

## Global Command and Control System – Maritime (GCCS-M)

### Executive Summary

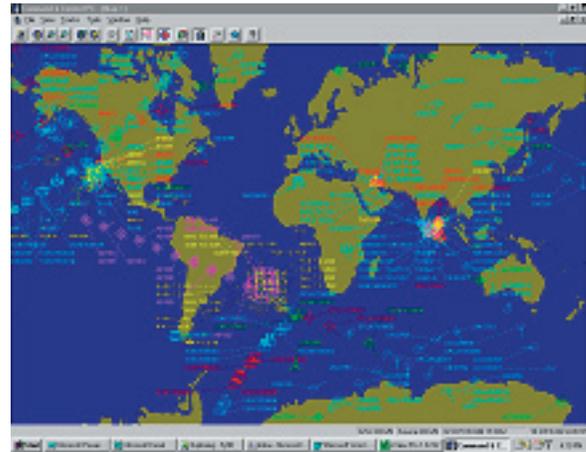
- The Global Command and Control System – Maritime (GCCS-M) met or exceeded all threshold values. However, there were seven major deficiencies not directly related to key performance parameters. All seven GCCS-M v4.0 major deficiencies were corrected and verified during operational testing on USS *Nimitz* and at Commander, U.S. Pacific Fleet Hawaii and Commander, Submarine Force, U.S. Pacific. However, additional Water Space Management deficiencies were discovered during verification testing. As a result of verification testing, Commander, Operational Test and Evaluation Force recommended fielding GCCS-M Afloat and Ashore, with the exception of Water Space Management.
- GCCS-M brings significant enhancements to Naval commanders. The Water Space Management module was not effective or suitable. The Navy has decided not to field the Water Space Management in GCCS-M v4.0. An in-depth Water Space Management requirements analysis was conducted, and a new version will be developed and fielded as part of GCCS-M v4.1. DOT&E concurs with this approach.

### System

- GCCS-M is the maritime implementation of the U.S. Global Command and Control System.
- Maritime commanders deploy GCCS-M afloat, at fixed command centers ashore, and as the command and control portion of tactical mobile command centers.
- It fields a baseline system consisting of core functionalities and a set of mission specific subsystems.

### Activity

- Commander, Operational Test and Evaluation Force conducted operational testing of the GCCS-M v4.0 variants:
  - Afloat on USS *Nimitz* in December 2004
  - Ashore at Commander, Submarine Force, U.S. Pacific and Commander, U.S. Pacific Fleet Hawaii, in December 2004 and January 2005
  - Tactical mobile at the Tactical Support Center and Mobile Operations Control Center in Jacksonville, Florida, in December 2004 and January 2005
- The program manager corrected all seven major GCCS-M v4.0 deficiencies and Commander, Operational Test and Evaluation Force verified they had been corrected during follow-on regression testing May 12-13, 2005, on USS *Nimitz*, and June 20-24, 2005, at Commander, Submarine Force, U.S. Pacific and Commander, U.S. Pacific Fleet Hawaii.



### Mission

- U.S. maritime commanders utilize GCCS-M to exercise command and control over forces in support of maritime operations.
- It provides maritime commanders at all echelons of command with a single, integrated, scalable command and control, communications, computers, and intelligence system.
- It supports the commander's decision-making process.
- It processes, correlates, and displays geographic track information on friendly, hostile, and neutral land, sea, and air forces, integrated with available intelligence and environmental information in support of the maritime commander.

Commander, Operational Test and Evaluation Force withheld a recommendation for fielding Water Space Management until deficiencies discovered during the follow-on regression testing could be verified as corrected.

- The Joint Interoperability Test Command (JITC) conducted additional interoperability testing and verifications in March and June 2005. JITC issued a Joint Interoperability Certification for GCCS-M v4.0.1 on July 28, 2005.
- The Milestone Decision Authority approved fielding of GCCS-M v4.0.1.
- All operational testing and evaluation was conducted in accordance with DOT&E-approved test plans.

## Assessment

The operational test of GCCS-M v4.0 was adequate, with minor exceptions:

- Afloat platforms:
  - While formal training was adequate and well received, the test did not include the Expeditionary Decision Support System, a system normally used on amphibious platforms. The Navy will test the Expeditionary Decision Support System in the latter part of 2006.
- For command and control centers ashore:
  - The Water Space Management module used in controlling submarine operations was not ready for test at Commander, Submarine Force, U.S. Pacific. The program office is continuing to improve training and to make corrections to this module.
- For Tactical Mobile:
  - GCCS-M functionality worked well for the Tactical Support Center/Mobile Operations Control Center. Testing was adequate, and included assessment of the two modules where USS *Nimitz* users lacked training. A Joint Mobile Ashore Support Terminal unit was not available to participate in the GCCS-M v4.0 operational test and evaluation. A Joint Mobile Ashore Support Terminal test with GCCS-M v4.0.1 is planned for 3QFY06.
- During the operational test, the U.S. Navy Fleet Information Warfare Center assessed information assurance vulnerabilities

- of GCCS-M v4.0. The Fleet Information Warfare Center was unable to successfully attack and exploit any vulnerability; however, all sites were deficient in auditing, backup, and security lockdown procedures. This is a training issue.
- GCCS-M v4.0.1 met its threshold interoperability key performance parameter, and JITC certified it for Joint use.
  - The afloat variant of GCCS-M v4.0.1 is operationally effective and suitable.
  - The ashore variant of GCCS-M v4.0.1 is effective and suitable with the exception of the Water Space Management module. Naval forces will continue using the previous version of Water Space Management until a new version is tested and fielded as part of GCCS-M v4.1.
  - The tactical/mobile variant of GCCS-M v4.0.1 is effective and suitable.

## Recommendations

The Navy should:

1. Monitor corrections and retest the Water Space Management module to satisfy maritime commander's requirements.
2. Conduct more training on information assurance and adherence to DoD security guidelines.