

Chapter 7 - Training

INTRODUCTION.....	7-1
ARMY TRAINING XXI	7-1
TRAINING STRATEGY.....	7-2
WARRIOR XXI - INSTITUTIONAL TRAINING	7-4
WARFIGHTER XXI - UNIT/COLLECTIVE TRAINING	7-9
WARMOD XXI - FORCE MODERNIZATION TRAINING	7-9
TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS.....	7-10
SUMMARY	7-11

opers design training around state-of-the-art instructional technologies that facilitate the Army’s mission to train as we fight. Emerging training strategies require realistic training designed to accommodate the dynamics of how we fight. The training designs support portable and deployable, multi-echelon combined arms training and leverage the technology of the system. Training standards can literally translate to combat readiness. This chapter defines future AMD training, identifies the tools that train soldiers on the Force XXI battlefield, and suggests technological possibilities for the AAN.

INTRODUCTION

AMD training, based upon the strategies described in Army Field Manuals 25-100 (Train the Force) and 25-101 (Battle Focused Training), strives to prepare soldiers, crews, leaders, and units to fight and win on the battlefield. Training devel-

ARMY TRAINING XXI

Although Army Training XXI pertains more to the immediate focus of moving training into the 21st century, the TRADOC vision that supports and defines Force XXI Army training captures the essence of a long-term AMD training strategy. TRADOC defines this training in three overarching categories:

- *WARRIOR XXI – institutional and self-development training.*
- *WARFIGHTER XXI – unit and collective training.*
- *WARMOD XXI – force modernization training.*

The WARFIGHTER XXI and WARRIOR XXI campaign plans and the WARMOD XXI action plan support Army Training XXI. These three

Chapter 7 Key Points

- Future AMD training is linked, real-time, digitized, mobile, and soldier-friendly.
- AMD training relies on state-of-the-art training technologies.
- Future training is combined arms dependent with full realization of “training how we fight.”
- Institution-to-unit training is evolving from “how we’ve always done business” into the Information Age.

