Integrated Strategic Planning and Analysis Network (ISPAN)

Executive Summary

- The overall Integrated Strategic Planning and Analysis Network (ISPAN) program consists of a system-of-systems approach that spans multiple security enclaves for strategic and operational-level planning and leadership decision making. ISPAN Increment 2 employed an agile acquisition approach that used two spirals to deliver this capability.
- U.S. Strategic Command (USSTRATCOM) and the Air Force Operational Test and Evaluation Center (AFOTEC) conducted an ISPAN Increment 2, Spiral 2, IOT&E in accordance with the DOT&E-approved test plan in July 2012.
- The IOT&E confirmed that the problems discovered during ISPAN Increment 2, Spiral 1, Integrated Test and Evaluation (IT&E), which USSTRATCOM and AFOTEC conducted in December 2011, were resolved.
- DOT&E assessed ISPAN Increment 2 as effective but not suitable due to system limitations involving software deficiencies, problematic configuration management processes, potential scalability deficiencies, and shortfalls in usability, timeliness, training, documentation, and maintenance of system interoperability.
- Web services provide interoperability functionality that can be unavailable when data structures are changed, interfaces are upgraded, or other events occur that affect how these services are implemented. The Program Office should negotiate service-level agreements between web interface partners to ensure that web services remain available and facilitate critical net-centric data exchanges.
- AFOTEC discovered a number of Information Assurance (IA) vulnerabilities during the IOT&E. The Program Office must promptly mitigate the two Category I IA vulnerabilities found during IOT&E and develop a plan of action and milestones to address the Category II and III findings.
- The Designated Accrediting Authority (DAA) reviewed the program manager-provided mitigation plan and issued an Authority to Operate on December 14, 2011. The Secretary of the Air Force granted a Full-Deployment decision in October 2012.

System

- The overall ISPAN program consists of a system-of-systems approach that spans multiple security enclaves for strategic and operational-level planning and leadership decision making.
- The ISPAN system is composed of two elements, which are developed in increments:
  - The Global Adaptive Planning Collaborative Information Environment (GAP CIE) that manages strategy-to-execution planning across all USSTRATCOM

OPERATION PLANNING SUPPORT TO THE JOINT FORCE
Integrated Courses of Action

CCDR - Combatant Commander
COA - Course of Action
JTF/JSC - Joint Task Force/Joint Force Commander
S - Secret

SCI - Special Compartmented Information
STO/SAP - Special Technical Operations/Special Access Programs
TS - Top Secret
U - Unclassified
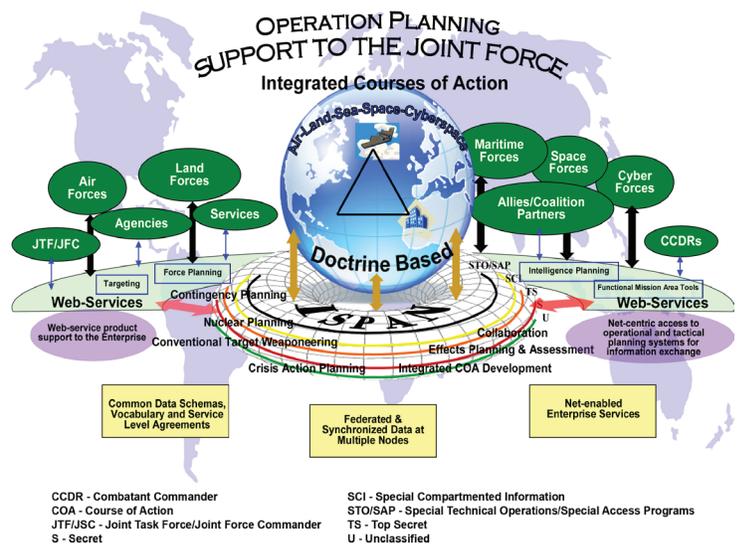
mission areas, which is being developed as part of Increments 2 and 3.
  - The Mission Planning and Analysis System (MPAS) that develops Joint Staff Level I through Level IV nuclear and conventional force application plans that support national and theater requirements, which will be modernized as part of Increment 4. Increment 4 is scheduled to begin development in FY14.
- Prior to Increment 2, the initial capabilities of GAP CIE and MPAS were fielded in ISPAN Block 1. After the fielding of ISPAN Block 1, the acquisition nomenclature was changed from a Block to Increment designation.
- ISPAN is employing an agile acquisition methodology, which delivers system capabilities in increments depending on user requirements. Increment 2 IOT&E consisted of approximately 40 percent of the planned system capabilities. The developers intend to deliver the remaining 60 percent in Increment 3, which is presently unfunded. USSTRATCOM intends to begin developing ISPAN MPAS capabilities in Increment 4.
- GAP CIE provides a web-enabled, net-centric collaborative environment for a contingency and crisis action planning (CAP) system at the Combatant Command (CCMD) and strategic level. The capability allows users from multiple CCMD staffs, subordinate commands, as well as other agencies, to collaborate online while providing planning and analyses to senior decision-makers.
- MPAS is intended to provide dedicated planning and analysis for all U.S. strategic nuclear forces, in addition to planning and analysis to create plans for specified theater and strategic conventional forces.

- The ISPAN Increment 2 provides an Adaptive Planning capability to CCMDs and subordinate planning partners, while decreasing contingency and CAP timelines to meet the DoD-approved Adaptive Planning and execution process, as well as time sensitive Global Strike and Prompt Global Strike planning requirements. The ISPAN Increment 2 is intended to improve information access through net-centric means for time critical event management support to senior decision-makers, and deliver the ISPAN GAP CIE capability as a service to the Enterprise, by exposing critical ISPAN information as Net-Centric Enterprise Services registered web services.

