond just the 'buttonology,' they have to be able to employ critical thinking skills and fundamental knowledge, i.e., to think on their feet. We will never fully realize the true capability of a system unless we invest in training and educating our force.

Q: What are your current training and education priorities and initiatives?

A: Our forthcoming IDC Human Capital Strategy will outline the direction we need to develop our total workforce to include active duty, Reserve and civilians. To that end, we have already undertaken several initiatives we believe are critical to our success. We are developing a process to identify, vet and validate cross community skillset gaps, especially critical in this fiscally constrained environment. This is not only internal to our specific Navy requirements but also in support of our Title 10 responsibilities to train the joint community to include the intelligence community (IC).

Our role in USDI's (Under Secretary of Defense for Intelligence) Intelligence Training and Education Executive Boards, and the other Combat Support Agency's functional management training councils (as per USDI's 3305 Instructions), is key to ensuring a unity of effort within DoD and the IC.

In conjunction with our DoD and IC partners we will address individual skills training, education, and Navy training systems plans solutions, as well as funding prioritization.

This process is analogous to what the surface warfare community has established with their Surface Warfare Training Council.

Our goal is to promote mission wholeness solutions.

Regarding graduate-level education, we have several new educational initiatives underway with the Naval Postgraduate School (NPS) and a pilot program with Carnegie Mellon University, and are in our second year of participating in the Cyber Federal Executive Fellowship program.

We continue to research other educational institutions with particular focus on cyber systems and operations, along with software computer science, network operations and technology, and most importantly, on identifying the optimal, subsequent placement of those students to better support the Navy's mission.

Information Dominance Warfare Specialty pins. U.S. Navy photo by Gary Nichols.

"Our goal is to promote mission wholeness solutions."

We have also undertaken a major assessment of the curricula at NPS; specifically, we are assessing those curricula relevant to the information dominance related areas of study. We want to ensure curriculum relevance and a logical blend of *technical* and operational knowledge for our warfighters. NPS and N2/N6 have established a new Cyber Systems and Operations degree program. This is an 18-month program focusing on critical elements in our warfighting domain.

Our team is also heavily involved in the review, coordination and transition of training in support of fielding new capabilities. Ensuring that timely and relevant training solutions are being delivered to our schoolhouses is of the utmost importance to leadership.

Specifically relevant to Navy information dominance, we have morphed two legacy courses into the Information Dominance Senior Leadership Symposium (IDSLS) run by retired Rear Adm. Andy Singer. Our IDC Mid-Career Officers Course, run by the Navy Marine Corps Intelligence Training Center in Dam Neck, Va., has been running for about a year.

We are validating data in support of developing competency-based curriculum for entry level officers with our partners at Navy Cyber Forces, Fleet Cyber Command/10th Fleet, Navy Education and Training Command and the Center for Information Dominance.

Our next steps are to begin looking at the enlisted cross-training requirements for the IDC. For the courses we have already established, officers (both active and Reserve component), senior enlisted and civilians attend.

These opportunities and others enable our workforce to experience the warfare aspects of information dominance and promote cross community understanding of what they provide to the Navy's warfighting capability.

[For the] IDC Acquisition Professional Career Track, we are developing an IDC acquisition workforce strategy by reviewing IDC acquisition billets and manning to identify requirements and developing processes to manage, track and mentor acquisition professionals within the IDC.

OPNAV N2/N6 is working to ensure the following: The Acquisition Professional track is sustainable, requirements driven, aligned with Navy acquisition policy and delivers to the Navy the double benefit of an information dominance warrior ready to meet the DoD and Navy's acquisition needs.

Q: What are your long-term initiatives?

A: I want to identify ways to further the information dominance warriors into a warfighting force whose value is intrinsically understood and demanded by the Navy.

I want holistic training and education continuums, which are effective both from a technical and operational perspective, [and] that promote an ID warfighting culture earlier in their careers.

We will need to partner with academia, industry, our sister services and other agencies to promote consistency and potentially eliminate duplicative efforts (given considerable resourcing constraints) and remain vigilant to ensure efficacy and efficiency of our efforts.

Q: What are your challenges?

A: Our challenges include:

✓ Balancing community specialization versus ID core specialization, in other words — what makes sense?

✓ Emerging cyber threat — what does that mean for our workforce? Is commercial certification the right answer or is on-the-job training more valuable? What is the right mix of technical skills versus liberal arts or political science skills?

✓ Understanding civilians' role in supporting our missions — do we hire with skills — or train and develop from within once they are onboard?

✓ Operating in a fiscally constrained environment and ensuring that training and education remain a major priority.

✓ We have to accomplish much in the short term for the long term-gain. How do we develop programs as we go forward to ensure our information dominance warriors are second to none?

Q: Can you talk about the IDC Human Capital Strategy? Does it include the same standards of competency and performance mapped to jobs and grade levels for civil

ian personnel and ranks and ratings for military personnel? There was some discussion on this in the beginning of developing these skills across the workforce, and also to ensure that military and civilian personnel in the same jobs had the same standards of competency.

A: The IDC Human Capital Strategy (HCS) is aligned to and consistent with the umbrella Navy Strategy for Achieving Information Dominance (2012–2016), which emphasizes the elevation of information as the centerpiece of Navy warfighting.

The HCS provides the strategic direction and priorities needed to build a cross-trained, competent and mission-ready workforce optimized to deliver information-based capabilities and warfighting effects to the fleet. This HCS identifies four strategic goals, each supported by a set of measurable objectives, that will drive strategy implementation: (1) fusion, integration and effectiveness; (2) competencies, training and education; (3) total force management; and (4) IDC culture.

"Our corps has some of the best and brightest people the Navy has to offer and we want to do all we can to give them the tools to succeed, whether that is additional training and education, or a broad base of experience."

The IDC has developed an information dominance competency framework describing the required core and enterprise management level competencies for the *IDC Total Force.*

The IDC has also conducted separate competency development initiatives (e.g., Human Performance Requirements Review) for sub-populations within the corps. There is now a requirement to align these efforts and apply them uniformly across the IDC. Once accomplished, these competencies must be aligned to the Navy Education and Training Command business process to inform training and development requirements.

Q: I think some people would be surprised to see that you are developing an IDC acquisition workforce strategy. Why is this important — it doesn't sound like a cyber workforce job.

PENSACOLA, Fla. (March 13, 2012) Cryptologic Technician Networking 1st Class Jessica Gaukel, a Joint Cyber Analysis Course (JCAC) course manager and lead instructor at the Center for Information Dominance, Unit Corry Station, answers questions during a JCAC class. U.S. Navy photo by Gary Nichols.

A: The Information Dominance Corps is working to develop acquisition expertise within its officer communities. The emergence of the IDC presented an opportunity for the Navy to more fully align responsibility for weapon and C4I systems development, as well as improve accountability for the acquisition of information dominance systems and services with the appropriate future IDC leaders.

This broadened horizon for the IDC requires a transformational cadre of highly qualified IDC officers with significant operational experience, astute technical expertise and practical systems engineering acquisition skills. IDC officers are uniquely qualified to effectively manage the Navy's information dominance capability development and acquisition process in this fiscally constrained environment to effectively close warfighting gaps and leverage technological advances and enterprise IT investments.

The IDC acquisition workforce strategy seeks to produce and maintain acquisition expertise and create a sustainable capability to proficiently lead development of the Navy's information dominance systems and services. In the near term, the IDC will focus on building the requisite credentials to fill the critical IDC acquisition billets. The IDC billet base

must provide sufficient experience to the workforce. These officers must be competitive for promotion and assignment to acquisition leadership positions.

Detailing into key acquisition billets within major information dominance programs will enable the IDC to effectively develop and implement information dominance capabilities. Success will be evidenced by accelerated acquisition life cycles, more efficient procurement, and improved installation and sustainment management of all future information dominance systems and services.

Q: What would you like the members of IDC to know about you and your team's efforts?

A: We are committed to building, maintaining and retaining an IDC team that delivers all the capabilities the Navy and the nation need to win the battle today — and to be prepared to win the battle tomorrow.

Our corps has some of the best and brightest people the Navy has to offer and we want to do all we can to give them the tools to succeed, whether that is additional training and education, or a broad base of experience. Our diverse team of professionals is indeed our strength — and our greatest asset. CHIPS

SPAWAR: At the Tip of the Spear for the Navy's Data Center Consolidation Effort

Transforming Department of the Navy business information technology

By Tina Stillions, SPAWAR Headquarters Public Affairs

Enterprise information technology and its supporting components can eat up a significant chunk of an organization's budget, with much of it allocated to the infrastructure and personnel needed to sustain it. In this respect, the Department of Defense (DoD) is no different than many large corporations because IT is a significant investment across the entire Department of Navy (DON).

In recent years, as budgets rose, the Navy and other government organizations experienced a substantial growth in IT networks, systems and applications. To attack these rising costs, the President signed a directive that started the Federal Data Center Consolidation Initiative (FDCCI) in February 2010, with the intent of addressing harsh fiscal realities while positioning government IT for the future.

Specifically, the FDCCI requires agencies to reduce their data center footprint by minimizing overhead costs and increasing the security and stability of their data centers which when combined improve the overall efficiency of the federal IT infrastructure. Under the provisions of FDCCI, the DoD is required to close more than 1,000 data centers by the end of 2015 to help meet the goals.

To align with the federal mandates, the DON Chief Information Officer (CIO), the Deputy Chief of Naval Operations for Information Dominance (N2/N6) and the Assistant Secretary of the Navy for Research, Development and Acquisition drafted policy initiatives to increase business IT efficiency without sacrificing operational effectiveness for the Navy.

To meet a challenge of this magnitude, the Navy recognized the need for a technical authority and world-class expert capable of executing th Navywide data center consolidation effort. With those requirements in mind, the Space and Naval Warfare Systems Command (SPAWAR) was selected to lead the Navy's effort as the technical authority and execution agent.

As the Navy's information dominance

systems command, SPAWAR is leveraging its breadth and depth of technical expertise and incorporating best practices and lessons learned from previous data center consolidations. SPAWAR established a Data Center Consolidation (DCC) Task Force, which consists of team members from across the Navy, including SPAWAR headquarters, SPAWAR Systems Centers Pacific and Atlantic, and the Program Executive Office for Enterprise Information Systems.

The purpose of this effort is to provide more robust and secure Navy data center operations, while realizing savings by aggressively pursuing data center consolidations, application virtualization and server reductions.

The DCC Task Force works in lock-step with resource sponsors, the DON CIO and SPAWAR's chief engineer — the Navy's IT technical authority — to ensure alignment with DoD and Navy IT operational requirements.

Robert Wolborsky, a member of the Senior Executive Service and SPAWAR's chief technology officer, was selected as director of the DCC Task Force. Wolborsky and his team are charged with aggressively pursuing a high return on investment (ROI) for the Navy with respect to data center consolidation, and to realize

significant cost savings across the five-year defense plan.

"The Navy's effort will be a significant contribution to the federal data center consolidation mandates," Wolborsky said. "In addition to maximizing the Navy's return on investment, one of our principal objectives is to consolidate at least 58 Navy data centers into the Navy Enterprise Data Center over the next five years."

Background

Prior to the Pentagon's current fiscal drawdown, the Navy realized that decreasing budgets and diminishing resources could dramatically affect current missions. A vital need to more efficiently refocus and transform the Navy's business model, without sacrificing operational readiness, was evident.

Information technology, as a critical asset, is a significant investment across the Navy. The spiraling cost of IT is a contributing factor associated with how efficiently the Navy conducts business. The Navy has always prioritized other investment portfolios, such as procurements for ships, submarines and aircraft, but the Navy needed to re-evaluate how day-to-day business operations are conducted. In particular, the Navy needed to assess

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Department of the Navy
Director Data Center Consolidation Task Force
Robert Wolborsky

the way IT infrastructure was managed and how the number of data centers and hosting facilities aligned with the overarching vision of more efficient and effective Navy business IT investment.

Navy Enterprise Data Centers

As the DCC Task Force carries out the mission to consolidate data centers, it is necessary to identify strategically located sites that can accommodate the transitioning applications from a power, networking and computing perspective. These sites provide a "landing" for applications and systems that are being consolidated from legacy data centers. Three initial locations have been identified for the Navy's Enterprise Data Center (NEDC): San Diego, Charleston and New Orleans.

As the Navy moves forward with data center consolidation, an ongoing assessment of other hosting options will be considered, including commercial enterprises, joint programs under the Defense Information Systems Agency (DISA) and expansion of the NEDC to additional locations.

By migrating applications from smaller legacy data centers to an enterprise data center under a common centralized management model, the Navy will increase operational performance while saving resources. The NEDC will position the Navy for future IT transformation, while enhancing the ability to maximize the use of all Navy data to provide richer information to the warfighter. In the meantime, as migration of applications continues to progress from smaller legacy data centers to the NEDC under a common centralized

operational model, operational performance will increase and environmental resources will be conserved.

In addition to cost savings and better performance, the NEDC will provide a common set of services and common infrastructure, thus decreasing facility maintenance costs while increasing economies of scale.

A common rate card for hosted service enables all customers to have a clear and consistent picture of the services offered and their associated costs. Customers will sign service-level agreements with a NEDC based on these standard rates, enabling Navy commands better forecasting and budgeting information.

The vision for the NEDC is that it will posture the Navy for future IT transformations, such as server virtualization and migration to cloud computing. It is also anticipated that the Navy's ability to maximize the utilization of data will provide richer information capability to the warfighter.

Wolborsky explained that the entire Navy is affected by the federal mandate to reduce budgets and everyone in the Navy is expected to benefit from a successful execution of this transition.

Under Wolborsky's leadership, the team has identified standard configurations and developed network tools that can track bandwidth usage to capture metrics from the many legacy networks. The tools will help the team identify underutilized networks so that the Navy can eliminate these expensive systems.

Seven data center consolidations are in progress as of March 2012. The team has

finalized test plans for systems to ensure all capability is fully functional within the NEDC pre-production environment framework prior to formal transfer from the legacy data center.

Assessment and Execution

Based on an initial analysis of data centers that pose the least technical risk for consolidation, OPNAV N2/N6 developed a list of sites to close. The task force conducted detailed on-site assessments of 39 data centers to gain a better understanding of their capabilities and challenges. During those assessments, the team collected technical requirements and cost data in preparation for system transitions.

After conducting detailed engineering analyses, the team prepares each site for system build out, systems migration and testing prior to final transition to NEDC. Though the process may be technically challenging and represent a cultural shift, the return on investment for the Navy makes the process worthwhile.

According to Wolborsky, industry is ahead of the Navy in data center consolidation best practices. Many large corporations have gone through similar consolidations.

"We want to learn as much as we possibly can from industry — the most effective things done and their lessons learned to increase capability, security and reduce overall cost," Wolborsksy said.

"We expect a lot of what we do in the future will be based on what industry tells us. They have already consolidated many of their data centers and have realized tremendous savings. The Navy can

draw from their lessons learned and best practices."

Cost and Application Rationalization Drive the Effort

The Navy has a significant number of legacy networks and circuits deployed for fleet service. The technical rigor being incorporated into the vetting process is the critical component determining which data centers to close and what additional savings and resources could be recouped. It is a process that will change the Navy's application landscape across the board and support the business transformation initiatives expected to come out of the data center consolidation effort. Fewer applications and wider functionality, with less overlap with existing applications, will increase the amount of money the Navy can save and drive the changes in business IT.

Wolborksy's cost model will help the Navy better understand how much it is spending and how much it will save.

"We have a good idea of how much we will spend for the transition, but there is another factor associated with it that we call additional opportunities," Wolborsky said. "As we make progress, we are finding more assets and more ways for the Navy to save money, such as working with all the other organizations that own applications with the Navy and looking at how we can change business processes and adapt applications, so that we have fewer specialized applications and more generic and multipurpose functionality across the DON."

Wolborsky simplifies all of those words into a single descriptive term: "application rationalization."

To make any kind of fiscal determination, however, the Navy must understand how much it currently spends on the backend for IT infrastructure. Though Wolborsky says it is a significant challenge to accurately capture those figures, it is still part of the assessment process. Once the analysis is complete, the team can better ascertain the actual cost savings. As Wolborsky and the task force move forward, they will invariably discover additional savings and assets which could have the potential to change the business process.

The issues are not just technical ones, according to Wolborsky.

"Technically, this initiative is fairly straightforward," he said. "Much more profound are the changes associated with culture, policy and advocacy. We have tremendous support from Navy leadership to get this done. However, this is a major change in the way data centers are doing business and it will require a huge cultural shift as well."

SPAWAR has been in the business of data consolidations for years. While there are challenges inherent to each application and each system, it is difficult to find one that is completely insurmountable. Wolborsky's SPAWAR team is up to the challenge.

"One of the most important facets of this effort is SPAWAR's ability to step up and assume IT tech authority for the Navy. We are the Navy's information dominance systems command after all," Wolborsky said. "As such we have the capability —

a world class IT workforce — to carry this out to completion."

This is an extremely challenging and pivotal time for the SPAWAR enterprise. It is the first of a major series of business transformations the Navy is undertaking. With strong leadership and IT expertise, the DCC Task Force is exercising rigorous planning and execution to realize the ROI needed to allow the Navy to focus precious dollars on critical needs to support warfighter readiness.

"I'll echo what the Navy's Deputy Under Secretary Eric Fanning has said, 'Data center consolidation is essential if the Navy is to successfully meet its business transformational goals in the future,'" Wolborsky said. "This is one of the first, concrete, tangible efficiency initiatives, and sets a precedent for everything that needs to be done to make the Navy more efficient.

"It's very exciting that here in San Diego we are leading a very important effort for the entire Navy. It's extremely rewarding to watch us grow the IT workforce into a formidable force to be reckoned with." CHIPS

SPAWAR: www.spawar.navy.mil.

Space and Naval Systems Center Pacific in San Diego provides a centrally managed and secure hosting environment for Navy customers. Team members who built, maintain and continuously enhance the Navy Enterprise Data Center, from left, Paul Lichenstein, Al Cassedy, Paul Plummer, Bobby Nutting and Thai Ly. Photos by Rick Naystatt/SPAWAR audio visual production specialist.

The DCC Task Force will assess and consolidate at least 58 data centers over the next few years to:

✓**Realize significant cost efficiencies by reducing hardware and application utilization;**
✓**Improve information assurance and cyber security;**
✓**Improve service to users via implementing continuity of operations and disaster recovery procedures; and**
✓**Gain control and understanding of Navy IT assets and capabilities to position the Navy to capitalize on future technologies and cloud-like services.**

Q & A with Capt. D.J. LeGoff, PEO C4I, Tactical Networks Program Manager (PMW 160) and program manager for Consolidated Afloat Networks and Enterprise Services program design and acquisition

The Navy's CANES program encompasses the consolidation and enhancement of five existing legacy network programs and implements a single support framework for about 40 command, control, communications, computers, and intelligence (C4I) applications that require dedicated infrastructure to operate. CANES utilizes an innovative business model that includes continuous, robust competition, open architecture, government owned data rights and obsolescence and technology refresh that when combined, will increase the operational agility of the warfighter, as well as decrease total ownership costs for the Navy.

The Space and Naval Warfare Systems Command announced Feb. 1 that Northrop Grumman won the CANES design competition. The next step is the completion of an operational assessment in SPAWAR's enterprise, engineering and certification laboratory in support of a Milestone C decision forecasted before the end of the fiscal year. The Milestone C decision authorizes the program's entry into limited deployment. Ultimately, the network will be deployed to more than 180 ships, submarines and maritime operations centers by 2020.

CHIPS asked LeGoff, CANES program manager, to explain the CANES unique acquisition strategy and its fleet implementation in a series of discussions that concluded in March.

Capt. D.J. LeGoff

Q: Can you discuss the CANES strategy?

A: We are using commercial off-the-shelf technology, government ownership of data rights, open architectures and constant competition to keep costs down. It helps us get out of the sole source negotiations and price creep issues that sometimes plague programs.

We have never had that issue on our legacy networks, they have always been government owned. In fact, until now, networks have always been government designed and mostly government built. But they were all GOTS — based on government designs. This is really the first time we're going to industry and saying, 'We want to hear what you guys have … and best practices that you've learned from integrating with major corporations, and we want to take advantage of all that.'

Q: Can you talk about sustainment once the network is built?

A: What we do at sea is fundamentally different from how you maintain and operate a network ashore. All of our systems, including our IT systems, are maintained by our Sailors. The average age of a Sailor today is about 20 to 21 years old. The junior ITs (information systems technicians) are probably younger than that, they're somewhere between 18 to 19. And so we teach them as much as we can in schoolhouses where we give them all

the certification training that an ashore IT professional would get. But we know that you can't put 20 years of experience into a six-month school. So we send the guys out with training, but we have a very significant trouble desk and trouble ticket system at sea so if there's an issue, we work with them.

Q: Have you tried to reduce the equipment footprint or reuse equipment with CANES?

A: What we specified in our contract is a couple things. We mandated as much as is physically possible that the racks that house the system go where the racks for the legacy system was, we don't want to do more foundation work or redo work if we don't need to.

We also mandated that if it was in usable shape, we would reuse as much as possible of the fiber optic cable plants that already exist on platforms. Now, we have networks out there that are over 10 to 15 years old. The odds of being able to reuse a lot of that cable are probably minimal. So we'll replace it.

However, we also have our legacy systems in a form that's fairly new that we're still fielding today. So when I go and replace one of those, I fully expect to reuse the bulk of those cable plants. It's a hull by hull analysis.

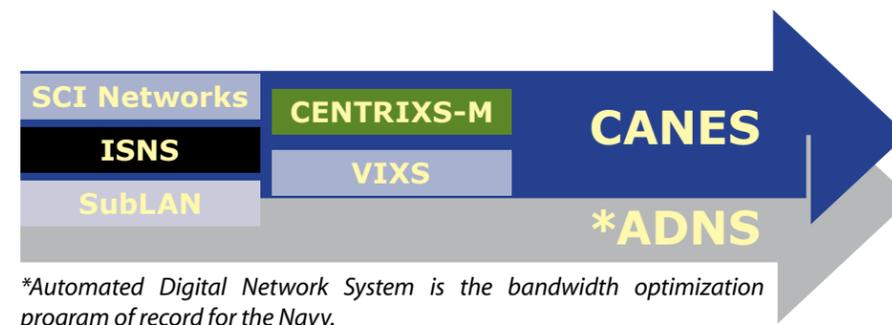*Q: You talked earlier about rationalizing the software applications to reduce the number*

CANES consolidates five legacy networks, including the Integrated Shipboard Network System (ISNS), Sensitive Compartmented Information (SCI) network, Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Video Information Exchange System (VIXS) and SubLAN, into a single integrated framework that will improve network security and drive operating costs down.

*Automated Digital Network System is the bandwidth optimization program of record for the Navy.

authorizes an application to go on a ship, then that application then enters our integration process so that's kind of the check in the box. Unless they're authorized by Fleet Forces, they [applications] don't even go into our integration process. They don't get on the ship.

Q: Why is it so important to reduce the number of applications?

A: The hard part is getting the applications to work together. We would like to get down to 100. All the applications that we have on ships are in various stages of sustainment and development with multiple vendors. No two ships are the same. Information assurance is patched in. With CANES, IA will be ingrained. Every application will be tested, certified, accredited and supported with an ATO (authority to operate). We will have version control; we'll avoid duplication.

Q: You said as part of the rationalization process that an application has to have a resource sponsor, it has to be accredited and have a logistics tail for installation on CANES.

A: Correct. That's one of the things that we look at as we go through the testing process. So what we don't want to do is put an application, or any kind of system, on a ship that has no owner because that means then all its care and feeding falls on the back of the Sailors. We want to make sure that when something goes to sea, it has a support infrastructure behind it just like we talked about the support infrastructure for the network. That has to be there for everything else that goes on the ship as well.

Q: You spoke a little bit about this; I asked you if you were interacting with the Next Generation Enterprise Network (NGEN) program office. Are you sharing ideas?

A: Yes. We absolutely are. There are a lot of places where we are similar and we're sharing as much as we can there. But there are a lot of things that drive us to different solutions because of the environments that we respectively go to.

Capt. Shawn Hendricks (Naval Enterprise Networks program manager) and I have a routine dialogue on how we can compare and contrast things. The timing makes things a little bit difficult. One of us is entering source selection (NGEN); one of us is coming out (CANES). However, we are trying to line up things as much as possible.

Q: I wonder if you could run through the next competition and what that's for and then the RFP date, award date.

A: The key part to remember here is we're not down-selecting to a vendor. I'm down-selecting a design [Northrop Grumman's design was selected Feb. 1]. That is a fundamental, foundational piece of the program. Now, as soon as we down-select, two things happen in parallel. One, we're going to immediately put on contract production units. So the vendor whose design wins is going to get the first two years of production because I don't want to lose any time in modernizing the platforms.

In parallel, since I mentioned that everything that comes out of this design effort is government owned, I take that design package and it will become GFI, government furnished information, that informs the RFP (Request for Proposal) for our next production contract.

So the limited deployment contract that we'll execute as a result of this down-select will be in production for [fiscal years] '12 and '13. I fully intend our full deployment contract to pick up at the beginning of '14 and take me out four years after that.

Q: And that's going to be competed?

A: Absolutely. I own all the data rights, I own all the designs — and it will be open to everyone for full competition.

Q: And the RFP on that comes out?

A: The fourth quarter of FY 2012 with an award in the third quarter of FY 2013.

Q: So if I'm a vendor I might say, 'Gee, I went through all this effort, and you're only going to give me two years worth of business?'

A: This was the strategy that was published from the very beginning. Now, on the other hand, if your team has the winning design, you've got to think that you potentially have a leg up on the next one as well. That would be a logical explanation.

But there's no guarantee, that's why it's all competition. I'm trying to get the best price for the government. The best way to do that is to be constantly competing. You asked me for dollar figures earlier. The limited deployment contract ceiling is $690 million. That's the government cost estimates figure.

Q: How many ships does that cover?

A: It is a notional schedule, and schedules change because of availabilities and deployments, but at the time of the contract, the notional schedule was 54.

Q: And you can do the build in two years?

A: Yes. We have more than that number of ships going through availabilities every year. Just remember we built this program after 10 years of history building networks on ships. In the heyday of the legacy system back in 2000, 2001, we were doing 35 to 45 ships a year. So we

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of fleet applications, estimated at 800, and said your office isn't in charge of what goes on the ships — it is up to Fleet Forces Command. But are you leading the effort?

A: We are their technical arm. We execute their policies. So when Fleet Forces

CANES Delivers

Systems Management
✔ Performance, availability and service level managment;
✔ Fault, problem, incident and service desk management;
✔ Configuration, change and release management;
✔ Security, information assurance and computer network defense; and
✔ Capacity management.

Data Services
✔ Network support;
✔ Information management;
✔ Core infrastructure services;
✔ Network access(IPv4/ IPv6) capabable; and
✔ Information delivery.

Voice Services
✔ IP telephony;
✔ Mobile and stationary; and
✔ Secure and unsecure.

Video Services
✔ Video teleconferencing; and
✔ Video graphics distribution.

know that we have the industrial capacity to do that.