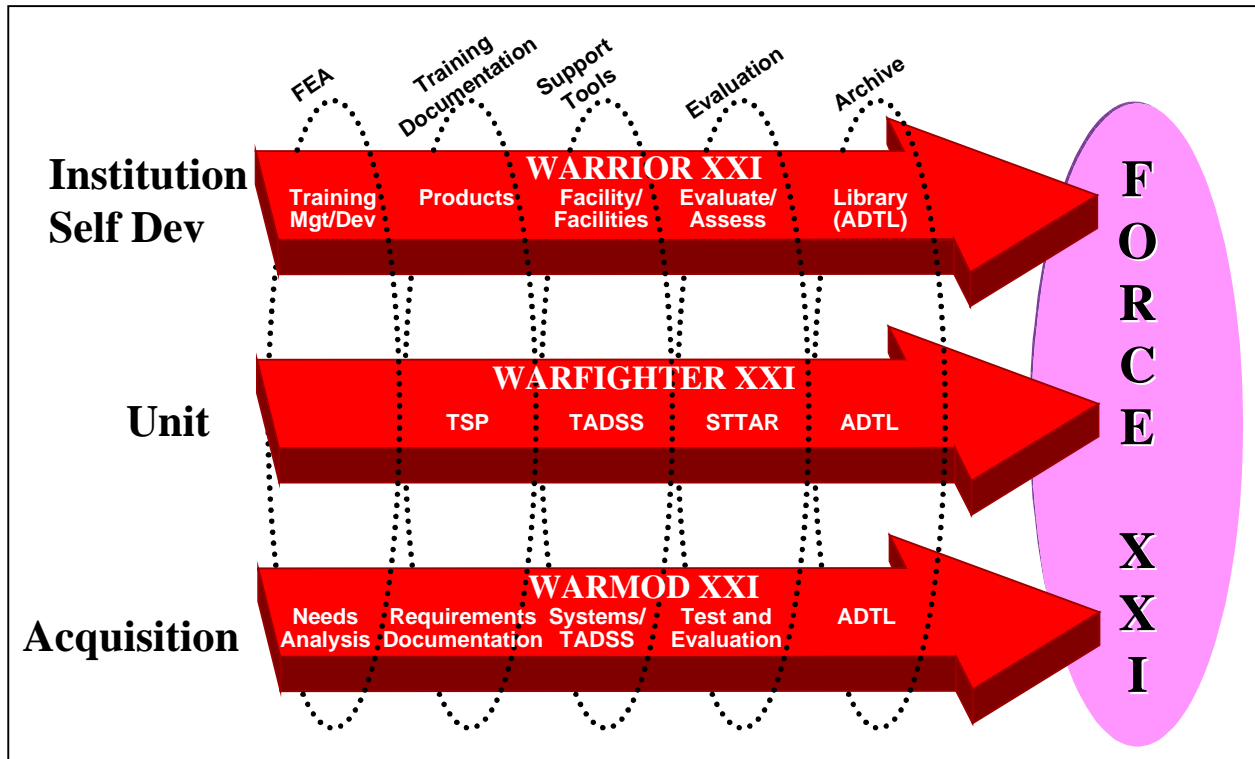


Figure 7-1. Components of Overarching Training Categories

axes rely heavily on information technologies to support modernized classrooms, distance learning, training development, automated testing, and

training management. Figure 7-1 identifies the components of the overarching training categories.

TRAINING STRATEGY

The overarching AMD training strategy capitalizes on automation and digitization designs that maximize bringing the soldier, the unit, and the leader optimum training programs. The execution of tough, realistic field exercises, which ultimately measure the effectiveness of the training strategies, faces decreasing resources, increased weapons systems' ranges, an expanded threat target set, and environmental constraints. These factors, coupled with force protection mission requirements, point training to the synthetic battle-

field training arena where virtual training combines the following strategies:

- Provide new and increased training opportunities, optimize training availability, and tailor training to the AMD soldier.
- Transform current classrooms into a world-class campus without walls.
- Increase the availability and use of training aids, devices, simulations and simulators (TADSS).
- Design training that establishes and sustains high levels of proficiency in the AMD total force.
- Provide long-term reduction in institutional training costs.

The Combined Arms Training Strategy provides the foundation for AMD training development. The AMD systems' strategies drive the mutually supporting axes of WARRIOR XXI, WARFIGHTER XXI, and WARMOD XXI. Training methodologies, such as the advancements in the worldwide web network, interactive simulation, and virtual reality, are beginning to accommodate combined arms training. The use of multiple learning methods and media brings the institution to the unit and the unit to the combined arms and joint battlespace training arenas.

Soldiers, trainers, and leaders will be able to select individual and unit training from electronic data-based libraries of exercises, lessons, references, and scheduled educational programs. This capability tailors instruction to meet specific

needs. For example, institutional trainers can instantly measure an individual soldier's knowledge through the use of interactive diagnostics. Unit trainers can select from a variety of training scenarios that replicate battlefield situations and engagement operations. Essentially, the ability to tailor training to the individual student or the unit saves student and instructional time and resources, and it virtually replicates warfighting tactics, techniques, and procedures.

As operating tempo costs for AMD units to remain *trained* and *ready* for deployment continue to rise, future training strategies will complement operational resources. The TADSS being developed decrease the use of tactical equipment for training, resulting in significant dollar savings to the institution and the unit. The distance learn-

