

Global Command and Control System - Air Force (GCCS-AF)

SUMMARY

- Two operational tests of the new Joint Operational Planning and Execution System, together with the Deliberate and Crisis Action Planning and Execution System (DCAPES), revealed shortcomings in database synchronization, overall system performance, and interoperability.
- Tests of the Theater Battle Management Control System (TBMCS) Unit-level Operations (UL-Ops) and Unit-level Intelligence (UL-Intel) Spiral 8 software were successfully tested and fielded.
- After two developmental tests, February 2005 is the planned operational test for TBMCS Force-level 1.1.3.



GCCS-AF has the capability to plan and execute air operations at the operational level.

SYSTEM DESCRIPTION AND MISSION

The Global Command & Control System – Air Force (GCCS-AF) is a secure, interoperable core command and control constellation. It has the capability to plan and execute air operations at the operational level. In FY04, GCCS-AF included TBMCS, DCAPES, the Joint Defensive Planner, Joint Targeting Toolbox, Time Critical Targeting Functionality, Web Enabled Execution Management Capability, and the Joint Environmental Toolkit. The management of GCCS-AF will be a portfolio of programs.

TBMCS is the key component of the five Air Operations Centers, called Falconers. They are under the configuration management of the Air Operations Center–Weapon System program. Other GCCS-AF systems also fielded to the Falconers include the Joint Defensive Planner, Joint Targeting Toolbox, Time Critical Targeting Functionality, Web Enabled Execution Management Capability, and the Joint Environmental Toolkit. TBMCS provides hardware, software, and communications interfaces to support the preparation, modification, and dissemination of the force-level Air Battle Plan. It includes the air tasking order and airspace control order. TBMCS unit-level operations and intelligence applications provide Air Force Wings the capability to receive the Air Battle Plan, parse it, and manage wing operations and intelligence to support its execution. TBMCS supports the development and sharing of a common, relevant operational picture of theater air and surface activity.

The TBMCS intelligence and targeting applications at the theater Joint Force Air Component Commander-level support the Air Support Operations Center and Direct Air Support Center. It supports the coordination of Precision Engagement fires, safe passage zones, and near real-time warnings of impending air attack. The air and surface surveillance and weapons coordination engagement options enable synchronized operations and employment of the correct weapons for each target to generate the desired results. All TBMCS network participants, contributing to improved decision-making by commanders, share engagement intentions and results assessments. TBMCS fielding includes every theater air component, all Navy aircraft carriers and command ships, all Marine Air Wings and Air Force flying wings, and Air Support Operations Center squadrons. The Army Battlefield Coordination Detachments also interface with TBMCS.

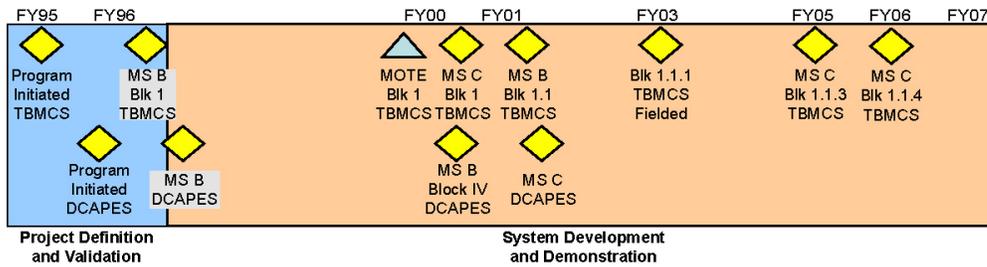
The TBMCS program has made significant improvements. It is now compliant with the acquisition requirements for Major Automated Information Systems. Coordination among the Services for defining Service-unique requirements has

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improved. The Service Operational Test Agencies continue to work well together on this program. Previously assessed as effective and suitable, TBMCS 1.1 and 1.1.1 versions, are executing well in the field.

DCAPES is the Air Force feeder system to the Joint Operational Planning and Execution System. It provides Air Force user's access to the Joint Operational Planning and Execution System at the numbered Air Force and higher echelons for support of Time-Phased Force Deployment Document. It provides manpower, personnel, and logistics data for operations planning.

TEST AND EVALUATION ACTIVITY



- TBMCS UL-Intel Spiral 8 Field Development Evaluation (FDE), March-April 2004.
- TBMCS UL-OPS Spiral 8 FDE, October 2004.
- TBMCS 1.1.3 Force-level developmental testing (in conjunction with Air Operations Center–Weapon System 10.1), May-June, October 2004.
- DCAPES operational testing (in conjunction with GCCS-Joint 4.0(a) operational testing), January 2004.
- DCAPES operational testing (in conjunction with GCCS-Joint 4.0(a) operational testing), June 2004.

TEST AND EVALUATION ASSESSMENT

TBMCS UL-Intel involved the Air Force Communications Agency early in the testing cycle. They ensured all important security issues were resolved early. During spiral 8, this approach worked well. The system is effective, suitable, and fielded.

TBMCS UL-OPS Spiral 8 experienced delays. Software immaturity discovered during early in-plant testing delayed Spiral 8 developmental testing to July 2004. Operational testing was conducted October 2004.

TBMCS 1.1.3 and the other GCCS-AF systems fielded to the Falconers experienced software problems during early government in-plant testing. A June 2004 developmental test resulted in an incomplete test due to configuration and communication issues. A special make-up test occurred a month later, with additional software issues leading to a second developmental test in October 2004. October tests will confirm if the system is ready to proceed to operational testing. Operational testing of TBMCS 1.1.3 and Air Operations Center–Weapon System is February 2005.

DCAPES entered operational testing with GCCS-Joint in January 2004. Both DCAPES and the Joint Operational Planning and Execution System had performance and database synchronization issues. After numerous software changes, database server upgrades, and concept of operations changes for GCCS-Joint, both systems resumed operational testing in June 2004. The two critical issues regarding database synchronization and overall system performance are still unresolved. DCAPES requires additional development and operational testing before full fielding.