

## The Army Learning Management System Product Lead, Distributed Learning System

**1. General.** The Army Learning Management System (ALMS) is the third component of the Army's evolutionary acquisition strategy to support Army training that is provided via distributed learning. The previous efforts featured the construction and deployment of 201 Digital Training Facilities (DTF) at 82 Army installations worldwide and their subsequent networking and management through the Distributed Learning System (DLS) Enterprise Management Center (EMC), Fort Eustis, VA. As its last component, Product Lead (PL) DLS has fielded 30 Deployed Digital Training Campuses (DDTC) in support of the unit-based, individual training of deployed Forces.

**2. The ALMS.** The ALMS is the Army-approved, centrally-managed and funded system for training management. The ALMS streamlines, consolidates, and provides a centralized management structure for the Army's training processes. The ALMS builds upon DLS's supporting infrastructure and utilizes DoD-managed common user networks to implement a comprehensive, automated system for administering Army training throughout the Force. When utilized as designed, the ALMS can manage a student's training activities from initial entry and continue throughout his/her service. The ALMS provides course and training resource management, scheduling and registration functions, courseware distribution, delivery, and storage, learning collaboration, and permanent record keeping of training activities and results.

a. **ALMS Background.** Functional requirements for the ALMS evolved during the late 1990s under the direction and oversight of HQ, TRADOC. Contract award and system development began in 2000-2001. The system successfully underwent a Limited User Test performed by the Army Test and Evaluation Command in June 2004 and received Full-Rate Production approval in September 2004. Working from an Army-approved, installation-based fielding list developed by TRADOC, PL DLS began ALMS fielding by conducting system user training at the Maneuver Support Center, Fort Leonard Wood, MO, in November 2004. DLS performed a major software version upgrade for the ALMS in 2007 and upgraded versions again in 2011 and 2014.

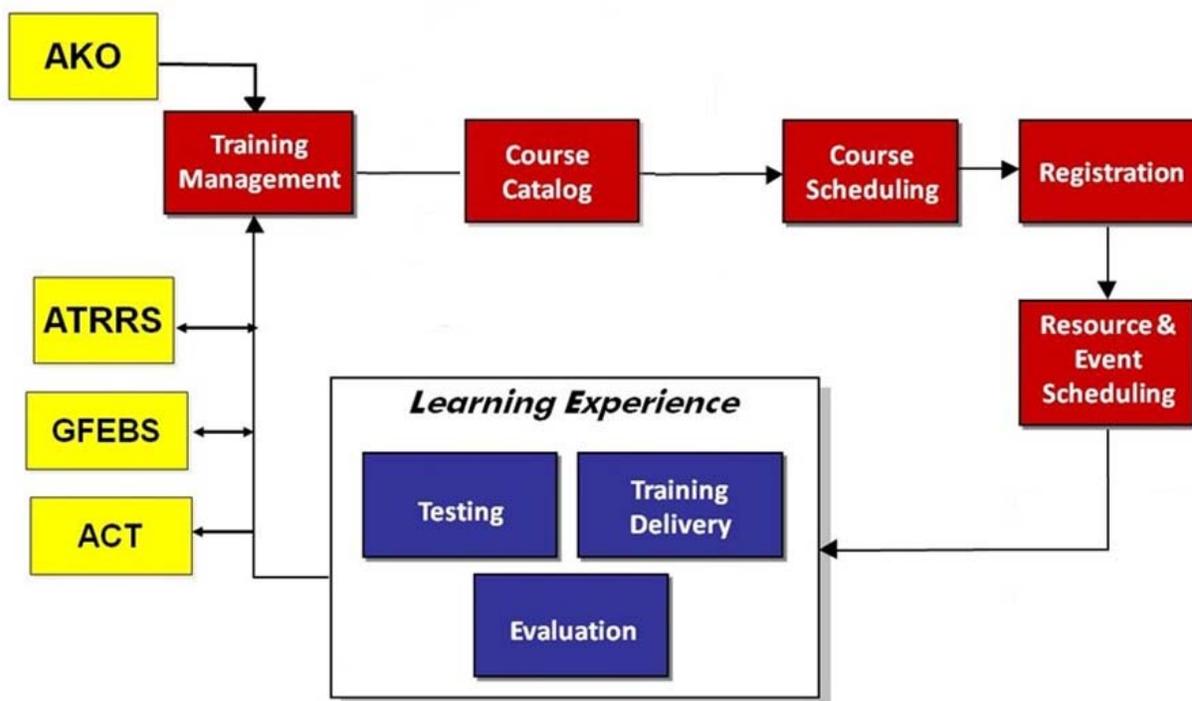
b. **ALMS Fielding Status.** As a fielded Army Acquisition product, the ALMS is currently in sustainment status. However, it continues to grow in utilization and functionality, as it stays current with Army training needs, and keeps pace with technical upgrades of commercial hardware and software that make up the ALMS.

