

## ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEM (AFATDS)



### Army ACAT II Program:

Total Number of Systems:	3,012
Total Program Cost (TY\$):	\$713.6M
Average Unit Cost (TY\$):	\$160K
Full-rate production:	1QFY96

### Prime Contractor

Raytheon

### SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020

The Advanced Field Artillery Tactical Data System (AFATDS) is a network of computer workstations that process and exchange information from the forward observer to the fire support element for all fire support assets (field artillery, mortars, close air support, naval gunfire, attack helicopters, and close air support). Features include the automatic processing of fire requests, generation of multiple tactical fire solutions for missions, monitoring of mission execution, and support for the creation and distribution of fire plans. AFATDS contributes to the *Joint Vision 2020* concept of *precision engagement* by providing responsive fire support command and control to tie together high fidelity target acquisition, prioritized target requirements, and joint forces within the battlespace. The Marine Corps have acquired AFATDS, which is one of the five battlefield functional areas comprising the Army Tactical Command and Control Systems.

### BACKGROUND INFORMATION

AFATDS IOT&E, held in 1995 at Ft. Hood, TX, supported an assessment of operationally effective and operationally suitable for a Milestone III production decision. The AFATDS IOT&E

Verification Limited User Test (LUT), conducted in 1996, confirmed solutions for critical shortfalls, except for fire planning, where occasional fire mission deletions and system crashes were observed following transmission of the fire plan. Subsequently, AFATDS 96 software and Common Hardware System hardware entered full production and fielding. Fire planning, maximum fire-mission processing capacity, operators' ability to initialize the AFATDS data base, software reliability of multi-workstation nodes in operational conditions, and interoperability within the Army Tactical Command and Control System were all identified as issues of continuing interest for future testing.

AFATDS completed a LUT in October 1997, supporting a material release of AFATDS 97 software on newer Common Hardware System platforms. The first operational assessment of AFATDS involving Marine Corps units occurred at Twentynine Palms, CA, in March 1998. The tested hardware and software configurations did not support Marine Corps mobility requirements; however, the participating artillery units considered the automated support provided by AFATDS to be acceptable.

The AFATDS 98 LUT, a joint Marine Corps and Army event, was conducted in 1998 at Camp Pendleton, CA. The AFATDS 98 LUT examined AFATDS 98 software, the first version developed to address specific Marine Corps requirements, and provided theater level targeting and improved air support functionality. The AFATDS 98 LUT also examined several versions of hardware, including the Compact Computer Unit that reduces system size and weight. The AFATDS 98 "Fixes" LUT was conducted in 1999 in the Fire Support Test Directorate facility at Ft. Sill, OK. This test demonstrated solutions to deficiencies identified in the AFATDS 98 LUT and included air operations, Naval surface fire support, trigger events, fire planning, Multiple Launch Rocket System units, and attack aviation.

## **TEST & EVALUATION ACTIVITY**

AFATDS test and evaluation activities during the past year have focused on planning for the integration of vertical fire support requirements existing within the fielded software (AFATDS 96, 97, and 98). Additionally, planning was also conducted for testing of the horizontal capabilities needed for AFATDS to be interoperable within the Army's First Digital Division. AFATDS 99 testing is scheduled to begin in 2QFY01.

## **TEST & EVALUATION ASSESSMENT**

AFATDS IOT&E in 1995, along with AFATDS 96 software, established the core capability for this program. Initial functionality has been increased with testing and fielding of AFATDS 97 and AFATDS 98, and resolution of all identified problems has been demonstrated.

DOT&E continues to monitor AFATDS to determine the appropriate level of testing required to resolve issues of continuing interest. These issues include testing of future upgrades within the system-of-systems concept and interoperability with the Army Battle Command System as employed in the First Digital Division. AFATDS 99 software was to have been the first version to provide a common software baseline for both operational Army and Marine Corps units, as well as the Army's Digitization efforts; however, delays in the test and evaluation schedules for the Maneuver Control System and the Force XXI Battle Command Brigade and Below have resulted in horizontal functionality being deferred. Although a new TEMP has been prepared by the Army for AFATDS 99 testing, this document needs to be augmented with the AFATDS testing associated with Army Battle Command System Version 6 software.