

# JOINT COMPUTER-AIDED ACQUISITION AND LOGISTICS SUPPORT (JCALS) SYSTEM



## Army ACAT IAM Program

Total Number of Systems:	1
Total Program Cost (TY\$):	\$450M
Average Unit Cost (TY\$):	\$450M
Full-rate production:	4QFY01

## Prime Contractor

Computer Sciences Corporation (CSC)

## SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020

The Joint Computer-aided Acquisition and Logistics Support (JCALS) system is a multi-Service, geographically distributed client-server digital system. It is designed to process all data and information required to manage, control, and produce each Service's technical manuals at designated processing sites. The Defense Information Systems Network provides wide area network connectivity. Fiberoptic Distributed Data Interface Ethernet provides local area network connectivity among workstation servers, workstations, peripherals, collocated legacy systems, and to the wide area network.

The JCALS program is developing the infrastructure to logistically support weapons systems throughout their life cycles. The JCALS system will satisfy the Services' and Defense Logistics Agency's needs for integrated digital technical information. JCALS is using an incremental fielding strategy. Each functional user site has one or more JCALS client-server nodes based on the site's

processing requirements and organization dispersal. All JCALS data are stored in the Integrated Weapon System Data base—a logically centralized, physically distributed relational data base.

JCALs supports the *Joint Vision 2020* operational concept of *focused logistics* by enabling Services and Agencies to work more effectively in managing, acquiring, updating, publishing, stocking, and distributing technical manuals in support of their customers' needs. JCALS also supports the *Joint Vision 2020* mandate of *interoperability*, especially in terms of communications and information sharing. *Information superiority* will be realized when the Service and Agency users have the necessary information capabilities to achieve their operational objectives.

## **BACKGROUND INFORMATION**

An initiative to develop a paperless technical and logistics information system for weapons systems began in 1986 with the Army Computer Aided Logistics Support (CALs) program. Because of the burden from excessive paper processing encountered during M-1 tank development, the Army decided to automate the process. In 1991, the CALs program expanded to all of the Services and was renamed the Joint CALs program.

In January and February 1998, testers from Army OPTEC conducted an Initial Operational Test of JCALS hardware and the first JCALS software increment, Software Package #2 (SWP2), in compliance with the TEMP approved by DOT&E in May 1997. The focus of the test was to examine technical manual activities at the Service test sites and management/administrative capabilities at the System Operational Support Center.

DOT&E's evaluation of SWP2 Initial Operational Testing revealed a variety of problems. Three effectiveness shortcomings—the lack of report generation capabilities, label printing capabilities, and indexing and numbering capabilities—affected all four Services. Additionally, two suitability deficiencies—security and system administration—affected all four Services. Two additional effectiveness issues related to Air Force-unique applications—account management of technical manuals and the interface to the legacy system—were also identified as problematic. Finally, Y2K compliance had not been demonstrated.

In April 1998, the JCALS PMO reviewed the test results and developed corrective actions. The program implemented fixes for the effectiveness and suitability issues common to all Services. Based on follow-on assessments, DOT&E concluded JCALS was operationally effective and suitable for the Army, Navy, and Marine Corps. An Acquisition Decision Memorandum (ADM) issued in August 1998 granted fielding of SWP2 to Army, Navy, and Marine Corps sites; directed the JCALS program office to correct deficiencies identified for the Air Force; and directed the JCALS program office to ensure Y2K compliance.

Follow-on evaluation of the JCALS “modified SWP2” began in November 1998 to verify corrections for the two outstanding Air Force effectiveness issues and to demonstrate Y2K compliance. Y2K certification was completed in March 1999 for the JCALS applications.

## **TEST & EVALUATION ACTIVITY**

The “modified SWP2” product continued to undergo rigorous regression testing in the lab and follow-on evaluation in the operational environments through November 1999. At the end of the follow-on evaluation, the Army Test and Evaluation Command found the “modified SWP2” application operationally effective, suitable, and survivable for the Air Force. In December 1999, an ADM was issued to authorize operational deployment of JCALS SWP2 to Air Force sites.

The next OT event for JCALS is the test of SWP3 increment A (SWP3.A), the first block of SWP3, which is scheduled to be completed in 4QFY01. SWP3.A, with increased focus on CM and CCB responsibilities, contains transition and cutover requirements for the Army, Navy, and Marine Corps as defined in the user-approved Joint Minimum Essential Requirements List. Developmental testing is ongoing and is expected to be completed in 3QFY01. Emerging results indicate the SWP3.A product is making significant progress in meeting technical requirements.

Since June 2000, the JCALS program management office has continued to refine its acquisition strategy for SWP3. During OTRR 1a in December 2000, the JCALS PMO finalized plans to develop, test, and field SWP3 in two blocks. The core JCALS technical manual functionality will be provided upon completion of SWP3.B, the second block of SWP3. SWP3.B OT is planned for 2QFY02.

## **TEST & EVALUATION ASSESSMENT**

JCALs continues to show improvements in its utility. As end users and system administrators gain experience with the system, they will be better able to use JCALS to manage, acquire, update, publish, stock, and distribute technical manuals for their customers. This is particularly true for Air Force users and system administrators. Of all the Services, Air Force users experienced the most changes to their business practices in transitioning to the JCALS product.

Significant improvements have been made in the training programs for system administrators. Training took place throughout October and November 2000, and post-training is ongoing by the JCALS PMO. The JCALS PMO is monitoring the performance of the system administrators and reporting training deficiencies to allow even further improvements in the training program.

## **CONCLUSIONS AND LESSONS LEARNED**

DOT&E’s oversight and its interest in a thorough, robust DT program have served JCALS well. In addition, DOT&E representatives have maintained a constant presence with the JCALS program by visiting test sites, observing tests in progress, and interviewing users and system administrators providing information to better progress the program’s development.

Based on DOT&E’s consistent involvement with the JCALS program, DOT&E has provided measurable contributions in helping to shape the JCALS test process. DOT&E has introduced guidance for increasingly robust software development testing, in-plant software qualification testing, and site acceptance testing and operational testing. DOT&E’s recommendations regarding training and documentation have brought about significant improvements in the JCALS training program.

DOT&E has encouraged the JCALS program office to make a concerted effort to learn from the experiences of earlier tests. The new program manager, appointed in 1QFY00, has pledged to work

closely with the test community and bring to test a mature SWP3 product that will meet the needs of the JCALS community. DOT&E will continue working closely with the JCALS program office to facilitate this effort.

In 1QFY01, JCALS received additional congressional interest. A series of OSD-level meetings were held to review the JCALS funding profile. Results of those meetings indicate that JCALS is solvent in terms of SWP2 sustainment and SWP3 development. An OIPT is expected to convene shortly to further review the JCALS program.