Q: What yards are you going to use?

A. I'm going to use AITs (alteration installation teams); I'm not using the yards. We're contracting installation services off SPAWAR's contracts. SPAWAR has a multiple award contract to do installation of C4I gear. And we'll go to whatever yard the platform happens to be for its availability. And that's a typical strategy that we use in the C4I world.

When a ship goes into an extended availability, however many months it happens to be, at one of the public yards, we contract these alteration installation teams to install our stuff.

Q: Do you already have your schedule for deployment?

A: We have a schedule for deployment that identifies hull number and installation windows that change very frequently based on the ship's schedule so if ships get surged or their deployment goes later, or they get sent to do something that was unexpected, that perturbs the rest of the schedule. But we use it for planning purposes, and we update it every quarter.

Q: Which ships have priority?

A: I have multiple sets of priorities given to me by different leaders.

Q: How do you rationalize your priorities?
A: Well, first and foremost, go as fast as you can. That is the direction I've been

given by the Navy leadership at the highest levels. The faster we get the new infrastructure out there, the faster we have to stop supporting the legacy and stop spending all that money, right? So first and foremost, don't stop; go as fast as you can. While you do that, try to prioritize the older networks first.

So I mentioned we have networks that have been on board ships for almost 15 years. We still have ATM networks on ships, Asynchronous Transfer Mode on ships. Almost impossible to support at this point, can't get parts for them, training is difficult, they're hard to use and they're old. So while I'm going as fast as I can, I'm going to keep an eye out. If I have more availabilities than I have ships and I have to choose between platforms, I'm going to choose the ones that have the oldest network first.

It's not a single legacy baseline that we're replacing. I'm replacing 20 odd baselines that have grown over the years. The latest ones that we're fielding now, we actually took a lot of the technology that we thought was going to come into CANES and we backed it into our legacy design. So the ones that we're installing over the recent past are fairly modern networks and are in good shape. It's the baselines that are 10, 15 years old that I'm really anxious to get out of operation.

Q: You said you are using COTS equipment, but there is vibration on ships and other environmental factors. Is there a rugged spec for CANES?

A: We do have a fairly high specification for the commercial gear; it's within industry's capability and within their commer-

cial offerings. We don't ask them to do anything special for us. However, we do integrate into racks, where the rack really takes up the bulk of the environmental protection. So we have to follow what we call 501D specification, which is grade A shock requirements for the system.

We [CANES] are a mission critical system because we have mission critical applications that rely on us. So that means that the system has to be able to take a hit and continue operating through damage. That includes shock and vibration, high temperature, high humidity; all of those things are environmentally tested before we field.

So that was part of our design criteria we gave to the vendors. They had to prove to us that their system would survive those environmental conditions and show us the test results.

Interesting question, again, why are we different from shore? We reject more products because of environmental shortfalls than we do because of performance. The environment drives different material conditions.

Q: You mentioned mission critical. Is CANES going to run the ventilation system in the ship or other life support systems? Could it combine with other shipboard systems? Or is it just specifically for warfighting systems?

A: Currently in the installation of this design we're not doing the mechanical [hull, mechanical and electrical (HM&E)] engineering type of functionalities.

Q: Did you think you might take on those other things? I mean, if CANES proves to be a good business case and design?

A: Right, so there is a lot of dialogue around that. I can't predict right now where that dialogue is going to go because the functional owners of that capability are in NAVSEA (Naval Sea Systems Command) and not SPAWAR. There are some that advocate consolidating into a common design.

There are some that advocate going further than that and consolidating to a common single network. I'm personally of the belief that we may in the near term get to a common design so that an HM&E network looks just like a C4 network, but

I don't think that we're ready yet to converge the two into a single one.

Q: On the LPDs (amphibious transport dock ship) and the flatbacks, does the CANES upgrade include the Marines' spaces?

A: Yes.

Q: Marines on amphibs always feel they're getting the short end of the network stick.

A: It's an ongoing discussion. I try to stay out of the middle because that's an operational requirement issue. I do what the requirements folks tell me the need is. Fleet Forces works it out with the ACMC (Assistant Commandant of the Marine Corps) in terms of what the allocations are between blue and green.

So the message that came out was not written by CANES, it was written by the fleet and it mentioned the Marines, here's how things are. Now, that's just from a critical perspective. The Marines also come on board with their own software, so we provide hotel services for that infrastructure in both our legacy network and our new network.

Q: Is there any exercise that you will be participating in once you have a sufficient number of ships that have CANES loaded to test it out in the fleet?

A: Not scheduled around the deployment of CANES. So there will be ships with CANES in fleet exercises because that's how they're going to deploy. However, my first test is going to be in-lab tests with COMOPTEVFOR (Commander, Operational Test and Evaluation Force). So the operational test community is going to do an operational assessment (OA) of the network in the lab. We're getting our lab certified by a representative.

We're going to load the system and OPTEVFOR is going to do an evaluation of how well it performs. And that's a gated function going into my Milestone C. Once we pass the OA, then we do our first installations. Once we complete our initial installations aboard a fleet destroyer, we'll go into a formal at-sea operational evaluation. **CHIPS**

Go to the Space and Naval Warfare Systems Command website for more information at www.spawar.navy.mil.

ATLANTIC OCEAN (March 21, 2012) The aircraft carrier USS Enterprise (CVN 65), the guided-missile cruiser USS Vicksburg (CG 69), and the Arleigh Burke-class guided-missile destroyer USS Porter (DDG 78) participate in a replenishment at sea with the Military Sealift Command fast combat support ship USNS Supply (T-AOE 6). Enterprise, Vicksburg, Porter, and Supply are deployed as part of the Enterprise Carrier Strike Group supporting maritime security operations and theater security cooperation efforts in the U.S. 6th Fleet area of responsibility. U.S. Navy photo by Mass Communication Specialist 3rd Class Daniel J. Meshel.

Air Force Warfighting Integration Decision Support

Smart investing to get the most bang from the acquisition buck

By Air Force Lt. Col. Jordon Cochran

Given today's fiscal realities and emerging threats, the need for warfighting integration (WFI) has never been greater. What is WFI, and why is it so important for you to understand it? In this context, WFI is the ability to maximize interoperability and effectiveness of warfighting systems to produce synergistic capabilities for joint warfighters by effectively informing and influencing corporate planning, requirements, programming and acquisition processes.

Effective warfighting integration accelerates the observe, orient, decide and act (OODA) loop process and provides the joint force commander with information superiority that yields decision superiority, which ultimately translates into domain superiority and more effective use of scarce warfighting resources.

WFI is not about developing advanced weapon systems and having them operate in isolation; nor is it about taking the latest technology and adding so much complexity that it is improbable or too expensive to field or making investment decisions without understanding the second- and third-order effects that need to be considered in today's tightly constrained budget environment.

For these reasons, the Secretary of the Air Force Chief of Warfighting Integration and Chief Information Officer (SAF CIO/A6), Directorate of Warfighter Systems Integration (SAF/A6W) has been working on methods to better inform senior leader decision making with respect to WFI. One especially promising effort is the Warfighting Integration Decision Support Tool (WFI DST) that has been created by SAF/A6W personnel in partnership with the Air Force Enterprise Architects (SAF/A6PA) organization with assistance from MITRE Corp. and Systems Planning and Analysis, Inc. contractor support.

There is a need for senior leaders to have a mechanism for viewing programs and their dependencies from a cross-functional, holistic perspective. Although there are subject matter experts with knowledge of these relationships, there is a need to institutionalize a "programmatic common operating picture" that can be used to ensure everyone involved in planning and programming has a shared and sustained view of real relationships and dependencies. This is what the WFI DST is attempting to address, and the project is off to a very promising start.

The tool harvests available authoritative data, such as that found in the Air Force Automated Budget Interactive Data Environment System (ABIDES), program element monitor (PEM) data briefings, major command (MAJCOM) architecture artifacts, and subject matter experts' knowledge, and fuses it together to provide increased programmatic situational awareness, particularly with interprogram touch points. Figures 1 and 2 illustrate the power of the tool.

Evidence over Eloquence

To promote evidence-based over eloquence-based investment decisions, we have mapped Air Force programmatic and operational relationships for nearly 1,000 program elements across the 12 Air Force Service Core Functions as well as nine Capability Portfolios. This includes

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Air Force Service Core Functions
- Nuclear Deterrent Operations
- Air Superiority
- Space Superiority
- Cyberspace Superiority
- Global Precision Attack
- Rapid Global Mobility
- Special Operations
- Global Integrated Intelligence, Surveillance and Reconnaissance
- Command and Control
- Personnel Recovery
- Building Partnerships
- Agile Combat Support

Air Force Capability Portfolios
- Net-Centric
- Command and Control
- Battlespace Awareness
- Force Application
- Protection
- Force Support
- Logistics
- Building Partnerships
- Corporate Management and Support

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Figure 1. An example of basic first-order programmatic relationships between program elements that enable a particular mission capability.

Figure 2 depicts the enhanced first-order and second-order programmatic and operational relationships among program elements that our WFI analysis produced. This mapping effort provides visibility of how programs and capabilities are linked, particularly across functional lines. In this example, there are three core functions spanned: Command and Control (C2), Nuclear Deterrent Operations (NDO) and Cyberspace Superiority. Key DST functionality includes this ability to easily discern programmatic versus operational relationships between programs, to hyperlink directly to related authoritative data, and to quickly scale a view across multiple degrees of separation (which translates to first-, second- or third-order relationships).

As the Decision Support Tool matures, the knowledge base gets richer and richer by leveraging stakeholders' and subject matter experts' authoritative information contributions. This ever-expanding knowledge base holds great potential as a continuity and training aid.

programmatic mappings to the Joint Capability Areas (JCAs), Joint Capability Gap Analysis and Air Force Enterprise Assessment. These mappings enable the user to quickly visualize the operational capability supported by a given program or program element and has value in decreasing the time spent on data gathering, leaving more time for course of action analysis and decision making.

At this point, we recognize that there is much more work to be done as we refine the quality and quantity of data in the DST by leveraging an Air Force functional integrator's expertise. We are collecting authoritative data, which includes many architecture artifacts contained within MAJCOM master plans and PEM briefings, and feeding data into the visualization tool. Just as we fuse and expose sensor data on the battlefield, we ought to be taking the same approach from a planning and programmatic perspective by exposing lead integrator knowledge to the enterprise. In the coming years, if we can use functional architectures as the authoritative, integrated source of operational and programmatic relationships, we will be in a position to better understand the collateral effects of investment decisions and avoid or mitigate unintended consequences.

The WFI DST allows users to view programming through a warfighting capability lens and expedites research and data gathering to allow more time for analysis, advocacy and better-informed decision making. The DST's visualization of cross-functional relationships is potentially very powerful, not only in terms of helping portray an enterprise perspective, but also serving as a knowledge base for those who are new to the programming world and may not fully understand the programmatic and operational linkages.

As the DST matures, the knowledge base gets richer and richer by leveraging stakeholders' and subject matter experts' authoritative information contributions. This ever-expanding knowledge base holds great potential as a continuity and training aid. Further, the tool has the potential to enable more effective horizontal integration across service core functions, platforms, systems and programs leading to lower costs, improved interoperability and enhanced net-enabled warfighting capabilities.

The WFI DST uses a commercial off-the-shelf software product hosted on a secure classified government network. The DST allows the user to craft tailored views of the data and permits "what if" data excursions without corrupting or modifying any of the underlying authoritative source data.

The WFI DST shows great potential to enable warfighting integration in a visible, actionable and enduring way by leveraging enterprise architectures and authoritative data sources to better inform Air Force corporate decision making.

The shared view of programmatic reality it provides will facilitate coordinated planning, programming and budget execution to realize envisioned capabilities and maximize joint warfighting effectiveness in the years to come.

Email questions to SAF/A6WS.strategydiv@pentagon.af.mil. CHIPS

Lt. Col. Jordon Cochran is the deputy of the Warfighting Integration Strategy Division in the Secretary of the Air Force, Office of Information Dominance and Chief Information Officer.

Q&A with Laura Knight, PEO-EIS Sea Warrior Program Manager

The Sea Warrior Program (PMW 240) is the primary information technology (IT) acquisition agent for non-tactical business operations addressing manpower, personnel, training and education (MPTE) capability gaps, legacy systems, and Distance Support to the fleet. The program's role is to modernize Navy human resources (HR) management systems and afloat business IT used by Sailors, the fleet, and the Navy Enterprise in response to functional requirements. To that end, Sea Warrior is a "program of programs," managing a complex portfolio of 33 systems across five product lines in support of four sponsors: OPNAV N1 (Manpower, Personnel, Training and Education), N2/N6 (Information Dominance), N4 (Fleet Readiness/Logistics) and the Director of Navy Staff. The program is part of the Navy Program Executive Office for Enterprise Information Systems (PEO-EIS) within the Space and Naval Warfare Systems Command (SPAWAR).

CHIPS attended a presentation by Ms. Laura Knight, Sea Warrior program manager, as part of the SPAWAR Speaker Series at the West Conference in January and asked her about the Navy's human resources systems modernization and key challenges associated with enterprise integration. Ms. Knight responded in writing in April.

Laura Knight

Q: Can you describe what the Sea Warrior program is? On a typical day how would a Sailor use the systems that are supported by the Sea Warrior Program?

A: In 2006, the Chief of Naval Personnel requested that the Assistant Secretary of the Navy for Research, Development and Acquisition appoint the Program Executive Office for Enterprise Information Systems (PEO-EIS) as the lead for affordable business IT delivery and incremental capabilities. The Sea Warrior Program (PEO-EIS PMW 240) began operating in September 2007 with the mission of coordinating manpower, personnel, training and education (MPTE) IT development, acquisition, and life cycle maintenance under a single systems command and program office.

This was important because the MPTE businesses were merged to form the Navy's single manpower resource sponsor, called Navy Total Force.

Today, the Sea Warrior Program Office manages a complex portfolio of 33 major IT systems used to recruit, train, pay, promote, move, retire and support Navy personnel ashore and afloat. Also, a large percentage of our systems are used corporately for manpower planning and readiness.

In a nutshell, our role is about partnering with our OPNAV sponsors and functional business leaders to build and deploy IT solutions to enable the Navy to get the Sailors into the fight while supporting their welfare, careers and families.

With regard to your second question, our IT products touch Sailors every day. Let's start with Navy eLearning (NeL).

NeL is a distance learning capability that includes online courses, multimedia content, a learning management system ashore, and a learning management system afloat that provides 24/7/365 on-demand access to course offerings for active duty and Reserve military, civilians and contractors. It's one of the largest distance learning implementations in the world with more than 900,000 users and 6,500 online courses.

The afloat learning management system, called the Afloat Integrated Learning Environment (AILE) operates on 233 deployed platforms. Since NeL was first launched in 2000, the system has logged nearly 25 million course completions.

Also in the training and education business area, we have Navy Knowledge Online, the largest Navy portal with over 1 million registered users. About 92 percent of active duty and 73 percent of Reserve personnel use NKO. And as a corporate example, the Navy Training Management and Planning System (NTMPS) collectively generates 300,000 Sailor training readiness reports per month for use by the fleet. NTMPS also includes the Electronic Training Jacket that is used by all Sailors in preparation for boards and career development.

In the career and manpower management area, Sailors use the Career Management System/Interactive Detailing (CMS/ID) to submit their own job applications via the Internet. CMS/ID has given Sailors more direct control over their orders while reducing manual paperwork for career counselors and detailers, saving time and money. An average of 16,500 applications per month come through CMS/ID.

We're also supporting modernization in the recruiting and accessions business area. The Personalized Recruiting for Immediate and Delayed Enlistment Modernization, or PRIDE MOD, supports the Recruiting Command's real-time business process for managing recruiting by providing full Web-enabled communication with Navy and DoD partners across all aspects of the accession process. PRIDE MOD lets five different applications, including the U.S. Military Entrance Processing Command's system, 'talk to one another' almost instantly via the Web and a shared data environment. PRIDE is now processing about 6,000 recruiting applications per month.

Afloat business IT is also a large part of our portfolio. Currently under the umbrella of Distance Support, we provide and maintain the IT infrastructure and capabilities to provide at-sea logistics, technical and training support to afloat units. This includes Customer Relationship Management (CRM), which includes communications media, contact centers, a directory and network of service and support providers, websites, an action reporting (and tracking) IT system, and associated fleet customer advocacy provisions.

Navy Distance Support also deploys a number of applications on a single shipboard software suite called the Navy Information/Application Product Suite. NIAPS is helpful to Sailors at sea in mitigating bandwidth limitations by having software applications run locally on the ship. NIAPS also allows applications to store data and transactions and then to transmit that data ship-to-shore when network access is limited or intermittent by scheduling transmissions during off-peak times and also by allowing data transfers to start again where they previously ended when connectivity was lost.

To make it easier for Sailors and the fleet to get help while afloat, we are re-branding the Navy Distance Support CRM to Navy 311. This new effort is built upon the non-emergency telephone number 3-1-1 in cities across the U.S. and Canada that provides quick access to services via a centralized call center. There are about 90 such service outlets operating in the U.S. In like manner, Navy 311 will simplify the ashore reach-back capability available to the fleet via an easy-to-remember, single point of entry for any issue the fleet encounters.

Q: Why is it so challenging to update the systems in the Sea Warrior Program?

A: There are multiple challenges on multiple levels. First, on the technical level, the MPTE domain consists of approximately 51 systems, 741 applications and 240,000 data elements that have evolved over 30 to 40 years. Consequently, these systems can't share data electronically, so we've been maintaining about 2,000 different interfaces. Plus, significant business logic and rules are hard-coded within these applications and are redundant across systems. Given these issues, the MPTE 'system of systems' has become complex, inflexible and expensive to maintain and operate.

So, we're working with our business and requirements stakeholders to modernize technology that is fast approaching or well beyond the end of its intended useful life. There are many dimensions to making improvements, but key is migrating from mainframe-based computing to Web-enabled applications hosted in Navy data centers. This will reduce the expense of large platforms and allow for more responsive and cost-effective technology modernizations.

Related to systems, of course, is the challenge of harnessing our siloed business data while ensuring its security. Protecting personnel data is of paramount importance, therefore the DoD and Navy management controls are more stringent than commonly employed using commercial Web 2.0 technologies. A data consolidation effort within OPNAV N1 is underway called the Authoritative Data Environment/Authoritative Data Warehouse (ADE/ADW). This effort is focused on establishing a single operational store of personnel data that is authoritative, verifiable, and easily accessible to authorized people and applications. The ADE/ADW is a significant undertaking.

For example, the Navy Personnel Database currently contains source data on 1.75 million Navy members and annuitants that is exchanged across thousands of interfaces. The long-term goal is to move to a fully integrated data environment built on a service oriented architecture, which is foundational to delivering net-centric data services to the Navy enterprise.

Finally, there are numerous cultural and governance challenges. In the past, commands with a software development competence and funding could enhance applications when and how they needed. Today, those of us responsible for the systems engineering supporting the Navy's business mission, are taking an enterprise-wide view of IT effectiveness and efficiency.

> "We look at how modernization benefits both the end user and the overall performance of the Navy enterprise before any taxpayer dollars are committed. We are supporting the Department of Defense, and driving a management culture that analyzes the business case for each change and measures the payback of each IT investment."

We look at how modernization benefits both the end user and the overall performance of the Navy enterprise before any taxpayer dollars are committed. We are supporting the Department of Defense, and driving a management culture that analyzes the business case for each change and measures the payback of each IT investment. This means we work very closely with the end users and stakeholders impacted by the change so all parties can understand the impacts, benefits and tradeoffs.

Q: Can you talk about the manpower, personnel, training and education portal initiative that you are working on? Did you say that it would be integrated into the Navy Knowledge Online portal?

A: The Navy envisions an integrated HR portal as a self-service environment for Sailors, and so the portal is an integral part of the Navy's personnel and pay modernization effort. The MPTE portal will enable Sailors to view their personnel information relevant to their service history, records and benefits; collaborate among communities of practice; and interact with Navy customer service centers.

We're in the early stages of planning and designing a new consolidated MPTE portal. Industry and government benchmarks indicated that getting to a single, consolidated portal can be a long journey over many years. The MPTE portal vision is to provide a secure, reliable, single point of entry for all Navy HR content and business applications.

As you might imagine, much work lays ahead to design the portal look and feel, integrate applications, enable online community collaboration and authenticate users. A first step is to replace the technical infrastructure of Navy Knowledge Online. The NKO tech refresh will provide a more stable and flexible platform that can support today's interactive portal functionality, self-service delivery and workflow management needs. NKO eventually will be rebranded and migrate into the consolidated portal. We expect to submit the MPTE Portal Investment Review Board package in the spring for certification, and begin work no later than early FY13.

Q: You mentioned in your brief at the conference that there is about $15 million available for R&D for modernizing the legacy systems in the Sea Warrior program. What kind of technology improvements are you anticipating?

A: In keeping with our portfolio modernization strategy, our approach is to improve core IT within each line of business so we can move the Navy's HR business off its aging technology infrastructure. By reducing our legacy IT footprint we'll achieve business efficiencies such part as reducing overlapping functionality, migrating software off the mainframe, and eliminating unnecessary reports.

We are continuing to work with our sponsors and functional owners as they clarify requirements and determine how we allocate development and modernization funding. Some current examples include the PRIDE MOD Phase II effort, a new Learning Management System to support Navy eLearning, the NKO technology refresh, and Billet Based Distribution using CMS/ID.

Q: Can you talk about how work is progressing in support of the Personalized Recruiting for Immediate and Delayed Enlistment system?

A: The PRIDE system is one of six legacy systems supporting the mission of the Navy Recruiting Command (NRC). PRIDE supports the Navy's processes of bringing new recruits into the service and assigning them to Navy positions. With phase I of PRIDE MOD in operation, NRC now seamlessly shares accessions data with the U.S. Military Entrance Processing Command, Recruit Training Command and Navy Personnel Command.

The PRIDE MOD II capabilities being considered include electronic forms technology, positive applicant identification via biometrics, workflow management tools for paperless processing, and integration of officer and enlisted active and Reserve component processes. We're currently working to release the Request for Proposal for PRIDE MOD II.

Q: At the brief you also indicated that there was a change coming in the continuity of operations planning (COOP) for MPTE systems housed at the Navy Personnel Command in Millington, Tenn. I think you said the physical infrastructure would be moving to San Diego?

A: PMW 240 is coordinating the effort to establish a continuity of operations capability for the Navy Personnel Command and the Navy Recruiting Command in Millington, Tenn. Initially the effort is focused on data replication and disaster recovery. The actual COOP site is at the SPAWAR Systems Center Pacific's San Diego data center.

For the past two years, flooding disasters have hit the Millington area and securing the data and providing access to the systems and information during a disaster is a high priority within the Navy. The COOP capability will come online in March 2012 with a full operational capability by September 2012.

Q: Can you talk about the significant milestones coming up in the Future Pay and Personnel Solution system?

A: The Navy Personnel and Pay Modernization effort (formerly FPPS) is a portfolio investment strategy not a large development program to acquire a new IT system. This decision was made following completion of the Integrated Personnel and Pay Solution-Navy (IPPS-N) CONOPS (concept of operations) and a capabilities-based assessment.

As part of this strategy, the Navy has chosen to leverage its investment in the Navy Standard Integrated Personnel System (NSIPS), along with making multiple, incremental modernization investments to the human resources IT portfolio. This will let us avoid the pitfalls, expense and delays of a large program while making ongoing improvements to the services that Sailors use daily.

With regard to milestones, we have started three business process initiatives (BPIs) as risk reduction efforts. In addition, the first development/modernization increment will be for active and Reserve retirements and separations. We expect that most of the effort will be implemented in NSIPS, which currently supports over 400,000 Sailors afloat and ashore, contains 1.5 million Sailor records, and interfaces with 32 other systems.

Concurrent with the NSIPS design for active and Reserve retirements and separations, the Navy is examining the business processes associated with military pay, which may result in a new program effort in about 2015. A key near-term transition goal is to establish effective internal control over the Navy's $31 billion in enlisted and Reserve manpower accounts to meet financial improvement and audit readiness requirements.

Finally, I mentioned earlier the ADE/ADW, and this is a core part of the personnel and pay modernization effort. The ADE/ADW activities consist of data cleansing, governance, interface standards and management, all of which reduce risk before making major IT investments. The BPIs will be the first personnel modernization test case for the ADE/ADW, exercising the governance and the technical concepts.

In summary, the near-term FY12-FY13 acquisition effort comprises concurrent initiatives supported by development/modernization and sustainment funding. Alongside our functional counterparts, we are committed to making our Sailors' lives and jobs easier through better, more accessible IT. CHIPS

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By Floyd Groce,
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IT Vendor Business Case Analyses

Driving Savings Today and Sustaining Relationships in the Future
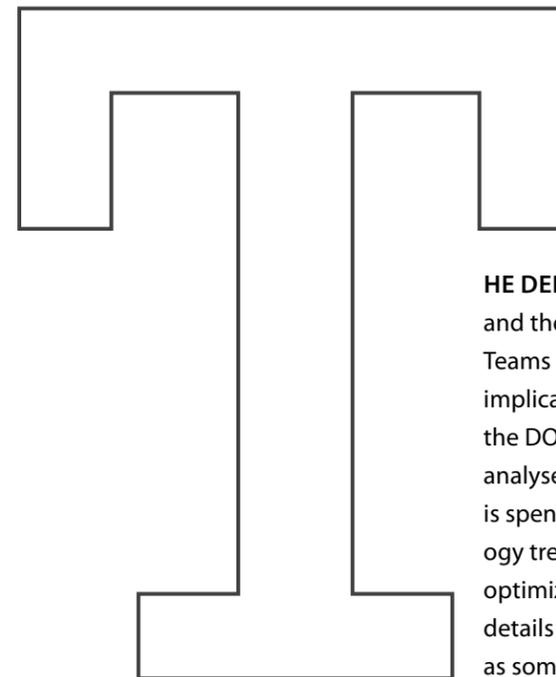
THE DEPARTMENT OF THE NAVY CHIEF INFORMATION OFFICER (DON CIO) and the Information Technology/Cyberspace Efficiency Integrated Product Teams (IPTs) have undertaken a number of initiatives that have important implications for the future of the DON business IT environment. Specifically, the DON Enterprise Software Licensing (ESL) IPT developed business case analyses (BCAs) that provide enterprise-level visibility of how much money is spent with specific IT vendors, insight into relevant market and technology trends, and recommendations for better managing vendor relationships, optimizing resources and negotiating favorable contract terms. This article details the methodologies and approaches used to develop the BCAs, as well as some of the anticipated results of this work.

Meeting Business IT Goals in a Challenging Environment

As a result of the challenging fiscal environment, the DON must reduce business IT costs by 25 percent by fiscal year 2017. However, the department is still expected to meet its mission, support the warfighters, maintain current operational and security levels, and improve operations and efficiencies. To meet this challenge, the DON CIO has identified a number of IT efficiency focus areas, including improvements to enterprise software licensing across the department.

