



United States Navy

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Team SPAWAR Leads Information Dominance Discussion at Cyber Symposium

SAN DIEGO – Space and Naval Warfare Systems Command representatives provided insight into how the Navy can achieve its vision of Information Dominance at the National Defense Industry Association San Diego Chapter’s fall symposium. The Oct. 4-6 symposium was designed to bring Navy, government and defense industry communities together to discuss the challenges associated with achieving information dominance.

Virtually every operation aboard a Navy ship – navigation, engineering, communications and weapons – relies on transfer of data. Therefore, the Navy is highly dependent upon the cyber domain to conduct its missions.

“Our current communications and network infrastructure won’t be able to handle the expected volume of tactical data we need to process and disseminate,” said Terry Simpson, the principal deputy for intelligence at the Program Executive Office for Command, Control, Communications, Computers and Intelligence (PEO C4I). “We are working to design a mission capable infrastructure that gets assured information quickly into the hands of those at the tactical edge”

Simpson noted that operational forces, industry and the acquisition community all have a role to play. Success will depend upon increased innovation, speed of delivering capability and reducing total ownership costs of information technology systems throughout their lifecycles.

The acquisition process for traditional platforms, such as ships and aircraft, isn’t agile enough for delivering cyber capabilities. “We are now operating in a cloud computing, service application environment,” said Simpson. “Shrinking the time to deliver software intensive systems will require revisions in budget authority and programmatic emphasis.”

“The reality is that in a few short years, IT has transitioned from a support function to a strategic element of power in its own right. Without question, cyber has redefined the front lines of national security.”

**William J. Lynn III,
Deputy Secretary of Defense
Sept. 30, 2010 to the Council on
Foreign Relations**

Rear Adm. William Leigher, deputy commander at Fleet Cyber Command / Tenth Fleet, discussed the need to change thinking from platform-centric warfare to cyber-centric warfare. Adversaries can probe U.S. networks because to do so is inexpensive and anonymous. It is estimated that 140 countries now have offensive cyber capabilities.

"If we can't ensure command and control, then nothing else matters," said Leigher, whose career is primarily based in signals intelligence. "We have to start looking at the network operationally." Leigher noted that, like sonar operators, network operators must be able to "visualize" the network: understand what the normal state is, and differentiate between what may be an anomaly and what may be an indicator of intrusion.

SPAWAR Systems Center Pacific, which works heavily in cyberspace and information dominance, offered insight into what lies ahead in communications and information systems; command and control; and intelligence, surveillance and reconnaissance.

In addition to collecting data through sensors and surveillance tools, SSC Pacific is working to provide ways for warfighters to more effectively analyze the information and aid in decision making.

Above all, there is a need for new thinking and new approaches to problems that will reduce total ownership cost while providing the best capability to the fleet. Low bandwidth, for example, is a key challenge in fielding technology for the Navy.

Brian Marsh, the department head for communications and information systems, said a new approach could be the answer.

"We traditionally think about bandwidth purely as how many bits per second that we deliver to a platform, and I want to challenge us to think about bandwidth a little bit differently," he said. "It is not just how many bits per second that we deliver, but how we are using those bits."

The Navy made several key changes this year in recognition of the importance of information dominance. OPNAV N2/N6 was realigned, Fleet Cyber Command was established and Tenth Fleet was re-established to provide agility and better integration of information capabilities. In addition, the Information Dominance Corps was formally instituted. It includes approximately 45,000 military and civilian professionals in fields such as naval intelligence, cryptology, space and information systems.

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