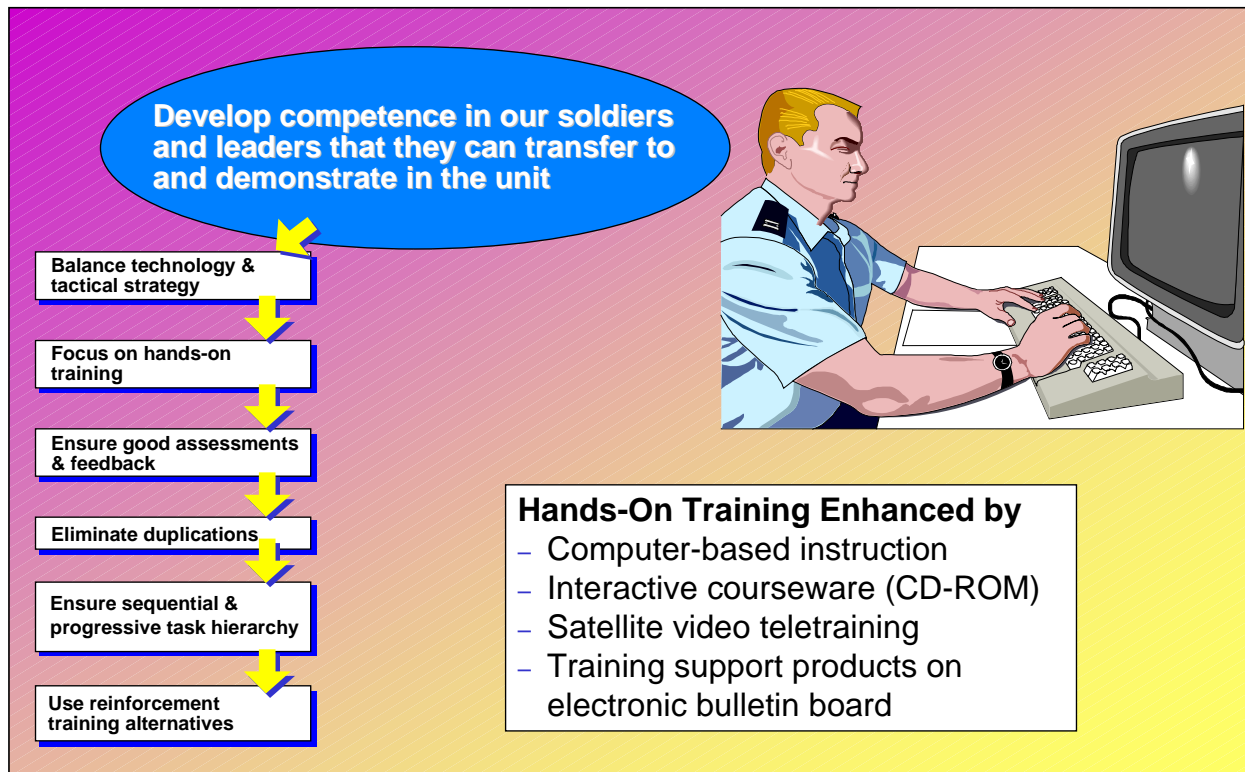


Figure 7-2. Institutional Training

ing programs reach out to the AMD soldier and unit, providing immediate access to standardized, institutionally-approved training. The digital library provides an up-to-date air defense informa-

tion system that is accessible worldwide. The combination of TADSS, distance learning capabilities, and on-line training resources is the foundation from which all future training will evolve.

WARRIOR XXI - INSTITUTIONAL TRAINING

At the foundation of institutional training is the need to train leaders and to ensure that critical tasks at all levels are trained to standard (Figure 7-2). Essential to the technical progress of institutional training is the Total Army School System (TASS), which encompasses distance learning methodologies and Classroom XXI capabilities and reaches the total Army training audience.

The TASS training strategy reaches all components of the force through a regional concept that identifies Reserve Component Training Institutes (RCTIs) in seven regions across the United States (Figure 7-3). Key to the realization

of TASS is the Total Army Training System (TATS), which blends AC and reserve component (RC) training products into “one training packet for all.” TATS ensures that the programs of instruction (POIs) train both AC and RC AMD soldiers to perform *like tasks* to the *same standard*. The TATS development process, adapting AMD courses to distance learning and multimedia, is ongoing with future POI conversions being a matter of course.

