

Joint Mission Planning Systems (JMPS)

Executive Summary

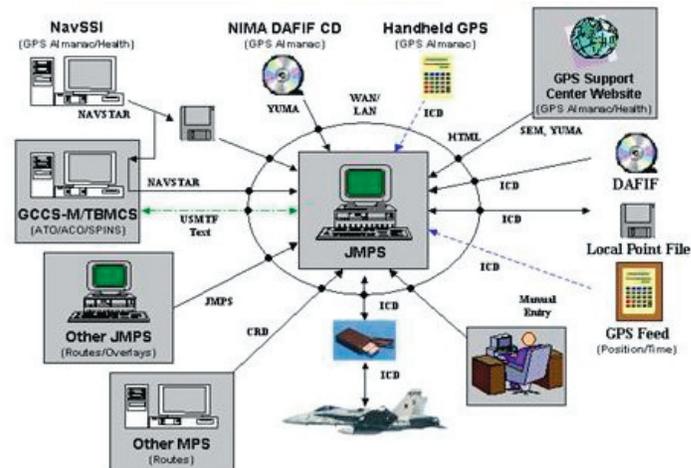
- Initial Joint Mission Planning System (JMPS) Mission Planning Environments (MPE) are progressing through OT&E with mixed results.
- Numerous anomalies and deficiencies have interrupted and delayed OT&E of MPEs for the F-15 and F/A-18.
- Service JMPS developers must give more attention to development, integration, and testing of software components prior to submitting MPEs for OT&E.

System

- JMPS is a Windows 2000, PC-based common solution for aircraft mission planning for all the Services.
- The JMPS system is built in modules, starting with a Unique Planning Component (UPC) for a specific aircraft type (e.g., F-15E or F/A-18) and adding additional common components (e.g., Global Position System-guided weapon UPC, navigation planner UPC, etc.) that together form the MPE.
- The system operates as either a stand-alone PC or laptop, or as a secure, networked system supported by servers.
- The Navy and Air Force are initial users of MPEs built on JMPS framework versions 1.1 and 1.2.1.

Mission

- Aircrews use JMPS to plan all phases of their missions and then save required aircraft, navigation, threat, and weapons



data on a data transfer device so they can load it into their aircraft before flight.

- All JMPS users will eventually be able to collaborate on mission planning, even when operating from different bases.
- The Army and U.S. Special Operations Command plan to eventually transition to JMPS.

Activity

- The Air Force began operational test of its first JMPS MPE for the F-15 Suite 4 aircraft in July 2005 at Seymour Johnson Air Force Base, North Carolina, and Eglin Air Force Base, Florida. Testing was stopped in August 2005 due to a series of training, installation, and performance deficiencies. The program incorporated corrections to those deficiencies to support the F-15 Suite 5 aircraft. The Air Force tested Suite 5 JMPS from October 31 through November 10, 2005. Test results are pending.
- The Navy started the IOT&E of its first JMPS MPE for the F/A-18 in March 2005 at China Lake, California. Following discovery of several anomalies, a new software build was released and IOT&E resumed in June 2005. OT&E in a shipboard environment, using realistic scenarios and operational aircrew users, was performed in October onboard USS *Ronald Reagan* (CVN 76).
- The Marine Corps initiated shore-based operational test of the JMPS MPE for the AV-8B in July 2005, leading to shipboard testing aboard USS *Nassau* in August 2005. Anomalies

discovered in early testing were corrected in September 2005 and regression testing resumed at China Lake, California.

- An early version of the EA-6B JMPS mission planner was assessed under EA-6B ICAP III testing. A more complete version will be tested under the Navy's Joint Mission Planning System architecture, which is planned for FY06.
- Army JMPS MPEs are still in development. The lead platform will be the UH-60M. Operational testing is planned for August 2006.
- The Navy and Air Force are in testing in accordance with a DOT&E-approved Test and Evaluation Master Plan (TEMP) and test plan.
- The Army is developing its OT&E TEMP and test plan.

Assessment

- Results of testing to date on both the F-15 and F/A-18 MPEs indicate that adequate development and development testing are not always being completed before sending the systems to OT&E. Problems have been encountered with reliability,

stability, consistency of performance, interoperability, and errors in calculating aircraft and weapon flight data. The result is that key performance parameters are not met. Evidence points to poor integration among the framework and UPCs, and incomplete development of installation procedures, training materials, and security settings. Critical anomalies and deficiencies found in OT&E have caused delays and stoppage of tests as well as additional efforts to deliver revised software.

- Operational testing of the AV-8B MPE was adequate. Indications are the AV-8B MPE will meet operational requirements.
- DOT&E found the overall EA-6B ICAP III system, including the early version of the EA-6B JMPS MPE, to be operationally effective and suitable. A complete operational test of the EA-6B JMPS MPE is planned for the ICAP III, Block 2 MPE in FY06.
- Operational Test Agencies have to resist pressure from various JMPS programs to “rush to test” and then change approved test plans and/or processes.

Recommendations

1. Operational Test Agencies should not accept JMPS MPEs for OT&E prior to confirmation in development testing that the development program has been adequate and complete, and that critical deficiencies have been eliminated. MPEs have been rushed to OT&E with incomplete integration and interoperability among components and with numerous uncorrected deficiencies affecting performance and suitability.
2. JMPS developers need to pay more attention to installation and operating instructions, training, system administration, and security settings.
3. The Services should conduct risk assessments for follow-on JMPS MPEs to help define the amount of operational testing necessary to mitigate these risks.