

ARMY PROGRAMS

Joint Computer-Aided Acquisition and Logistics Support (JCALS)

The Joint Computer-aided Acquisition and Logistics Support (JCALS) system is a multi-Service, geographically distributed client-server system designed to process all data and information required to manage, control, and produce each Service's technical manuals at designated sites. The program is developing an infrastructure to logistically support weapons systems throughout their life cycles. At its heart is the Global Data Management System (GDMS), the middleware connecting JCALS users with legacy data repositories. GDMS provides transparent access to data anywhere in the system regardless of where it is stored, how it is formatted, or how it is accessed. A System Operational Support Center provides overall system management and administration and assists users.

JCALs is being developed in increments called Software Packages (SWPs). The first increment, SWP 1/2, has been fielded. The second increment, SWP 3.1, has been divided into two releases: SWP 3.1.1 and SWP 3.1.2. A third planned increment, SWP 3.3, was recently cancelled. These SWPs were to contain the following general capabilities:

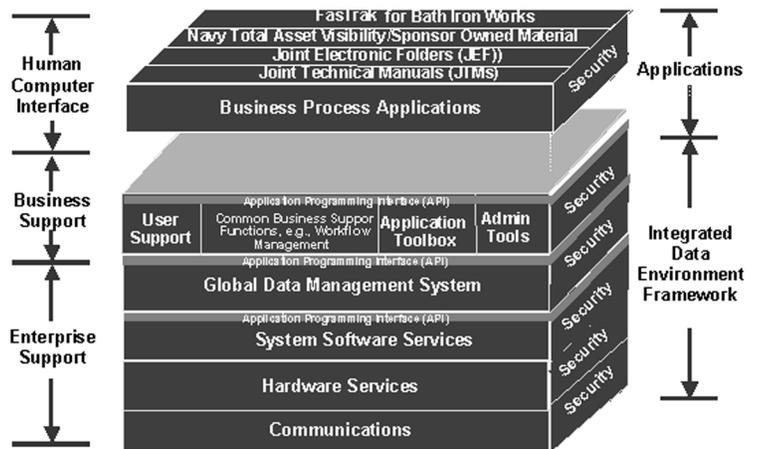
- SWP 1/2: A basic automated capability for accessing and exchanging technical information on weapons systems among the Services and Department of Defense agencies. Air Force sites were provided with a modification that introduced a basic Joint Technical Manual (JTM) capability.
- SWP 3.1: Replaces Army and Navy technical manual legacy systems with enhanced JTM functionality, adds a publishing capability for the Marine Corps, affords wider connectivity (more interfaces), and provides a web-based capability.
- SWP 3.3: (Cancelled) Provides the core functionality necessary for all the Services to routinely perform their JTM business practices without workarounds.

In 1998, the Army Test and Evaluation Command (ATEC), the Independent Operational Test Agency, conducted an Initial Operational Test and Evaluation of JCALS hardware and SWP 1/2, in compliance with the Test and Evaluation Master Plan (TEMP) approved by DOT&E in May 1997.

DOT&E's evaluation revealed a variety of problems, and the Project Manager (PM) began to take corrective actions. Based on the follow-on assessments by ATEC, DOT&E concluded that JCALS was operationally effective and suitable for the Army, Navy, and Marine Corps, and it was deployed to those Services.

The PM then developed a "modified SWP 1/2" for the Air Force that underwent rigorous regression testing in the laboratory and follow-on evaluation in the operational environments through 1999. DOT&E subsequently found the "modified SWP 1/2" operationally effective and suitable for the Air Force and it was deployed to Air Force sites.

Overall requirements are based on a user-approved Joint Minimum Essential Requirements List, rather than an Operational Requirements Document. The TEMP was updated in April 2001. As Test and Evaluation progressed, the PM continued to refine the JCALS acquisition strategy and the definitions of the SWPs.



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TEST & EVALUATION ACTIVITY

- In the final phase of SWP 3.1 Developmental Test and Evaluation, the software was installed and tested with operational users at 13 beta sites that encompass all of the Services. The PM declared JCALS ready for Operational Test and Evaluation (OT&E) in December 2001.
- ATEC conducted OT&E on SWP 3.1 at the 13 test sites January 17- February 7, 2002.
- ATEC conducted an operational assessment (OA) and evaluation of an enhanced JCALS version (SWP 3.1.1) in a lab environment from June 3-7, 2002.

TEST & EVALUATION ASSESSMENT

Based on the OT&E in January and February 2002, DOT&E concluded that JCALS SWP 3.1 software was operationally ineffective and operationally unsuitable. This version of SWP 3.1 became known as SWP 3.1.0, and has not been fielded past the 13 test sites. (The majority of JCALS sites are still using an earlier version known as SWP 2.6.) By the time the OT&E on SWP 3.1.0 was completed, the PM had already developed SWP 3.1.1, a “maintenance drop” that enhanced the 3.1 software. The PM further improved this version by correcting the critical deficiencies noted during the OT&E of 3.1.0 (which was not fielded). Attention was then focused on how to test and field 3.1.1.

SWP 3.1.1 contains data model changes that preclude its fielding to only a limited number of sites for the purpose of operational test. Instead, 3.1.1 will have to be deployed simultaneously to all JCALS sites (replacing 2.6 and 3.1.0) or not at all. The test community thus decided to perform operational test on 3.1.1 in the form of an OA in a lab environment, but with actual users brought in from the field. Follow-on operational test can then be conducted in the field. ATEC conducted the OA from 3-7 June 2002. Based on the results, DOT&E determined that SWP 3.1.1 is operationally effective and recommended its immediate fielding to all JCALS sites. As soon as 3.1.1 is fielded, ATEC will conduct an in-field assessment to determine whether the system is operationally suitable and whether it remains operationally effective in the field environment.

Software development complexity, integration issues, aggressive (but unmet) timelines, and many other issues have seriously impacted the JCALS acquisition for over a decade. In August 2002, the Under Secretary of Defense (Acquisition, Technology, and Logistics) and the JCALS PM agreed to cease further development of JCALS as soon as SWP 3.1.2 is fielded. The Services will then develop alternatives to the JCALS infrastructure to meet their specific requirements, as necessary. DOT&E will continue to work with the PM and the operational test agency to operationally test 3.1.2. As with 3.1.1, 3.1.2 contains data model changes that preclude a limited fielding for operational test only. Thus, the same basic OT&E plan used for 3.1.1 will be used for 3.1.2.