Mission Planning System (MPS) (including Joint Mission Planning Systems (JMPS))

Executive Summary

- The Air Force completed operational testing of the F-16 version 4.2+ Mission Planning Environment (MPE) (Increment III lead host platform), the F-15 MPE version 2.0, the RC-135 MPE version 2.0, and the F-16 MPE version 4.3+. Each of the MPEs featured tailored planning capabilities for their respective host platforms and their precision-guided weapons.
- DOT&E issued a Beyond Low-Rate Initial Production (BLRIP) Report on the F-16 version 4.2+ MPE stating that it was operationally effective but not operationally suitable.
- Definition of the test strategy for Air Force Mission Planning System (MPS) Increment IV is ongoing. Increment IV will feature new or updated MPEs for 15 separate Air Force host platforms. DOT&E is focusing the operational test effort to evaluate the impact of the Increment IV MPEs on the end-to-end mission for the Air Force and the host platform.
- The Air Force is leading Service efforts to develop the new common core Joint Mission Planning System (JMPS) Framework version 1.4. This new framework, once matured, is intended to be adopted by all Services as a common core to build Service and host platform-specific MPEs.

- JMPS operates as an unclassified or classified system in either a stand-alone, workgroup, or domain environment.
- Although the JMPS software is being co-developed among DoD components, JMPS is not a joint program.

System

- JMPS is currently a Windows XP, PC-based common solution for aircraft mission planning. It is a system of common and host platform-unique mission planning applications for Air Force host platforms.
- An MPE is a total set of developed applications built from modules. The basis of an MPE is the Framework, to which a Unique Planning Component is added for the specific aircraft type (e.g., F-15E). Other Common Components that can support multiple users are added as well (e.g., GPS-guided weapons, electronic warfare planner, etc.) to complete the MPE.

Mission

Aircrews use JMPS to conduct detailed mission planning to support the full spectrum of missions ranging from simple training to complex combat scenarios. Aircrews then save required aircraft, navigation, threat, and weapons data on a data transfer device so they can load it into their aircraft before flight.

Prime Contractor

- Framework: BAE Systems, San Diego, California

Activity

Increment III

- The Air Combat Command's 28th Test and Evaluation Squadron completed the operational test of the F-15 MPE version 2.0 in March 2009.
- Air Force Operational Test and Evaluation Center (AFOTEC) completed the operational test of the Air Force MPS Increment III RC-135 MPE version 2.0 in May 2009, and published their IOT&E report on August 19, 2009.
- The Detachment 2, AFOTEC completed the operational test of the Air Force MPS Increment III F-16 MPE version 4.2+ in November 2008.
- DOT&E published a BLRIP Report to Congress for the operational test of Air Force MPS Increment III, F-16 MPE version 4.2+ in July 2009.

- All testing was conducted in accordance with DOT&E-approved Test and Evaluation Master Plans and operational test plans.
- DOT&E approved the test plans for Air Force MPS F-16 MPE version 4.3+ and version 5.1.

Increment IV

- DOT&E and the Air Force have defined the initial and follow-on operational test strategy for the Air Force MPS Increment IV for the first two Spirals of the Tanker, Airlift, Special Mission (TASM) MPE.

Assessment

Increment III

- The 28th Test and Evaluation Squadron evaluated the Air Force MPS F-15 MPE version 2.0 as operationally effective and operationally suitable. While the MPE offers many more new planning capabilities than the predecessor F-15 MPE version 1.3.4, the system suffered fewer critical failures and the time to complete F-15E mission planning was reduced by over 20 percent. DOT&E concurs with the evaluation result.
- DOT&E assessed the RC-135 MPE version 2.0 as operationally effective, but not operationally suitable. Significant problems were encountered during system set-up, including four failed installation attempts, problems connecting to the network domain, and the RC-135 MPE failing to launch after installation. This resulted in 29 of 34 total hours of system downtime during the test and an Operational Availability rate of 82.9%, which did not meet established user criteria of 95%.
- In the F-16 MPE 4.2+ BLRIP report to Congress, DOT&E evaluated that testing was adequate to demonstrate that the F-16 MPE version 4.2+ was operationally effective, but not operationally suitable. The system satisfied the intent of all four Key Performance Parameters: time to plan a mission; route creation and manipulation; data exchanges; and data transfer operations. However, system effectiveness was limited by deficiencies related to user-system interface and other minor deficiencies. Although the MPE met the requirements for reliability and operational availability there were significant deficiencies related to system installation, logistics supportability, and system administration and loss of planning data due to computer system crashes.
- The 28th Test and Evaluation Squadron is scheduled to conduct the operational test of the Air Force MPS F-16 MPE version 4.3+ and version 5.1 in November 2009 at Eglin AFB.

Increment IV

- Initial Operational Testing and Evaluation JMPS Increment IV TASM MPE will occur at Spiral 1 and will be conducted by AFOTEC. Spiral 1A will include more complex planning involvement from the Air Mobility Command Tanker Airlift Command Center in Scott AFB, Texas. Due to the complex nature and large scope of Spiral 1A testing, AFOTEC must plan personnel and funding to be involved in this FOT&E.

Recommendations

- Status of Previous Recommendations. The Air Force satisfactorily addressed all of the FY08 recommendations.
- FY09 Recommendation.
  1. The Air Force should update the draft Air Force MPS Increment IV Test and Evaluation Master Plan to reflect the DOT&E and AFOTEC defined operational test strategy for the C-17 MPE Spirals 1 and 1A while also documenting the strategy for additional focus on early and continuous reliability growth and information assurance vulnerability testing.