c. **ALMS Functions.** The list below reflects the major system functions and capabilities of the ALMS:

1. Provides external data exchanges with Army Knowledge Online (AKO), the Army Training Requirements and Resource System (ATRRS), and the General Fund Enterprise Business System's (GFEBs) training support application.
2. Exports training completion data to the Army Career Tracker (ACT).

3. Accepts and processes formatted lists of students needing specified training and exports training results.
4. Accepts and processes registration and enrollment requests for directed and self-motivated education/training.
5. Schedules the appropriate resources (facilities, equipment, supplies, faculty, etc.) required to conduct directed and self-motivated education/training.
6. Supports multiple training delivery types, such as Web-based, instructor-led, collaborative, and curricula that have a blend of these types.
7. Identifies scheduling conflicts in real-time on user interface.
8. Manages online testing, including providing a CAC-restricted testing environment, and produces detailed testing results for authorized users.
9. Records and reports training status and results through a variety of pre-formatted reports.
10. Distributes, delivers, stores, and presents, upon request, both SCORM-conformant and other standards-compliant education and training products.
11. Enforces prerequisites and other constraints when scheduling students for instructional units or as a requirement for registration.
12. Provides access to ALMS functionality with a Web browser-based interface for all users, without the need of additional client-side applications.
13. Provides classroom Instructors with automated grade book functions for recording Learner assessment results, attendance taking, and marking lesson completions.
14. Manages task- and certification-based curricula.
15. Maintains training and education records and stores content associated with completed work as a reach-back capability.
16. Collects, stores, and reports evaluation feedback from education/training personnel and students for evaluation of the quality, value, efficiency, and effectiveness of education/training resources (instructional units, tests, instructors, etc.).
17. Maintains an inventory database of education/training products, resources, and materials.

The ALMS provides training management functions concentrated in the area of training delivery or execution. The diagram in Figure 1 shows the major ALMS functions in terms of discrete groupings of training and training management activities. In this diagram, blocks colored yellow represent interfaces with external automated information management systems; red represents ALMS core training support functions; and blue represents the classroom-oriented training execution experience.



**Figure 1: Major ALMS functions**

Following is a brief description of training and training management activities represented in the diagram's blocks (clockwise from upper left).

**AKO:** The ALMS uses AKO for authentication and identification of users to manage user access to the system. AKO sends the ALMS individual personal profile data extracted from the personal account data in AKO in response to message-based queries upon ALMS login.

**ATRRS:** This represents the ALMS system interface with the ATRRS. ATRRS sends the ALMS course, course iteration, and individual registration data. The ALMS sends ATRRS course completion messages.

**GFEBs:** This is a Web service-based data exchange with a software application, (GAI-GFEBs Automated Interface) managed by the GFEBs program office. GAI sends the ALMS personnel data about individuals targeted for GFEBs training, including their Organizations, Job Roles, Locations, and Audience Types, and the ALMS sends GAI certification data when Job Role-based curricula are completed. This data exchange highlights the ALMS capability to support task-based training.

**ACT:** This is a pre-formatted data export containing topic-level completion data to the ACT application.

**Training Management:** These are the activities required to manage training at the institution or Proponent level. These activities include reports and notifications,

resource management, personnel management (e.g., instructor certifications and schedules).

Course Catalog: This is the online listing of course topics as presented and managed by the functional Proponents for the subject area. Learners can use several different methods to search for available training. Training managers control the visibility of “published” topics through availability dates and other administrative controls.

Course Scheduling: This is the rough scheduling of training iterations by start and end dates, which usually appear in the system via its ATRRS interface. Entries are used for long-term planning purposes and for establishing an iteration footprint upon which detailed lesson- or topic-level scheduling can be based.

