

Refresh release converted some of the DTS proprietary software code to the Java programming language, as well as incorporating a few functional enhancements and a number of deficiency fixes.

Assessment

- For a Major Automated Information System, operational testers typically conduct an OT&E at selected operational sites with a production system prior to a full-deployment decision. Since DTS is a web-based system, the traditional OT&E methodology is not practical. Any new DTS release placed on the enterprise web server for operational testing is in fact already fully deployed.
- To mitigate risk, ATEC typically conducts an operational test in a test environment with production-representative hardware and software. If the test results are satisfactory, the new release is placed on the production server for all users. ATEC then conducts a follow-on operational assessment at selected operational sites to confirm the performance of the new release and to identify opportunities for improvement.
- ATEC completed its evaluation of the Technical Refresh release and concluded on March 21, 2008, that DTS should continue to be operationally effective, suitable, and survivable with the new release. DOT&E concurred with the ATEC findings and the recommendation to place the release into the production environment, with follow-on operational assessments to be conducted at selected operational sites as soon as practicable.
- The program manager placed the Technical Refresh release into the production environment on April 19, 2008, but the system exhibited serious performance problems when a large number of users attempted to use the system simultaneously. To limit disruption of service, the program manager rolled the

production release back to the prior DTS release on April 23, 2008. Subsequent investigation identified the root cause as computing bottlenecks within Java that did not appear in the test environment due to its capacity limitations and deficient load testing conducted by the contractor.

- Government and vendor engineering investigation teams performed independent reviews of the production problems and determined the root cause. The program manager hired an outside contractor, the Hewlett Packard Company, to perform load testing of the corrected deficiencies and to assist the Program Management Office in establishing better practices for future load testing. The program manager plans to deploy the corrected Technical Refresh release in May 2009.

Recommendations

- Status of Previous Recommendations. The Program Management Office has taken effective action on the FY07 recommendation.
- FY08 Recommendations.
 1. ATEC should validate the corrections to the Technical Refresh release deficiencies when available.
 2. ATEC should continue to conduct risk assessments on upcoming releases to determine the appropriate level of OT&E, recognizing the demonstrated limitations of the existing test environments.
 3. Once the Technical Refresh release (or any other substantial upgrade) has been deployed, ATEC should conduct follow-on operational assessments at selected operational sites to determine DTS operational effectiveness, suitability, and survivability.