

Joint Information Environment (JIE)

Executive Summary

- The Chairman, Joint Chiefs of Staff (CJCS) published a White Paper on the Joint Information Environment (JIE) in January 2013 and the Deputy Secretary of Defense published implementation guidance for JIE in May 2013.
- DOT&E subsequently placed the JIE framework on test and evaluation oversight in August 2013.
- In September 2013, the DoD Chief Information Officer (CIO) published implementation guidance for JIE to realign the structure and operations of DoD Information Technology systems and services.
- To date, no documented testing of JIE infrastructure, components, or operational concepts has been conducted or provided for DOT&E review.

Capability and Attributes

- The JIE is envisioned to be a shared and upgraded information technology infrastructure, enterprise services, and security architecture intended to achieve full-spectrum superiority, improve mission effectiveness, increase security, and realize efficiencies. The CJCS White Paper lists the enabling characteristics of JIE to include:
 - Transition from Network Centric to Data Centric solutions
 - Rapid delivery and use of integrated cloud services
 - Interdependent information environment providing real-time cyber situational awareness
 - Scalability and flexibility
 - Secure, resilient, and consolidated framework
 - Common standards and operational tactics, techniques, and procedures
 - Improved and dynamic identity and access management tools
- The DoD intends to achieve these goals via several initiatives including:
 - Implementing a Single Security Architecture across a federated network structure, standardized access management, and enterprise services such as e-mail
 - Consolidating common services and applications into centralized data centers both regionally and globally, which will use a common computing model for virtualization and security services
 - Using or upgrading existing infrastructure to support the improved functionality
- The DoD intends to achieve reductions in data centers, operations centers, timelines for procurement of services and equipment, and manning requirements.
- JIE is intended to provide DoD information and network services to fixed, deployed, and mobile users. The overarching concept is to develop a network architecture with flexibility to support existing and future capabilities

- and allow the introduction of improved technologies, such as Multi-Protocol Label Switching.
- JIE-related infrastructure is to be repurposed or acquired from a variety of sources, both government and commercial. The government integrator is the Defense Information Systems Agency (DISA). Current plans are to implement a first increment in the European Theater, building on the network consolidation efforts already underway. This will be followed by subsequent capability upgrades leading to second and third increments across the DoD.
- JIE is not a program of record.

Activity

- CJCS published a White Paper on JIE in January 2013.
- The Deputy Secretary of Defense published implementation guidance for JIE in May 2013.
- In August 2013, DOT&E placed the JIE framework on test and evaluation oversight.
- In a September 2013 letter to the DoD leadership, the DoD CIO published JIE implementation guidance to fundamentally realign and restructure how the Department's Information Technology networks, systems, and services are constructed, operated, and defended.
- DOT&E met with senior DISA leadership to discuss test and evaluation of JIE and establish expectations for oversight. DISA described plans to test the smaller components and devices to standard, but plans to evaluate the overall system are unclear. Planning is in progress for an operational review in March 2014 of JIE Increment 1 (European).
- To date, DOT&E has not received any formal test documentation, and available test strategy documents are high-level and non-specific to the events currently planned. DOT&E has requested that DISA:
 - Provide a test plan for the March 2014 event for DOT&E review and approval
 - Include DOT&E in the weekly JIE updates to the CIO to enable collaboration and test planning
 - Prepare a long-range test strategy for test and evaluation of JIE for DOT&E review and approval
- DOT&E will assist DISA with any documents, lessons learned, or templates developed during Information Assurance and Interoperability assessments during exercises (reported separately).

Assessment

- No test data are available at this point. Areas of interest for upcoming assessments will include:
 - Validation of component performance where new technologies or designs are implemented

DOD PROGRAMS

- Evaluation of services provided (including service-level agreements, where appropriate)
- Effectiveness of the framework to securely provision information services to key missions and tasks
- Validation of re-hosted, virtualized DoD applications
- Integration with cyber-range nodes and other networked test capabilities

Recommendations

- Status of Previous Recommendations. This is the first annual report for this program.
 - FY13 Recommendations. The DoD CIO and Director of DISA should:
1. Prepare and provide test schedules and plans for DOT&E review at the earliest opportunity, and plan for appropriate implementation milestones to allow for fielding decisions based on review and correction of any issues identified during operational test events.
 2. Provide a test plan for the March 2014 evaluation event of JIE Increment 1 to DOT&E for review and approval no later than early February 2014.
 3. Provide a long-range test strategy for events to occur after March 2014 to DOT&E for review and concurrence.
 4. Develop a test and evaluation strategy for end-to-end operational test and evaluation of JIE infrastructure.