Registration: Course registration can be performed by the Learner or authorized proxy on-the-spot within the Catalog if permitted by policy. If required, registration requests can trigger a request for approval by some named authority prior to processing the registration. By Army policy, registrations of courses managed by ATRRS must occur within that system and those registrations are transmitted into the ALMS via the interface for populating class rosters and linking the student with required training content. Results of registration immediately appear on the requestor’s ALMS homepage.

Resource and Event Scheduling: This is the detailed scheduling the class manager or scheduler performs to support instructor-led (resident) training. Scheduling is managed at the lesson/topic level- by hour, by room (training facility). Scheduling includes the reservation of training resources associated with the lesson, to include the assignment of a specific instructor for any lesson or topic.

Training Delivery: Most often, the ALMS is used to deliver training content electronically via standards-based files or “courseware.” It can also store supporting documents uploaded by authorized users to an online library or as attachments to lessons or courses. The ALMS supports classroom instruction by offering the instructor a semi-automated means for recording grades, taking attendance, and marking lessons complete (delivered) to maintain student training history electronically and support automated update of ATRRS and other databases for course completion.

Evaluation: This capability involves the review of executed training through student feedback or performance-based instruments, such as critiques and exams. The ALMS provides the training manager a SCORM-conformant online questionnaire builder and can present survey results in a variety of ways through views and reports. It can also accept and present standards-based critiques/surveys created by content authoring software and uploaded to the ALMS as files.

Testing: In addition to the automated grade book capability supporting the recording of tests administered externally, the ALMS provides the training manager a SCORM-conformant online test builder that supports multiple choice, T/F, and essay responses

and includes randomizing capability. The training manager can review the results in a variety of ways through views and reports. The ALMS also supports SCORM-conformant online exam products developed through any of a number of software tools, as well as training strategies that include the ability to conduct pre-tests and then provide the associated training materials or not, based on results. ALMS provides the capability for enhanced exam security using CAC-only access, if desired by the courseware proponent.

d. ALMS End User Support. DLS is a member of the federation of organizations that make up the Army Training Help Desk (ATHD) for support of ALMS users. The ATHD provides a cadre of Tier 1 help desk agents who receive initial input from students and respond to resolve their incident or escalate it to the proper level for resolution. Most incidents are resolved at Tier 1. The ATHD includes agents for Proponents that have courseware or training supported by the ALMS, agents that support the system such as technicians and engineers, and management personnel at each member organization. Users can access ATHD on a 24/7 basis using an on-line ticketing system at <https://athd-crm.csd.disa.mil/>, or access live support using a toll-free telephone number, 1-877-251-0730.

e. ALMS User Roles. All ALMS users address the system from the perspective of a pre-defined "Role" in Army training. The most common of these Roles is the Learner; all ALMS users are Learners first and always. However, some individuals who are involved in Army Training management require system access and permissions, which are not permitted to those who only use the system to receive training (registration, viewing of records, etc.). These Army trainers are appointed to one or more descriptive Roles, which allow them to perform specified management and administration duties in the system (create Courses, manage Resources, etc.). Collectively, they are called Role-Based Users (RBUs).

The principal function of the ALMS Role is to govern permissions and restrictions related to various processes and data sets in the system. The Role names and associated functions generally follow a model for the management of Army training seen in numerous, but not all, training institutions.

During ALMS development, TRADOC, as the system's Combat Developer, identified ALMS User Roles during the system's design phase, completed in April 2002. The goal was to have the ALMS replicate, in automated form, the training business processes previously being performed manually or with legacy automated systems. The alignment of ALMS roles with existing training community roles made a good fit in many cases, but because of the variation among training organizations and institutions, compromises had to be made.

Whether or not ALMS User Roles map precisely to actual duty positions in the using organization, the system's Roles provide all the functions necessary to perform the Army training execution mission. In addition, the system filters and hides from one

Role-Based User the extraneous information and out-of-scope tasks which may be pertinent only to other users.

While the user's Role designation in the system directly determines what functions that user can perform on the ALMS, it also determines what functions *cannot* be performed by that individual within the ALMS. It should be noted that to achieve the flexibility required to fit existing business models in the Army training community, individuals are allowed to hold more than one Role in the ALMS, once properly appointed or designated.

f. ALMS Role List. Although not exhaustive, the list below provides the most common ALMS Roles along with some of their principal activities or duties in the system:

Learner:

- Registers for (or is registered for) Army Training,
- Launches online training Products,
- Views own training records (Detailed Training Record, Transcript),
- Views own acquired and deficient Skills (Army Tasks),
- Participates in Lesson-centered collaboration sessions.