An important step in improving enterprise software licensing within the DON was reached with the issuance of a Feb. 22, 2012, policy memo "Mandatory Use of DON Enterprise Licensing Agreements" jointly signed by the Assistant Secretary of the Navy for Research, Development and Acquisition, the Assistant Secretary of the Navy for Financial Management and Comptroller (ASN FMC) and the DON CIO. This policy is available at www.doncio.navy.mil/PolicyView.aspx?ID=3777.

Within the ESL focus area and as described in the DON enterprise licensing agreements policy, the DON has identified several potential opportunities for further analysis and evaluation, as well as execution of efficiencies related to the acquisition and management of products and services from potential vendors. The BCA process was developed and executed to identify near-term savings opportunities that will enable the DON to meet its objective to reduce IT business costs, while also developing a set of strategies that will enable the department to sustain those savings into the future.

The challenge of quickly identifying near-term savings opportunities within the DON relative to specific IT vendors is exacerbated by a variety of factors in the current IT environment:

Large and fragmented IT vendor base: There are myriad IT vendors providing the DON with software, hardware and services, including software publishers and hardware manufacturers, as well as their respective resellers, partner integrators and service providers.

Minimal visibility into key IT spending data and other information: While some strides are being made in updating and more fully using IT spending and asset tracking systems, the visibility into IT spending, deployments and asset inventories, including what is being purchased and from which vendors, remains limited.

Rapidly changing IT environment: The speed of technology introduction and the disruptive impact of new technologies require an ever-vigilant approach to understanding the changing dynamics and trends in key industries and how they affect the way the DON is managing and using its IT.

Because these challenges exist for nearly all major IT vendors working with the DON, the BCA process addresses many of the issues outlined above.

The BCA Process: An Inclusive, Data-Driven and Fact-Based Approach

The BCA methodology was developed collaboratively using an inclusive process to ensure perspectives from stakeholders across the DON's technical and business IT communities, as well as other enterprise stakeholders, who have years of technical and customer experience. Additionally, the BCA methodology ensures the most complete and detailed understanding of the current context of the DON's relationship with any particular high-interest IT vendor with whom the department has invested significant funds in its products, as well as an understanding of the vendor's particular position within its own industry and market.

The BCA is focused on developing strategies that address the full range of a given IT vendor's offerings. This is a critical element of strategy development because many IT vendors provide software, hardware and professional services, often packaging two or more of these products together in an attempt to bind customers to a particular solution. The primary goal of each BCA is to ensure a foundational set of strategies that comprehensively addresses each IT vendor. Additionally, market research and experience have demonstrated the trend of IT vendors pressing for deployment of combined "appliances" — solutions that combine hardware and software components. While these technologies suggest potential performance improvements, they also have potentially negative implications for the DON's total cost of ownership and technical flexibility in the future.

Additionally, the DON Enterprise Software Licensing BCA development teams work closely with the DON Enterprise Software Licensing IPT members tasked with executing near-term activities to ensure that the BCA findings are well-understood and support their efforts to achieve near-term savings. In short, the DON CIO believes that this process-oriented and disciplined BCA approach arms the DON with the tools, insights and data to achieve both near-term and long-term goals. The following sections detail each element of the BCA process and provide further description of the approaches taken to mitigate some of the key challenges identified earlier.

STEP 1 Launching the Business Case Analysis Process

At the onset of the BCA process, BCA teams collaborated with stakeholders from across the DON. The teams used a holistic, enterprise-wide approach with a number of key stakeholder groups, including, but not limited to the DON CIO; U.S. Marine Corps Director for Command, Control, Communications and Computers (USMC C4) and the Marine Corps Systems Command; Deputy Chief of Naval Operations for Information Dominance, N2/N6; Echelon II organizations; ASN (FMC) and the ASN Office of Budget; and, where appropriate, representation from major programs and initiatives, including the Data Center Consolidation IPT. As a result of this work, a high level of concurrence and a common understanding were achieved. This makes the BCA relevant to achieving the DON's goals based on the realities of the department's business IT environment.

STEP 2 Spending Visibility and Projecting Future Spending

The data analysis portion of the BCA process allows stakeholders to address visibility challenges related to understanding what the DON has spent historically with particular IT vendors, as well as to develop a confident, fact-based projection of future spending on products and services from these vendors. Developing fact-based future estimates of potential DON spending with an IT vendor allows the DON to understand the "as-is" state and estimate the potential savings that can reasonably be achieved based on the implementation of specific near-term strategies. The work toward achieving enterprise visibility to better understand both historical spending and fact-based future spending has taken the DON Enterprise Software Licensing BCA teams across the department's landscape to search for every piece of data available from internal procurement documents, financial records, inventory lists and budget data systems, as well as information directly from vendors and resellers.

The goal of developing a future projection in the BCA is to understand what the current environment looks like if no effort to identify and execute efficiencies and savings opportunities is made. Clearly, this baseline is critically important as BCA teams also attempt to understand the implications of specific strategies on future business IT costs to the DON.

STEP 3 Leveraging Vendor Insights and Market Trends

Thorough market analysis is a critical component of IT vendor BCAs. The market analysis process includes developing an understanding of the vendors and broader markets and industries in which they operate. To identify key areas where the DON can work more effectively with a particular IT vendor, it is important to understand the vendor's core business, its existing and emerging technologies and capabilities, and its strategic focus areas. Moreover, it is critical to develop an understanding of an IT vendor's competitive landscape and market positioning to identify areas for negotiations or opportunities to better leverage the market's competitive dynamics. Developing an understanding of vendor-specific and broader market trends and dynamics informs DON leadership of what drives an IT vendor's business behaviors and how they relate to identifying savings opportunities.

STEP 4 Building the Roadmap for Savings

Spending visibility and market analysis provide key input for BCA development, which identifies a DON-specific set of business opportunities with a particular IT vendor. The quantitative data assessment of the current DON environment is combined with the spending visibility analyses of key market insights to rank and prioritize identified opportunities. The primary outputs of this process are comprehensive business case analyses which quantify the hard savings impact of implementing a set of strategies for a particular IT vendor and a DON-specific IT vendor strategy roadmap to support the sustainment of savings over the long-term.

The roadmap provides a high-level view of a slate of initiatives proposed for coordinated execution over time across all DON agencies and offices that acquire a particular IT vendor's products and services. The roadmap includes a combination of actions that may be initiated immediately as an integral part of driving near-term savings, as well as key strategic enablers to be implemented over time to ensure sustainable long-term savings and improved vendor relationships. Some examples of these strategic enablers include performance management, vendor scorecards, requirements optimization and demand management.

Making "Doing More with Less" a Reality

The work of the BCA teams has provided unprecedented visibility into the magnitude of the DON's spending with particular IT vendors and contributed to the understanding of key constraints and opportunities for the department in achieving the goal of reducing business IT costs. Moreover, stakeholders have already begun to see the benefits of this inclusive, data-driven and fact-based process. Some of the key benefits include:
- » Achieving unprecedented visibility into complete DON spending on a portfolio of products and services for specific vendors;
- » Providing critical input into future data systems to support increasing spending visibility;
- » Strategically engaging vendors at the enterprise level and encouraging them to be a source of data for the analysis;
- » Building organic collaboration and knowledge sharing across stakeholder groups focused on particular IT vendors; and
- » Providing input into near-term acquisitions that will have immediate impact on achieving near-term savings.

The BCAs are living documents that support ongoing collaboration and coordination with critical stakeholders from across the department. As the department continues to meet the challenges of the fiscal environment, the BCA processes will contribute to the collective successes of the DON Enterprise Software Licensing IPT and help achieve the goals of efficiently and effectively meeting the needs of the warfighter. CHIPS

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Mobile User Objective System Satellite Q&A

New constellation of satellites will provide smart-phone like communications technology for deployed warfighters

Riding an Atlas V rocket, the Mobile User Objective System-1 (MUOS-1) satellite lifted off at 5:15 p.m. EST, Feb. 24 from Florida's Cape Canaveral Air Force Station.

MUOS is a next-generation narrowband tactical communications system designed to improve communications for U.S. forces on the move. MUOS will provide military users simultaneous voice, video and data capability by leveraging 3G mobile communications technology. The MUOS spacecraft is the first in a satellite communications system that will replace the legacy Ultra High Frequency Follow-On system. Offering enhanced capabilities to the mobile warfighter, MUOS will provide 10 times greater communications capacity than the legacy system.

MUOS consists of five geostationary Earth orbit satellites—one an on-orbit spare—and a terrestrial network connecting four ground stations around the world. Each satellite features dual payloads that upgrade military users to the MUOS wideband code division multiple access (WCDMA) system while enabling concurrent operations for existing legacy users. Using commercial 3G cell phone and satellite technology, MUOS will provide mobile warfighters point-to-point and netted communications services at enhanced data rates and priority-based access to on-demand voice, video and data transfers.

The Navy's Program Executive Office (PEO) for Space Systems, Communications Satellite Programs Office (PMW 146) is responsible for the MUOS program. Lockheed Martin Space Systems Company is the MUOS prime contractor and lead system integrator.

In preparation for the launch, mission partners held a MUOS-1 teleconference Feb. 13 to discuss the program. Initial launch was scheduled for Feb. 16, but high winds and thick clouds delayed the launch until conditions improved.

The Q&A began with opening remarks and follow-up responses were completed in March. The following participants were part of the initial teleconference discussion.

Navy Capt. Paul Ghyzel, program manager, Navy Communications Satellite Program Office (PMW 146)

Mark Pasquale, vice president and MUOS program manager, Lockheed Martin

Jim Sponnick, vice president of mission operations, United Launch Alliance

Ghyzel: I'm happy to be here with our mission partners from the Air Force and from industry. I'd just like to set the stage. Starting in the mid-1960s, and born from the need for stable 24/7 ship-to-shore communication that was successful under all conditions and environments and geographic [locations], the U.S. Navy had a leading role within the Department of Defense [for] providing narrowband communications for all warfighters, regardless of the service. So we do it for the entire department.

Right now with military narrowband SATCOM, with UHF SATCOM, our users have to be sitting in one place, stationary, with an antenna up pointing straight at a satellite to be able to use narrowband SATCOM. As we bring MUOS online, we'll bring capability that allows them to move around the battlespace and be able to continue to communicate beyond the line of site.

CAPE CANAVERAL, Fla. (Feb. 24, 2012) A United Launch Alliance Atlas V rocket blasts off from Space Launch Complex 41 with the U.S. Navy Mobile User Objective System 1 (MUOS 1) satellite. The nearly 15,000 pound satellite is the heaviest satellite launched to date by an Atlas launch vehicle. MUOS 1, built by Lockheed Martin, is a next generation narrowband tactical satellite communications system designed to significantly improve ground communications for U.S. forces. Photo by Pat Corkery, courtesy of the United Launch Alliance.

The top requirements for the MUOS system deal with capacity, coverage and link availabilities. So we provide 24-hour a day, 7 days a week global coverage, the ability for a warfighter to make a telephone call over a MUOS terminal, to send that data at 10 times more [capacity] than it does now, that's what MUOS brings to the table. Whether it's in vehicles, on ships, in submarines, in aircraft, or simply carried by service members who are dismounted from vehicles and on the move, this system was designed to bring them voice and data communication services, both in point-to-point mode and through communications.

Those capabilities have not existed with previous programs. Beyond providing that continuous communications for all four branches of the military and many of our allies, the Navy provided space-based communications and reliable worldwide coverage for national emergency assistance, disaster response and humanitarian relief.

Sponnick: At nearly 15,000 pounds, MUOS-1 is the heaviest satellite to be launched to date … on an Atlas V evolved expendable launch vehicle 551 configuration, which includes a five-meter diameter RUAG space payload fairing along with five narrow jet rocket motors attached to the Atlas booster. [Payload fairing is one of the main components of a launch vehicle. The fairing protects the payload during the ascent against the impact of the atmosphere (aerodynamic pressure and aerodynamic heating).]

The Atlas booster for this mission will be powered by the RD AMROSS, RD-180 engine [propulsion system], and the Centaur upper stage will be powered by a single Pratt and Whitney Rocketdyne RL10 engine. This launch will also mark the 200th flight of the Centaur, and it's a very big milestone for the ULA team as Centaur has been pioneering space launch for the last 50 years.

The first launches of Centaur in the early 1960s demonstrated the extremely high performance that can be achieved with the liquid hydrogen, liquid oxygen rocket stage and were subsequently used for the Saturn I and Saturn V space shuttle Titan and Delta programs. Although the basic architecture of the Centaur has stayed the same, all of the components and subsystems have evolved many times for increased reliability, flexibility and performance.

Q: It sounds like the existing technology will be active within around six months of launch, and the MUOS payload, the new technology won't be used until the second bird is up, and until the ground station is complete. Can you just walk through a little bit of the details in terms of payload capacity and performance?

Ghyzel: Each of the MUOS satellites has two payloads on it to support communications. One is what we refer to as the legacy payload, and that payload is equivalent to one UHF follow-on satellite worth of capacity and capability. The current constellation, the UHF follow-on constellation, consists of eight satellites… When we launch a MUOS, the legacy payload on MUOS has the capacity of one of those UFO, or UHF follow-on satellites.

The second payload, which a lot of people refer to as the MUOS payload, utilizes a 3G cellular technology, also known as wideband code division multiple access, or WCDMA, to vastly increase the capability and the capacity of narrowband SATCOM.

If you think of the spacecraft using a cellular technology, the MUOS spacecraft as a cell tower in the sky, each of the satellites represents a cell tower. And you're right… part of what you said was correct in that it won't be fully utilized right after we launch the first spacecraft. Per our plan, we will get the second spacecraft on orbit before we start to utilize the WCDMA payload operationally. However, in the interim, we will be doing some engineering tests on it. We will turn it on after launch, and we will check it out, but just like your commercial cell phone providers, they don't build all their cell towers the same day. They come on in a sequence, same thing with the satellites.

Q: Could talk a little bit about once the satellites are operational what the schedule of users will look like.

Ghyzel: The second satellite is tentatively scheduled to launch in July of 2013, and then the launch manifest beyond that has not been settled, but we expect to launch roughly on an annual basis after the second satellite launches.

So during this timeframe between the first satellite and the second satellite, we will be completing the MUOS ground system, and then as the additional satellites come online, we'll be completing our full global coverage that we'll have with this system.

In parallel with that, the completion of the MUOS waveform [scheduled for next summer], or if you will the software code that runs in the terminals that we use with MUOS, will be put in MUOS user terminals.

Now the way we're organizing to develop those, those are [in] different organizations within the Department of Defense that actually build the terminals. But the expectation is that each of the services will procure terminals to utilize MUOS over the next several years to take full advantage of the capability. But it's not the purview or my responsibility to speak to the details of the schedule for the terminal development and delivery.

Q: So the individual services are responsible for their own ground systems?

Ghyzel: The individual services are responsible for their terminals, their radios if you will. They will either be carried by soldiers or be installed in ships or installed in aircraft. The MUOS system itself, in addition to the five satellites that we'll put in orbit, also consists of a global terrestrial network which includes ground stations that communicate with the satellites. So there is no additional ground infrastructure that the other services are developing, it's just strictly the terminals — or the radios, if you will.

Q: Could you expand a little on the global terrestrial system, how many there will be and what exactly they're handling?

Ghyzel: In addition to satellite control facilities located at the Naval Satellite Operations Center in Point Mugu, Calif., and with a back-up location in Schriever Air Force Base, we have four additional ground sites that will interact with the satellites. They're located in Hawaii, Western Australia, in Italy and in Chesapeake, Va.

And those four sites are well on their way and on schedule to support delivery of the capability. And those are the stations where the traffic from the user terminals as it comes down from the satellite gets routed to and processed to complete the calls depending on the nature of the

traffic. They will handle voice calls, data calls, and they'll connect the users to the Global Information Grid from the users out in the field.

Q: The fact sheet listed five different orbital slots for the constellation, which slot is this particular spacecraft going into, and if you could talk a little bit about just geographically what part of the world the satellite is going to be serving.

Ghyzel: Sure, I can speak to that to some degree. The first slot the satellite goes to is our test slot which is located over the middle of the Pacific. From there, we have clear view of it from our Hawaii ground station and that's where it will be for several months after launch while we activate it and do the on-orbit checkout. After that, it's still to be determined.

We're in close coordination with the operational community with U.S. Strategic Command. The final decision on where satellite number one will go hasn't been made yet. However, I can tell you that when the constellation is fully populated, we will have one satellite over the Atlantic, one over the Indian Ocean, one over Pacific Command, and one over the continental United States. They're evenly distributed to give us the global coverage that the system brings.

Q: You mentioned checkout for a few months. Could you go through the actual plan following separation from the launch vehicle, what the plan would be?

Ghyzel: So after the spacecraft separates from the Centaur, which is just over three hours after launch, we'll go through a series of orbit raising burns, I believe there are eight total over the next 10 to 14 days following launch. And then once we're at our planned altitude, we'll start a checkout period that will be conducted by the team from Lockheed Martin, with oversight from the U.S. Navy, to deploy the satellite and, as you would expect, full arrays of unfurlable mesh reflectors [part of the antenna system] [to] make sure that everything is working the way it's supposed to, and it has been through testing.

And then we'll turn on the payloads and exercise those to make sure they're working properly. All of that takes nominally about 90 days after launch. And then once all that is complete, it will be turned over for some additional government testing.

PMW 146 will complete technical evaluation, followed by Multi-Service Test and Evaluation led by COMOPTEVFOR with representatives from the Navy, Marine Corps, Army and Air Force, as well as an operational evaluation before we put the spacecraft in full operation.

Q: Could somebody speak to the value of the initial contract for two satellites, as well as the value if all options are added for, I believe, it's an additional three spacecraft?

Ghyzel: Costs to acquire the system at contract award was $5.303 million in base year 2004 dollars. This included concept

exploration, system design, procurement of five satellites and their launch vehicles, the complete ground system, the black-side (unclassified) waveform and the Navy share of the Joint Tactical Radio System-developed red-side (classified) waveform.

Q: Could you talk about the different types of environments that this particular payload will be able to operate in? I'm talking about whether you can communicate through canopy forests or urban jungles?

Ghyzel: Sure, happy to, but I think you actually answered your own question because we can do all of that. One of the beauties, and one of the reasons that the Navy originally pursued UHF communications or the UHF frequency band for doing communications, is because UHF does have the ability to penetrate weather, all weather.

It has the ability to penetrate dense jungle foliage, and it also performs very well in the urban canyon environment, where [in] some other systems the radio frequency energy gets bounced around off buildings and other things, and that ultimately interferes with the signal. We don't have that issue nearly as much with UHF. So one of the strengths of the MUOS is it will be able to operate in all anticipated environments.

Q: You had some issues with the cost of this first system; maybe you can talk about some of the steps that have been taken to contain costs?

Ghyzel: We've, the Navy program office, we've worked with Lockheed Martin to ensure that as we go through with subsequent spacecraft, and efforts across the board on the program, that we're always vigilant to look for more efficient ways to do things and ways to reduce costs.

Pasquale: I think I heard two questions, but one was what were some of the difficulties, and what are we doing to control and maintain costs. So it really is two pieces. One was the original development for a first of a kind, next generation satellite; we had our development issues relative to passive intermodulation which was really a noise concern that comes in a UHF environment.

We worked through those, we worked through the fact that as it was described earlier this is one of the largest satellites to be built in this class of satellites; there were a lot of accommodation activities that we worked through. We have an entire legacy payload, and a legacy spacecraft, if you will, embedded with our MUOS WCDMA payload, so the isolation between the two, ensuring those work together, making sure the thermal mass and all of the RF properties were accommodated was something we worked through.

We have two large unfurlable antennas that have to be stowed and nested together to meet the requirements of the fairing envelope. All of that combined with the standard first-of-a-kind concerns that you have with any spacecraft development are some of the things we overcame.

A lot of the first time activities that we've learned... we've put into our baseline going forward. One of the things that Lockheed Martin did on its own was to procure an advance of the follow-on production orders.

The Navy has been very disciplined in turning us on as they projected, so we were willing to go out on our own, purchase hardware that allowed our factory floor to stay at a very level load, which meant our experienced personnel were actually able to go from (Systems Viewpoint) SV-2 to 3 to 4 to 5 without a break in production. We didn't have to go through a loss of learning and then a retraining, we were able to just continue to produce hardware, put it on the shelf, [and] have it ready to go.

It's the same with our major subcontractors. They were able to do the same thing which really allowed us to… reduce the number of non-conformances, improve our one over one learning and production rates, and really get into… somewhat of a production line.

We're certainly never going to get to the place that the automotive companies are with the sheer numbers of product they put out, but to have a line that stayed constant and also gives the Navy customer great kudos for maintaining a consistent set of requirements from SV-1 to SV-5, there has been no churn put into the system…

We've really been able to go from 1 to 5 in a really stable environment, a stable throughput, level load, our best talent engaged without having those breaks in production that have hurt other programs in the past.

Q: One of you mentioned the unfurling antennas and fitting them in the fairing. Does the legacy payload have its own antenna that is unfurlable and then the advanced payload has other antenna? Or do they share an antenna?

Pasquale: There are two unfurlables, the five-meter for legacy transmit, and then a 14-meter that provides legacy receive

as well as the WCDMA MUOS transmit receipt. So it's a combination of shared and unique. The legacy [payload] will go through both reflectors.

Q: You talked about the ground terrestrial stations, and you mentioned that the capabilities would be voice and data. What kind of processing will go on at the ground stations?

Ghyzel: The bulk of the processing happens on the ground station as far as the WCDMA capability. If you think of the capability, if you liken it to 3G cellular service, that's a very good way to think about it with the spacecraft serving as the cell towers. And then the ground infrastructure is everything else that it takes to route a call …Let's say I'm in Cape Canaveral, and I want to talk to somebody in the middle of the Pacific, I would actually enter their phone number, they'll have a unique number assigned to them, and place a call. That call will go up into the satellite, down into the ground architecture.

The ground architecture will be just like your commercial cell phone system, the network knows where the phone is within the network, geographically where it is on the planet, same thing with MUOS. So when that request for a call comes down into the ground station, the ground station is going to say I have a call from user 'A' in Cape Canaveral and I need to route it to user 'B' in the middle of the Pacific.

So the ground station will, knowing where user B is, say OK, I need to send it from the Chesapeake, Va. ground station through terrestrial fiber optic networks to the Wahiawa [Hawaii] ground station.

The Wahiawa ground station will then take the signal, send it up to the satellite that services the Pacific, the one that's in the slot over the Pacific, and then send it

WAHIAWA, Hawaii (Nov. 3, 2008) The Mobile User Objective System (MUOS) located at Naval Computer and Telecommunications Area Master Station Pacific, Wahiawa, Hawaii, is a next-generation narrowband tactical satellite communications system intended to significantly improve ground communications for U.S. forces. U.S. Navy photo by Mass Communication Specialist 2nd Class John W. Ciccarelli Jr.

back down to the user that's in the middle of the Pacific to complete the call. And it's the same way with voice and with data … Just think of the kinds of things that you receive over the Internet — laptop, tablet or smart phone — and those are the kinds of different transmissions that we expect to have through MUOS. Like your modern 3G cellular service, we route the traffic using Internet Protocol based schema. So everything is moved digitally.

Q: If you could talk about the demand for capacity and channels and so forth with UHF and just the overall added capacity that this system is going to bring and the demand for it.

Ghyzel: Certainly. So the current demand for UHF actually exceeds the requirement that we have on the books that the systems are built to. That's a function of many things. One is certainly the global nature of our operations, part of it is also just the nature of warfare in the 21st century and the way that we have a very net-centric military today and our need to be able to communicate.

So the current UHF constellation does meet the requirement; however, the requirements for UHF services are expected to grow significantly in the future. So unfortunately, the way we use UHF today with the legacy payload, we're nearly maxed out with spectrum.

So the UHF spectrum is predominantly a military unique portion of the spectrum, and one of the reasons we went to wideband CDMA is that it uses the spectrum far more efficiently, only as necessary for an individual call whereas today we dedicate specific circuits to support certain channels of UHF.

When we go to wideband CDMA we can use it much more efficiently. And what that allows us to do is offer a system that's going to provide greater than 10 times the capacity with MUOS and wideband CDMA than we're currently able to provide today with the legacy system.

Q: Is the increased demand for satellite bandwidth and UHF due to the increase in military unmanned vehicles?

Ghyzel: Although UAVs play a part in the demand for satellite bandwidth and UHF, UAVs are just part of the equation. MUOS Communications Service Requirements were established to meet a broad range of UHF SATCOM capabilities on multiple weapons systems to enable the warfighter to defend the homeland; prevail in the war on terrorism and conduct irregular operations; and conduct and win conventional campaigns.

Q: Why is wideband CDMA more efficient in terms of the radio frequency and channels?

Ghyzel: The MUOS WCDMA waveform operates the satellite downlink over existing allocations at power levels below the interference threshold of non-MUOS narrowband ground terminal receivers and by operating the terminal uplinks using pre-planned and adaptive notching (not transmitting) within the wideband spectrum that overlap collocated non-MUOS narrowband ground terminal receive bands.

Q: Does WCDMA allow more spectrum or frequencies to be used?

Ghyzel: No, as stated above WCDMA operations allow for a more efficient use of the limited UHF spectrum.

Q: In your opening remarks, you mentioned support for national emergency assistance, disaster response and humanitarian relief. Will non-DoD users who provide these services be able to access MUOS capabilities, like federal, state and local responders, or will access be limited to DoD users?

Ghyzel: U.S. Strategic Command is the SATCOM operational manager for all DoD owned and leased SATCOM resources. As such, USSTRATCOM will provide oversight, planning and control of MUOS resources in support of the combatant commanders and other users (both DoD and non-DoD).

Q: Will NATO and other coalition partners be able to access MUOS?

Ghyzel: NATO and other coalition partners will have access to the services provided by the MUOS legacy payload. As stated above, USSTRATCOM will provide the oversight, planning and control of MUOS resources.

Q: Does the MUOS support Link 16 and new links?

Ghyzel: No, MUOS does not support Link 16 or new links. CHIPS

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For more information on PMW 146, please phone the program manager (619) 524-7839.

milSuite promotes efficiency across the enterprise …

a wide range of social media tools available in a secure domain

By Emily Gee

As the Pentagon looks to save more than $400 billion across the Department of Defense over the next decade, department personnel are using a secure, collaborative platform called milSuite to identify duplicative efforts and realize cost-efficiencies across the services.

milSuite is a DoD enterprise-wide suite of collaboration tools that mirrors the functionality of existing social media platforms such as YouTube, Wikipedia, Facebook and Twitter. Responsibility for milSuite is assigned to the Army's Program Executive Office for Command, Control and Communications-Tactical (PEO C3T) Military Technical (MilTech) Solutions Office.

Through milSuite, DoD professionals and leadership can access a growing repository of the military's thousands of organizations, people and systems around the globe. DoD professionals can share their best practices with an enterprise-wide community, as well as leverage knowledge to improve current processes.

"These applications allow us to break down barriers in how we collaborate and share information, because they encourage instant communication and real-time situational awareness," said Emerson Keslar, director of MilTech Solutions, which developed the product and led the effort to institute its use on behalf of the DoD.