Distance learning delivers standardized, real-time, individual, collective, and self-development training to soldiers and units through

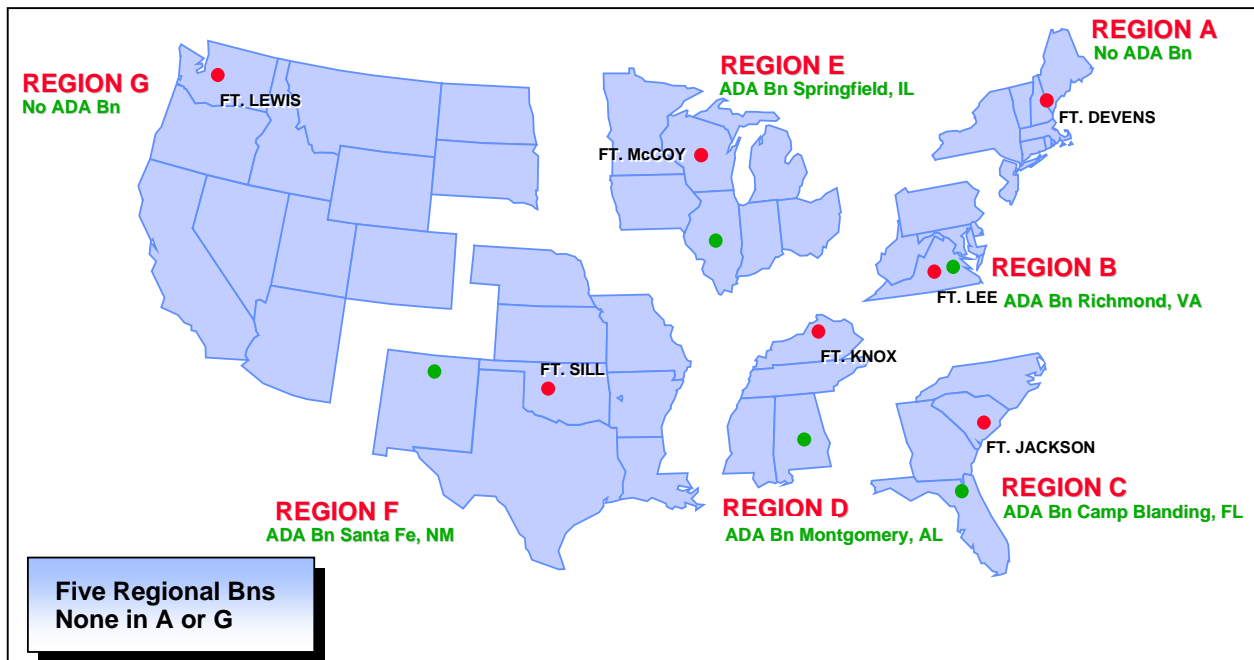


Figure 7-3. Regions/RCTIs/ADA Battalions in TASS

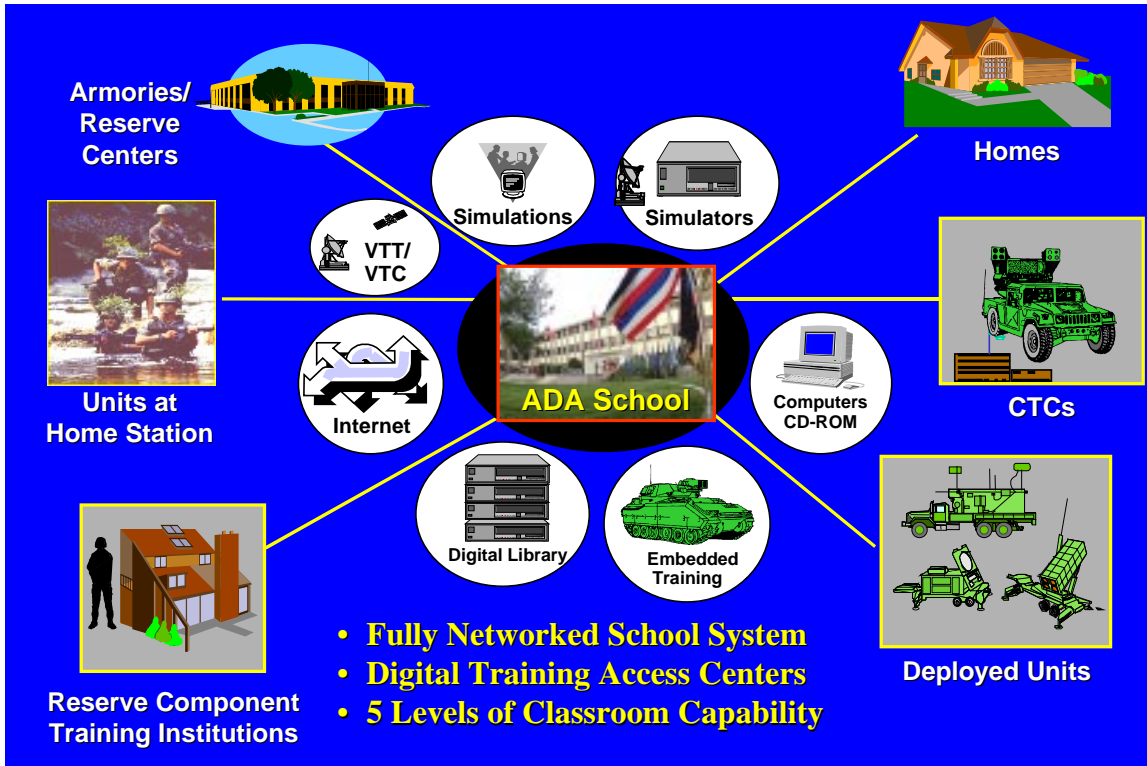


Figure 7-4. Classroom XXI – Distance Learning

the application of multiple communications technologies. It alters conventional training and aligns it with the Army XXI vision of all-echelon, inte-

grated training. The evolution of the technology leads AMD training into the AAN with training delivery systems that replicate the combined arms