Course Manager:

- Serves as the Proponent's representative to the ALMS and authoritative source of Course data,
- Coordinates with the ALMS Customer Service Center (CSC) to create and manage Course Catalog entries, Course structure, and associated Resource requirements,
- Creates and manages Proponent Tasks and Individual Training Plan (ITP) data,
- Uploads and/or manages training content (Web-Based and classroom support).

Scheduler:

- Works with local *iterations* of Proponent-developed Courses,
- Reserves specific local Facilities in response to Lesson Facility requirements,
- Reserves specific training equipment items on-hand in response to Lesson Equipment requirements,
- Assigns individual Instructors to Lessons, based on calendar availability.

Class Manager (performs all Scheduler Duties above and also):

- Manages Class Rosters (Adds/Drops, Waitlists, Class Sections),
- Determines Course completions (if there are non-academic, administrative requirements necessary for "graduation").

Instructor:

- Enters class Lesson attendance into system,
- Enters individual grades for external assessments,
- Marks Lessons complete ("delivered"),
- Conducts Lesson-centered collaboration sessions (when applicable).

Facility/Resource Manager:

- Creates and manages Facility objects in the system,
- Creates and manages on-hand training Equipment records.

Unit Training Manager:

- Functions as training supervisor for selected Learners (e.g. assigned Soldiers),
- Registers by proxy assigned Learners for approved training,
- Monitors assigned Learners' training status and results,
- Reviews assigned Learners' Skills gaps and orders training to address deficiencies.

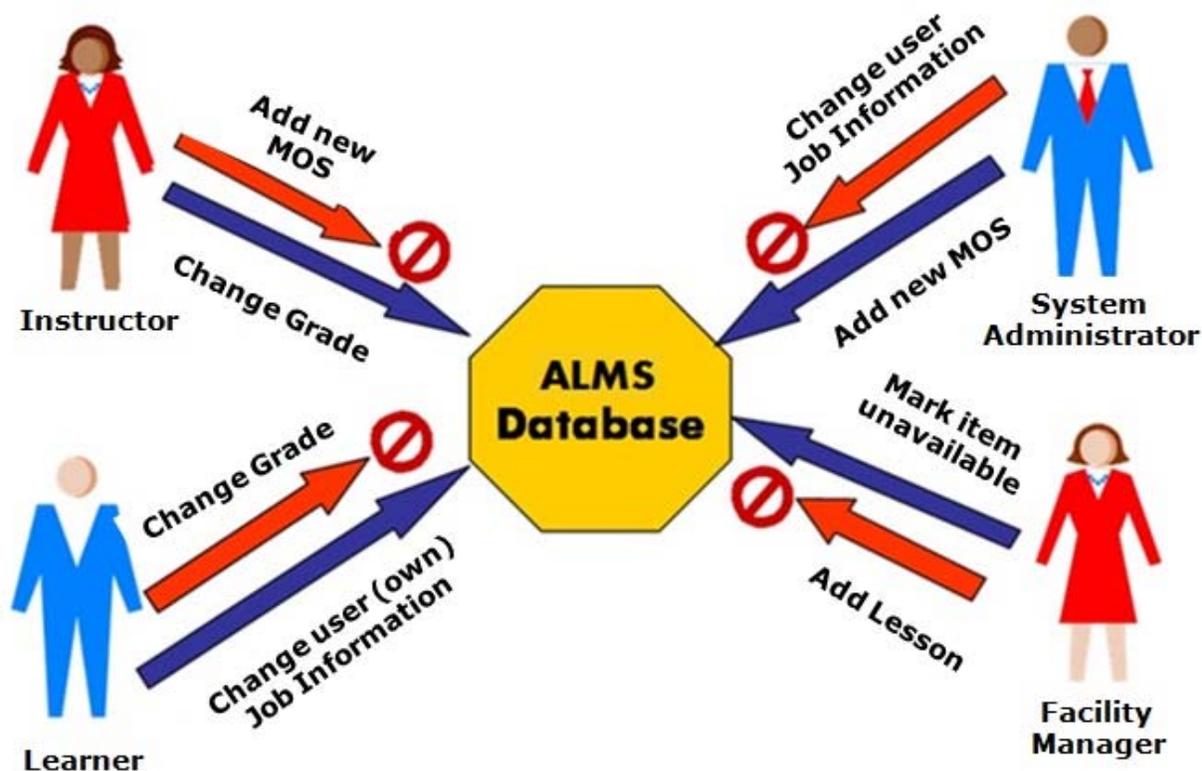
Training Coordinator:

- Provides oversight of training activities based on a common, defined organization,
- Runs organizational-based reports from system menus,
- Has read-only visibility of individual profiles and training records.

