

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

The Global Command and Control System- Maritime (GCCS-M) provides Maritime Commanders at all echelons of command with a single, integrated, scalable command, control, communication, computers, and intelligence (C4I) system that processes, correlates, and displays geographic track information on friendly, hostile, and neutral land, sea and air forces, integrated with available intelligence and environmental information, to support command decision making. GCCS-M is implemented afloat, at ashore fixed command centers, and as the command and control (C2) portion of mobile command centers. GCCS-M fields a baseline system consisting of core functionalities and a set of mission specific subsystems. Additional subsystems, as well as core upgrades and new functionality, will be fielded in future releases allowing GCCS-M to evolve as warfighter requirements change.

GCCS-M expands existing C4I baseline capabilities through the evolutionary, incremental implementation of hardware and software releases. This approach provides the user with state-of-the-art C4I capabilities that keep pace with both continually evolving operational requirements and technological advances. Central to the success of this approach is adherence to an open-system commercial and government standards-based architecture that maximizes use of non-developmental items. GCCS-M must also be in compliance with the Global Information Grid- Enterprise Services to ensure interoperability with U.S. Joint and other naval C4I systems. A key goal of GCCS-M is to serve as the host for other independently built applications using the Global Information Grid. GCCS-M can be used as a building block for C4I systems that range in size from a single server and client workstation, through a large multi-server, multi-client architecture.

GCCS-M Version 3.1.2.1 was evaluated as effective and suitable in 2002 and is executing well in the fleet. Several critical interfaces have not been formally tested and certified for interoperability by the Joint Interoperability Test Command (JITC).

TEST & EVALUATION ACTIVITY

The Software Qualification Test for Version 3.1.2.1 Patch 1 (P1) was a limited operational test conducted aboard the *USS Theodore Roosevelt* in February 2003 during a battle group exercise during the transit from the Puerto Rican operating areas to operations in the Sixth Fleet. Additional testing was performed in a laboratory at Space and Naval Warfare Systems Center, San Diego.

TEST & EVALUATION ASSESSMENT

During operational testing, the system was operated on a continuous basis by fleet personnel in the intended operating environment, and was employed to perform all routine C4I functions normally associated with battle group operations and underway training exercises. The system met or exceeded all threshold values except maintainability, which could not be measured since no failures occurred. Two interfaces (multiple tactical digital information link capability (MTC) and Navy Joint Surveillance Target Attack Radar System interface (NJI)) were not tested due to test limitations, and these deficiencies will be addressed in future test events. A Common Operational Picture synchronization tool (CST) deficiency involved documentation and will be addressed in late 2003. The



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NAVY PROGRAMS

Software Qualification Test report declared GCCS-M 3.1.2.1P1 operationally effective (excluding MTC and NJI) and operationally suitable (excluding MTC, NJI, and CST), and recommended approval for fleet release.

The GCCS-M Management Office needs to submit a proposed Interoperability key performance parameter for approval. Together with associated information exchange requirements, this will be required before JITC interoperability certification can be achieved. The GCCS-M program and JITC are making progress in this area, and DOT&E expects the work to be accomplished in time to support testing and interface certifying for GCCS-M 4.0, which is the next major release scheduled for testing by August 2004.