

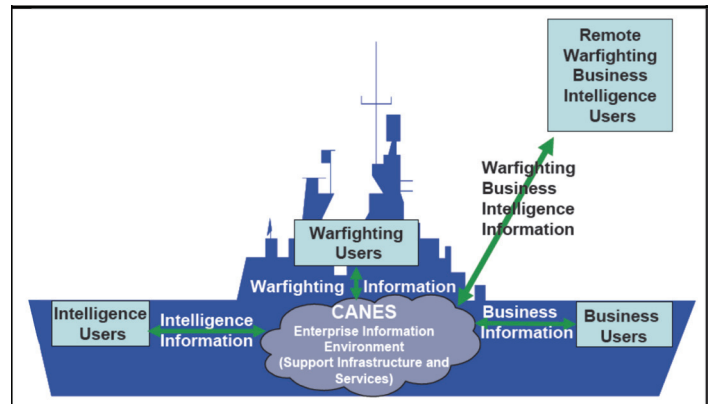
## Consolidated Afloat Networks and Enterprise Services (CANES)

### Executive Summary

- The Commander, Operational Test and Evaluation Force (COTF) conducted an operational assessment of Consolidated Afloat Networks and Enterprise Services (CANES) from September 12 through October 10, 2012, in a laboratory environment. Testing was conducted to inform a Milestone C and limited fielding decision. DOT&E reported on the results in the December 2012 Operational Assessment report.
- COTF will conduct the CANES IOT&E for unit-level ships onboard USS *Milius* in June 2014. Subsequent to the IOT&E, COTF will conduct follow-on test events on force-level ships and submarines.

### System

- CANES is an evolving enterprise information environment consisting of computing hardware, software, and network services (e.g., phone, email, chat, video teleconferencing, web hosting, file transfer, computational resources, storage, network configuration) monitoring. CANES will replace legacy networks on ships, submarines, and shore sites.
- The CANES program is intended to mitigate hardware and software obsolescence on naval vessels through the increased use of standard components and regular hardware and software updates.
- The CANES network will provide a single consolidated physical network with logical sub-networks for Unclassified, Secret, Secret Releasable, and Top Secret security domains. It will include a cross-domain solution for information transfers across these security boundaries. This consolidation



is expected to reduce the network infrastructure footprint on naval platforms and the associated logistics, sustainment, and training costs.

### Mission

Shipboard and shore-based users will use the CANES network to:

- Host their applications in support of naval and joint operations with computing resources and networks services
- Support weapon systems, command and control, intelligence, and business information applications

### Major Contractor

Northrop Grumman – San Diego, California

### Activity

- COTF conducted an operational assessment of CANES in a laboratory environment from September 28 through October 10, 2012.
- DOT&E reported on the results of the CANES operational assessment in the December 2012 Operational Assessment report.
- USD(AT&L) approved the Milestone C decision in December 2012 and published an Acquisition Decision Memorandum authorizing limited fielding to 29 CANES units in addition to 8 procurements that were previously authorized at Milestone B.
- COTF will conduct the CANES IOT&E for unit-level ships onboard USS *Milius* in April 2014. Subsequent to the IOT&E, COTF will conduct follow-on test events on force-level ships and submarines.

- The Milestone C Acquisition Decision Memorandum states USD(AT&L) will convene Interim Program Review Defense Acquisition Board meetings to review the CANES program upon completion of operational testing for force-level ships and submarines.

### Assessment

- CANES provided network services at Unclassified, Secret, Secret, Releasable, and Top Secret classification levels, performing very limited sets of operations. Two future integrated test (IT) events (IT-C1 in December 2013 and IT-C2 in February 2014) and IOT&E (April 2014) are scheduled to address the full CANES functionality.
- COTF has only tested 4 of 32 baseline applications for CANES. The Navy will conduct developmental test events

# NAVY PROGRAMS

before the start of IOT&E to test the remaining interfaces and representative applications.

- As of November 14, 2012, CANES had a large number of cybersecurity vulnerabilities (29 Category 1 and 172 Category 2). The Navy must mitigate cybersecurity vulnerabilities prior to the IOT&E.
- The Navy's test planning documents do not provide an adequate description of the operational environment for the CANES IOT&E. DOT&E will approve the CANES Test and Evaluation Master Plan when the Navy provides an adequate description of the operational test environment for IOT&E.

## **Recommendations**

- Status of Previous Recommendations. This is the first annual report for this program.
- FY13 Recommendations. The Navy needs to:
  1. Mitigate all CANES Category 1 and 2 cybersecurity vulnerabilities prior to IOT&E.
  2. Provide a description of the operational environment for IOT&E that includes a discussion of the mission types that the ship's crew will perform during the test.