Help Desk Agent: (March 2014)

- Provides three levels of system permissions to support help desk agents in assisting users and resolving problems.
  - Help Desk Tier 1 – access for first level ATHD agents
  - Help Desk Functional Content – permissions for course proponent agents
  - Help Desk Technical – permissions for system technical agents

The “permissions” to perform certain actions in the ALMS are based upon the user's Role. Figure 2 provides an illustration of this. The red arrows, representing unauthorized tasks for the Role-Based User, are blocked, i.e. cannot be performed in the system.



**Figure 2: ALMS Permissions Examples**

g. ALMS Customer Service Center (CSC). The ALMS CSC was formed in 2008 as a response to the needs of the system's trainer-users, some of whom found the techniques for the construction and management of the data forms necessary to represent their training materials and planned events difficult to remember, even after considerable training. Distinctly different from ATHD support, CSC members act as proxies for Proponent Course Managers, performing those actions in the system necessary to achieve the desired operational result on the Proponents' behalf. The CSC members perform such activities as course and topic template creation; the creation of courses derived from those objects; the creation and manipulation of tasks, task lists, and job roles; and the associations in the system between and among all these.

Ensuring this happens without unnecessary delay or confusion requires teamwork and frequent communication between the CSC members and the Proponents supported. CSC members typically establish habitual relationships with specific Proponent representatives in order to foster this degree of cooperation and capitalize on shared knowledge of training needs established over time. The key to success is the clear communication of training intent by the Proponent representative to the CSC counterpart. This includes documentation of detailed training strategy, goals, course structure and map, student management strategy, expected outcomes, standards,

policies, and other factors that may influence how the ALMS executes that training intent. Although the details can be complex, the process is simple:

- TCM TADLP (TRADOC Capabilities Manager –The Army Distributed Learning Program), on behalf of the Proponent provides CSC with all relevant materials (content and documentation);
- CSC performs those ALMS actions needed to execute the Proponent’s training intent;
- Proponent reviews and approves the completed work as represented in the system;
- TCM TADLP, Proponent and CSC make mutual decision to “publish” (make available to learners).

CSC contact information is at Section 5 of this document.

h. Courseware Hosting. The storage, delivery, and overall management of training content comprise one of the principal functions of the ALMS. Depending on the Proponent’s intent, content can be anything from small files of text or graphics supporting a Lesson to a complete, SCORM-conformant Courseware package, containing weeks’ worth of training and training support material. But, for ALMS purposes, content generally refers to Courseware. Training materials that support Instructor-led Lessons are uploaded and managed in the ALMS by Proponent Course Managers as part of the Course creation process.

Regardless to the form it takes, it is a principal responsibility of the Course Manager to ensure that the content required for administering training is entered into the ALMS and that it accurately reflects the intent of the Proponent. What actually constitutes such content is at the discretion of the Course Manager, as the Proponent’s representative.

Courseware can be defined as interactively executable, electronic files in various formats that have been designed to support Web-based training. For such Courseware, there are generally two major categories- SCORM-conformant Courseware and “legacy” Courseware that currently is hosted on a variety of Army, other DoD, and commercial data storage-and-retrieval systems. Legacy Courseware may exist in several formats, some of which are compatible with the ALMS, while others reside on proprietary systems in formats that make importing into the ALMS impossible without conversion or redesign.

In addition to executable files, existing, legacy Army “Courseware” can also include content that was formerly paper-based text, but which has undergone a digitization process to render it electronically accessible to Learners. A book that has been converted to an Adobe Acrobat (.pdf) file is a common example of this. (Note that .pdf files are not executable in an interactive sense; they may be accessed from a repository, and subsequently opened and read by Learners as training material.)