More than 190,000 users, from interns to general officers, have joined milSuite since its launch in 2009. Users have leveraged milSuite's milWiki application, modeled after Wikipedia, to share lessons learned on enterprise-wide systems and technologies. They have used its milBook capability, similar to Facebook, to bring thousands of professionals into communities of practice centered on such diverse subjects as chaplaincy, medicine and tactical communications.

"Today, Sailors, Soldiers, Airmen, Marines and DoD civilians can discover information, engage with other experts and collaborate in a protected environment regardless of their location," said Tom Curran, product director for milSuite.

While developing milSuite, MilTech Solutions successfully leveraged commercial off-the-shelf (COTS) products, such as Jive Social Business Software, and open source software that includes MediaWiki and WordPress. This significantly reduced cost, time and manpower associated with development and support.

"MilTech took the COTS products a step further by jumping fully into the development side of the house and building on the existing applications," said Jason Bock, a milSuite support representative. "The Army has many COTS products that are used in the tactical environment, but to develop them in the realm of collaborative websites and social networking was something new for the DoD."

The use of existing products allows milSuite users to benefit from an environment that can easily expand to meet their needs. Users can create custom pages, portals and applications to meet the needs of their individual organizations.

Meeting Individual Needs in a Flexible Environment

Currently, milSuite is composed of four tools: milWiki, a living knowledge bank of military encyclopedia entries; milBook, a professional networking tool and collaborative space for hosting communities of practice; milBlog, a place to share and comment on internal news and events; and milTube, a video-sharing capability. The tools are integrated through a common user profile and linked by a Google search appliance. Users can share unclassified and *For Official Use Only* information on the platform.

"Because milSuite is already in existence as a DoD product, the Navy can benefit from using it rather than developing their own collaborative platform," said Lt.

Cmdr. Erica Kraft of the Navy Reserve, who maintains the "Navy on milBook" group on milSuite. "It is a cost-effective way to partner with the other services."

As of February 2012, more than 2,600 Navy and Marine Corps personnel are registered on milSuite, with more than 200 groups on milBook relating to the Navy, Marine Corps and joint forces.

MilSuite's tools can be used together to create a customized virtual workspace.

In 2011, leadership of the Army Forces Command (FORSCOM) shared a vision to create a secure location where Soldiers can see and learn about the equipment they will encounter in theater. To fulfill its vision, FORSCOM is partnering with MilTech Solutions to develop a customized Virtual Training Portal for Soldiers on milSuite.

"Our goal is to allow non-commissioned officers and junior officers to go to a website, see and then understand the equipment that they are going to receive in theater," said Lt. Gen. Howard Bromberg, deputy to the commanding general of FORSCOM.

Soldiers will be able to read about the equipment in a Weapons Systems Port-

milSuite is a collection of online tools that promotes workforce collaboration and secure information sharing behind the Department of Defense firewall. The secure capabilities include milWiki, a living military encyclopedia editable by the experts who know their subjects best; milBook, a professional networking tool providing communities of practice; milBlog, the place to share and comment on internal news and events; and milTube, a video-sharing platform for the DoD workforce.

folio (WSP) on milWiki, view training videos on milTube and discuss and share information on milBook. These multiple capabilities will be linked through a customized FORSCOM homepage on the milsuite.mil domain.

Cmdr. Michael Hudson of Navy Recruiting District Ohio created a portal on milWiki to serve as his organization's virtual workspace. Through the portal, Hudson is able to reach his entire workforce and share an extensive archive of information without using email. As well as command directives and common operating procedures, the collaboration space includes weekly leadership messages from Hudson, his executive officer, the chief recruiter and the command master chief.

"It's a great communications tool, because everyone can contribute information and easily put documents or announcements up on the wiki," Hudson said.

Hudson's efforts were echoed by the leadership of the Navy Recruiting Districts of Jacksonville, Fla., and Chicago, who created their own milWiki portals.

Peter Gillis, who serves as the community manager for civilian information technology (IT) professionals in the Marine Corps, created a group on milBook to serve as a virtual workspace for his colleagues stationed around the world. Users can share documents in this workspace to diminish the number of emails they need to send.

"The collaborative opportunities provided by milSuite give us a chance to save money and time," Gillis said.

The online group offers Gillis a cost-effective way to boost productivity and communicate across continents by cutting down on email traffic and the need for face-to-face meetings.

On milBook, Gillis engages colleagues in discussions about IT issues, posts relevant Navy and DoD policies for widespread dissemination and advertises events such as the annual Community Workforce Leader Summit, without worrying the information will reach the public domain. His colleagues or other IT professionals can register for his events virtually and provide real-time feedback on policies.

Meeting Knowledge Management Challenges

Creating a living knowledge bank was a driving motive for the creation of milSuite. The product line grew out of a need for new knowledge management solutions for an Army workforce at Fort Monmouth, N.J., that lost personnel due to Base Realignment and Closure (BRAC) 2005. Under BRAC legislation, Fort Monmouth was closed in 2011, with its organizations relocating to Aberdeen Proving Ground, Md., and other installations.

Organizations, including some commands from the former Fort Monmouth community, leveraged milSuite to build and update living archives through a milBook group or a collection of milWiki articles. Other Fort Monmouth commands used different capabilities to capture knowledge. In this regard, the expertise of departing leaders and the specialized knowledge of subject matter experts can be captured on virtual documents within milSuite and are easily accessible to new employees.

U.S. Army Training and Doctrine Command (TRADOC) uses milWiki to promote online collaboration for Army field manuals, allowing the knowledge and experiences of Soldiers to be rapidly incorporated into doctrine. In 2010,

TRADOC's project was recognized by the White House as a DoD Open Government Initiative.

The next generation of milSuite, version 4.0, is planned for release later this year. The upgrade will include enhancements, including integration with Microsoft SharePoint, the ability to leverage widgets across milSuite and a developers' area that will provide application programming interfaces to extend milSuite products through external resources.

As milSuite continues to expand, MilTech Solutions is working with Army and DoD leadership to begin offering milSuite as an official enterprise product.

Through milSuite, DoD professionals can access knowledge about military missions and programs, and work with others across the enterprise to continue creating cost-effective processes and reduce duplicative efforts. With network firewall protection, more than 190,000 users from branches and organizations across the DoD can share official unclassified information and collaborate.

"In this challenging fiscal environment, it is important that the DoD leverages existing proven technologies to enable the workforce to work more efficiently," Curran said.

"milSuite does this by making more data, information and knowledge available and timely, enhancing the decision making process and enabling collaboration outside of the office space." CHIPS

NCAMS Tames Bold Alligator 2012

Navy and Marine Corps fighters from the sea respond to real and synthetic threats

By Sharon Anderson

You've heard the maxim: "How do you eat an elephant? One bite at a time." You could say the same for Navy Warfare Development Command's Navy Center for Advanced Modeling and Simulation (NCAMS), the high-tech lab that served as the nerve center for the exciting Bold Alligator 2012 — and documented the myriad lessons learned of each exercise component — one bite at a time.

NCAMS hosted the upper echelons of naval leadership exercising command and control for BA12, including the Joint Exercise Control Group (JECG), the Combined Force Maritime Component Commander (CFMCC) blended blue-green staff and other portions of the control group.

Vice Adm. David H. Buss, deputy commander, U.S. Fleet Forces and commander for Task Force 20, served as the CFMCC for BA12. CTF 20 supports U.S. Fleet Forces' mission by planning and conducting training and exercises for maritime forces to ensure combat-ready naval forces can meet global requirements.

From the "bridge" at NCAMS, Buss could talk directly to the commanding officer of the multipurpose amphibious assault ship USS Wasp (LHD 1), the flagship for BA12, and any of the other operational commanders via Voice over Secure IP (VoSIP), part of the robust Digital Radio Management System. DRMS provides high-fidelity communications regardless of users' geographic location.

Bold Alligator 2012 was the largest amphibious exercise conducted by the Navy/Marine Corps team in at least the last 10 years, revitalizing and reinforcing the Navy and Marine Corps' traditional role as "fighters from the sea." BA12, which included the full gamut of maritime operations, ran from Jan. 30 through Feb. 12, 2012, and the Navy/Marine Corps team didn't disappoint.

There was so much high drama on the open seas and littorals during BA12, it would be easy to overlook the shore commands that supported the exercise. But there were many supporting elements to BA12.

Navy Doctrine Library System

Rear Adm. Terry B. Kraft, NWDC commander, briefed media observers about the unique modeling and simulation capabilities resident in NCAMS during a tour of the facility Feb. 8. Speaking about the center's role in training and shaping the future force, Kraft said, "We deliver the future to the warfighter."

NWDC owns the Navy Doctrine Library System (NDLS), but NWDC isn't just a repository. Rather, NWDC assists in evolving doctrine in a phased approach that injects innovation moving from concept development to a concept of operations.

Rear Adm. Kraft explained that NWDC's doctrine and training integration directorate put together a readily accessible "electronic bookshelf" of relevant amphibious related doctrine for BA12 participants. In the NCAMS lab, BA12 participants could click on an icon at the edge of their monitors for easy access to NDLS. The directorate also solicited input from BA12 exercise participants, observers and evaluators for potential updates to amphibious operations-related doctrine.

Kraft explained how lessons learned from an exercise or training event can move to actual doctrine. At the conclusion of Bold Alligator, NWDC's analysts will study the results of the exercise to recommend changes in training or doctrine, as well as suggest new concepts. In this way, Kraft explained, NCAMS helps bring the future to the operational level of war. "We are only as good as we innovate," Kraft added.

Changing doctrine requires approval through the Navy and Marine Corps chains of command, warfare centers of excellence and fleet commanders, "But you have to start somewhere, and that's what we do here," Kraft said.

Gather, Observe, Analyze

A lot of focus is centered on the advanced technology in an exercise — the aircraft, ships and equipment — but so much of what is important about BA12

occurs in the planning and post-exercise analysis, said Kraft. "There will be a Bold Alligator '13 and, more importantly, this could be an actual event in the real world, so we need the lessons that come out of here. A lot of what we document is about the command and control structure.

"Other participants will look at whether we need more LCACs (landing craft air cushion) or more LCUs (landing craft utility), and if certain other aspects worked or didn't work. What we will review closely is how we commanded this operation, and what were the relationships between the commanders — and whether or not that worked."

There are also improvements coming to the NDLS and Navy Lessons Learned database.

"We have our Navy Doctrine Library System and we have our Lessons Learned System, and they actually moved their offices right next to each other in this building because they need to be connected," Kraft said. "If you search for a lesson learned, it should link to the applicable doctrine and vice versa. If you look up a piece of doctrine, it should also show you what the people who have actually done this — an amphibious assault — have learned. We are doing a lot of research now on better ways to access and link information."

NCAMS Navy Continuous Training Environment

Doctrine is "tested" and forces are trained through the Navy Continuous Training Environment (NCTE), a modeling and simulation infrastructure that provided a challenging scenario for BA12. NCTE is a robust, high-speed, switched global IP network that provides reliable bandwidth and a complete simulation of the entirety of war, meaning the complete battlespace with all the dynamic systems, physical models and environmental factors, as well as everyone operating inside it.

Darrel Morben, NWDC's director for Modeling and Simulation, said NCTE

supports live, virtual and constructive training that can operate 24 hours a day, 365 days per year. In the last year, NCTE enabled more than 350 training events. In some cases, events were conducted simultaneously, but, Morben said, "Bold Alligator has maxed out NCAMS. However, by reaching out to other NCTE locations, such as the II Marine Expeditionary Force Simulation Center at Camp Lejeune, we are able to bring together all the required training capability."

It is easy to understand why a simulation network was needed. The sheer number of assets in BA12 was breathtaking — 20,000 personnel participated; a "D-Day" amphibious landing, where more than 3,600 Marines, Sailors and Coast Guardsmen representing 11 countries scaled beaches in Virginia and North Carolina during a complex training scenario; 25 ships at sea conducted the full range of maritime operations, as well as synthetic ships and personnel operating in the overall training scenario.

NCTE is dynamic and exercise controllers were able to stimulate the live action by injecting unknowns into play. Even though the exercise's main components were known ahead of time, BA12 participants were challenged to think agilely throughout the exercise, mainly by throwing asymmetric threats at them, said Michael "Mort" White, plans and simulation director, from Commander, Strike Force Training Atlantic. White is referred to as the "puppet master" — one of the controllers of the exercise who "harasses" or "surprises" the operational commanders in the exercise by forcing them to react to asymmetric threats, such as a swarm of fast attack boats, pirates, smugglers or other unknowns.

White manned a terminal with other exercise controllers in the "ring of fire," a raised platform in the middle of the NCAMS lab. Strike Force Training Atlantic, reporting to U.S. Fleet Forces Command, is responsible for training and certifying Atlantic Fleet carrier strike groups, amphibious ready groups and independently deploying surface ships. Its training counterpart for the Pacific Fleet is Tactical Training Group Pacific in San Diego.

White explained that the scenario used in BA12 was a standard "Treasure Coast" training exercise for carrier strike groups leading to certification or readiness for deployment.

VIRGINIA BEACH, VA (Feb. 8, 2012) Darrel Morben, director of modeling and simulation for the Navy Warfare Development Command, briefs media outlets about exercise Bold Alligator 2012. Bold Alligator, the largest naval amphibious exercise in the past 10 years, represents the Navy and Marine Corps' revitalization of the full range of amphibious operations. The exercise focuses on today's fight with today's forces, while showcasing the advantages of seabasing. This exercise will take place Jan. 30 through Feb. 12, 2012 afloat and ashore in and around Virginia and North Carolina. U.S. Navy photo by Mass Communication Specialist 2nd Class Joshua T. Rodriguez.

Fictional nations were a part of the BA12 scenario, but the action was real. Even when threats were synthetically generated via the NCTE, naval forces had to respond in a realistic way. While the fictional 1st Mechanized Infantry Division of aggressor nation Garnet invaded Amber and Amber called for help, real Navy and Marine Corps assets responded. In securing Amber, naval forces were faced with a variety of challenges which tested the concepts of seabasing and maritime dominance, and they responded in the following examples.

• Marines from the 24th Marine Expeditionary Unit (MEU) raided a terrorist training camp, separated enemies from noncombatants, gathered intelligence and disposed of bomb-making equipment.
• Amphibious craft and thousands of U.S. Marines and British and Canadian commandos deployed from multiple ships to the shores of North Carolina following a week at sea practicing all facets of amphibious operations. The exercise's scope and scale were last seen during the opening days of Operation Iraqi Freedom.
• Real-world special operations elements

were pulled from units in Marine Corps Special Operations Command and force recon troops from the 24th MEU. The forces were used for "shaping" operations or for missions designed to prepare the shoreline and areas inland for the arriving Marine Corps troops.
• Other operations included long-range insertions, non-combatant emergency evacuations, tactical recovery of aircraft and personnel (TRAP), visit, board, search and seizure (VBSS) and amphibious raids.

Seabasing

Seabasing is defined as the rapid delivery of follow-on equipment to the assault force by a maritime prepositioning force, which does not necessarily require access to airfields or ports in theater. As part of the seabasing effort, Naval Expeditionary Forces included Riverine units, intelligence exploitation teams, maritime civil affairs units, explosive ordnance disposal (EOD), port security units and Seabees, which all contributed to support Marine landing forces.

Military Sealift Command (MSC) ships were integrated to simulate sustainment and reinforcement of the 2nd Marine

Expeditionary Brigade with fuel and other supplies. Because once the Marines achieve their amphibious landing, "You have to be able to resupply them," Kraft said.

Realism was reinforced with role players who took on the parts of non-governmental organizations, or NGOs, that provided aid to stricken civilian populations. There were also role players who advised commanders on the legal aspects of engagement, and others who represented political advisers from the State Department.

White said commanders had to determine if threats were real or benign — was that a fishing boat on the horizon or an imminent terrorist attack? He explained that even daily press reports were generated so commanders could see how the fictional local population viewed their actions — were they welcomed or resented?

BA12 Communications and Technology

Cmdr. Keith "Keebler" Holihan, from Strike Force Training Atlantic, and Lt. Col. Daniel "Gonzo" Seibel, from Marine Air Ground Task Force (MAGTF) 26, explained that in preparation for the exercise, the Navy and Marine Corps team staged a two-day rehearsal to make sure that communications between participants, including the Enterprise Carrier Strike Group, 24th MEU and Iwo Jima Amphibious Ready Group, worked well together, as well as with coalition partners.

Rear Adm. Kraft called Voice over Secure IP — the "biggie" — the most important communications tool in the exercise.

"In the old days we used STU phones (secure telephone unit for encrypted communications). STU was a classified phone in which you inserted and turned a key and normally ended up with very garbled sound. Now you pick up a VoSIP phone and can talk clearly person-to-person. We still have chat and other secure communications, but being able to pick up a phone and have a direct conversation with immediate feedback is critical. We had to install some towers near Onslow Beach (North Carolina) for line of sight ability, but VoSIP has been key."

Another technology improvement is in intelligence, surveillance and reconnaissance. "The Enterprise Strike Group really

ATLANTIC OCEAN (Feb. 1, 2012) An AV-8B Harrier from Marine Attack Squadron (VMA) 542 maneuvers on the flight deck of the amphibious assault ship USS Kearsarge (LHD 3) during Bold Alligator 2012. U.S. Navy photo by Mass Communication Specialist 1st Class Tommy Lamkin.

"An exercise of this size doesn't happen without the efforts of all the Sailors and Marines at the planning and tactical level to make sure the equipment is ready to go. They make all of us look good. It's the people that check the communications, get the ships underway — and keep them underway — that allows us to do all this highfalutin command and control. It really does come down to the individual Sailor and Marine."

– NWDC Commander Rear Adm. Terry B Kraft

moved the ball forward with real-time full-motion video on board the carrier, Kraft said. "They were able to watch live video from a helicopter's FLIR (Forward Looking Infrared Radar) system, download it real-time and then provide it to the commander. They didn't have to wait until an aircraft landed to download the footage.

"Additionally, the video from the P-3s went straight to a common data link system. In both training and live events, everybody is always hungry for visuals — whether it is still photos or live video — so we are really progressing in that area."

The Blue-Green Team

BA12's live training, which is more costly than simulated training, proved to be a tremendous value.

"The beauty of Bold Alligator was that all of the units had to go to sea to do their certifications anyway, so the idea

was, instead of doing these certifications individually, to bring them together, add another layer through simulation, and we were able to multiply the training exponentially."

Kraft praised the Navy/Marine Corps team for their hard work.

"An exercise of this size doesn't happen without the efforts of all the Sailors and Marines at the planning and tactical level to make sure the equipment is ready to go. They make all of us look good.

"It's the people that check the communications, get the ships underway — and keep them underway — that allows us to do all this highfalutin command and control. It really does come down to the individual Sailor and Marine." CHIPS

Sharon Anderson is the senior editor of CHIPS magazine. Contact CHIPS staff at chips@navy.mil.

TOOLS

TO ACHIEVE THE

BEST VALUE IN

COMMERCIAL SOFTWARE ACQUISITIONS

By Floyd Groce and John Zettler

Imagine a scenario in which you are tasked with a multimillion-dollar software acquisition. You have limited experience with enterprise software terms and conditions or market pricing, and you do not know the government's acquisition history about the software you intend to purchase.

If your time, funding and resources are constrained, you may be forced to accept the vendor's quote and the software publisher's standard terms and conditions, and hopefully achieve some additional value as a result of basic research and negotiation. But even when you have sufficient time, funding and resources for a more methodical approach, where do you begin?

To provide assistance, the Department of Defense Enterprise Software Initiative (ESI) developed the Best Value Toolkit for commercial software acquisition. It includes a disciplined process, tools, guidance and recommendations that enable an IT buyer to obtain the "best value" on large enterprise software acquisitions. The toolkit is available at www.esi.mil/bestvaluetoolkit. A best value acquisition of high-dollar enterprise software, whether spanning a period of two months or 12, can be broken down into four key areas: establishing requirements, referencing existing contracts, identifying target price and terms, and planning for negotiation with pricing and terms and conditions.

Establishing Requirements

The first step in the requirements phase is to have the end-use technical and management teams identify and finalize current and future requirements. This requires familiarity with the product, software publisher licensing terms, desired licensing metric, customer operating environment and the customer's planned physical, system or operational changes. Also, prepare to answer the following questions:

» Does this purchase include all the products and tools needed to fulfill current requirements?
» What additional items or licenses might be needed, now or later?
» Can usage requirements be consolidated across organizations, commands, outside the organization, etc.?
» Is there a licensing or usage metric (per processor, named user, employee, enterprise license, concurrent device, etc.) that best fits the needs? If not, can the requirements be adjusted? Is this software needed for one specific application or can it be combined with other applications or processes? For multiple uses? Are development or user rights required?
» Is a perpetual license, term license or Software as a Service (SaaS) model preferred?

Referencing Existing Contracts

Researching existing contracts or schedules that include basic terms and conditions and some established pricing guidelines for comparable purchases can provide an effective frame of reference. If the initial acquisition was relatively uneventful, then there is a framework for avoiding some of the major pitfalls experienced in commercial software licensing. Such contracts include DoD ESI/SmartBUY blanket purchase agreements (BPAs) and organizational enterprise licenses and volume purchase agreements. Baselines for price and terms and conditions can be established against which improvements can be sought and better value obtained by examining existing contracts in the context of the following checklist:

» How does the contract price compare to the vendor's list price? How long is it valid? Are discounts available for larger orders? What are future period prices?
» Do the licensing and usage metrics (per processor, named user, etc.) match the requirements? If not, is it easier to change requirements or seek a different licensing metric?
» What are the contract terms? Are they transferrable? Are previous software orders placed under this contract available for review? What terms and conditions were modified or added? Were any restrictions added?
» What specific information or insights can the cognizant contracting officer(s) for the contract vehicle or individual orders provide?

Identifying Target Prices and Terms

In the event that price, terms and conditions data about recent, similar transactions are not available, there are two resources that might be helpful — industry guidance and historic government transaction data.

Look for a resource, such as an industry analyst, that offers software acquisition benchmarks and guidance. These firms can provide general information con-

cerning acquisition planning and identify trends for software vendor pricing and licensing methods.

Data from prior government transactions can also be leveraged, provided that key elements of similar acquisitions, discount levels or key terms and conditions are comparable. If no historic transaction is similar, the target price and terms and conditions could be extrapolated from existing known values. Use the following key criteria to identify and prioritize similar transactions:

» Dollar value of the transaction;
» Type of license and license restrictions;
» Total contract value, including all option years, product options, maintenance and support;
» Discount percentage — from list price to GSA schedule and ESI/SmartBUY base prices;
» Product list, including quantities;
» Licensing metric, such as named user, per processor or per server;
» Identification of contingencies, performance clauses, acceptance criteria and solution guarantees; and
» Time of year (relative to vendor fiscal periods).

ESI's Best Value Toolkit

ESI's Best Value Toolkit (www.esi.mil/bestvaluetoolkit) emphasizes review, analysis and decision making based on software requirements and fit, price, terms and conditions, and total cost of ownership. The toolkit includes a roadmap, guidance, informational checklists and worksheets, and a library of tools to be used during the acquisition process to help attain best value. It also identifies resources to assist with any step of the acquisition process.

What is ESI?

The Department of Defense Enterprise Software Initiative is an official DoD program sponsored by the DoD Chief Information Officer (CIO) to save time and money on purchases of commercial software, IT hardware and services. Through its joint team of experts, ESI consolidates requirements and establishes agreements with IT providers, resulting in a unified contracting and vendor management strategy across the entire department. In its first 10 years of operation, DoD ESI has generated more than $4 billion in cost avoidance as compared with prices established on the General Services Administration Federal Supply Schedule.

Planning to Negotiate

Armed with pricing, terms and conditions, you should be well-prepared to enter negotiations with the software vendor. Understanding the nuances of the transaction from the seller's perspective can also help with proposing arrangements desirable to the seller, while satisfying the requirements of the end user.

Term licensing and SaaS licensing are very different from perpetual license grants because they essentially limit negotiation options to price, products included, licensing metric and license restrictions.

When negotiating a perpetual software license, some important requirements, such as intellectual property ownership, transaction revenue recognition, definition of user rights and timing of the transaction relative to the seller's fiscal accounting periods, can affect the financial value to the seller or possibly be non-negotiable depending on specific circumstances. Knowing these issues up-front can help in give-and-take negotiations that create a win-win situation for both parties. In any case, it is advantageous to negotiate ancillary items such as software maintenance and support; training and education; and consulting services, including projected pricing for the life of the deal, along with the software license purchase, while there is still the greatest leverage.

Consulting services, however, are a unique element in license acquisition. The vendor has very strong

financial incentives to segregate the license transaction from consulting services because potential claims tied to performance of consulting services could make the transaction ineligible to be recorded as current revenue. That said, it is still an effective strategy to negotiate labor rates for future unspecified services at the time of license negotiations, including separate rates for qualified vendor personnel versus the potential need for subcontractors to assist later.

There is no reason to be intimidated by large enterprise software transactions. Simply follow the steps outlined in this article, gain some insight into the nuances of software publishing and take advantage of the information and resources available at www.esi.mil to ensure that the acquisition can be completed within the framework defined by the Federal Acquisition Regulation as a best value purchase. CHIPS

Floyd Groce is director of commercial IT strategy for the Department of the Navy Chief Information Officer (DON CIO) and co-chair of the Department of Defense Enterprise Software Initiative (DoD ESI) program. John Zettler provides support to DoD ESI.

Data-centric Solutions are Changing Navy Recruiting

Revolutionary mobile capability for recruiters on the go ... and much more

By the Program Executive Office for Enterprise Information Systems Sea Warrior Program (PMW 240) Public Affairs Office

"NRS Modesto unleashed!" That was the reaction of Petty Officer Martin Benitz as he experienced the Navy's newest mobile recruiting capabilities. The Navy Recruiting Station (NRS) in Modesto, Calif., was one of the first stations to implement the Mobile Recruiting Initiative (MRI), the Navy's revolutionary IT solution for recruiters.

The MRI uses wireless computing with 3G (third-generation mobile communications) connectivity and merges digital data with the Navy Recruiting Command's (NRC) core applications: WebRTools and the Personalized Recruiting for Immediate and Delayed Enlistment Modernization (PRIDE MOD). The result is an effective Web-based capability that allows faster, more ubiquitous prospecting and processing of U.S. Navy applicants.

Previous to the combination of PRIDE MOD and MRI, field-level recruiters could gather only limited information on applicants through a time-intensive process of multiple meetings at the applicant's home or at one of 1,450 recruiting stations nationwide. Each meeting had to be manually scheduled, and all resulting information compiled over time was entered into various systems that were tied to a particular NRS. When an applicant's information was complete and finally ready for processing, the required forms were faxed to assigned U.S. Military Entrance Processing Command (USMEPCOM) sites.

Administrative personnel then manually transcribed the printed information into both the mainframe-based PRIDE system and the MEPS Information Resource System (MIRS). Since the initial installment of PRIDE MOD in May 2011, however, this legacy process has become history.

