

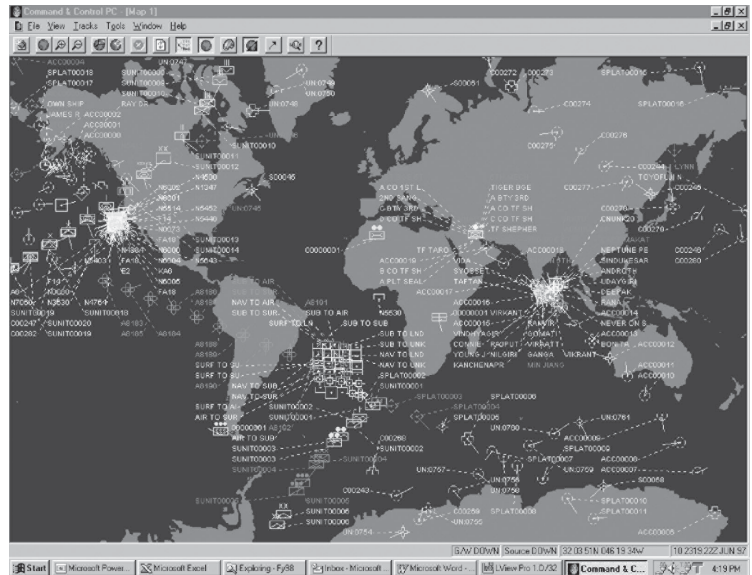
Global Command and Control System - Maritime (GCCS-M)

SUMMARY

- There were two major developmental tests conducted on v4.0 software. DT-V was conducted in a lab environment, with emphasis on validation of functional requirements and non-environment dependent key performance parameters (KPPs).
- The Test and Evaluation Master Plan was updated for v4.0 testing.

SYSTEM DESCRIPTION AND MISSION

Originally initiated as the Joint Maritime Command Information System, GCCS-M is now the Maritime implementation of the U.S. Global Command and Control System (GCCS). GCCS-M provides maritime commanders at all echelons of command with a single, integrated, scalable 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, ashore at fixed command centers, and as the command and control (C2) portion of mobile command centers.



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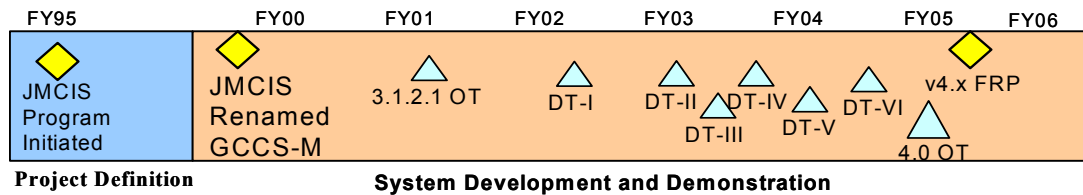
GCCS-M fields a baseline system consisting of core functionalities and a set of mission specific subsystems. Additional subsystems, as well as core upgrades and new functionality, will be fielded in future releases allowing GCCS-M to evolve as warfighter requirements change, or new ones are added. GCCS-M will migrate from HP-Unix operating system to the Solaris operating system starting with version 4.0, resulting in a reduction in total ownership costs by eliminating the need for joint applications to develop HP-compliant applications specifically for the Navy.

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 Defense Information Infrastructure Common Operating Environment (DII COE) 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 COE. 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 v3.1.2.1 had been declared 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). In 2004, the program completed, and the Joint Staff approved, an interoperability KPP that will allow JITC to test all critical interfaces during the v4.0 operational test scheduled for completion in January 2005.

NAVY PROGRAMS

TEST AND EVALUATION ACTIVITY



- There were two major developmental tests conducted on v4.0 software. DT-V was conducted in a lab environment, with emphasis on validation of functional requirements and non-environment dependent KPPs.
- DT-VI, called TECHEVAL, was conducted in September 2004 at operational units afloat and selected TacMobile and ashore sites.
- under operational conditions. This purpose of this test was to determine system readiness for operational evaluation.
- The Test and Evaluation Master Plan was updated for v4.0 testing.

TEST AND EVALUATION ASSESSMENT

During DT-V, the system demonstrated improved maturity and performed well with few major problems. Following several fixes and regression testing, the system was assessed to be ready to proceed to the final phase of developmental testing.

The TECHEVAL was conducted on USS *Nimitz*, COMPACFLT, COMSUBPAC, Tactical Support Center Jacksonville, Florida, and the Mobile Operational Command Center Atlantic at Jacksonville. All critical technical parameters (CTPs) were met, and all KPPs that could be tested were met. Some KPPs relate to functions performed only on ships other than aircraft carriers. During this test, GCCS-M v4.0 provided the desired functionality when operated in an operationally representative environment. Areas where capability exceeded that provided by GCCS-M v3.x included CTP results, expanded track types in the common operational picture, intelligence and imagery work space, improved integration of objects on the chart, portable user profiles, and server reliability. The system was found to be more network sensitive than GCCS-M v3.x, and system administration and account management were more complex. This might be expected as systems move toward net-centricity. System maturity continued to improve, and all significant issues were closed in preparation for entry into operational evaluation starting in December 2004.