

## Global Command & Control System - Joint (GCCS-J)

The Global Command and Control System - Joint (GCCS-J) is the DoD joint command and control (C2) system of record for achieving the full spectrum dominance articulated in Joint Vision 2020 and is the foundation of the command, control, communications, computers, and intelligence (C4I) for the Warrior initiative. GCCS-J is a suite of mission applications that supports the Command authorities and subordinate elements in conducting synchronized operations from dispersed locations by providing joint C4I throughout all phases of conflict. GCCS-J provides many diverse capabilities, including operations planning and situation awareness. It fuses select C2 capabilities into a comprehensive, interoperable system by exchanging imagery, intelligence, status of forces, planning, and execution information.

To ensure GCCS-J effectively interoperates with the C2 systems of record, interoperability testing focuses on external interfaces. Testing is designed to measure completeness, accuracy, timeliness and usability of the actual exchange. Services variants interfaces with GCCS-J programs of record are characterized as follows:

Service Variant	GCCS-J Mission Area
GCCS-Army	Situational Awareness Force Planning
GCCS-Martime	Situational Awareness
GCCS-Air Force TBMCS DCAPES	Situational Awareness Intelligence Force Planning

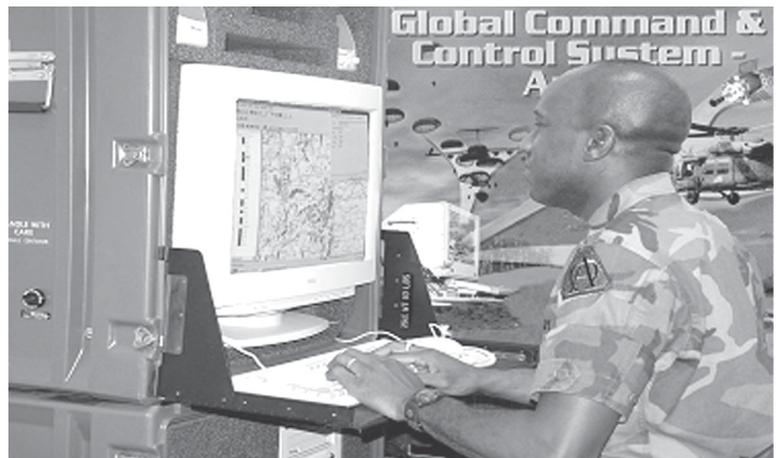
GCCS-J consists of a series of capability improvements fielded as spiral and incremental releases within evolutionary blocks. Each release supports evolving user requirements for new or enhanced functional capabilities. Current releases feature an adaptable and constantly improving client/server architecture using commercial software and hardware, open systems standards, government developed military planning software, web technology, and office automation.

### TEST & EVALUATION ACTIVITY

GCCS-J software releases are tested in accordance with the DOT&E *Guidelines for Conducting Operational Test and Evaluation for Software-Intensive System Increments*, dated June 16, 2003.

The GCCS-J 3.6 combined developmental test/operational test in December 2002 was conducted primarily to test intelligence upgrades to support U.S. Central Command requirements. Four intelligence applications were added to the GCCS baseline. Minor upgrades were made to several other functional applications.

Five minor spiral releases only required developmental testing. GCCS-J 3.6.1 consisted of two security patches. GCCS-J 3.6.2 consisted primarily of security patches, bug fixes, and minor improvements particularly to the intelligence, JOPES, and COP portions of GCCS-J. GCCS-J 3.6.3 consisted primarily of security patches, minor improvements to the operating systems and DII Common Operating



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# DOD PROGRAMS

Environment, and improvements in Force planning. GCCS-J 3.6.4 contained more security patches, improvements to situational awareness, combat support services, an upgrade of the Global Status of Resources and Training System to maintain interoperability with the Navy readiness reporting system, and early initial fielding of the Readiness Assessment System Output Tool (RAS OT) that was originally planned for release in GCCS-J 4.0. GCCS-J 3.6.5 contained several new and/or upgraded Force projection capabilities including Adaptive Course of Action, Joint Operational Planning and Execution System (JOPES) Editing Tool, Transitional Interface to External Systems, and prepositions two segments (Netscape 7 and Go-Global) that will enable user access to the JOPES strategic servers when they become available. These upgrades were key to reducing risk for major release 4.0. GCCS-J 3.6.5 also contained upgrades to intelligence applications, added more security enhancements, and introduced the Defense Messaging System client to the user community. Risk is low for all five minor releases, and developmental testing with user participation was deemed adequate for fielding. The Operational Test Agency (OTA) had sufficient insight into the developmental testing.

GCCS 4.0 introduces a new version of an operating system, database management system, and the new version of the JOPES. To reduce risk and expedite the release of the critical new warfighter capability of JOPES, the GCCS-J Program Manager decided to split the GCCS-J 4.0 release, thereby allowing earlier fielding of JOPES. Both halves will require a major OT&E effort, and each will also undergo a major risk reduction test (RRT) prior to entering OT&E. The RRT for JOPES was conducted in late September and early October 2003 with all combatant commands and most Service components actively participating. Operational test for JOPES could occur in January 2004. The second RRT for infrastructure upgrades, COP, and intelligence applications will be conducted in February 2004, with subsequent operational testing planned for May/June 2004.

## **TEST & EVALUATION ASSESSMENT**

Continued execution of the recommendations reported in 2002 remains important to ensuring smooth operational assessment of GCCS-J. DOT&E has worked closely with both the GCCS-J Program Management Office (PMO) and Joint Interoperability Test Command to ensure test readiness and adequacy. The PMO is successfully working to reduce risk on the program.

The effectiveness of GCCS-J 3.6 was satisfactorily demonstrated with no critical impact statements. Some suitability aspects of GCCS-J 3.6 could not be fully assessed due to the lack of subject matter experts and lack of user training prior to testing. The five minor releases were all adequately and successfully tested prior to fielding. Functionality originally scheduled for GCCS 4.0 has been tested and delivered early to meet warfighter needs for Operation Iraqi Freedom, thereby reducing the risk for the GCCS 4.0 release. GCCS-J 3.6.5 upgrades are also proving critical in reducing risk during the significant 4.0 testing effort by pre-positioning client software that will make the operational implementation of the new JOPES capability much less complex, and enabling the 4.0 testing to focus on the new JOPES and Status of Resources Training System server software. The RRT for JOPES was the largest test since Y2K upgrades. It involved all combatant commands and most components and has proven crucial to Defense Information Systems Agency and the OTA in preparing for the JOPES operational test effort. The combatant commands were instrumental in developing test scenarios, and most scenarios will require very little modification for the JOPES operational test. Because operational testing for GCCS-J cannot impact the operational system, the RRT for GCCS-J 4.0 has been instrumental in identifying test peculiarities associated with testing separately from the live system but yet in an operationally representative environment. RRT results for the JOPES test have been very positive and have served very well to reduce the risk for the upcoming JOPES operational testing.

Future success will require continued managing of the GCCS-J 4.0 increment and Block V releases to an acceptable level of risk, which means appropriate developmental testing, OTA insight and observation of developmental testing, and bringing capability to operational test only when ready.