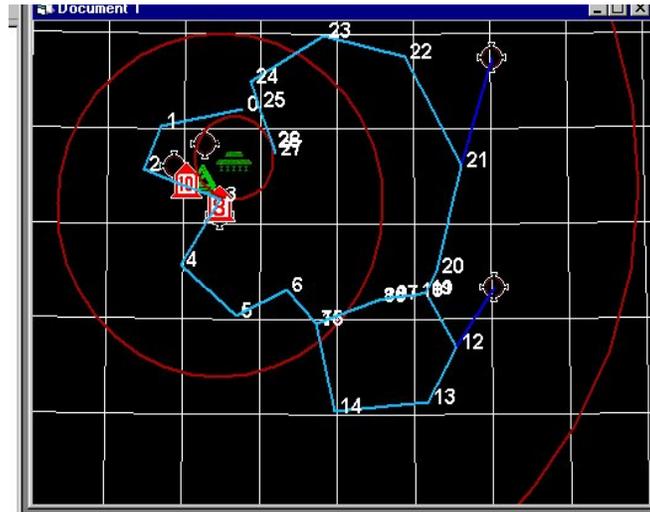


## JOINT MISSION PLANNING SYSTEM (JMPS)



### Air Force and Navy ACAT IAC Program

Total Program Cost (TY\$):	\$179+M
Average Unit Cost (TY\$):	N/A
Full-rate production:	
Version 1.0 (basic mission planning):	Beginning FY02 (incremental)
Combat Planning (for various aircraft):	Beginning FY02 (incremental)
Strike/Force Level Planning:	TBD (incremental)

### Prime Contractor Logicon

### SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020

The Joint Mission Planning System (JMPS) will provide basic mission planning capability for support of military aviation operations. It will provide support for unit-level mission planning of all phases of military flight operations. It will have the capability to provide necessary mission data for the aircrew and will also support the downloading of data to electronic Data Transfer Devices (DTDs) for transfer to aircraft and weapon systems. JMPS will evolve to support Air Force, Navy, Marine Corps, and U.S. Special Operations Command fixed and rotary wing aircraft, weapons, and sensors, including precision guided munitions, cruise missiles, and unmanned aerial vehicles.

As a command and control enhancement, JMPS will incorporate improvements in information and systems integration technologies to provide collaborative inter-Service mission planning capabilities. JMPS contributes to *information superiority* and supports all *Joint Vision 2020* operational concepts: *dominant maneuver, precision engagement, focused logistics, and full-dimensional protection*.

JMPS is a cooperative development between the Air Force and Navy. It will evolve using the spiral development process for expansions of mission planning capabilities. JMPS builds initially on the functionality of the existing Portable Flight Planning Software (PFPS) currently used by all the Services. JMPS Version 1.0 provides capabilities for basic flight planning. Once the basic mission planning capability is in place, components of the Navy Tactical Automated Mission Planning System and the Air Force Mission Support System are to be migrated into JMPS. Later versions provide expanded

capabilities to support combat mission planning, more complex aircraft and missions, and provide strike/force level planning capabilities.

JMPS will comply with the requirements of the Defense Information Infrastructure Common Operating Environment (DII/COE), as applicable to Windows 2000, with an initial framework architecture compliance of Level 6 and a goal of evolving to Level 7. Hardware is to be provided separately by each Service and will principally consist of commercial off-the-shelf computers ranging from laptops to desktop systems to multi-processor workstations depending upon the need for supporting specific weapon systems.

A JMPS for a specific aircraft type will consist of a Joint Mission Planning Environment (JMPE), which includes the operating framework, common software components and a basic mission planner mated with a software module called a Unique Planning Component (UPC). UPCs are to be provided primarily by aircraft programs and computer hardware are to be provided by the Services. The planning suites for some aircraft types will also include hardware for preparing DTDs.

## **BACKGROUND INFORMATION**

The JMPS program was begun in 1997. Following a competitive design study, Logicon was selected to develop the JMPE framework and common component software. Logicon is also delivering a Generic UPC and a Software Development Kit that can be used by independent developers to develop aircraft-specific and other common UPCs.

Development is proceeding in a series of five Beta releases, each with added functionality and culminating in the full functionality of a basic mission planning system in 2002. The basic capability will be augmented with UPCs to create planning systems to support initial user aircraft. It is these individual JMPS suites, also referred to as Mission Planning Environments, that will undergo OT&E beginning in FY02. The initial planning systems for the Air Force will support the F-16 Block 30 and the B-52H. The JMPS for B-52H will provide basic route planning only, performing the role currently filled by PFPS. Routes will be exported from JMPS and imported into the B-52H's Air Force Mission Support System for addition of weapon delivery details and preparation of DTDs. The first Navy system will support the F/A-18.

## **TEST & EVALUATION ACTIVITY**

DOT&E has participated in JMPS test planning from the program's outset. DOT&E approved a TEMP for the JMPS program in June 1999. At that time, mission planning operational requirements, the JMPS design, and the JMPS development schedule were not fully known. Consequently, test resource requirements, test design, and test implementation schedules could not be fully defined. An update to the TEMP was required within one year. However, an updated TEMP has not yet been submitted for OSD approval.

OT&E will consist of combined DT/OT, followed by dedicated OT&E of each JMPS suite. The DT/OT activity includes evaluations by the JMPS Test Team of each Beta release and feedback to the developing contractor. JMPS Beta 1 was released in April 2000 and Beta 2 was released in July 2000.

OT&E will be performed by each Service's OTA at the OTA's test site, followed by testing at field/fleet sites. Tests will include developing end-to-end mission plans and analyzing them for accuracy and usability. Field/fleet testing will include in-flight verification of JMPS products using test sorties and test crews.

OT&E for initial JMPS Version 1.0 systems is scheduled in the latter half of FY02.

## **TEST & EVALUATION ASSESSMENT**

DOT&E's views of JMPS are based on attendance at program management reviews, participation in test planning working groups, and interviews with test team personnel.

Betas 1 and 2 provided elements of the JMPS framework and had minimum mission planning functionality. These first two Betas were released on schedule with no known high priority problems. Although the number of anomalies was significant, they are considered minor and did not detract from the objectives of the releases.

Development of Beta 3, which is to have an initial set of basic mission planning functions, is currently proceeding. Signs are emerging that software development problems will cause cost and schedule growth to the program. Additionally, as a software development program entailing over 200,000 lines of code, JMPS carries moderate to high-risk as to whether the system will meet the Services' expectations for functionality and ease of use. Significant risks are also associated with obtaining certifications for security, interoperability, and DII/COE compliance.

Many issues remain to be resolved before OT&E planning can be considered to be adequate. Services' user commands need to identify specific operational requirements for the initial JMPS planning suites that will undergo OT&E. The Air Force and Navy must completely define the activities and resources needed to integrate UPCs, obtain necessary certifications, and prepare initial planning suites for OT&E. DOT&E urges early resolution of these issues so that the TEMP can be updated and more definitive OT&E test plans can be prepared.

