

Common Aviation Command and Control System (CAC2S)

Executive Summary

- The DoD designated the Common Aviation Command and Control System (CAC2S) a Major Automated Information System (MAIS) program in FY08.
- The Marine Corps canceled an IOT&E, replacing it with an Operational Assessment (OA), which completed during FY08.
- CAC2S performed poorly during the OA.

System

- CAC2S will be the primary air operations planning and command and control tool for commanders and staff within the Marine Aircraft Wing. CAC2S should also provide the Marine Corps a common command and control system for their air operations.
- CAC2S will consist of tactical shelters, hardware, and software that will provide operators with planning and execution capabilities for aviation operations, enabling the integration of the aviation and ground Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) networks.
- CAC2S Increment I is designed to replace the Marine Air Command and Control System (MACCS), the functionality of the current Tactical Air Operations Center, Direct Air Support Center, and portions of the Tactical Air Command Center in preparation for transition to the future Marine Air/Ground Task Force (MAGTF) command and control Combat Operations Center.
- Follow-on CAC2S Increments will incorporate additional elements of the MAGTF command and control strategy, to include those for Air Traffic Control, Airborne command and control, and command and control of ground-based defenses and unmanned aerial systems.

Mission

- The MAGTF commander will use CAC2S to provide connectivity to the Joint Command and Control Communications System and Intelligence Command Information Architecture throughout the operational environment, specifically providing the following capability increases to the MAGTF:
 - Display a common near real-time integrated tactical picture with the timeliness and accuracy necessary to facilitate



Transport System



Workstation



Command Center

- the control of friendly assets and the engagement of threat aircraft and missiles
- Access to theater and national intelligence sources from a single, multi-function C2 node
- Standardized Air Tasking Order (ATO) and Airspace Control Order (ACO) generation, parsing, interchange, and dissemination throughout the MAGTF and theater forces by using the joint standard for ATO interoperability
- Implementation of Theater Air and Missile Defense (TAMD) Joint Data Network (JDN) message sets and intelligence capabilities, providing the MAGTF with a theater-wide source of missile defense information

Prime Contractors

- General Dynamics
- Raytheon

Activity

- The Navy approved the CAC2S Milestone C decision on December 20, 2007.
- The DoD designated CAC2S as an Acquisition Category (ACAT) IAC on December 26, 2007.

NAVY PROGRAMS

- The Marine Corps conducted developmental testing during December 2007.
- The Marine Corps conducted an OA at Yuma, Arizona, during April 2008.

Assessment

- Following developmental testing in December 2007, DOT&E identified the following deficiencies:
 - CAC2S did not receive Joint Interoperability Test Command approval/certification and did not meet the Net Ready Key Performance Parameter.
 - CAC2S could not receive the ATO or ACO using the joint standard for ATO interoperability.
 - The Marine Corps did not successfully develop the CAC2S Global Command and Control System interface.
- Following a preliminary analysis from the CAC2S OA, DOT&E identified the following deficiencies:
 - The Marine Corps made no significant improvements in Information Assurance Posture with over 500 network vulnerabilities corrections required.
 - CAC2S software is unstable. The Mean Time Between Operational Failure rate during the April 2008 OA was 5 hours and 25 minutes, which is significantly less than the threshold requirement of 228 hours. While system availability showed an improvement from the 2006 OA of 30.7 percent to 72 percent, it is still below the 90 percent availability threshold requirement.

- CAC2S failed to meet the following requirements:
 - Basic C4ISR
 - Voice communications
 - Organic MAGTF radar integration
 - Tactical data link integration
 - Demonstrate MAGTF communications compatibility with joint systems
- The Marine Corps has not integrated many technical requirements or tested in an operationally-representative environment.

Recommendations

- Status of Previous Recommendations. This is the first annual report for this program.
- FY08 Recommendations.
 1. As the current CAC2S is currently at high risk for successful fielding, the Marine Corps should revisit alternatives for meeting the requirement in the CAC2S Capabilities Production Document.
 2. The Program Office should update the Acquisition Strategy to reflect the MAIS status of the program as well as the findings of the FY08 OA. Additionally, the Acquisition Program Baseline schedule is no longer achievable and requires updating.
 3. The Program Office should update the Test and Evaluation Master Plan and test and evaluation strategy to reflect the updated Acquisition Strategy and schedule.