All Army executable Courseware must be tested and evaluated for “playability” before being accepted into the ALMS for storage, publication in the Catalog, registration, or delivery. This includes both formally developed, SCORM conformant content, as well as legacy Courseware, but excludes Courseware that is not interactive, (e.g. simple slideware, digitized text).

i. Steps for Setting Up Courseware: The high-level process for entering interactive Courseware in the ALMS follows these steps:

1. Proponent representative wishing to place courseware on the ALMS contacts TCM-TADLP to begin coordination of activities. Contact information is in Section 5 of this document.

2. TCM-TADLP provides the Proponent with approval to host the courseware on the ALMS and directs the Proponent to contact the CSC for Content Test Environment (CTE) access.

3. CSC grants Proponent representative appropriate system permissions and access details for the ALMS CTE for the purpose of testing candidate courseware, along with how-to instructions and object naming information<sup>1</sup>.

4. Proponent representative uploads courseware files into the CTE and conducts testing to ensure the product performs as desired in the ALMS.

5. After performing whatever corrections may be necessary and retesting, Proponent conducts Individual Trials (IT) of the CW.

6. Proponent representative generates IT report(s) and conducts additional product deliverable checks for TCM-TADLP.

7. If CW is approved to continue in the fielding process, TCM-TADLP, on behalf of the Proponent, delivers Courseware files and associated required documentation to the CSC. This can be accomplished either by physical means (e.g. CD-ROM) or through access to a secure file transfer protocol (SFTP) site.

8. CSC personnel load courseware into the ALMS Production system, configure and assemble it, as specified in the associated documentation, to prepare for Proponent Group Trials.

9. Proponent conducts Group Trials and provides results to TCM. Upon approval by TCM, Proponent delivers documents to the CSC, indicating that CW is ready for progression within the workflow.

10. CSC performs function testing of the CW.

Courseware is evaluated against playability and functionality criteria that will be used to grade and assign a criticality rating for specific errors found.

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<sup>1</sup> Experience has shown that courseware packages that are 300 megabytes or larger in size frequently cannot be loaded remotely into the CTE. In such cases, the Proponent representative and the CSC will have to coordinate for delivery of the content to DLS for local loading by the CSC.

**Note:** Courseware is added to the testing queue in a first in, first processed sequence by default. That default is adjusted, as applicable, by the following criteria (in no particular order):

- Training audience size,
- ATRRS cutover (scheduled or already in effect),
- Mandatory training for deployment,
- Directed or self-development,
- Command (senior Army leadership) interest,
- Readiness of Proponent (e.g. Help Desk support),
- Responsiveness of Proponent,
- Dependency of follow-on coursework (e.g. a Phase I or Phase II),
- New training vice update/revision of existing training,
- Contractual deadlines (such as closure of an LMS or end of the courseware development period of performance).

In situations where there are two or more courses with roughly the same factors/criteria, the first in, first processed sequence applies.

11. Upon completion of Function Testing, CSC sends TCM-TADLP and the Proponent a report detailing the test findings.

12. If Courseware exhibits serious issues, the Proponent/developer must correct the technical defects that prevent the courseware from executing or cause significant execution problems, as identified by a criticality rating within the Function Testing Report. Resubmitted courseware must first be tested by the Proponent on the CTE, and then will undergo further function testing on the Production ALMS.

13. If Courseware does not exhibit serious issues, the CSC contacts the representative for final Proponent review to ensure that the courseware is configured as intended in the Production system.

14. After obtaining Proponent and TCM-TADLP approval, the CSC “publishes” the courseware (makes it available to learners) in the ALMS. Note that, for ATRRS-managed courses, this process may also involve coordination among the Proponent, the TRADOC Operations Management Activity (TOMA), and ATRRS for the “cut-over” of automated course management to the ALMS.

j. ALMS Change Process. Although the system has been designated as having Full Operational Capability (FOC) status since September 2008, PL DLS employs a well-defined Change Management process in support of the ongoing and emerging needs of its customer base. System users may create and submit to the DLS office requests for new or altered system functionality at any time. These requests are managed through the DLS Change Management process, which includes such steps as initial functional screening, formal vetting by the functional training community, review and voting by the DLS Configuration Control Board, requirement validation and approval by the Combat Developer, and final PL DLS approval. Approved change requests go to the ALMS integrator for development, testing, and deployment onto the system. Since 2007, DLS has received, processed, and implemented dozens of such requests, resulting in changes to the ALMS requirements and system baselines. Engineering Change Proposal forms can be located at: [https://www.dls.army.mil/ECP\\_Process.html](https://www.dls.army.mil/ECP_Process.html).

