

A CASE STUDY: 4D FOR THE JOINT MISSION PLANNING SYSTEM GNOSTECH ENHANCES JMPS WITH STK AND CAPE

Challenge:

The Joint Mission Planning System (JMPS) needed an easier and faster way to share critical mission planning information and data between users, as well as a chat capability for collaboration and briefing and an ability to preview the mission flight in 3D or 4D.

Solution:

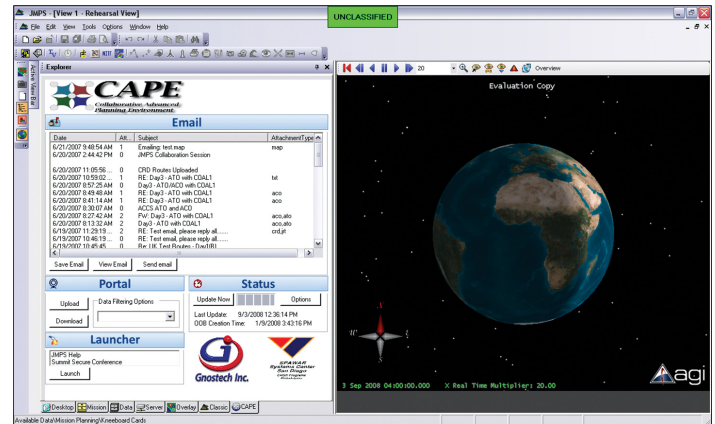
Gnostech's Collaborative Advanced Planning Environment includes tools such as secure chat and video; file sharing and transfer mechanisms; route visualization; and deconfliction tools. Further, Gnostech integrated STK into JMPS via CAPE, providing a 4D capability to step through the timing of the route and note areas of conflict for enhanced decision-making.

Results:

Gnostech's 4D Route Visualization Toolset gives JMPS new capabilities such as:

- Any object placed on JMPS VPS is available to STK, including radar domes associated with threats.
- GUI additions such as route visualization and deconfliction and threat analysis.
- A framework that supports mission planning analysis.
- Because STK Engine was selected, Gnostech saved money over custom software development.

The Joint Mission Planning System (JMPS) program began in 1997 with the objective of replacing earlier U.S. Armed Forces planning systems and providing aircrews with well-structured automated flight planning tools for aircraft, weapons and sensors. JMPS is expected to be the principal platform/weapon planning system used by all services. Gnostech, a small business based in southeastern Pennsylvania, is supporting the Naval Air Systems Command (NAVAIR) JMPS. Gnostech was tasked to find a faster way for system users to share critical mission planning information and data. Additionally, JMPS was lacking any 3D/4D capabilities for previewing mission flight and didn't have collaboration tools for real-time chats and post-mission briefings. Gnostech achieved these goals through the integration of its Collaborative Advanced Planning Environment (CAPE) with AGI products.



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CAPE is a portal and client dashboard environment for supporting collaborative mission planning operations. It includes tools such as secure chat and video; file sharing and transfer mechanisms; and route visualization and deconfliction tools. CAPE was successfully demonstrated at the Coalition Warfighter Interoperability Demonstration (CWID), a global annual DoD-sponsored warfighter exercise designed to promote interoperability, in June 2008 and 2009.

By combining CAPE and STK for JMPS, Gnostech was able to provide a "4D Route Visualization Toolset" able to step through the timing of the route while noting areas of conflict (e.g. two aircraft occupying the same space and time). Other key STK benefits:

- Provides a framework to support mission planning analysis (as opposed to simply planning).
- Brings a modeling, simulation and prediction toolset to a fielded mission planning system.
- Any object placed on JMPS VPS is made available to STK including radar domes associated with threats.
- Enhances JMPS from a 2D planning system to a 4D visualization tool.
- Reduces software development costs through the use of STK Engine over custom development.

In all, STK combined with other CAPE-provided collaboration tools significantly enhances JMPS, and allows mission planners to make better, more informed decisions.

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