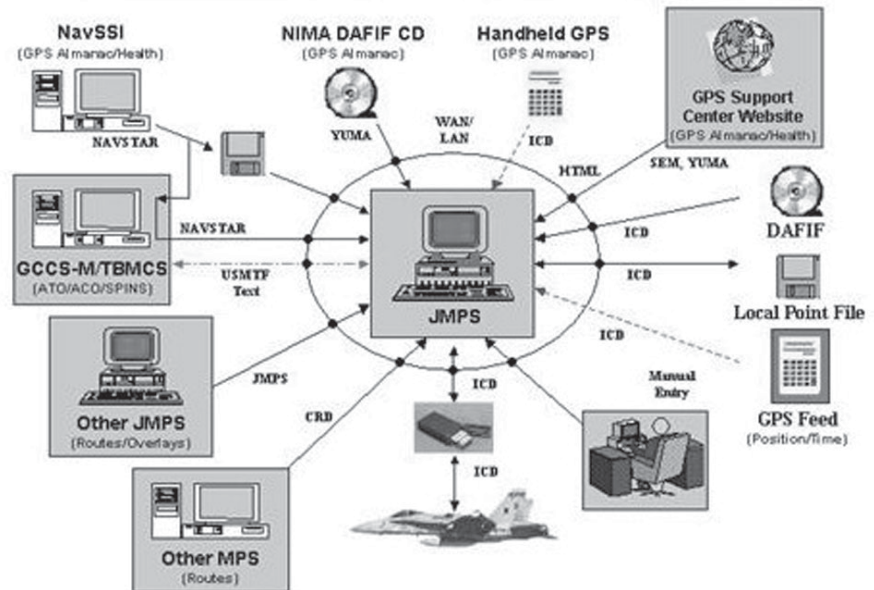# Joint Mission Planning System (JMPS)

SUMMARY

- The Navy and Air Force are developing the Joint Mission Planning System (JMPS) to provide a common mission planning and data loading system.
- Both Services will operationally test the first versions of JMPS in FY05.
- Both the Air Force and Navy have adequate Test and Evaluation Master Plans and test plans.

Aircrews using JMPS will be able to complete required mission planning and aircraft data loading for fixed and rotary wing aircraft missions.

SYSTEM DESCRIPTION AND MISSION

JMPS uses commercial off-the-shelf PC hardware running a Defense Information Infrastructure Common Operating Environment-compliant version of Windows 2000. JMPS software consists of a Mission Planning Environment, which includes the basic operating framework, basic mission planning functions, and common software components. The Mission Planning Environment is coupled with a set of software modules for a given aircraft type (e.g. F-15E or F/A-18) called Unique Planning Components. JMPS system configurations are either a) non-networked stand-alone laptops or PCs, or b) secure, network-connected systems supported by servers.

The Air Force and Navy are developing JMPS as a common effort to replace both Services' mission planning systems. Northrup Grumman Information Technology (NGIT) is developing the JMPS framework for the Services. NGIT is building initial service-specific versions of JMPS on parallel paths that are supposed to converge with JMPS Version 1.3. The Navy's version is JC1 (also known as JMPS-Maritime, JMPS-M, and JMPS Version 1.1). The Air Force version is JCP (or JMPS Version 1.2).

Aircrews using JMPS will be able to complete required mission planning and aircraft data loading for fixed and rotary wing aircraft missions. JMPS will also include the ability to plan for unmanned aerial vehicles, avionics and sensors, unguided and precision guided munitions, and cruise missiles. The Marine Corps, Army, and U.S. Special Operations Command also plan to eventually transition to JMPS from their current mission planning systems. All JMPS users will eventually be able to collaborate on mission planning, even when operating from different bases.

TEST AND EVALUATION ACTIVITY
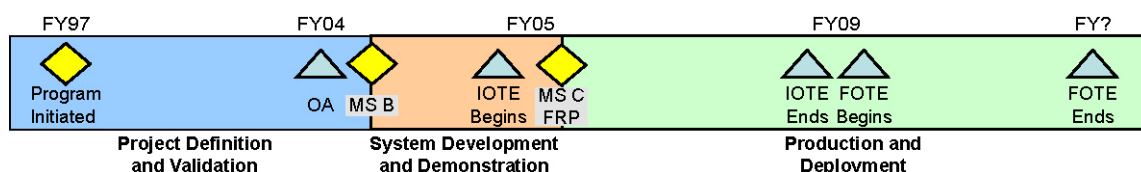
DOT&E approved the Navy and Air Force Test and Evaluation Master Plans on February 24, 2004, and July 22, 2004, respectively.

From December 11-18, 2003, Navy operational test crews performed the first Developmental Test Assist (DT Assist) on JC1 at the Naval Air Warfare Center-Weapons Division, Pt. Mugu, California, and the Integrated Battlespace Arena at China Lake, California. Test crews participated in two additional DT Assist periods in April and August 2004. The Navy will start Initial Operational Test and Evaluation (IOT&E) of JC1 in conjunction with F/A-18 testing of Operational Flight Program 19C in early FY05.

 The Air Force conducted developmental testing of JCP through FY04. JCP will begin IOT&E in mid-January 2005 with the upcoming F-15E Suite 4 upgrade. IOT&E will continue with different aircraft-specific Mission Planning Environments through FY09.

TEST AND EVALUATION ASSESSMENT
The Navy DT Assist identified numerous issues of concern with JC1, including a recommendation by the Joint Interoperability Test Command (JITC) that JC1 not proceed to dedicated OT&E until the problems are resolved. JITC observed the DT Assist to determine the extent to which JC1 could receive and accurately interpret textual and geospatial data and transfer the finished mission plan via a data transfer device (DTD) to an associated aircraft or weapons system. JITC found problems with DTD loading, data displays, data transfer errors, and Global Positioning System (GPS) almanac data loading, among other functions.

The Navy's Commander, Operational Test and Evaluation Force issued a Letter of Observation after the December 2003 DT Assist, documenting concerns about system stability, interoperability, human factors, training, and maintainability; these include problems with DTD loading, GPS crypto keys, security, graphical displays, training plans, and system administrator workload.

Results from the Navy's April 2004 DT Assist demonstrated both continuing and new problems with reliability, human factors, and combat DTD creation and loading. Test crews generated deficiency reports on system crashes, menu and graphical interface organization, crypto key support, network configurations, security, and file sharing problems, among others. Although problems persist, the user community agreed that the risk for entry into OT&E is lower than for previous builds.

The Navy submitted a Test Plan to OSD in April 2004. The Air Force submitted a draft Test Plan in May 2004. Both Services' Test Plans appear adequate to determine effectiveness and suitability, if tests include in-flight data verification for critical functions affected by JMPS products (e.g., weapon delivery).