The Path to Digital Recruiting

As the information above shows, PRIDE MOD is an integral part of NRC's strategic plan to transition from pre-Information Age systems and processes to digital tools that facilitate anytime, anywhere recruiting. Today's Navy recruiters —

roughly 4,500 strong — had been relying on a 1974 Fortran version of PRIDE to process U.S. Navy applicant data. These data are very detailed (e.g., aptitude, academic test scores, color perception, etc.) and were manually entered into PRIDE at many different touch points along the recruiting and accessions process.

Because of this complexity, NRC was incurring numerous processing inefficiencies and escalating costs in an effort to ensure ongoing data quality. For example, each year approximately 2,800 applicants erroneously passed through the PRIDE system and into boot camp. This problem, largely traceable to inadequate data exchange and validation, costs the Navy about $117 million annually.

In addition, accession data accuracy is critical because it determines the job ratings and programs for which an enlisted applicant is best qualified. Last year NRC processed more than 43,000 applicants, resulting in a total of 33,444 accessions. Given this size and scale, information integrity is a top priority.

With Phase I of PRIDE MOD in operation, NRC seamlessly shares accessions data with its business partners and Navy human resources and training systems.

"Before [PRIDE MOD], the accessions workflow was weighted down with phone tag, multiple call backs and other delays," said Kevin Sullivan, NRC chief information officer (CIO). "Now, we're definitely saving time in transitioning an applicant from civilian to Sailor."

That's because PRIDE MOD is a significantly improved recruit classification and reservation capability that captures enlisted applicant qualifications and then matches them to available ratings, determined by the needs of the Navy and "A" School seat availability.

The system also processes incentives and waivers as required and makes "A" School reservations. Sailors enter "A" School following boot camp to learn the specialized skills required for the duties they will be performing. Finally, PRIDE MOD is enabling Navy recruiters to search for enlisted job quotas based on the

inbound recruit's anticipated "ship" date to the Recruit Training Command (RTC) in Great Lakes, Ill., the Navy's only bootcamp.

Some key efficiency benefits resulting from PRIDE MOD are:
- A more seamless, automated process for initiating a Sailor's Electonic Service Record (ESR);
- Common applicant data across key systems associated with recruiting and accessions;
- Data is entered once, signifcantly reducing enlistment data errors;
- Eliminates faxing documentation and data entry and re-entry by recruiters, processors, classifiers and Defense Department processors; and
- Enables significant progress toward data integration within the Deputy Chief of Naval Operations for Manpower, Personnel, Training and Education (OPNAV N1) domain.

Breaking the Language Barrier

Imagine assembling five people of diverse cultures and languages into one room and then asking them to instantly communicate effectively. This analogy sums up the task of the PRIDE MOD technical team.

Figure 1. PRIDE MOD electronically exchanges data with NRC and four business partners to streamline Navy recruit accessions processing. The graphic shows only a representative sampling of shared data between systems.
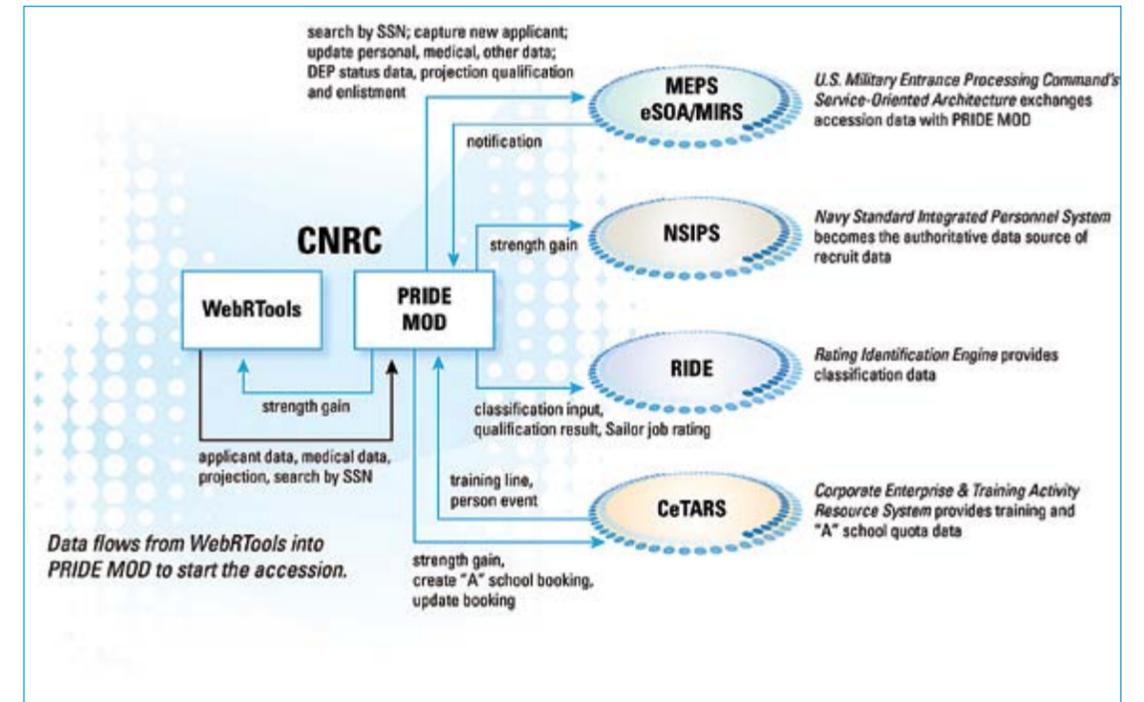
"In order for NRC's process to be centered around applicants and recruiters — instead of computer systems — our developers needed to make five legacy software systems talk to PRIDE in real time," said Jeff Bowell, recruiting and accessions assistant program manager with PMW 240, the office responsible for PRIDE acquisition efforts.

"PRIDE MOD's data exchanges with partner systems are triggered by various transactions and events. For example, when a recruiter uses PRIDE MOD to project an applicant, the system sends USMEPCOM's accessions data environment [eSOA/MIRS] a projection qualification and enlistment message. Or, submitting the applicant's shipping confirmation message to CeTARS (Corporate Enterprise Training Activity Resource System), followed by an enrollment transaction at RTC, triggers PRIDE MOD to send a final strength gain notification to NSIPS," Bowell explained.

The core of the solution involved replacing legacy PRIDE software components with a Navy Marine Corps Intranet compliant application that uses commercial off-the-shelf, service oriented architecture components. The functions and data capture inherent in the recruiting and accessions process were separated into distinct application services accessible via Web interfaces to USMEPCOM, the Navy Education and Training Command (NETC)

and Navy Personnel Records Management (PERS-3).

This approach enabled NRC to replace the legacy PRIDE system, where data was embedded in the application, with flexible data exchanges using Navy standards. To support NRC's real-time business process for enlistments, PRIDE MOD allows full Web-enabled communication with its partners across all aspects of the accession process.

The following examples show the seamless data exchange enabled by PRIDE MOD:
- A new applicant record is created in WebRTools to include all the data needed to access an individual in PRIDE MOD and the MEPS service oriented architecture/Integrated Resource System (eSOA/MIRS) accessions data environment.
- Data in WebRTools are electronically forwarded to PRIDE MOD and MEPS eSOA/MIRS, and data exchanges occur frequently and seamlessly between the two systems throughout applicant processing (e.g., recording individual results of aptitude and medical tests).
- Once all the prerequisites for an applicant's enlistment are completed, Navy classifiers use PRIDE MOD to assign a job to the new applicant using the Rating Identification Engine (RIDE) Web service and to select an appropriate date for the applicant to ship to RTC.

- The applicant is announced by PRIDE MOD as "ready to ship" and the processing for shipping takes place within MEPS eSOA/MIRS.
- Once the applicant arrives at Recruit Training Command, PRIDE MOD passes the applicant's electronic record data to NSIPS, CeTARS and WebRTools so all systems have the same information.

Interface Development Challenges and Lessons Learned

Exchanging data from one set of legacy applications to another, particularly when the applications were never designed to interact, is a complex task. Add the lack of a common data structure or definitions to share data, plus random errors associated with years of manual data entry, and a significant challenge awaits any software development team. Furthermore, NRC owns only WebRTools and PRIDE MOD; the other accessions systems are owned by separate commands and are hosted in different geographic regions.

Addressing the size and scope of challenges associated with PRIDE MOD involved 20 months of systems analysis, design and development. The technical team used the popular, domain-independent Extensible Markup Language (XML) and DON standards to format data exchanges with Navy and business partners. In addition, the software devel-

opment and application hosting teams collaborated on the engineering package to capture the infrastructure hosting requirements of PRIDE MOD and configure the system interfaces.

While restructuring data for different targeted system schemas is a major undertaking itself, the largest challenge to PRIDE MOD proved to be testing the interfaces in a representative operating environment. To effectively simulate live transactions, the software developers needed to build XML "stubs" to mimic data sent to PRIDE from partner systems.

For example, once PRIDE received an applicant's record from WebRTools and sent the record to MEPS, the eSOA/MIRS application would then search for existing data on that individual. Then, an XML stub built by the interface partner containing the individual's requisite data was returned to PRIDE.

All interface testing proceeded in this way, based on the documentation and business rules provided by the partner system owners. Additionally, differences between documentation and actual code for interfacing Web services necessitated numerous recurring changes to PRIDE's interfaces and then retesting.

Looking toward PRIDE MOD II, all stakeholders are applying important lessons learned from the initial development. First, interface partners are engaging with the technical team early in the process before any application code is generated, and signed internal agreements will support the test management process. Second, the team will establish test instances at each interface site to discover issues associated with Web service transactions and address them early. This will ensure partner systems generate actual error messages if an XML transaction cannot be processed, thereby reducing rework costs and avoiding project delays.

NRC continues to build on PRIDE MOD as an important information technology foundation for "street-to-fleet" recruiting. Future PRIDE MOD capabilities being considered include electronic forms technology, applicant identification via biometrics, workflow management tools for paperless processing, and integration of officer and enlisted active and Reserve component processes.

Whether Navy recruiters are mobile or desk-bound, PRIDE MOD is always ready to hire. CHIPS

Whether Navy recruiters are mobile or desk-bound, PRIDE MOD is always ready to hire.

CHULA VISTA, Calif. (March 2, 2012) Special Warfare Operator (SEAL) Justin Gonzales and Chief Special Warfare Operator (SEAL) Brad Woodard, assigned to the U.S. Navy parachute demonstration team, the Leap Frogs, perform a bi plane maneuver during a training day at Brown Field Municipal Airport. The Leap Frogs are based in San Diego and perform aerial parachute demonstrations in support of Naval Special Warfare and Navy recruiting. U.S. Navy photo by Mass Communication Specialist 1st Class Michelle Turner.

The Software Communication Architecture – Advancing the Field of Software Defined Radio

SC4 – the software developer's dream

By JPEO JTRS Corporate Communications and Public Affairs Directorate

The Software Communication Architecture (SCA) is an open-architecture specification that defines the interactions between software applications and radio hardware platforms. The SCA framework has guided the development and evolution of the software defined radio domain, and its concepts have been used within multiple industries, products and countries beyond the Defense Department community.

A primary goal of military software defined radios is to minimize the level of effort required in migrating software applications to different radio platforms, in other words: to maximize application portability. The SCA establishes the infrastructure to achieve this objective. An SCA-based software defined radio enables enhanced software portability and provides a standardized infrastructure for software deployment and configuration — while ensuring interoperability between SCA products. SCA components may be extended by the Joint Tactical Radio System application program interfaces (APIs) to provide platform specific capabilities. As depicted in Figure 1, the SCA and JTRS APIs promote waveform portability and reuse by isolating the waveform application from the radio set.

How SCA4 was Developed

It's been more than 10 years since the first iteration of SCA and more than five years since the release of the previous version of the specification, SCA 2.2.2. While there have been numerous technological advancements and lessons learned in the field of software defined radio since the release of SCA 2.2.2, the framework remained relatively static and was extended to include a small subset of the candidate new features.

The latest specification release, commonly known as SCA4, incorporates a wider range of resolutions, significantly optimizes the framework and improves a programmer's ability to develop software defined radios efficiently. The modular nature of SCA4 builds in flexibility for the evolution of SCA-compliant products and the standard itself as technology and requirements change.

In addition, SCA 4 is no longer a one-size-fits-all approach so product developers will be able to "right size" their SCA-based infrastructure so that more energy can be focused on providing mission specific solutions. The new standard builds on a decade of expertise and makes the SCA even more relevant in today's market of resource constrained systems with the ever increasing need for secure mobile communications. With the breadth of potential SCA based target platforms and applications, SCA4 broadens its applicability beyond U.S. military software defined radios.

SCA4 Benefits, Advantages and Expectations

This newest framework, SCA4, emphasizes flexibility and scalability throughout the specification. From a system developer perspective, the flexibility can be used to innovate and provide

Figure 1. The SCA and JTRS APIs promote waveform portability and reuse by isolating the waveform application from the radio set.
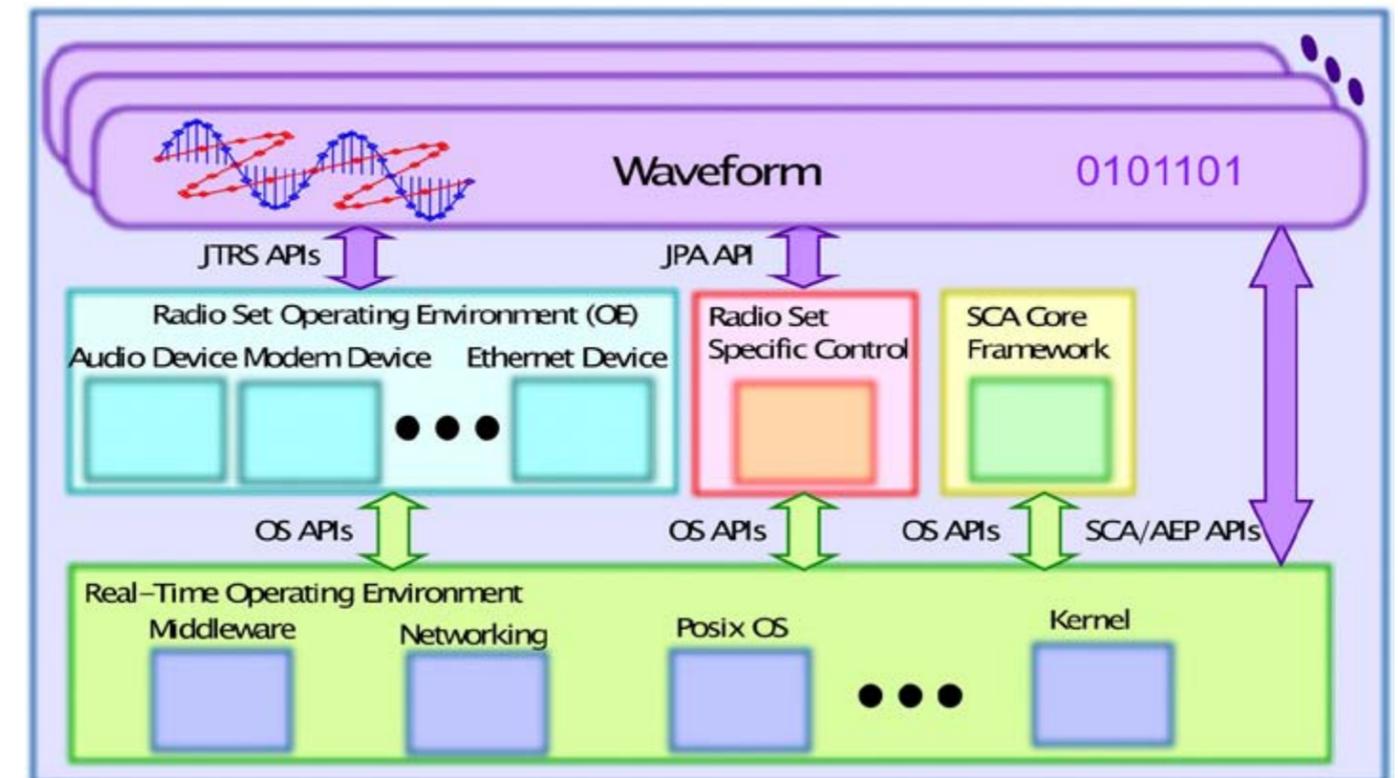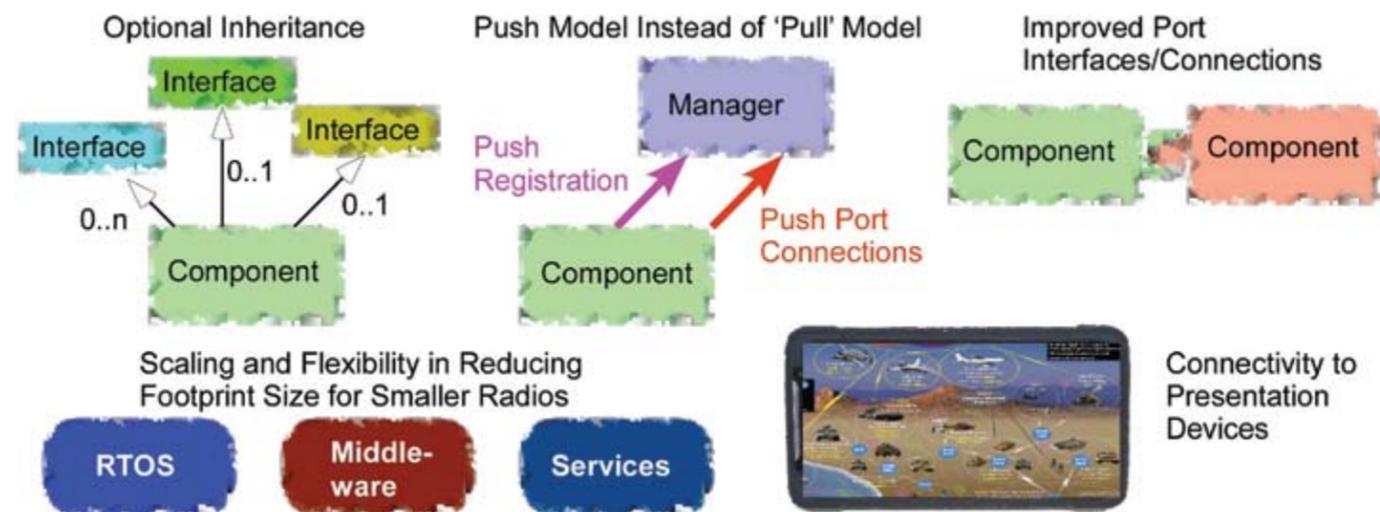
Figure 2 – The new technology and features introduced in SCA4.

solutions which are appropriately tailored to a particular product. For the radio user, the flexibility permits customization and extension of the features and capabilities of the original product.

Notable new SCA4 core features include lightweight components, profiles, static ports, push model registration, intra-application connectivity and Common Object Request Broker Architecture (CORBA) neutrality as depicted in Figure 2.

The SCA4 lightweight components can lower the cost of software defined radios with the new optional inheritance technology, which reduces software development and maintenance. Previously, the developer was required to implement all of the inherited interfaces even though all of the inherited interfaces may not have been necessary. For example, an SCA 2.2.2 Resource Interface inherits the TestableObject Interface and needs to implement the runTest operation regardless of whether or not the component provides a test capability.

SCA4 allows the developer to only include the interfaces necessary for the implementation, eliminating unused or underutilized code. With SCA4, the developer would not include TestableObject within the interface inheritance hierarchy and not be required to implement a runTest operation. An optional inheritance's benefit is the reduction in the number of applicable requirements; however, one should not lose sight of the fact that the savings associated with this feature are distributed across the entire software development life cycle.

Users that demand minimal boot-up times will benefit from the introduction of the "push" model design pattern in SCA4. The SCA was originally developed with a client-side "pull" design pattern which required components to register with the framework upon entry to the domain and then the framework would query the component for information needed to complete the deployment process. Within the SCA4's push model approach, when a component registers with the framework it is able to provide all of its information upfront. The change in the interaction model can achieve reductions in boot-up time, perhaps a 50 percent decrease.

The push model can be optimized even more in SCA4 by extending it with the new static ports feature. Static ports allow for an implementation specific approach to connection establishment. Connections can be formed in an efficient manner at run time or at build time which will result in more savings that

will become even more apparent for systems with applications that require hundreds of port connections.

Security aware customers will be pleased with the information assurance enhancements in SCA4. The original pull model approach allowed access points to vulnerable system data. SCA4's push model pattern eliminates the possibility of clients requesting information they should not have and removes susceptible access points. Security-minded developers of earlier versions of the SCA no longer have to manage these challenges in SCA4, it's simply built-in, and enables a cyber-hardened SCA4, software defined radio without increasing cost and battery consumption.

Suppose you want your software defined radio application to connect to another application running on the radio. SCA4 introduces intra-application connectivity to connect multiple applications for sharing and exchanging information. This permits the inclusion of tactical mobile apps, such as those found in the U.S. Army's Marketplace, an Android-based app store, to be deployed on military software defined radios and interconnected with military applications. The SCA4's new connectivity options are ideal for handling communication to these external apps seamlessly via the Android presentation layer.

The most anticipated stance in SCA4 was leniency on requiring specific middleware technologies, namely CORBA. The SCA no longer mandates the usage of CORBA as the sole middleware option. CORBA is still a viable alternative for SCA platforms and applications, but the SCA4 provides mechanisms to extend the specification with additional transfer mechanisms.

SCA4 transcends the boundaries of software developers and architects with mass appeal through a model driven architecture approach. A specific industry could tailor its own platform specific model from SCA4 by detailing which options and features are right for its system. SCA4 takes the next step in streamlining the development and maintenance of software defined radios all while promoting flexibility and security as ingrained features. This newest standard, officially versioned as SCA 4.0, was approved by the JTRS Interface Control Working Group and the Wireless Innovation Forum Feb. 28, 2012. A complete set of SCA4 documentation, JTRS APIs, models and informative presentations are available on the SCA public website: www.public.navy.mil/jpeojtrs/sca/Pages/default.aspx. CHIPS

Sailor Stores PII in Commercial Facility; Fails to Pay the Bill

By Steve Muck

The following is a recently reported personally identifiable information (PII) data breach involving a Sailor who improperly handled PII. Incidents such as this one will be reported in CHIPS magazine to increase PII awareness. Names have been changed or omitted, but details are factual and based on reports sent to the Department of the Navy Chief Information Officer Privacy Office.

The Incident

A Sailor removed several boxes of personnel and training records from his command and stored them, along with his personal gear, in an off-base commercial facility. Months passed during which time the Sailor failed to pay his monthly storage fee. While the bills remained unpaid, the Sailor transferred to a new command. After a several months-long delinquency period, the storage facility auctioned off the property to a church. In assessing the contents, the church discovered hundreds of documents containing PII and notified the base security officer who then retrieved the boxes and reported the incident as a PII breach.

The Cyber Security Division with Marine Corps Camp Lejeune implemented required training for Department of Defense personnel to increase awareness and protect the Marine Corps network. Devices such as thumb drives and smart phones, when connected to a computer, are one of the many ways a government computer can contract malware. U.S. Marine Corps photo by Pfc. Nikki Phongsisattanak.

Actions Taken

The records had to be reviewed to identify the extent and seriousness of the PII breach. Names of more than 2,800 personnel with associated personally identifiable information were identified. A list of personnel with high-risk PII elements, such as Social Security number, date of birth and place of birth, reduced the total number of personnel who were considered at risk for potential identity fraud to 1,200. The DON CIO Privacy Office determined that notifications to the high-risk personnel were required. Approximately half the high-risk personnel had left the command and in those cases, home addresses were researched. The irresponsible Sailor was punished for mishandling PII and failure to follow DON policy in accordance with the Privacy Act of 1974.

Lessons Learned

» Unless it is your own, personally identifiable information should never be taken home.
» PII must be physically secured at all times.
» A breach of this magnitude requires extensive administrative work to mitigate.
» Supervisors must monitor their workplace and be mindful that subordinates need continual training and supervision.
» Paper and electronic records must be reviewed on a routine basis for retention or destruction.
» The DON CIO Privacy Office can provide assistance in finding addresses of personnel who have transferred to a new command or have left the service.

Similar acts of carelessness are frequently reported to the DON CIO Privacy Office. While this particular incident caused a number of people a substantial amount of administrative work, the department is fortunate in that a responsible person returned the documents to government control. This minimized the potential risk to those personnel whose documents were improperly stored. DON personnel are reminded to properly safeguard all PII when it is under their control and to report any breach as soon as it is discovered. CHIPS

Steve Muck is the privacy lead for the Department of the Navy Chief Information Officer.

SSN REDUCTION PLAN 3

Phase

By Steve Muck

The Department of the Navy implemented phases one and two of the Social Security Number Reduction Plan and is now implementing phase three. This DON-wide effort requires senior leadership's attention and cooperation, as well as compliance from all Sailors, Marines, civilians and support contractors.

Naval message DTG 171625Z Feb 12 "Department of the Navy Social Security Number Reduction Plan Phase Three" was released Feb. 17, 2012, and is summarized below.

All DON business processes must meet acceptable use criteria for continued SSN use, eliminate the SSN or transition to the Department of Defense identification number, which is also known as the Electronic Data Interchange Personal Identifier Number (EDIPI), as a substitute. Acceptable use criteria for collecting SSNs can be found at: www.doncio.navy.mil/ContentView.aspx?id=1833.

All letters, memorandums, spreadsheets, hard copy lists and electronic lists must meet the acceptable use criteria if they include SSNs. A formal review of documents that justify continued use of SSNs will be required in 2015. Commands are strongly encouraged to eliminate use of SSNs or transition to the DoD ID number now.

When changes to a process result in the elimination of the use of SSNs, applicable directives and instructions must be updated to reflect those changes.

Personally identifiable information (PII) must be limited to the minimum elements required to fulfill the purpose for which it is intended and must never include SSNs. For example, recall rosters should only contain names, addresses and telephone numbers.

Effective Oct. 1, 2012, using a fax machine to send information containing SSNs and other PII is prohibited. External customers such as service veterans, Air Force and Army personnel, family members and retirees may continue to fax documents containing the SSN to DON activities but shall be strongly encouraged to use an alternative method. Alternatives include mailing the information via the U.S. Postal Service and scanning. Scanned documents must be transmitted using a secure means such as encrypted emails or the Safe Access File Exchange (SAFE). Details regarding the use of SAFE can be found at: www.doncio.navy.mil/Products.aspx?ID=3544.

The use of network-attached multifunction devices (MFD) and scanners to scan documents containing an SSN and other PII is restricted to the following limitations and prohibitions effective Oct. 1, 2012. These restrictions do not apply to scanner/MFDs that are directly connected to a user's workstation.

Network-attached multifunction devices and scanner scan-to-email functionality may be used only if the sender can verify that the intended recipients are authorized to access the scanned file and the MFD, or the scanner encrypts the email containing the scanned file.

Network-attached multifunction devices and scanner scan-to-file or scan-to-network-share functionality may be used only if the sender can verify that all users are authorized to have access to the scanned file or network share location.