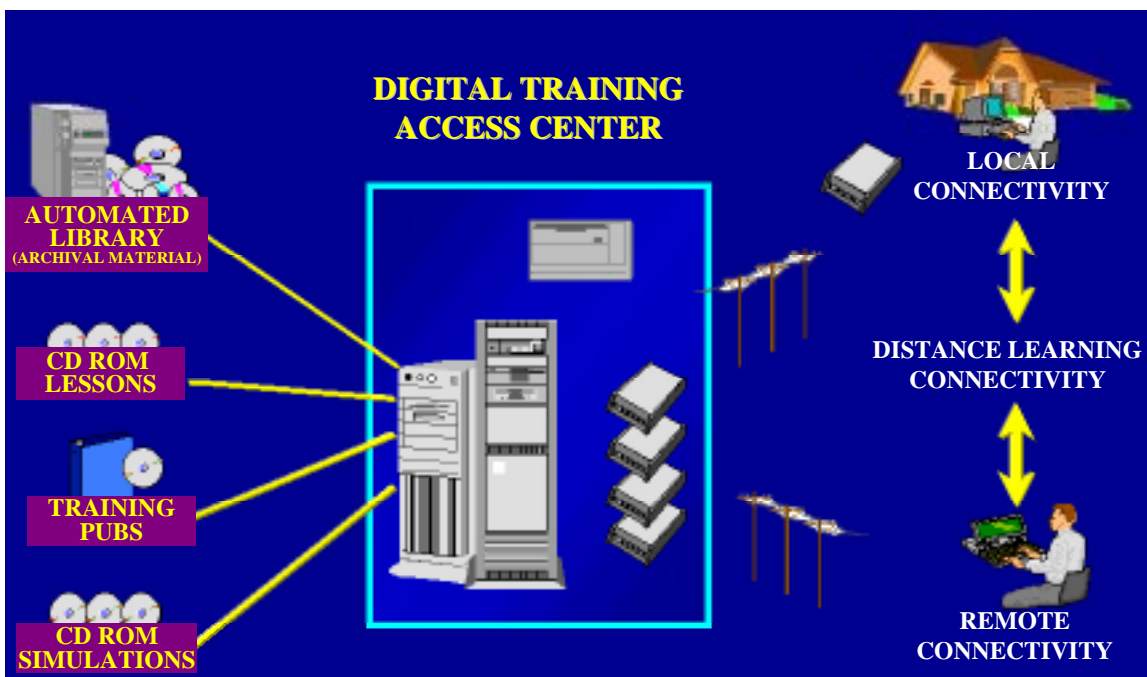


Figure 7-5. DTAC

training environment. The distance learning objective delivers POIs to air defenders anywhere. Training products are accessible through digital learning libraries with menus of instruction that allow units or individuals to customize training. Military occupational specialty (MOS) training is heavily augmented through task training. Only those tasks that require a high degree of personal interaction, benefit from group dynamics, or are equipment- or range-dependent are taught in residency.

Classroom XXI provides the foundation for making distance learning a reality (Figure 7-4) and builds upon information-age technology. Classroom XXI uses state-of-the-art communications technology to transform current, conventional classrooms from an instructor-centered, lecture-designed learning environment to a student-centered, multimedia, and interactive courseware learning laboratory. The USAADASCH Classroom XXI facility capitalizes on distance learning applications. With the Classroom XXI interactive base, USAADASCH has also established a partnership with the University of Texas at El Paso (UTEP) to share information and leverage new and emerging military and civilian training technologies.

USAADASCH has the first fully operational, TRADOC-funded classroom. As a Level III classroom, it allows worldwide access to information and expertise via technologies such as video teletraining (VTT), video teleconferencing (VTC), and the internet. The classroom technology is capable of importing and exporting training.

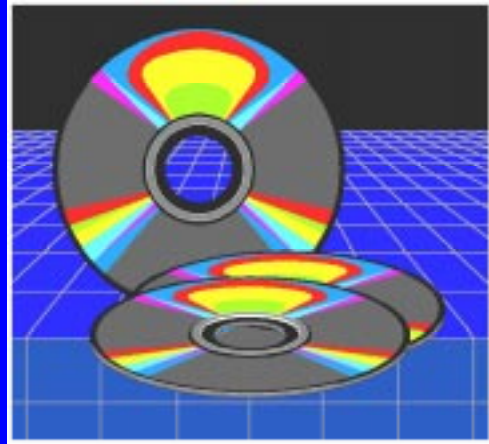
During FY00-04, USAADASCH will establish a Level IV classroom, adding VTC two-way video and interactive simulation capabilities, and explore the use of a Level V classroom that will provide a virtual reality environment.

As Classroom XXI is the key to success for the distance learning concept, the Digital Training Access Center (DTAC) is the key to success for Classroom XXI. The DTAC is a library without walls that connects local and remote areas with the USAADASCH schoolhouse (Figure 7-5). It serves as a repository of information and contains an automated library, training publications, computerized training lessons, and connectivity for battle simulations (Figure 7-6). The DTAC provides informational support to the total force through local area networks and the worldwide web and, for institutional training, through the campus area network.

Commanders, leaders, trainers, and soldiers can electronically access courses of instruction, all AMD doctrine and training publications, and the nonresident support system, a program that replaces the existing Army Correspondence Course Program. The DTAC houses the interactive courseware that USAADASCH develops to support the Army Distance Learning Program. The training strategy provides AMD personnel the capability, via the internet, to electronically access and download courseware such as the Visual Aircraft Recognition Kit. As resident students in-process, they will be assigned an e-mail address to access the DTAC.

