

Net-Enabled Command Capability (NECC)

Executive Summary

- Consistent with Defense Acquisition Executive guidance to explore new approaches to acquiring information technology, the Net-Enabled Command Capability (NECC) Technology Development phase developed innovative and interdependent requirement, acquisition, and test strategies intended to improve the efficiency and agility of information technology acquisition.
- DOT&E supported developing these strategies by actively participating in integrated product teams, Test and Evaluation Master Plan development, and approving a waiver to apply software intensive test guidelines before completion of the IOT&E.
- End-to-end demonstration of test processes using the initial NECC Capability Modules is required to confirm adequacy and viability of the test strategy and to identify lessons learned for the NECC Milestone C.

System

- NECC is the DoD's principal Command and Control Capability (C2C) that will provide access to a net-centric environment.
- NECC is a family of net-centric services comprised of software applications and databases implemented using service-oriented architecture technology.
- Users access NECC functionality via a software architecture composed of Capability Modules that are collections of net-centric services or data providing an operationally useful capability.
- Operators access NECC via a standard Global Information Grid computing node on a physical architecture consisting of operator clients and sites/nodes that access Capability Modules (classified and non-classified networks).
- The objective "mission space" for NECC is the area supporting command capability and command and control (C2) activities from the National Military Command System (NMCS) through the Joint Task Force and Service/functional components to unit level commanders.



- The DoD will develop NECC in three increments:
 - Increment 1 mission space extends from the NMCS through the Service/functional Component with focus on the Joint Force Commander Situational Awareness and Joint operations planning.
 - Increment 2 and 3 mission space extends from the NMCS to the tactical edge with focus at the unit level.

Mission

- Joint Commanders will use the NECC to accomplish joint global command and control.
- Commanders intend to use the NECC to:
 - Link the National Command Authority to the Joint Task Force and Service/functional components down to the unit level
 - Access, display, and understand information necessary for the warfighter to make efficient, timely, and effective decisions
 - Achieve decision superiority and to execute joint operations planning

Activity

- Technology Development phase activities of the Test and Evaluation Working Integrated Product Team included the development of a test and evaluation strategy, a management structure, and supporting processes for testing the NECC. A fundamental premise of the proposed strategy is using risk assessments of Capability Modules (consider the effect on mission and implications of product maturity) to determine an appropriate level (amount and type) of testing to support

- fielding of the capability to operational forces. The strategy integrates the testing and systems engineering processes in a manner intended to attain informed decisions, fulfill statutory requirements, and include warfighter input from U.S. Joint Forces Command.
- The Test and Evaluation Working Integrated Product Team recommended supporting the NECC acquisition strategy with a Capstone Test and Evaluation Master Plan and detailed

annexes. The capstone document describes the test and evaluation process and its relation to other program processes. The annexes will provide the schedule, execution, and resource information for testing NECC Capability Modules.

- The Assistant Secretary of Defense (Networks and Information Integration) assigned Lead Operational Test Agency responsibilities to the Army Test and Evaluation Command (ATEC) in December 2006.
- DOT&E approved a waiver for the NECC Program Management Office and ATEC to apply the Guidelines for Conducting Operational Test and Evaluation of Software Intensive Systems prior to completion of an IOT&E in June 2007.
- Assistant Secretary of Defense (Networks and Information Integration) delayed the NECC Milestone B decision allowing the program time to examine options that would more rapidly replace legacy systems and to address full funding requirements.

Assessment

- An end-to-end demonstration of the proposed test strategy was not completed during the Technology Development Phase. The ability to complete test events and evaluation reports within the time needed to meet the program development schedule is a significant concern.
- NECC intends to employ new tools to improve the efficiency and effectiveness of testing. The Defense Information Systems Agency (DISA) is developing the Federated Development and Certification Environment (FDCE) that will provide a comprehensive set of distributed tools to support the

NECC user, development, and test community activities in a collaborative manner. The Designated Approving Authority issued the FDCE an Interim Authority to Operate (IATO) for non-classified networks. The FDCE continues to mature; however, the Operational Test Agencies still need to validate its use for operational testing.

- DISA is developing the Capstone Test and Evaluation Master Plan; however, the detailed annexes are in the development process. A key challenge for developing the annexes is the timely receipt of essential information from the requirements and systems engineering processes.
- NECC Milestone B delays could impact the scheduled follow-on Milestone C, capability development, and operational testing.

Recommendations

- Status of Previous Recommendation. There were no FY06 recommendations for the NECC program.
- FY07 Recommendations. The NECC Program Management Office should:
 1. Demonstrate execution of the test strategy, including the use of the FDCE, by exercising processes from end-to-end for an initial set of NECC Capability Modules.
 2. Update the Capstone Test and Evaluation Master Plan at Milestone C to address any Acquisition Strategy and other programmatic changes that impact NECC capability development and operational testing.
 3. Develop Test and Evaluation Plan Annexes for the initial NECC Capability Modules that define an adequate and executable test strategy.