A fundamental shift will occur when DON business practices rely on the DoD ID number as the unique personal identifier instead of the SSN. While some processes will always require the use of an SSN as a result of certain laws, the substitution of the DoD ID number and other SSN reduction actions greatly improve the security of PII for all DON personnel.

To download a copy of the Department of the Navy Social Security Number Reduction Plan Phase Three naval message, go to www.doncio.navy.mil/PolicyView.aspx?ID=3757. CHIPS

Steve Muck is the privacy lead for the Department of the Navy Chief Information Officer.

For more information about the SSN Reduction Plan, **visit: www.doncio.navy.mil/privacy.**

Transforming Spectrum Management

By Thomas Kidd

Emerging technology has always compelled traditional spectrum management processes to adapt and evolve. The 2012 International Telecommunication Union World Radiocommunication Conference issued new international radio regulation treaty language regarding software defined radio and cognitive radio systems.

During the coming months, the United States and each member nation of the International Telecommunication Union will begin incorporating the decisions made during the conference into their national regulatory processes. For the United States and other nations that seek to assure their communications license holders access to specific electromagnetic spectrum, these new technologies will challenge the stability of the current spectrum management business paradigm. For industry professionals who assure their customers access to the electromagnetic spectrum, the emergence of these new technologies also poses a challenge to the spectrum management process.

In a software defined radio, the software defines the characteristics of the radio, and software waveforms may be reused and ported onto different radio hardware similar to computer applications. Traditional hardware components are replaced with embedded computing devices.

Cognitive radio systems obtain knowledge and then adjust their operational behavior based on that information. While neither of these technologies is in widespread use today, they are already affecting the traditional concepts of equipment certification and frequency assignment.

There are several steps in the Department of the Navy's spectrum dependent systems development process during which the effects of the technology under development in the electromagnetic environment is assessed. The system is certified to function without harming its intended operational electromagnetic environment or exceeding a rigid set of operational criteria. Once deployed, radio frequencies are assigned to that device for specific operations within prescribed parameters for a specific geographic location.

U.S. Navy Boatswains Mate 2nd Class Steven Douglas, a native of Helmstedt, Germany, assigned to Beach Master Unit 1st Detachment Western Pacific (BMU1DETWESTPAC), communicates with the lighter amphibious resupply cargo (LARC) vehicle as it performs a hole check Feb 13. The amphibious ready group is underway to support Cobra Gold 2012, the exercise consists of multinational training events executed annually and held throughout the Kingdom of Thailand. Exercise Cobra Gold is the largest multilateral exercise in the Asia-Pacific region, offering more than 20 participating countries opportunities to improve interoperability. U.S. Navy photo by MC2 Eric Crosby.

Software defined radios present a challenge for equipment certification processes because their specific operational parameters may not be determined until a software profile is loaded into a device. As the term software implies, this new generation of radios is not restricted to operating in the historical structure determined by design and manufacturer constraints. The profiles may vary greatly depending on the flexibility of the software defined radio. One military software defined radio program, the Joint Tactical Radio System (JTRS), has been challenging the equipment certification paradigm for more than a decade. The obvious benefit of this technology is enhanced mission capabilities. The electromagnetic characteristics of JTRS radios are dependent on specific waveform software profiles installed in the hardware platform. The permutation of multiple platforms and multiple waveforms does not fit within the paradigm of a traditional hardware radio with finite operational characteristics.

Cognitive radio systems present a challenge to spectrum management during the frequency assignment process. In its extreme implementation, a cognitive radio system automatically adapts its communication parameters to network and user demands based on its interpretation of available spectrum. As the electromagnetic environment changes, the cognitive radio system's behavior may change as well. Dynamic frequency selection technology is an early indication of a cognitive radio's capabilities for spectrum sensing: detecting the unused spectrum and sharing it without harmful interference with other users. Depending on the local electromagnetic environment, a dynamic frequency selection device will modify its behavior to operate on some frequencies while avoiding others. During the past decade, dynamic frequency selection systems have been introduced into some Wi-Fi technologies. This is a primitive example of cognitive radio systems but, like JTRS, it too has challenged traditional spectrum management practices.

The transformation of spectrum management business processes will be led by the intersection of technological capabilities and regulatory requirements. Spectrum management business processes will harness these two forces to put cognitive radio systems and software defined radios into the hands of warfighters. Procedures for spectrum management will not only adapt to incorporate these new technologies, they will transform as these technologies bring new concepts and capabilities to spectrum management.

Spectrum management business processes must incorporate aspects of behavior enforcement to ensure that the technology acts the way operators want it to in a given situation, as well as support a level of autonomy for the technology to make decisions without human intervention, while enabling configuration management in near real-time. The business process will evolve from a system of strict predetermination toward one based on trust. CHIPS

Thomas Kidd is the lead for strategic spectrum policy for the Department of the Navy.

GOING MOBILE

Enabling Business Transformation "On the Go"

By Dan DelGrosso and Mike Hernon

Increasing the ability to conduct business on the go, away from a traditional office or desktop environment, can be a key enabler of the Department of the Navy's business transformation process. Arming DON personnel with access to the department's knowledge base regardless of their location will improve effectiveness in any new or improved business process.

A robust enterprise mobility capability can improve communications, save money, enhance the ability to make decisions and facilitate organizational restructuring — all of which are critical business transformation rationales.

Leveraging the Cloud

Mobility and business transformation can each leverage ongoing Department of Defense (DoD) IT initiatives such as cloud or tablet-based computing. In a cloud environment, an organization's data and applications reside in centralized data centers and are accessed via the Internet or an intranet such as the Navy Marine Corps Intranet.

There are a number of advantages to this approach. Perhaps the most obvious one from an end user perspective is that the traditional desktop computer with its large disks to store applications and data is replaced with zero- or thin-client devices, which have no or minimal storage, respectively. This is particularly well-suited for a more mobile workforce as mobile devices typically do not have the processing power or storage capacity of a desktop computer.

In this environment, a tablet may be more useful than a standard desktop computer because it can have the same application functionality but with the added benefit of removing the tether from the wall jack. Tablets are especially useful on the move in varied settings, such as a hangar deck or on the flight line, whereas laptops are good for access from a remote, but generally fixed location.

Organizational Transformation

Flattening organizations — reducing the levels of hierarchy — is a common business transformation strategy. Flattened organizational structures significantly increase decision agility by cutting red tape and eliminating multiple review and approval steps before taking action. Empowering employees to assess the environment and make decisions at a lower level is often a goal of organizational flattening.

The effectiveness of a flattened organization largely depends on the ability to publish, share and discover information in a timely fashion. Empowered employees must not only have the authority to make decisions on behalf of the organization, but must also have ready access to the same information available to senior management to make good decisions. A robust mobility capability is necessary to meet this requirement for an increasingly mobile workforce.

Telework

Telework is one of the major business transformation initiatives underway throughout the DoD. While telework is already an active program, a major increase in the number of participating personnel is expected once a new DON telework policy is signed. This follows the signing into law of the Telework Enhancement Act of 2010 (www.gpo.gov/fdsys/pkg/BILLS-111hr1722enr/pdf/BILLS-111hr1722enr.pdf) and the DoD Instruction 1035.01, Telework Policy of Oct. 21, 2010 (www.dtic.mil/whs/directives/corres/pdf/103501p.pdf).

The new environment created by these policy changes will transform the way business is conducted with telework becoming a common practice, instead of one reserved for special situations. Telework's benefits include supporting continuity of operations, cutting costs, promoting "green" work practices and retaining qualified staff.

Without a viable mobility capability, a successful telework program will be difficult to achieve. Remote and mobile communications and access to information are basic requirements for personnel to be effective when working from home or other locations outside the office.

Is There an App for That?

At this time, there is not a DoD app for that — yet. Typical mobile access across the DoD today supports basic business functionality — email, calendar, tools and address books. Portals may also be accessed, primarily through laptops because the browsing experience and ability to work on documents on a smart phone-sized screen are limited. While this level of functionality has proved beneficial, the department must take it to the next level to more effectively support business transformation.

Moving to the next level means the mobile environment will provide the same functionality available at a traditional workstation and, in many instances, even more. As in the commercial sector, the key to reaching this level is the availability of feature-rich apps that are easy to use and designed for the mobile environment. As today's applications are redesigned to take advantage of the cloud and thin and zero clients, the department must also ensure it will be mobile friendly. This entails vetting and approving existing commercially available apps for use in the DoD network environment.
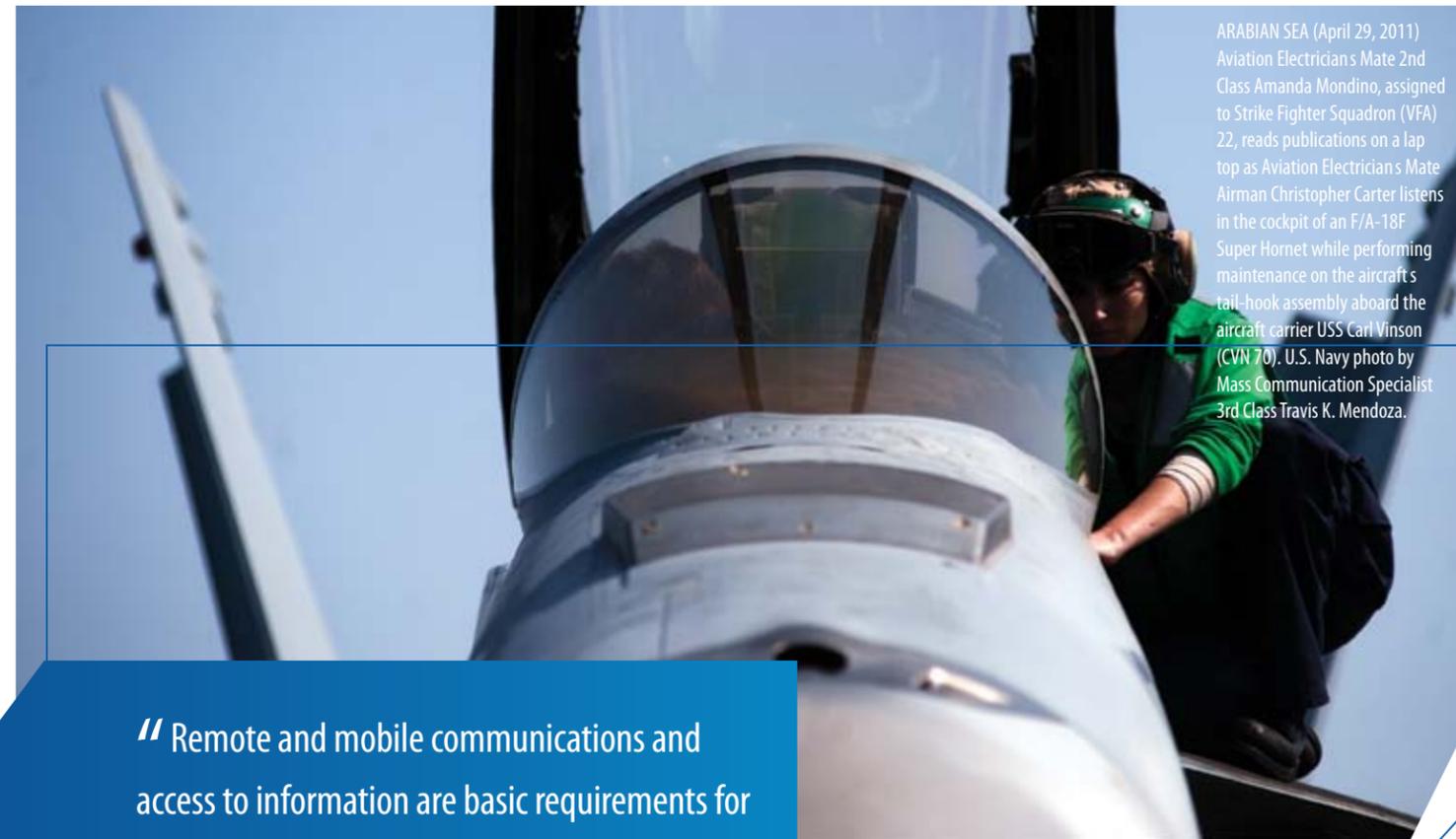
ARABIAN SEA (April 29, 2011) Aviation Electrician's Mate 2nd Class Amanda Mondino, assigned to Strike Fighter Squadron (VFA) 22, reads publications on a lap top as Aviation Electrician's Mate Airman Christopher Carter listens in the cockpit of an F/A-18F Super Hornet while performing maintenance on the aircraft's tail-hook assembly aboard the aircraft carrier USS Carl Vinson (CVN 70). U.S. Navy photo by Mass Communication Specialist 3rd Class Travis K. Mendoza.

> **"** Remote and mobile communications and access to information are basic requirements for personnel to be effective when working from home or other locations outside the office. **"**

Challenges and Mitigations

There are a variety of challenges in taking the department's mobility environment to the next level. For each challenge, however, there are actions that can be taken to mitigate the factors working against progress. The major challenges are:

» **Information Assurance:** IA remains the primary concern for DoD IT platforms and is why the DoD is not on the cutting-edge of adopting new technologies. IA can be improved by cloud-based mobile computing because data does not reside on the device. Consequently, a lost or stolen tablet would not result in compromised information. Accelerating the move to the cloud will help address IA concerns.

» **Pace of Change:** The processes to certify, accredit and deploy devices that connect to DoD networks have not, and will never, keep up with the pace that manufacturers set. As a result, DoD is approving devices built on hardware or operating systems that are either obsolete or no longer commercially available. These devices have not proven to be popular with the user base. As a result, the department must streamline certification and accreditation and deployment processes. Another approach the DoD is studying is the bring-your-own-device model. With this approach,

users buy their personal device with a supported operating system and can connect to a DoD network. The government data and apps would be accessed through a secure "sandbox" that is segregated from personal data. Moving to the cloud will also facilitate this approach.

» **Backend Infrastructure:** The prevalent IT architecture is oriented toward the desktop computing environment of the past 25 years as mainframe dumb terminals were replaced by personal computers with ever-increasing memory, storage and processing power. This is not conducive to either a robust mobility model or a business transformation effort because of the fragmentation and dispersal of enterprise data. Adopting the cloud model as quickly as possible will enable a more potent mobility capability to support business transformation.

Moving Forward

Business transformation can be supported and significantly enhanced by enterprise mobility. As the department's IT model itself is transformed toward cloud computing, the role mobility plays in supporting new or modified business practices will only grow. CHIPS

Dan DelGrosso is the director of naval networks and enterprise services, Office of the Department of the Navy Chief Information Officer
Mike Hernon is the former chief information officer for the city of Boston. He supports the DON CIO in telecommunications and wireless strategy and policy.

TIPS FOR CREATING 508
Compliant IT Solicitations

By Sherrian Finneran
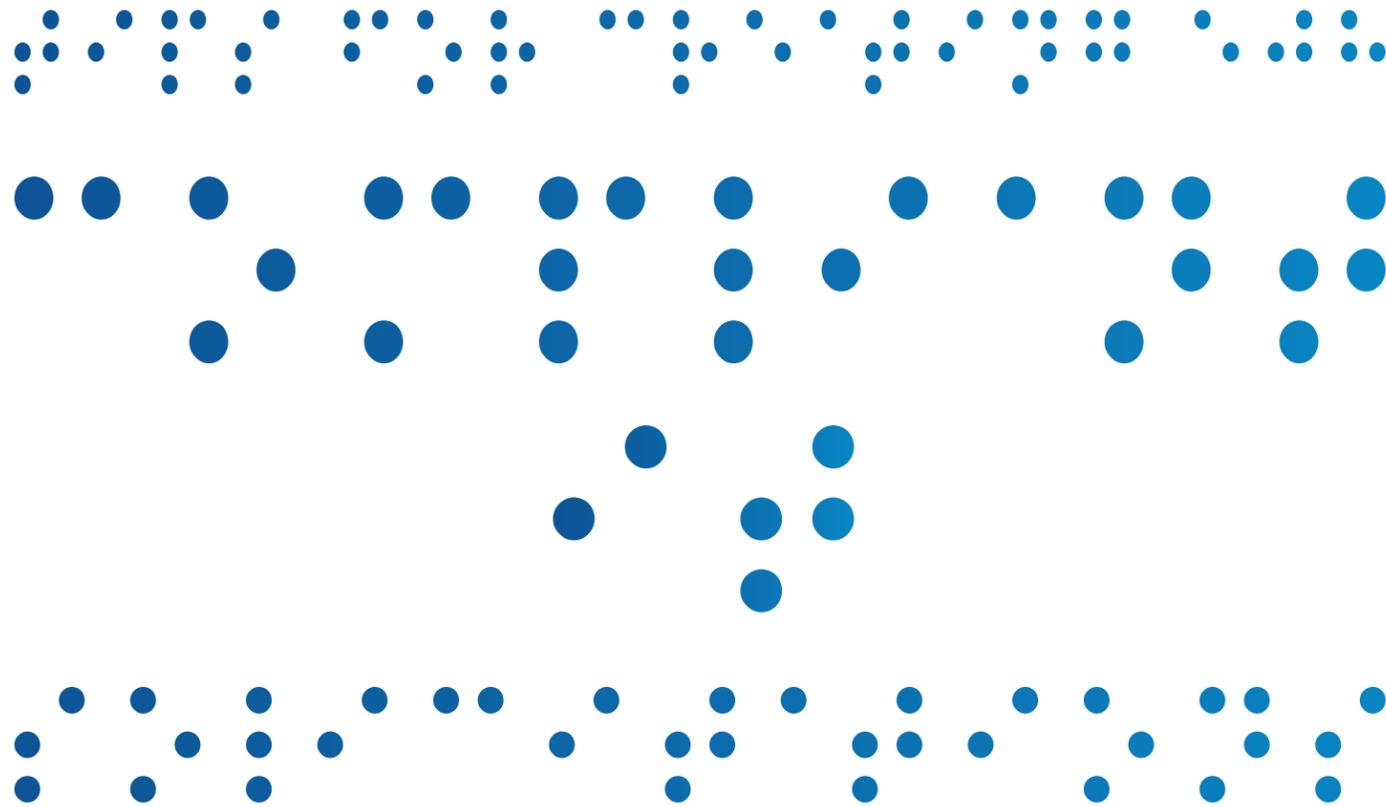
A ccessible information technology is technology that can be used by people with disabilities. Electronic documents, websites, software, computers, kiosks and other IT equipment that are inaccessible to people with disabilities essentially exclude them from the technological advantages enjoyed by people without disabilities who can easily access IT products.

Section 508 of the Rehabilitation Act supports employment of people with disabilities, improves public access to government IT, reduces the need for individual accommodations, encourages improvements in accessible design, increases the availability of accessible products and raises general awareness of disability issues. To comply with Section 508, it is essential to understand the law, the Section 508 standards (available on the U.S. Access Board website at: www.access-board. gov/508.htm) and the Federal Acquisition Regulation (FAR) both Subpart 7.103 and Subpart 39.2. Solicitations created by the federal government to procure, develop or maintain IT equipment must comply with these requirements. To ensure DON solicitations are compliant with Section 508, heed these Dos and Don'ts.

DO

Provide a clear statement that the provisions of Section 508 do or do not apply to the solicitation. It is important that the solicitation documentation indicates if the deliverables to be acquired are electronic information technology (EIT) and subject to Section 508. In accordance with FAR 39.203, this determination is the responsibility of the agency.

Indicate if an exception is being claimed. When claiming an exception as provided by the FAR 39.204, clearly specify this in the solicitation and show which general exception is being claimed.

Request accessibility information from the responder. Potential vendors should be asked to provide information about the accessibility of their EIT product through a Volunteer Product Accessibility Template (VPAT) or a Government Product Accessibility Template (GPAT) (available on the Information Technology Industry Council website at: www.itic.org).

Indicate which technical standards in Subpart B of the *Section 508 Standards Guide* (www.section508.gov/docs/ Section%20508%20Standards%20Guide.pdf) **apply to the EIT contract deliverables being procured, developed or maintained.** The technical standards are:
» Software applications and operating systems (§1194.21);
» Web-based intranet and Internet information and applications (§1194.22);
» Telecommunications products (§1194.23);
» Video and multimedia products (§1194.24);
» Self-contained or closed products (§1194.25); and
» Desktop and portable computers (§1194.26).

Indicate which information, documentation and support requirements are applicable to the EIT contract deliverables. Solicitations for EIT equipment should identify whether information, documentation and support requirements apply to support the documentation and services provided by agencies to end users of the acquired EIT products.

Specify applicable accessibility factors as evaluation criteria. Solicitation evaluation should be based in part on the proposal responses to the identified Section 508 requirements and accessibility considerations. Solicitations for EIT equipment should specify accessibility factors as part of their evaluation criteria.

Specify accessibility factors as part of the acceptance criteria. Solicitations should include a statement indicating that supplies or services delivered as a result of the solicitation will be reviewed to verify they meet accessibility requirements. Potential vendors need to be informed of these reviews and inspections.

Create solicitation documents that are accessible. All documents and attachments associated with an EIT solicitation should be in accessible format. A service-disabled veteran owned business or other disabled vendor may be able to fulfill the solicitation requirements.

DON'T

Create solicitations that fail to reference Section 508. As noted above, it is a FAR requirement to state whether Section 508 applies to the solicitation. Further, once a solicitation is posted on FedBizOpps.Gov (www.fbo.gov/?s=opp ortunity&mode=list&tab=list), it may be evaluated for Section 508 compliance by automated software. Not mentioning Section 508 or referring to it in a vague, non-specific manner may be detected.

Request a vendor to determine Section 508 exceptions. This is the responsibility of the agency and cannot be delegated to a vendor.

Request a vendor to determine Section 508 relevance. This is the responsibility of the agency and cannot be delegated to a vendor.

Request a vendor to determine Section 508 applicability. This is the responsibility of the agency. However, assistance can and should be requested from the vendor in the form of a VPAT or a GPAT.

Request an accessibility certificate of compliance. Potential vendors should be asked for proof of conformance with the stated accessibility factor requirements through a VPAT or a GPAT. A certifying body for Section 508 accessibility does not exist.

Create inaccessible solicitation documents. A service-disabled veteran owned business or other disabled vendor may be able to fulfill the solicitation requirements.

Additional information about Section 508 is available at www.section508.gov and the BuyAccessible.Gov website at www.buyaccessible.gov. The BuyAccessible website assists federal agencies in determining when Section 508 applies to a particular purchase and helps in conducting market research for compliant vendors. CHIPS

Sherrian Finneran is the Department of the Navy Section 508 coordinator.

DEPARTMENT OF THE NAVY

IM/IT EXCELLENCE AWARD WINNERS

BY THE DON ENTERPRISE IT COMMUNICATIONS TEAM

FOUR INDIVIDUALS AND EIGHT TEAMS WERE HONORED for their outstanding contributions to excellence in information management/information technology during the Department of the Navy IT Conference, Jan. 24, in San Diego. The John J. Lussier Electromagnetic Spectrum Leadership award, which recognizes superior achievement in electromagnetic spectrum management and use, was also presented at the conference.

The annual DON IM/IT Excellence Awards recognize IM/IT projects, teams and individuals that have helped to transform the Navy and Marine Corps through information technology.

DON Chief Information Officer Mr. Terry Halvorsen and DON Deputy CIO (Navy) Ms. Janice Haith recognized the following individuals and teams for their hard work and dedication to furthering the DON's IM/IT strategic goals.

DAVID GREEN, *senior level chief technology advisor, Headquarters Marine Corps/C4* for his visionary leadership and support in the development of an enterprise architecture five-year strategic plan and in overseeing the new Marine Corps IT Procurement Request/Review Approval System, which facilitates enterprise level visibility of Marine Corps procurement requests. In 2011 the system facilitated the review of more than 6,800 IT procurement requests totaling more than $1.1 billion, achieving a cost avoidance of more than $150 million.

PETER KELLEY, *U.S. Marine Corps Information Assurance (IA) Manager, Total Force Information Technology System (TFITS)* for his outstanding performance in managing the IA program for the U.S. Marine Corps TFITS Program Office portfolio, which includes 62 projects sponsored by seven Marine Corps organizations and more than 600 software releases annually with possible IA impact. Through his efforts, the program office achieved 100 percent compliance with the DoD Information Assurance Certification and Accreditation process and dramatically improved its percentage of fully accredited projects. Kelley managed the improvement of the Federal Information Security Management Act from 24 percent compliance in early 2011 to 84 percent compliance as of August 2011.

CHIEF WARRANT OFFICER (CWO) 2 RAFAEL MASALBALADEJO, *U.S. Marine Corps Network Operations and Systems Officer* for his exceptional skills in designing and implementing a private Internet Protocol address solution for the Defense Switched Network Voice over Internet Protocol network for Forward Operating Base (FOB) Camp Leatherneck, Afghanistan. The successful design led to the use of this same plan and execution strategy by two other FOBs in Afghanistan.

DEBORAH OLSON, *program manager, Marine Corps Enterprise Services* for her superior management skills, consolidating infrastructure supporting legacy and virtual application services and data environments with a common validation and inclusion process. The consolidation reduces costs, improves access to enterprise information and provides a collaborative sharing environment. Olson also delivered the first Marine Corps instance of a validated and accredited cloud computing environment through the achievement of the Marine Corps Enterprise Information Technology Services Initial Operating Capability in July 2011.

CENTER FOR INFORMATION DOMINANCE (CID) INFORMATION SYSTEMS TECHNICIAN OF THE FUTURE (ITOF) TEAM for developing a DON $134 million fully resourced and implemented phased IT/IA workforce strategic training solution that expertly balanced complex training requirements, captured and realigned enduring assets, and secured funding to further DoD/ DON IM/IT strategic goals. Team CID designed and deployed an expandable virtual lab network infrastructure accepted as the Navy enterprise solution that provided cost savings in hardware, technical refresh and

life cycle maintenance support estimated at $6.2 million across the Future Years Defense Program.

CENTER FOR SEAL AND SPECIAL WARFARE COMBATANT-CRAFT CREWMAN (CENSEALSWCC) IM/IT TEAM for significantly increasing the commanders' knowledge management (KM) capability by providing the ability to extract timely and accurate data on the operational characteristics of their units and individuals within their units, enhancing organizational efficiency and operational effectiveness by improving the commanders' employment of their units' human capital. Additionally, leveraging an existing enterprise IM/IT system saved time and money, improved the KM of Naval Special Warfare commanders, increased mission effectiveness and improved electronic records management.

N2/N6 ENTERPRISE ELECTROMAGNETIC ENVIRONMENTAL EFFECTS AND SPECTRUM MANAGEMENT TEAM for its efforts on the Electromagnetic Spectrum Usage Roadmap, which will ensure warfighter access to critical electromagnetic spectrum resources, and the National Broadband Plan, which established an enterprise process to assess the technical, operational and financial impacts and feasibility of reallocating military and federal radio frequencies. The team's effort ensured that Navy capabilities for training were not compromised, resulting in minimum initial cost avoidance of more than $2.3 billion to develop new off-shore training ranges and minimum annual recurring cost avoidance of more than $300 million to train naval forces farther off shore

to mitigate the impact of lost spectrum and increased interference to commercial wireless service providers.