**3. The Army DLS.** The ALMS is a major component of DLS. DLS is an Acquisition Category (ACAT) III project that supports transformation of Army training through the use of information technology (IT). DLS was developed under an evolutionary acquisition strategy and during FY09, DLS developed and tested its fourth and last component, the Deployed Digital Training Campus, as well as continuing the life cycle management and sustainment of the Digital Training Facilities (DTFs) and the ALMS.

ALMS requirements and management begins with the Commanding General (CG), TRADOC, as the Army Executive Agent (AEA) for Distributed Learning (DL). The Army G-3 Training Directorate supports the AEA as the Army staff functional Proponent. TCM TADLP serves as the Combat Developer for the ALMS while Commander, Army Training Support Center provides the functional requirements for the DDTCs and DTFs. The Army Acquisition Executive (AAE) serves as the Milestone Decision Authority. The Program Executive Officer, Enterprise Information Systems (PEO EIS), provides program oversight. PL DLS, executes the acquisition strategy and implements DLS across the Army Enterprise IAW the combat developer's requirements. PL DLS oversees the development, acquisition, fielding, and sustainment of the DLS.

DLS provides a fully automated, seamless, and web-accessible Army training and education network. The primary goal of DLS is to sustain readiness and provide standardized instruction in a resource-constrained environment of downsized force structure and increased operational demands such as anti-terrorism, force protection, and deployments. DLS addresses the development and fielding of a modernized training system which will deliver standardized individual, professional military education and self-development training to Soldiers, civilian employees, and units at the right place and time using multiple means and technologies.

While downsizing the force, the Army is streamlining training processes, automating training management and development functions, delivering training using electronic means, and enabling military and civilian personnel, training developers, training managers, unit commanders and noncommissioned officers to access training anytime and anywhere using the Web. DLS acquires personal computers, video equipment, servers, commercial software applications, and telecommunication services to enable Soldier training via DL at home station and deployments. DLS DTFs are being used to support individual and unit training for deployments to Operation Enduring Freedom and Operation Iraqi Freedom.

DLS is an integral component of the Department of Defense (DoD) Advanced Distributed Learning Initiative, and Strategic Plan for Transforming DoD Training, which calls for the full exploitation of technologies to support quality education and training. DLS supports the e-Government strategy by using the Web to provide training materials, by enabling the intra-agency sharing of training data, and by adopting commercial practices and products to reduce operating costs. DLS supports the President's Management Agenda by making use of e-Learning to leverage scarce training funds and to provide greater agency access to training materials.

**4. Summary.** The ALMS plays a pivotal role in modernized Army training by enabling the functional goal of modernizing Army training through the application of IT. It shifts the training paradigm from centralized and instructor-centric to decentralized and student-focused. Understanding and using the ALMS is crucial to Army training modernization.

**5. ALMS Points of Contact.** The following personnel are available to assist individuals with questions or issues regarding DLS or the ALMS:

- a. Product Lead, Distributed Learning System, general information:  
Stanley Davis; (757) 878-0433; Ext. 2900. The DLS Website, <https://www.dls.army.mil>, also provides a variety of information about DLS and its products.
- b. Army Training Functional Issues (TCM TADLP representative):  
Mitch Bonnett; [mitchell.i.bonnett.civ@mail.mil](mailto:mitchell.i.bonnett.civ@mail.mil); (757) 878-4535
- c. ALMS Government Lead and Customer Service Center Manager (DLS):  
Bobby Kirts; [bobby.j.kirts.civ@mail.mil](mailto:bobby.j.kirts.civ@mail.mil); (757) 878-0433; Ext. 1320
- d. ALMS Management Team Lead (DLS):  
Barry Seagraves; [robert.b.seagraves.ctr@mail.mil](mailto:robert.b.seagraves.ctr@mail.mil); (757) 878-0433; Ext. 3110
- e. Courseware Testing and Fielding Issues (IBM):  
Michael Stewart; [michael.d.stewart2.ctr@mail.mil](mailto:michael.d.stewart2.ctr@mail.mil); (757) 878-0433; Ext. 1322
- f. Army Training Help Desk Issues (ATHD):  
Charles Bos; [charles.j.bos.civ@mail.mil](mailto:charles.j.bos.civ@mail.mil); (757) 878-2858