Mission

- USSTRATCOM uses ISPAN to perform deliberate and adaptive, strategic, nuclear, and non-nuclear planning and analysis. This includes developing the national deterrence war plans offering both nuclear and non-nuclear weapon options using the MPAS.
- The CCMDs, subordinate staffs, and other national agencies use GAP CIE for collaborative mission planning and analysis, course of action development, and commander's decision briefing preparation in support of CAP scenarios and time critical decisions regarding force employment.

Major Contractors

- Lockheed Martin – Papillion, Nebraska
- BAE Systems – Bellevue, Nebraska
- Northrop Grumman –Bellevue, Nebraska
- SAIC – San Diego, California

Activity

- USSTRATCOM and AFOTEC conducted an ISPAN Increment 2, Spiral 1 IT&E at USSTRATCOM, Offutt AFB, Nebraska, and the Combined Air Operations Center, Barksdale AFB, Louisiana, in December 2011. AFOTEC did not conduct the IT&E in accordance with a DOT&E-approved test plan and collected most data from a single Integrated Mission Area Training exercise, rather than the three CAP events planned. In addition, IA testing was not conducted.
- In July 2012, USSTRATCOM and AFOTEC conducted an ISPAN Increment 2, Spiral 2 IOT&E at USSTRATCOM, Offutt AFB, Nebraska; the Combined Air Operations Center, Barksdale AFB, Louisiana; and Headquarters, U.S. Southern Command, Miami, Florida. AFOTEC conducted the IOT&E in accordance with the DOT&E-approved test plan.
- The Secretary of the Air Force granted a Full-Deployment decision in October 2012.

Assessment

- CCMD staffs can effectively use ISPAN Increment 2 to provide improvements to the planning process to achieve operational outcomes. Users were able to accomplish all necessary planning functions in a collaborative manner, including users at two different locations.
- During IOT&E, the operational test team was able to complete the principal functions of the ISPAN Increment 2 system: the development of Courses of Action (COAs) and the integration of multiple COAs for the commander's approval.
- ISPAN Increment 2 was not suitable. The system limitations involved software deficiencies, problematic configuration management processes, potential scalability deficiencies, and shortfalls in usability, timeliness, training, documentation, and maintenance of system interoperability. During operational testing, ISPAN Increment 2 satisfied the requirements for reliability, availability, and maintainability (RAM). DOT&E assessed the areas of supportability, interoperability, transfer of operations, and RAM as operationally suitable. DOT&E

- noted that some of these limitations are requirements for Increment 3; however, since Increment 3 is presently unfunded, the system was assessed to the Capability Development Document requirement.
- In DOT&E's October 2012 IOT&E report on ISPAN, DOT&E assessed configuration management as not suitable due to AFOTEC's discovery of several configuration management shortcomings during developmental testing and IOT&E that affected the ISPAN mission. The most critical incident was when a 48-minute outage occurred during IOT&E because a maintenance contractor working on a switch within the system accidentally disconnected the system, which resulted in a critical failure of the system. Since the completion of IOT&E, the Program Office has put in place updated procedures to tighten configuration control of the system to prohibit these issues from reoccurring.
- ISPAN demonstrated the capability to support 370 concurrent users including simulated users performing ISPAN representative tasks with a server response time of 5 seconds or less. The concurrent user capacity is acceptable in view of the near term user levels of about 140 concurrent users during CCMD events. However, when the simulation was extended to a larger number of users, the server response time increased significantly. These results indicate a scalability problem, but it is unclear how many concurrent users would degrade the user experience below an acceptable level of responsiveness.
- Web services provide interoperability functionality that can be unavailable when data structures are changed, interfaces are upgraded, or other events occur that affect how these services are implemented.
- User feedback indicates that the test schedule did not provide adequate training time/exposure and documentation to all IOT&E participants; therefore, user training is not suitable. Some U.S. Southern Command users were unable to attend the training but those who did attend found it inadequate.

- AFOTEC discovered a number of IA vulnerabilities during the IOT&E. DOT&E recommended that the Program Office correct or mitigate the IA vulnerabilities to the satisfaction of the DAA prior to fielding. The Program Office continues to mitigate IA vulnerabilities.

Recommendations
- Status of Previous Recommendations. USSTRATCOM and the ISPAN Program Office have effectively addressed all previous recommendations.
- FY12 Recommendations. The following recommendations are from DOT&E's October 2012 IOT&E report.
  1. The Program Office must tightly control configuration management of the ISPAN baseline to prevent incidents and outages of the system.
  2. The Program Office needs to continue to diagnose and address system latency problems during operations and sustainment. As the ISPAN user community increases above the Increment 2 threshold, poor response times will affect the acceptance of this system.
  3. The Program Office must implement a robust training program to include classroom tutorial instruction and on-the-job training that is tailored to the need of each CCMD. Training should be provided to users with regards to what documentation is available and how to access it.
  4. The Program Office should negotiate service-level agreements between web interface partners to ensure that web services remain available and facilitate critical net-centric data exchanges. Web services can be unavailable when data structures are changed, interfaces are upgraded, or other events occur that affect how these services are implemented.
  5. The Program Office should support the service-level agreements with automated tests of availability of the web services.
  6. The Program Office must promptly mitigate the two Category I IA vulnerabilities found during IOT&E and develop a plan of action and milestones to address the Category II and III findings.
  7. The DAA should conduct an IA assessment for ISPAN in the Joint Worldwide Intelligence Communications System environment to ensure that no Category I vulnerabilities exist, all other vulnerabilities are identified, and plans for correction of deficiencies are created.