NAVAL NETWORK ENTERPRISE PACIFIC (NNE PACIFIC) SENIOR CHIEF INFORMATION SYSTEMS TECHNICIAN (ITCS) (SEAL) DANIEL HEALY COMMUNICATIONS CENTER for outstanding achievement in planning, leading and executing the successful transition of Pacific region naval and joint telecommunications and information technology services to the ITCS (SEAL) Daniel Healy Communications Center, orchestrating and executing the largest and most complex theater-wide communications shift ever undertaken in the U.S. Navy's history. The new ITCS (SEAL) Daniel Healy Communications Center, which provides automated real-time situational awareness and dynamic, agile management of Pacific C4I networks, will be better positioned to meet Pacific theater conflict plans and operational plans well into the future.

DEPARTMENT OF THE NAVY (DON) ENTERPRISE SOFTWARE LICENSING, SOFTWARE ASSET MANAGEMENT AND TOOLS (ESL AM&T) IPT for the exceptional efforts of a diverse group of Navy and Marine Corps military and civilian personnel, who collaborated and delivered four options for implementation of a net-centric enterprise solution for IT asset management that could save the DON 10 to 30 percent per annum within its IT asset spending.

NAVY RESERVE FORCE NAVY OPERATIONAL SUPPORT CENTER NNWF TEAM for the team's superior leadership, technical acumen and

perseverance in guiding multiple organizations to provide Navy Reserve Wi-Fi access to Navy Reserve Sailors at the operational level. The NNWF project is the first DoD/DON approved wide-scale deployment of commercial Wi-Fi to operational sites for the purpose of completing mission and readiness related tasking. The solution provides secure and reliable access to Navy Selected Reserve members for less money than other alternatives.

NAVAL NETWORK WARFARE COMMAND/FLEET CYBER COMMAND/PROGRAM EXECUTIVE OFFICE FOR ENTERPRISE INFORMATION SYSTEMS/SPACE AND NAVAL WARFARE SYSTEMS COMMAND (NNWC/FCC/PEO-EIS/SPAWAR) C2 INFORMATION MANAGEMENT TEAM [FOR COMMAND AND CONTROL OF THE NAVY MARINE CORPS INTRANET (NMCI) THROUGH THE CONTINUITY OF SERVICES CONTRACT (COSC)] for outstanding contributions on an information management project that resulted in the development and implementation of command and control (C2) processes for the NMCI. The effort resulted in the integration of government and vendor processes at key flow points; common understanding of data and information by C2 personnel; increased transparency in network status; and the integration of the "Operational Layer" and "Global Tactical" for network actions supporting the warfighter and the network operator.

TASK FORCE NIMBLE MATRIX (TFNM) (HBSS ACCELERATION) TEAM for its innovative approach to meeting the Chief of Naval Operation's mandate to field the Host Based

Security System (HBSS) to afloat SIPR networks and deploying HBSS to 348 U.S. Navy and Military Sealift Command platforms in an unprecedented timeline of less than eight months. The team ultimately provided training to 762 fleet operational and support personnel.

ROBERT MARCIAL received the John J. Lussier Electromagnetic Spectrum Leadership Award in recognition of his superior performance as chief, Pacific Joint Frequency Management Office, Pacific Command (PACOM). Marcial was recognized for his visionary leadership and foresight in identifying critical spectrum-related requirements in the Pacific Area of Responsibility (AOR) and developing innovative solutions to those requirements.

In 2011, Marcial headed the Pacific Joint Frequency Management Office through some of the most tumultuous months in PACOM's recent history. His leadership during PACOM's relief efforts for Japan during Operation Tomodachi (initiated as a result of the earthquake and tsunami) ensured that spectrum control was complete and thorough, removing impediments that threatened to delay the relief effort.

The ultimate result of this effort was Mercury, the world's first multinational online spectrum coordination tool. In its first year of development, Mercury is set to become a local standard for spectrum planning in disaster-relief operations by nations in PACOM's AOR. Marcial's significant contributions also include leadership initiatives such as improved spectrum education and awareness, coordination activities with senior-level foreign nation military personnel, and

spectrum processes and policies that benefit all DON commands within the PACOM AOR.

The John J. Lussier Electromagnetic Spectrum Leadership Award is named for the former DON Principal Deputy Chief Information Officer who lost his courageous battle with cancer in June 2009. Lussier was an advocate for protecting the DON's equities in the electromagnetic spectrum and advancing the DON's strategic vision for spectrum. This award is presented to an individual who demonstrates superior achievement in Navy and Marine Corps electromagnetic spectrum management and use.

DAN DELGROSSO, *director, naval networks and enterprise services, Office of the Department of the Navy Chief Information Officer.*

BRIG. GEN. KEVIN NALLY, *Department of the Navy Deputy Chief Information Officer, U.S. Marine Corps.*

CAPT. MARTIN M. MINNICH, *communications officer, Marine Corps Air Station Iwakuni.*

Also, five information technology leaders from the DON were among this year's Federal 100 Award winners. Federal Computer Week magazine presents the award to 100 government and industry leaders who have played pivotal roles in effecting change, progress and efficiency in determining how the federal government acquires, develops and manages IT. The 2012 DON Fed 100 Award winners are:

RUSSELL C. COLEMAN, *lead systems engineer, Space and Naval Warfare Systems Center Atlantic, Charleston, S.C.*

CMDR. RANDY DARROW, *director, enterprise services, Office of the Department of the Navy Chief Information Officer.*

From Wounded Warrior to Civilian Employee

"Wounded Warriors are, by definition, tenacious and resilient. They are leaders and doers."

– Juan Garcia, Assistant Secretary of the Navy (Manpower and Reserve Affairs)

The DON is committed to meeting the goals of Executive Order 13548, Increasing Federal Employment of Individuals with Disabilities, by implementing efforts to increase recruitment, hiring and retention of individuals with disabilities, including disabled veterans and wounded warriors

Medical advances have allowed combat wounded service members to obtain medical treatment faster and closer to the point of injury which has resulted in increased survival rates for our servicemen and women. This means more men and women are returning home, and some are returning with disabilities. Many are reintegrating into civilian life and seeking employment. Some are living with visible and invisible wounds due to the unconventional nature of current conflicts.

Today, employers are looking for individuals who are mission and team-oriented leaders with a variety of skills and experience gained from their military service. Our veterans bring this to the civilian workplace. The Department of the Navy has issued a quick reference guide, "From Wounded Warrior to Civilian Employee," for employers, managers and supervisors which provides information on how to successfully support veterans who have transitioned to the civilian workplace.

Specific areas addressed in the guide include the DON's commitment to individuals with disabilities and wounded warriors, as well as post-traumatic stress disorder (PTSD), traumatic brain injury (TBI), suicide prevention and response, disability etiquette for the workforce, handling leave requests, retention strategies, workplace accommodations, and additional resources.

Equality of opportunity is recognized as an essential element of readiness and is vital in retaining a top-quality workforce to accomplish the DON's strategic mission. The DON's policy is to provide reasonable accommodation to qualified employees and applicants with disabilities.

An effective reasonable accommodation policy is an important aspect of the DON's commitment to create employment opportunities for individuals with disabilities. There are approximately 54 million Americans living with disabilities. There are currently more than 13,000 DON employees who have self-identified as having a disability. The DON is committed to meeting the goals of Executive Order 13548, Increasing Federal Employment of Individuals with Disabilities, by implementing efforts to increase recruitment, hiring, and retention of individuals with disabilities. Part of the DON's commitment to increasing employment of individuals with disabilities, includes hiring of our wounded warriors.

Transition to the Civilian Workforce and Common Combat-related Disabilities

Service members have experienced increased survival rates; yet, many are returning with physical and psychological disabilities. Some physical disabilities that are common to combat exposed veterans may include: gunshot wounds, burns, amputations, paralysis, blast injuries and sensory impairments (e.g., hearing and sight). Some hidden disabilities may include PTSD and TBI.

The DON is committed to supporting individuals with disabilities, which includes both disabled veterans and wounded warriors. The DON has implemented an effective reasonable accommodation policy which can be located at the following website: www.public.navy.mil/donhr/eeo/ResourceLibrary/Pages/InstructionsandGuidance.aspx.

Creating a supportive and conducive workplace environment promotes inclusive practices. CHIPS

The guide, From Wounded Warrior to Civilian Employee, is available from the Department of the Navy Chief Information Officer website at www.doncio.navy.mil/PolicyView.aspx?ID=3800.

VIRGINIA BEACH, Va. (Sept. 9, 2011) A Sailor greets wounded warriors and veterans participating in a Warrior Ride at Joint Expeditionary Base Little Creek-Fort Story. The ride is in remembrance of the 10th anniversary of the Sept. 11, 2001 terrorist attacks. U.S. Navy photo by Spencer R. Layne.

SPAWAR says 7% of all new hires will be Wounded Warriors

Getting the greatest generation back to school and work

By Tina C. Stillions, Space and Naval Warfare Systems Command Public Affairs

Space and Naval Warfare Systems Command (SPAWAR) and Naval Medical Center San Diego hosted a senior leadership panel discussion and networking forum for wounded warriors and service members transitioning to civilian life March 15.

The event is the second in a series of events SPAWAR is spearheading to provide employment support and mentoring opportunities for San Diego area wounded warriors. The event included a panel discussion with SPAWAR and industry leaders and a networking session comprised of members of local businesses to discuss veteran hiring programs, internships and employment opportunities.

Mentoring, Coaching, Leading

SPAWAR Commander, Rear Adm. Patrick Brady opened the session held at the wounded warrior barracks auditorium at Naval Medical Center San Diego (also known as Balboa Hospital). He compared the new generation of injured and recovering service members with the "greatest generation," a term first coined by Tom Brokaw in his book, "The Greatest Generation," where he wrote about the sacrifices and bravery of the World War II generation.

"I really think your generation is one of the greatest, so first I want to say thank you for your service," Brady said. "Events like this are important because you didn't become a member of our Navy or Marine Corps on your own and for those of us here today we know how important it is to help you transition from your military life back into civilian life again. We are here to show you what is possible and to do what we can to help put you on a path to get there."

Brady was part of a senior leader panel that included Marty Brown, deputy director for the SPAWAR fleet readiness directorate; Dan Slack, wounded warrior lead for SPAWAR Systems Center Pacific; Gabriel Castleberry, wounded warrior program manager for the Southwest Regional Maintenance Center; Gerry Borja, wounded warrior internship lead for Qualcomm; Trevor Blair from Manpower; and Justin Casido from Booz Allen Hamilton.

The question and answer portion of the discussion included a broad range of topics, from resume preparation and various benefits for businesses hiring veterans to the advantages of using social media to find work.

Members of the local hiring community said that more than 80 percent of businesses will do a Google search on a job applicant or will check various social networking sites to see if the candidate would be a good fit within their organization. The panel was in agreement that when it came to finding employment the key is in preparation and taking advantage of the employment programs available to veterans and transitioning service members.

SPAWAR developed the event as part of its hiring initiative to ensure 7 percent of all its new hires in 2012 are wounded warriors, which is a subset of the broader group of wounded, ill and injured, said Cmdr. George Byrd, SPAWAR's wounded warrior program manager.

"Our strategy on hiring wounded warriors is more proactive than it was in previous years," said Byrd, who is also the wounded warrior San Diego regional coordinator. "Most of our wounded, ill and injured population in the region are between the ages of 19 and 25 and have not gone to college and may not have the technical credentials necessary to get a job in San Diego — a tech-savvy town with a lower than the national average unemployment rate."

SPAWAR's goal is to help warriors find other paths to their next career through the myriad programs, internships, training and mentoring opportunities that are available to them from a variety of government, nonprofit and private industry organizations.

More than 15 businesses, from large corporations to small businesses and nonprofits, participated in the networking portion of the event. Representatives from Qualcomm, Lockheed Martin, Booz Allen Hamilton, Major Innovations, Soltek Pacific and the Workshop for Warriors were just some of the organizations providing advice or employment opportunities.

"The main goal of this networking event is to connect warriors to opportunities," said Mark McLain, the event organizer for SPAWAR. "Many of the businesses here have some sort of veteran hiring program. They are here today because they care about our wounded warriors and want to provide assistance to the men and women who served their country and now need career guidance and partners for the next chapter in their working lives. It's great to be able to provide that kind of support."

According to the U.S. Bureau of Labor Statistics, the unemployment rate for young veterans ages 18 to 24 was more than 30 percent in 2011. Part of the problem for young veterans seeking work is that they entered service right out of high school and often lack the formal education sometimes necessary to succeed in today's competitive job market. Wounded warriors, many with life-altering disabilities, may face an even more difficult challenge due to their injuries and need for physical accommodation on the job.

Wounded warriors attending the event were hopeful and found value in the panel discussion and networking opportunities. When asked why he attended the event, Marine Corps veteran Marcus Chischilly, a Marine currently participating in a radiology internship, said he attended to find out the types of jobs and programs available for veterans.

Chischilly lost his left leg in Afghanistan last year when an improvised explosive device detonated near him, "The difficulty for me is the

physical aspect. I'm somewhat limited in what I can do. My hope is that I can find something I like and enjoy. This is a great opportunity to see what's available."

Back to School for Opportunities in STEM Carreers

In December 2011, SPAWAR and San Diego State University hosted a panel discussion and networking forum for veteran and wounded warrior students studying for careers in science, technology, engineering and mathematics. Held on the SDSU campus, the event gave veteran-owned small businesses an opportunity to mentor students, while SPAWAR representatives provided information on doing business with SPAWAR to small business owners.

Rear Adm. Brady emphasized the benefits of networking. He said that networking is a two-way street. Students learn what companies are looking for in new hires and can align their education and military experience for success. In the same way, small businesses can interface with the future workforce and the educational institutions that are preparing them.

"Networking is like ballroom dancing," Brady said. "You can't do it alone, and you may not be very good in the beginning, but with practice it gets easier and you get better at it."

A panel discussion followed Brady's opening remarks with participation from SPAWAR senior leadership and private industry. Participants included Tim Dowd, contracts director for SPAWAR; John Metzger, acquisition manager in the Program Executive Office, Command, Control, Communications, Computers and Intelligence (PEO C4I); Will Nevilles, senior vice president of INDUS Technologies; Benito Hobson, director of business development for Integrits Corp.; and Joe Bulger, senior business development manager for SPAWAR programs, Lockheed Martin.

Panel members shared perspectives on success strategies and skills necessary to compete in today's tough job market. Top strategies discussed included the importance of vigorous networking, thinking competitively, working as a team and understanding the cost of doing business.

"As you go through your studies and careers, you have to think competitively, and you have to think about what other gifts you can bring to the workforce," Metzger said. "You will need that business edge to be successful."

Metzger added that the PEO C4I's success in moving capabilites to the fleet is the result of three priorities: controlling contracting costs; contracting for technology that can be delivered today; and funding stability. He told the audience they will have to be able to understand cost models to make sound business decisions as STEM professionals.

The Navy is competing with industry for technical talent. Statistics show only 6 percent of U.S. high school seniors will earn a bachelor of science degree in a STEM field. The United States is ranked a disappointing 27th out of 30 for college graduates with STEM degrees in developed countries. Further, the U.S. shortage in STEM professionals is expected to worsen because of the aging Defense Department workforce since 30 percent of DoD's science and technology professionals are expected to retire by 2020.

SDSU has approximately 1,100 veterans currently enrolled. SDSU hosts the Joan and Art Barron Veterans Center (http://arweb.sdsu.edu/es/veterans/) and ranks 30th among 100 universities nationwide for services offered to military veterans.

The staff at the Veterans Center does everything from helping coordinate psychological counseling for veterans who might need it, to managing the nation's first on-campus housing reserved exclusively for veterans.

Because the unemployment rate for veterans ages 18 to 24 hovered around a startling 30 percent in 2011, it is anticipated that college attendance will increase as many leave the service and have difficulty finding work.

According to SDSU's College of Engineering, veterans are twice as likely to go into engineering careers than other disciplines.

"I spent time in Guam and when I returned to California, it was hard to find a job," said James Sparks, a veteran and SDSU engineering student. "I thought there would be more job security in an engineering field, so I decided to go back to school and enrolled here at State."

SPAWAR Commander Rear Adm. Patrick Brady engages the audience at a STEM event in December 2011.

The United States is ranked a disappointing 27th out of 30 for college graduates with STEM degrees in developed countries.

Engaging with Small Business

SPAWAR is an advocate for small business opportunities. In fiscal year 2010, it obligated approximately $1.2 billion, or roughly 20 percent of the command's total obligation authority, to small businesses. It depends on the interoperability and non-proprietary solutions provided by small business to ensure that cutting-edge technology is available for the Navy.

The small business program at SPAWAR provides training, advice, guidance and innovative strategies to ensure those quality solutions are available, while at the same time maximizing opportunities for small businesses, as required by the Small Business Act and Federal Acquisition Regulation.

As the Navy's information dominance systems command, SPAWAR participates regularly in events and programs for students with a goal of inspiring and preparing young men and women for STEM careers with the federal government. CHIPS

Facebook: www.facebook.com/spaceandnavalwarfaresystemscommand

Twitter: http://twitter.com/#!/SPAWARHQ

Flickr: www.flickr.com/photos/teamspawar/

YouTube: www.youtube.com/user/TEAMSPAWAR

NCTAMS LANT Supports Joint Training and Operations

COMMUNICATIONS PROFESSIONALS ENSURE SMOOTH SAILING IN BOLD ALLIGATOR 2012

By Lt. Peter J. Beardsley

Bold Alligator 2012, the largest Navy/Marine Corps amphibious exercise in the past 10 years, tested the limits of naval equipment, personnel and training. Naval Computer and Telecommunications Area Master Station Atlantic (NCTAMS LANT) was a key player in the exercise providing vital communications links for command and control of operating forces.

To give you an idea of the scale of BA12 and the complexity of communications, consider that exercise participants included two submarines, 25 ships, 120 aircraft, 20,000 Sailors and Marines, along with forces and assets from eight other countries.

Embedded within their participation in BA12 were the Enterprise Carrier Strike Group's Joint Task Force Exercise and Composite Unit Exercise; the Iwo Jima and 24th MEU certification exercise; and Riverine Group 1 Maritime Security Operations Ready certification by Navy Expeditionary Combat Command. These pre-deployment exercises are designed to forge individual units into a cohesive fighting force.

The exercise scenario combined synthetic and live training which allowed units to meet their training objectives. BA12 included three large-scale events within the exercise: an amphibious assault at Camp Lejeune, N.C.; an aerial assault from the sea into Fort Pickett, Va.; and an amphibious raid on Fort Story, Va.

Units were required to demonstrate their ability to effectively carry out their missions in a challenging communications environment, which involved close coordination and execution with NCTAMS LANT and other shore facilities, such as NCTAMS PAC, Naval Computer and Telecommunications Station (NCTS) Naples and the Naval Satellite Communications Facility Northwest in Virginia.

Among other capabilities, NCTAMS LANT provided the connectivity for alternate secure and non-secure Internet Protocol (IP) service paths and ultra high frequency (UHF) voice nets.

NCTAMS LANT provided the data, voice,

messaging and video communications systems for command and control during each phase of the exercise, including capabilities from the Defense Satellite Communications System (DSCS), Commercial Broadband Satellite Program (CBSP) and all IP services. There was continuous planning and coordination between the warfighting platforms and communication providers due to the complexities of the communications involved. NCTAMS LANT advised operational commanders within BA12 about support that the regional shore communications facilities, such as the Unified Atlantic Region Network Operations Center (UARNOC), NAVSATCOMMFAC Northwest and NCTS Naples could provide, especially in the areas of messaging, IP services, voice nets and video. NCTAMS LANT also worked closely with afloat units, embarked Marine Corps units, combatant commanders and the U.S. Air Force 527th Space Aggressor Squadron.

The success of the communications in BA12, and the other embedded exercises, would not have been possible without

the diligent operations and reporting between NCTAMS LANT's messaging and tech control divisions, as well as the UARNOC, the regional IP service provider for the ships and the satellite Earth stations responsible for the physical receipt and transmission of the electromagnetic signals between ships and shore.

The NCTAMS LANT messaging division manages regional naval messaging systems. The division operates such IP-based systems as Fleet SIPRNET Messaging (FSM), the Navy Regional Enterprise Messaging System (NREMS) and Navy Interface for Command Email (NICE), as well as legacy systems, such as the Common User Digital Information Exchange System (CUDIXS) and Fleet Broadcast. The NCTAMS LANT tech control division terminates and troubleshoots RF communications circuits, including but not limited to those used for IP services.

NCTAMS LANT's Joint Fleet Telecommunications Operations Center (JFTOC) watch officer, the central point of contact for communications and troubleshooting within the Atlantic, Mediterranean and

ATLANTIC OCEAN (Feb. 4, 2012) The aircraft carrier USS Enterprise (CVN 65), left, and the Arleigh Burke-class guided-missile destroyers USS Porter (DDG 78) and USS Cole (DDG 67) are underway participating in exercise Bold Alligator 2012. Bold Alligator, the largest naval amphibious exercise in the past 10 years, represents the Navy and Marine Corps' revitalization of the full range of amphibious operations. The exercise focuses on today's fight with today's forces, while showcasing the advantages of seabasing. This exercise takes place Jan. 30 through Feb. 12, 2012 afloat and ashore in and around Virginia and North Carolina. U.S. Navy photo by Boatswain's Mate 2nd Class Alfredo R. Martinez II.

Indian Ocean regions, maintained careful coordination with operators and area supervisors. The JFTOC watch officer ensured that operators at the supporting shore commands were properly executing the requirements of the exercise. Furthermore, JFTOC was responsible for tracking the real-time communications capabilities and limitations of the units involved, as well as informing the NCTAMS LANT chain of command of relevant changes in capabilities.

BA12 was designed to challenge the operational commanders as well as the operating forces. As part of the scenario, Commander Strike Force Training Atlantic (CSFTL) laid the blueprint for just how and when communications outages would occur to force units to quickly come up with alternatives. For example, if super high frequency (SHF) IP platforms were denied, there was an extremely high frequency (EHF) platform available. If an UHF command net was lost, EHF or Iridium satellite phones could be used for secure point-to-point communications.

The ability to quickly switch from one communications method to another is important because capabilities in real operating environments can be lost or denied by enemy forces at any time, and the various frequencies and methods of communications cannot be used at the same time, therefore, communications professionals must be able to quickly assess a lost connection, rapidly restore it, or come up with an alternative.

NCTAMS LANT and its subordinate commands, NCTS Naples and NCTS Bahrain, and NAVSATCOMMFAC Northwest, UARNOC and the commercial SHF providers shared tasks relating to the planned outages and provided procedures to prevent disruption. Procedures included testing the connectivity of existing circuit trunks and ensuring non-disruption by instructing operators how to maintain connectivity and verify that alternate circuit trunks were in place in the event of a circuit outage where outages were not planned.

NCTAMS LANT's operational priorities are always defined by the current situation. The command's mission of providing classified and unclassified messaging, voice, data and video to Navy, joint and coalition units does not change. If, however, NCTAMS LANT knows that a unit or group of units has a planned outage on

Chief Warrant Officer 3 Terrill Stafford and Ensign Adria Hicks on watch in the NCTAMS LANT Joint Fleet Telecommunications Operations Center, the central point of contact for communications within the Atlantic, Mediterranean and Indian Ocean regions. NCTAMS LANT provides classified and unclassified messaging, voice, data and video to Navy, joint and coalition units.

the only SHF IP path, maintaining the EHF IP path becomes more important. To this end, NCTAMS LANT, the regional provider of secure and non-secure voice, messaging, video and data platforms to surface, subsurface, air and ground forces, instituted watch stander reporting procedures for leadership in the chain of command to keep them informed of the rapidly changing capabilities and limitations of exercise participants.

Operators and their supervisors paid special attention to how unplanned outages and weather-related problems could degrade communications capabilities. For example, rain may cause outages for equipment operating in EHF, which might be used as an alternate IP path in the event of an SHF outage. Heavy winds and heavy seas may inhibit a ship's or shore facility's ability to track a satellite. Therefore, watch standers at NCTAMS LANT are always mindful of any conditions that may disrupt communications.

To ensure successful communications between units, NCTAMS LANT embedded junior enlisted personnel and officers on board the USS Enterprise (CVN 65) and USS Iwo Jima (LHD 7). This enabled both the ships' and NCTAMS LANT's personnel to learn firsthand about the communications and troubleshooting capabilities of one another and to refine the reporting and troubleshooting procedures of each in a controlled exercise environment.

Lessons learned included new techniques in the detection of satellite jamming and the importance of maintaining a SHF IP link during rainy conditions. If it is raining units can't rely solely on SHF.

During BA12, whether it was a denial

of services attack, closed ports, denial of UHF voice nets or unplanned outages, ships' personnel kept their chains of command informed of their communications capabilities and limitations.

Providers, such as NCTAMS LANT and NCTS Naples, NAVSATCOMMFAC Lago di Patria, Italy, NAVSATCOMMFAC Northwest, UARNOC, the Landstuhl Global Information Grid Facility, NCTS Bahrain, and commercial satellite providers located in Holmdel, N.J., and Fuchsstadt, Germany, tracked anomalies and responded via troubleshooting procedures, communications spot reports (COMSPOT) and service advisories to units reporting problems.

The vigilant maintenance of the communications links between ship and shore demonstrated that even in a less than ideal communications environment, the command and control capability of shore commanders is not lost, nor is the ability to actively troubleshoot and restore communications circuits.

Results of exercises demonstrated the ability of joint U.S. amphibious units to effectively operate in a challenging communications environment with both U.S. and international military forces. The high visibility of the exercises, which included national and international media coverage, embarked Congressional leaders and foreign military leaders, marked not only a tremendous operational success for the Navy/Marine Corps team, but a diplomatic success as well. CHIPS

Lt. Peter J. Beardsley is a NCTAMS LANT JFTOC watch officer.

The War of 1812

From 2012 to 2015, the United States Navy and its partners, the U.S. Marine Corps and Coast Guard, will commemorate the Bicentennial of the War of 1812 and the writing of our National Anthem, the Star Spangled Banner. It is remarkable that 200 years ago, the first declared war in our nation's history was fought against the nation (now two nations, the United Kingdom and Canada) which have become our closest allies. Many things change in 200 years, but what doesn't change is the importance of sea power in the affairs of maritime nations.

Since its birth in 1776, the United States has always been a maritime nation, which means that unobstructed access to and free use of the world's oceans are essential to our national welfare and prosperity. That's what the United States went to war in 1812 to defend, and that is what the U.S. Navy has been protecting ever since.

Why is keeping the seas free so important? Here are a few facts about the world:
✔ 70 percent of the world is covered by the oceans.
✔ 80 percent of the world's people live near the oceans.
✔ 90 percent of all international trade travels on the oceans.
✔ 95 percent of all global communications are transported under the oceans.

Looking at those numbers, one begins to understand the immense importance of ensuring the freedom of the oceans with capable and effective sea services.

The piracy off the Horn of Africa that emerged in the first decades of the 21st century reminds us of the 18th century Barbary Coast pirates and the threat they posed to our nation in its early years. In response to that threat, the United States commissioned six frigates, built up and down the Atlantic coast from New Hampshire to Virginia. Since America's Navy began with those first six frigates, American sea power has been essential to countering threats, winning wars and furthering the interests of peace and prosperity worldwide.

Our sea services team and its capabilities are absolutely critical to our nation's security. We learned that lesson first and well during the War of 1812, and that tuition is worth reviewing again as we commemorate the war's bicentennial over the next several years.

To say a lot has changed in the last 200 years is an obvious understatement. In 1812 America's Navy operated wooden ships; now it operates steel ships and is working on constructing ships of futuristic synthetic materials. The sails powered by wind in 1812 have given way consecutively to steam (from coal and then oil), to gas turbines, to nuclear energy — and in the future to green energy sources.

In 1812, the Navy's situational awareness was limited to the horizon of visibility from the top of the tallest mast on a ship. Today, America's Navy enjoys instantaneous communications to any point on the globe, to the bottom of the ocean, and to and from outer space.

The smoothbore cannons of 1812 have metamorphosed into modern naval guns, aircraft, missiles and torpedoes, and America's Navy is on course to a force armed with lasers and railguns, technologies unimaginable to the Sailors who fought in the War of 1812.

Today, one of those first six frigates that 200 years ago fought in the War of 1812, the USS Constitution, is still a commissioned ship in the U.S. Navy. She is a tangible link to those critical events in our nation's history, and anchors one end of the arcs of technological change just described. As such, she invites attention to the intangible lessons of the War of 1812 that have shaped, and must continue to shape, the nation's sea services today and in the future. The traditions, customs, and norms of the U.S. Navy in the 21st century were laid down in the War of 1812. The outstanding Navy commanders of the War of 1812, such as Stephen Decatur, Isaac Hull, Oliver Hazard Perry, Thomas Macdonough, Charles Morris and others, set benchmarks for leadership, seamanship and innovation that shape and inform the officer corps of America's Navy today.

The performance of America's Sailors and Marines in that war, fighting always against great odds and in great peril, set the standards proudly met by our ships' crews over the last 200 years and today.

Ultimately, the commemoration of the Bicentennial of the War of 1812 is a salute to all of our Sailors and Marines who fought so gallantly against great odds in that conflict, in all of our nation's conflicts between then and now, and those who are today defending freedom around the world — from the mountains of Afghanistan to the coasts of Africa to the Straits of Hormuz — and standing ready to provide compassionate humanitarian aid from Haiti to Japan to wherever catastrophe strikes.

The Navy, Marine Corps and Coast Guard reflect the quality of the people that served over the last 200 years, and the tens of thousands of Sailors and Marines now making sacrifices every day, something that America can be very grateful has not changed over the past 200 years.

If America remembers the lessons of the naval war of 1812, lessons paid for with the lives of Sailors and Marines, then America can be confident that the nation will always answer Francis Scott Key's question in the affirmative: *Oh, say does that Star-Spangled Banner yet wave O'er the land of the free, and the home of the brave?*

Beginning in April 2012 and continuing through 2015, the Navy, Marine Corps and Coast Guard will commemorate the Bicentennial of the War of 1812 and The Star Spangled Banner. Events will include Blue Angels air shows, visits by ships of the U.S. Navy and international navies, parades of tall ships and "Galley Wars" cook-off events. CHIPS

For more information, go to www.ourflagwasstillthere.org/.
U.S. Navy War of 1812 Commemoration site
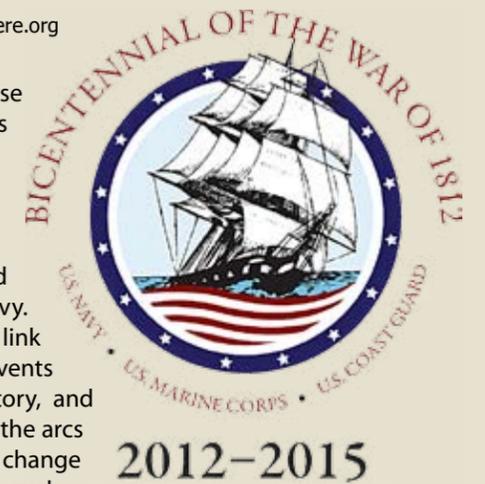
Enterprise Software Agreements

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 5000.2 on May 12, 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 website at www.esi.mil/.

Software Categories for ESI:

Asset Discovery Tools

Belarc

BelManage Asset Management – Provides software, maintenance and services.
Contractor: *Belarc Inc.* (W91QUZ-07-A-0005)
Authorized Users: This BPA is open for ordering by all Department of Defense (DoD) components and authorized contractors.
Ordering Expires: 30 Dec 16
Contact: CHESS Helpdesk
(888) 232-4405 (peoeis.pdchess.helpdesk@us.army.mil)
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

BMC

Remedy Asset Management – Provides software, maintenance and services.
Contractor: *BMC Software Inc.* (W91QUZ-07-A-0006)
Authorized Users: This BPA is open for ordering by all Department of Defense (DoD) components and authorized contractors.
Ordering Expires: 23 Mar 15
Contact: CHESS Helpdesk
(888) 232-4405 (peoeis.pdchess.helpdesk@us.army.mil)
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

Carahsoft

Opsware Asset Management – Provides software, maintenance and services.
Contractor: *Carahsoft Inc.* (W91QUZ-07-A-0004)
Authorized Users: This BPA is open for ordering by all Department of Defense (DoD) components and authorized contractors.
Ordering Expires: 17 Sep 12
Contact: CHESS Helpdesk
(888) 232-4405 (peoeis.pdchess.helpdesk@us.army.mil)
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

DLT

BDNA Asset Management – Provides asset management software, maintenance and services.
Contractor: *DLT Solutions Inc.* (W91QUZ-07-A-0002)
Authorized Users: This BPA has been designated as a GSA SmartBUY and is open for ordering by all Department of Defense (DoD) components, authorized contractors and all federal agencies.
Ordering Expires: 01 Apr 13
Contact: CHESS Helpdesk
(888) 232-4405 (peoeis.pdchess.helpdesk@us.army.mil)
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

Database Management Tools

Microsoft Products

Microsoft Database Products – See information under Office Systems on page 65.

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 the Navy project manager on page 66.
Contractors:
Oracle America Inc. (W91QUZ-07-A-0001); (703) 364-3110
DLT Solutions (W91QUZ-06-A-0002); (703) 708-8979
immixTechnology, Inc. (W91QUZ-08-A-0001);
Small Business; (703) 752-0628
Mythics, Inc. (W91QUZ-06-A-0003); Small Business; (757) 284-6570
Affigent, LLC (W91QUZ-09-A-0001);
Small Business; (571) 323-5584
Ordering Expires:
Affigent, LLC: 29 Mar 12
Oracle: 28 Mar 12
DLT: 01 Apr 13
immixTechnology: 02 Mar 16
Mythics: 15 Jun 12
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.
Contact: CHESS Helpdesk
(888) 232-4405 (peoeis.pdchess.helpdesk@us.army.mil)
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp
Special Note to Navy Users: See the information provided on page 38 concerning the Navy Oracle Database Enterprise License under Department of the Navy Agreements.

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 exceptional 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 13
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 included 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://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

Enterprise Application Integration

Sun Software

Sun Products – Provides Sun Java Enterprise System (JES) and Sun StarOffice. Sun JES products supply integration and service oriented architecture (SOA) software including: Identity Management Suite; Communications Suite; Availability Suite; Web Infrastructure Suite; MySQL; xVM and Role Manager. Sun StarOffice supplies a full-featured office productivity suite.
Contractors:
Commercial Data Systems, Inc. (N00104-08-A-ZF38);
Small Business; (619) 569-9373
Dynamic Systems, Inc. (N00104-08-A-ZF40);
Small Business; (801) 444-0008
Ordering Expires: 24 Sep 12
Web Links:
Sun Products
www.esi.mil/agreements.aspx?id=160
Commercial Data
www.esi.mil/contentview.aspx?id=160&type=2
Dynamic Systems
www.esi.mil/contentview.aspx?id=162&type=2

Enterprise Architecture Tools

IBM Software Products

IBM Software Products – Provides IBM product licenses and maintenance with discounts from 1 to 19 percent off GSA pricing. On June 28, 2006, the IBM Rational Blanket Purchase Agreement (BPA) with immixTechnology was modified to include licenses and Passport Advantage maintenance for IBM products, including: IBM Rational, IBM Database 2 (DB2), IBM Informix, IBM Trivoli, IBM Websphere and Lotus software products.
Contractor: *immixTechnology, Inc.* (DABL01-03-A-1006);
Small Business; (703) 752-0641 or (703) 752-0646
Ordering Expires: 02 Mar 16
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

VMware

VMware – Provides VMware software and other products and services. This BPA has been designated as a GSA SmartBUY.
Contractor: *Carahsoft Inc.* (W91QUZ-09-A-0003)
Authorized Users: This BPA has been designated as a GSA SmartBUY and is open for ordering by all Department of Defense (DoD) components, authorized contractors and all federal agencies.

Ordering Expires: 27 Mar 14
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

Enterprise Management
CA Enterprise Management Software (C-EMS2)

Computer Associates Unicenter Enterprise Management Software – Includes Security Management; Network Management; Event Management; Output Management; Storage Management; Performance Management; Problem Management; 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); (703) 709-4610
Ordering Expires: 22 Sep 12
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

Microsoft Premier Support Services (MPS-2)

Microsoft Premier Support Services – Provides premier support packages 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* (W91QUZ-09-D-0038); (980) 776-8413
Ordering Expires: 31 Mar 12 (Please call for extension information.)
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.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 8 to 10 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: 05 May 14
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

Quest Products

Quest Products – Provides Quest software licenses, maintenance, services and training for Active Directory Products, enterprise management, ERP planning support and application and database support. Quest software products have been designated as a DoD ESI and GSA SmartBUY. Only Active Directory products have been determined to be the best value to the government and; therefore, competition is not required for Active Directory software purchases. Discount range for software is from 3 to 48 percent off GSA pricing. For maintenance, services and training, discount range is 3 to 8 percent off GSA pricing.
Contractors:
Quest Software, Inc. (W91QUZ-05-A-0023); (301) 820-4889
DLT Solutions (W91QUZ-06-A-0004); (703) 708-9127
Ordering Expires:
Quest: 29 Dec 15
DLT: 01 Apr 13
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

Enterprise Resource Planning

Oracle

Oracle – *See information provided under Database Management Tools on page 62.*

RWD Technologies

RWD Technologies – Provides a broad range of integrated software products designed to improve the productivity and effectiveness of end users in complex operating environments. RWD's Info Pak products allow you to easily create, distribute and maintain professional training documents and online help for any computer application. RWD Info Pak products include Publisher, Administrator, Simulator and OmniHelp. Training and other services are also available.

Contractor: *RWD Technologies* (N00104-06-A-ZF37); (404) 845-3624

Ordering Expires: Effective for term of the GSA FSS Schedule

Web Link: www.esi.mil/contentview.aspx?id=150&type=2

SAP

SAP Products – Provide software licenses, software maintenance support, information technology professional services and software training services.

Contractors:

SAP Public Services, Inc. (N00104-08-A-ZF41); Large Business; (202) 312-3515

Advantaged Solutions, Inc. (N00104-08-A-ZF42); Small Business; (202) 204-3083

Carahsoft Technology Corporation (N00104-08-A-ZF43); Small Business; (703) 871-8583

Oakland Consulting Group (N00104-08-A-ZF44); Small Business; (301) 577-4111

Ordering Expires: 14 Sep 13

Web Links:
SAP – www.esi.mil/contentview.aspx?id=154&type=2
Advantaged – www.esi.mil/contentview.aspx?id=155&type=2
Carahsoft – www.esi.mil/contentview.aspx?id=156&type=2
Oakland – www.esi.mil/contentview.aspx?id=157&type=2

Collaboration

Collabnet

Collabnet – Provides CollabNet Licenses, CollabNet Support for TeamForgeTM (formerly SourceForge) and Subversion, Consulting Services and Training operating system software license subscriptions. TeamForge Enterprise integrates software configuration management, issue tracking, project management, and collaboration tools into a single Web-Browser based ALM platform that empowers distributed teams to deliver great software.

Contractor:
Carahsoft Technology Corp. (HC1047-11-A-0100)
Ordering Expires: 31 Mar 16
Web Link: www.esi.mil

Information Assurance Tools

Data at Rest (DAR) BPAs offered through ESI/SmartBUY

The Office of Management and Budget, Defense Department and General Services Administration awarded multiple contracts for blanket purchase agreements (BPA) to protect sensitive, unclassified data residing on government laptops, other mobile computing devices and removable storage media devices.

These competitively awarded BPAs provide three categories of software and hardware encryption products — full disk encryption (FDE), file encryption (FES) and integrated FDE/FES products to include approved U.S. thumb drives. All products use cryptographic modules validated under FIPS 140-2 security re-

quirements and have met stringent technical and interoperability requirements.

Licenses are transferable within a federal agency and include secondary use rights. All awarded BPA prices are as low as or lower than the prices each vendor has available on GSA schedules. The federal government anticipates significant savings through these BPAs. The BPAs were awarded under both the DoD's Enterprise Software Initiative (ESI) and GSA's governmentwide SmartBUY programs, making them available to all U.S. executive agencies, independent establishments, DoD components, NATO, state and local agencies, Foreign Military Sales (FMS) with written authorization, and contractors authorized to order in accordance with the FAR Part 51.

Service component chief information officers (CIO) are developing component service-specific enterprise strategies. Accordingly, customers should check with their CIO for component-specific policies and strategies before procuring a DAR solution.

The Department of the Army issued an enterprise solution for Army users purchasing DAR software. See the information provided on the Army CHESS website at https://chess.army.mil/ascp/commerce/index.jsp. As of this printing, the Air Force has not yet provided a DAR solution.

immix Group, Inc. (FA8771-07-A-0301)
McAfee – *Rocky Mountain Ram* (FA8771-07-A-0302)
Information Security Corp. – *Carahsoft Technology Corp.* (FA8771-07-A-0303)
McAfee – *Spectrum Systems, Inc.* (FA8771-07-A-0304)
SafeNet, Inc. – *SafeNet, Inc.* (FA8771-07-A-0305)
Checkpoint – *immix Group, Inc.* (FA8771-07-A-0307)
SPYRUS, Inc. – *Autonomic Resources, LLC* (FA8771-07-A-0308)
WinMagic, Inc. – *Govbuys, Inc.* (FA8771-07-A-0310)
CREDANT Technologies – *Intelligent Decisions* (FA8771-07-A-0311)
Symantec, formerly GuardianEdge Technologies – *Merlin International* (FA8771-07-A-0312)
Ordering Expires: 14 Jun 12 (If extended by option exercise.)
Web Link: www.esi.mil

Websense (WFT)

Websense – Provides software and maintenance for Web filtering products.
Contractor: *Patriot Technologies* (W91QUZ-06-A-0005)
Authorized Users: This BPA is open for ordering by all DoD components and authorized contractors.
Ordering Expires: 08 Sep 12
Web Link: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

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.* (FA8771-09-A-0301); (703) 724-4555
Ordering Expires: 24 Sep 14
Web Link: https://esi.telos.com/contract/overview/default.cfm

Lean Six Sigma Tools

iGrafx Business Process Analysis Tools

iGrafx – Provides software licenses, maintenance and media for iGrafx Process for Six Sigma 2007; iGrafx Flowcharter 2007; Enterprise Central; and Enterprise Modeler. **Contractors:**

Softchoice Corporation (N00104-09-A-ZF34); (416) 588-9002 ext. 2072

Softmart, Inc. (N00104-09-A-ZF33); (610) 518-4192

SHI (N00104-09-A-ZF35); (732) 564-8333

Authorized Users: These BPAs are co-branded ESI/GSA SmartBUY BPAs and are open for ordering by all Department of Defense (DoD) components, U.S. Coast Guard, NATO, Intelligence Community, authorized DoD contractors and all federal agencies.

Ordering Expires: 31 Jan 14

Web Links:
Softchoice
www.esi.mil/contentview.aspx?id=118&type=2
Softmart
www.esi.mil/contentview.aspx?id=117&type=2
SHI
www.esi.mil/contentview.aspx?id=123&type=2

Minitab

Minitab – Provides software licenses, media, training, technical services and maintenance for products, including: Minitab Statistical Software, Quality Companion and Quality Trainer. It is the responsibility of the ordering officer to ensure compliance with all fiscal laws prior to issuing an order under a BPA, and to ensure that the vendor selected represents the best value for the requirement being ordered (see FAR 8.404).

Contractor: *Minitab, Inc.* (N00104-08-A-ZF30); (800) 448-3555

Authorized Users: This BPA is open for ordering by all Department of Defense (DoD) components, U.S. Coast Guard, NATO, Intelligence Community and authorized DoD contractors.

Ordering Expires: 07 May 13

Web Link: www.esi.mil/contentview.aspx?id=73&type=2

PowerSteering

PowerSteering – Provides software licenses (subscription and perpetual), media, training, technical services, maintenance, hosting and support for PowerSteering products: software as a service solutions to apply the proven discipline of project and portfolio management in IT, Lean Six Sigma, Project Management Office or any other project-intensive area and to improve strategy alignment, resource management, executive visibility and team productivity. It is the responsibility of the ordering officer to ensure compliance with all fiscal laws prior to issuing an order under a BPA, and to ensure that the vendor selected represents the best value for the requirement being ordered (see FAR 8.404).

Contractor: *immix Group, Inc.* (N00104-08-A-ZF31); Small Business; (703) 663-2702

Authorized Users: All DoD components, U.S. Coast Guard, NATO, Intelligence Community, and authorized DoD contractors.

Ordering Expires: 14 Aug 13

Web Link: www.esi.mil/contentview.aspx?id=145&type=2

Office Systems

Adobe Desktop Products

Adobe Desktop Products – Provides software licenses (new and upgrade) and maintenance for numerous Adobe desktop products, including Acrobat (Standard and Professional); Photoshop; InDesign; After Effects; Frame; Creative Suites; Illustrator; Flash Professional; Dreamweaver; ColdFusion and other Adobe desktop products.

Contractors:
Dell Marketing L.P. (N00104-08-A-ZF33); (224) 543-5314
CDW Government, LLC (N00104-08-A-ZF34); (312) 705-1889 *GovConnection, Inc.* (N00104-08-A-ZF35); (800) 998-0019
Insight Public Sector, Inc. (N00104-08-A-ZF36); (800) 862-8758

Ordering Expires: 30 Jun 12

Web Links:
Adobe Desktop Products
www.esi.mil/agreements.aspx?id=52
Dell
www.esi.mil/contentview.aspx?id=53&type=2
CDW-G
www.esi.mil/contentview.aspx?id=52&type=2
GovConnection
www.esi.mil/contentview.aspx?id=33&type=2
Insight
www.esi.mil/contentview.aspx?id=54&type=2

Adobe Server Products

Adobe Server Products – Provides software licenses (new and upgrade), maintenance, training and support for numerous Adobe server products including LiveCycle Forms; LiveCycle Reader Extensions; Acrobat Connect; Flex; ColdFusion Enterprise; Flash Media Server and other Adobe server products.

Contractor:
Carahsoft Technology Corp. (N00104-09-A-ZF31); (703) 871-8556
Small Business; (703) 871-8503

Ordering Expires: 14 Jan 14

Web Link: www.esi.mil/contentview.aspx?id=186&type=2

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:
CDW Government, LLC (N00104-02-A-ZE85); (888) 826-2394
Dell (N00104-02-A-ZE83); (800) 727-1100 ext. 7253702 or (512) 725-3702
GovConnection (N00104-10-A-ZF30); (301) 340-3412
GTSI (N00104-02-A-ZE79); (800) 999-GTSI ext. 2071
Hewlett-Packard (N00104-02-A-ZE80); (845) 337-6260
Insight Public Sector, Inc. (N00104-02-A-ZE82); (800) 862-8758
SHI (N00104-02-A-ZE86); (800) 527-6389 or (732) 564-8333
Softchoice (N00104-02-A-ZE81); (877) 333-7638
Softmart (N00104-02-A-ZE84); (800) 628-9091 ext. 6928

Ordering Expires: 31 Mar 13

Web Link: www.esi.mil/agreements.aspx?id=173

Red Hat/Netscape/Firefox

Through negotiations with August Schell Enterprises, DISA has established a DoD-wide enterprise site license whereby DISA can provide ongoing support and maintenance for the Red Hat Security Solution server products that are at the core of the Department of Defense's Public Key Infrastructure (PKI). The Red Hat Security Solution includes the following products: Red Hat Certificate System and dependencies; Red Hat Directory Server; Enterprise Web Server; and Red Hat Fortitude Server (replacing Enterprise Server). August Schell also provides a download site that, in addition to the Red Hat products, also allows for downloading DISA-approved versions of the following browser products: Firefox Browser; Netscape Browser; Netscape Communicator; and Personal Security Manager. The Red Hat products and services provided through the download site are for exclusive use in the following licensed community: (1) All components of the U.S. Department of Defense and supported organizations that utilize the Joint Worldwide Intelligence Communications System, and (2) All non-DoD employees (e.g., contractors, volunteers, allies) on-site at the U.S. Department of Defense and those not on-site but using equipment furnished by the U.S. Department of Defense (GFE) in support of initiatives which are funded by the U.S. Department of Defense.

Licensed software products available through the August Schell contract are for the commercial versions of the Red Hat software, not the segmented versions of the previous Netscape products 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 Red Hat product to support development or operation of an application associated with the GIG, GCCS or GCSS, you must contact one of the websites listed below to obtain the GIG segmented version of the software. You may not use the commercial version available from the August Schell Red Hat download site.

If you are not sure which version (commercial or segmented) to use, we strongly encourage you to refer to the websites listed below for additional information to help you to make this determination before you obtain the software from the August Schell Red Hat download site (or contact the project manager).

GCSS users: Global Combat Support System
www.disa.mil/gcssj

Contractor: *August Schell Enterprises* (www.augustschell.com)
Download Site: http://redhat.augustschell.com
Ordering Expires: Nov 12; All downloads provided at no cost.
Web Link: www.disa.mil

Red Hat Linux

Red Hat Linux – Provides operating system software license subscriptions and services to include installation and consulting support, client-directed engineering and software customization. Red Hat Enterprise Linux is the premier operating system for open source computing. It is sold by annual subscription, runs on seven system architectures and is certified by top enterprise software and hardware vendors.

Contractors:
Carahsoft Technology Corporation (HC1028-09-A-2004)
DLT Solutions, Inc. (HC1028-09-A-2003)
Ordering Expires:
Carahsoft: 09 Feb 14
DLT Solutions, Inc.: 17 Feb 14
Web Link: www.esi.mil

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: 30 June 11 (Please call for information about follow-on contract.)
Web Link: www.disa.mil/contracts/guide/bpa/bpa_sun.html

Research and Advisory BPA

Research and Advisory Services BPAs provide unlimited access to telephone inquiry support, access to research via websites 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 (N00104-07-A-ZF30); (703) 378-5697; Awarded Dec. 1, 2006
Ordering Expires: Effective for term of GSA contract
Authorized Users: All DoD components. For the purpose of this agreement, DoD components include: the Office of the Secretary of Defense; U.S. Military Departments; the Chairman of the Joint Chiefs of Staff; Combatant Commands; the Department of Defense Office of Inspector General; Defense Agencies; DoD Field Activities; the U.S. Coast Guard; NATO; the Intelligence Community and Foreign Military Sales with a letter of authorization. This BPA is also
Web Link: www.esi.mil/contentview.aspx?id=171&type=2

Autodesk

Autodesk – Provides software licenses for more than two dozen AutoCAD and Autodesk products.
Contractor: *DLT Solutions* (N00104-12-A-ZF30)
Ordering Expires: 20 Nov 14
Web Link: www.esi.mil/contentview.aspx?id=267&type=2

Department of the Navy Agreement

Oracle (DEAL-O) Database Enterprise License for the Navy

On Oct. 1, 2004 and May 6, 2005, the Navy established the Oracle Database Enterprise License, effective through Sept. 30, 2012. 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 Dan McMullan, NAVICP Mechanicsburg contracting officer, at (717) 605-5659 or email daniel.mcmullan@navy.mil, for further review of the requirements and coverage.

This license is managed by the Space and Naval Warfare Systems Center (SPAWARSYSCEN) Pacific. 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 interagency 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: https://chess.army.mil/ascp/commerce/contract/ContractsMatrixView.jsp

ITEC-Direct Website Now Integrated with ESI.mil

Purchasing IT products and services is now easier than ever

The Department of the Navy's (DON) Information Technology Electronic Commerce (ITEC) Direct website, managed by SPAWAR, has merged with the Department of Defense ESI website in an effort to avoid duplication and save money in the purchasing of approved IT products and services.

This integration is just one effort in the DoD's enterprise-wide approach to find efficiencies in these budget-constrained times. Both the ITEC Direct and ESI sites had similar information on contract vehicles, enterprise software and service agreements and policy guidance. By consolidating the two sites and eliminating these commonalities, the Defense Department hopes to provide as much new information and direction as possible in a cost-effective and easy-to-use format. As this integration effort continues in the coming months, more new and exciting features will be added to ESI.mil.

New ESI Product and Pricing Portal

ESI's Product and Pricing portal (www.esi.mil/pricing/product/details.ashx?id=1) offers an organized, easy-to-navigate database to access software products and pricing information. With this portal, customers can quickly search thousands of products, compare vendor prices and export key product and pricing data. Additional publishers' and resellers' product information will be continually added, soon totaling nearly 100,000 products. This initial pilot release features available products from *Adobe, Gartner, iGrafx, Microsoft, Minitab, PowerSteering and RWD.*

To assist users, there is a tutorial in PDF or video format that demonstrates how the portal works.

The ESI website also offers informational briefs about some of the top purchasing questions confronting IT users today at: www.esi.mil/ContentView.aspx?ID=270&type=3. Topics include:
- Cloud Computing and its Impact on Software Licensing;
- DoD IT Consolidation Roadmap: What's Ahead with the DoD ESI and Enterprise Software Initiative;
- Software Licensing: A Deep Dive in these Changing Times; and
- Website: www.esi.mil, New Features and Upcoming Changes.

The DoD ESI has excelled at negotiating software licenses for commercial software applications for the DoD since 1998.

DoD IT buyers reduce buying cycle time and risk by using ESI's enterprise agreements (ESAs) with enhanced terms and conditions that support many DoD objectives and industry best practices.

Since its inception, the DoD ESI has garnered more than $4 billion in cost avoidance for the department through its enterprise agreements.

ESI.mil contains contract news for IT customers, as well as for vendors, and you can sign up for the DoD ESI quarterly newsletter from the Customer Information tab.

Now is the time to save on all your IT purchases through the DoD ESI!

For your convenience all contract information is consolidated under WWW.ESI.MIL

Visit the DON CIO and CHIPS websites for more enterprise acquisition information:
WWW.DONCIO.NAVY.MIL
WWW.DONCIO.NAVY.MIL/CHIPS

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