Digitization of Products

- **15 Mission Training Plans**
 - **12 SHORAD/FAAD**
 - **3 HIMAD**
- **9 Soldier Training Publications**
 - **5 SHORAD/FAAD**
 - **4 HIMAD**
- **9 Drills (ARTEP/Drill)**
 - **4 SHORAD/FAAD**
 - **5 HIMAD**
- **20 Field Manuals**
- **ADA Army Correspondence Courses Program**
 - **13 Courses**
 - **44 Subcourses**



Note: All ADA Products on Disk in Either Word Perfect or Microsoft Word

Figure 7-6. ADA Training Digital Library

USAADASCH provides interactive simulations in the classroom through the DTAC connectivity capability. The Combat Synthetic Test Training Assessment Range (STTAR) program creates a synthetic battlefield that can be distributed and is interactive. In conjunction with the National Range Development Directorate at White Sands Missile Range (WSMR), USAADASCH is developing a prototype interactive simulation that WSMR will distribute through the Fort Bliss Warfighting Center to the classroom. Once the simulations have been validated, lessons learned from the National Training Center rotations will be incorporated. This capability allows students to participate in exercises and rotations as a simulated unit on the synthetic battlefield.

The USAADASCH partnership with the New Mexico National Guard (NMNG) provides the AMD training development community the capability to validate distance learning courseware and to develop the courseware through available ARNG resources. It also provides the NMNG with electronically imported lessons and training materials. The fiber-optic connectivity allows the NMNG to net all the armories in the state (Figure 7-7) and USAADASCH to electronically export materials to every state armory. Through Guardnet, USAADASCH can electronically export materials to all 50 States and to U.S. territories (Figure 7-8).

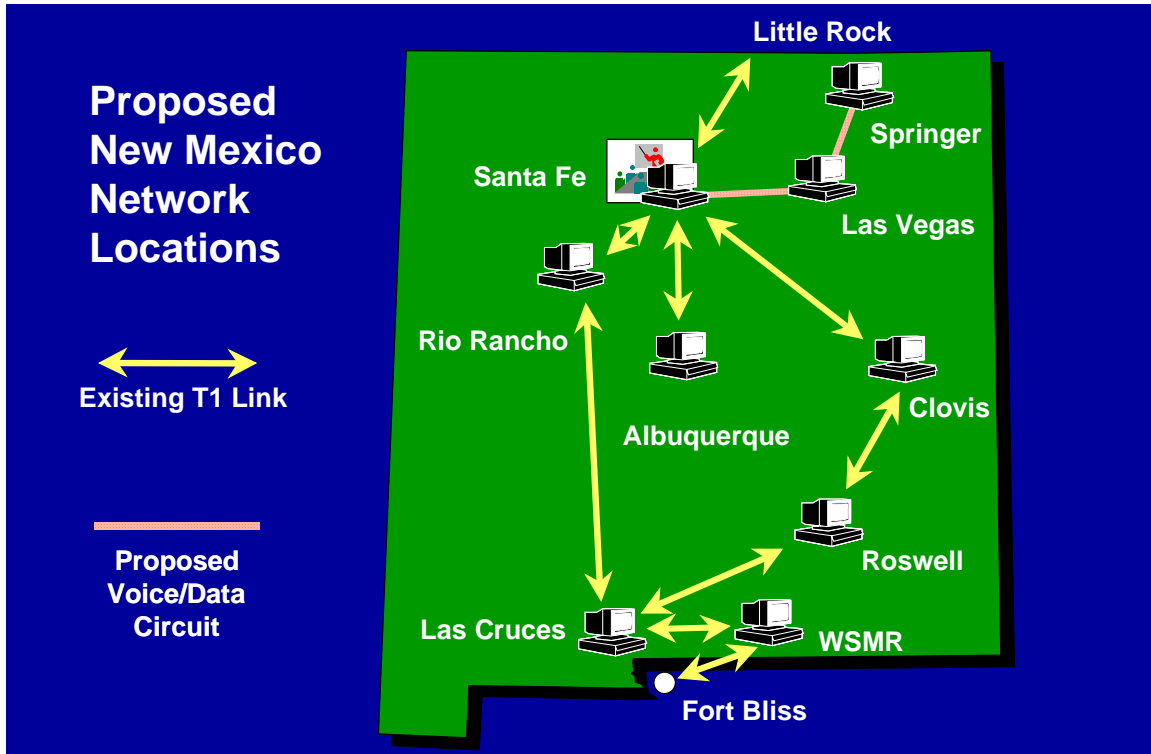


Figure 7-7. Distance Learning Strategy – Guardnet

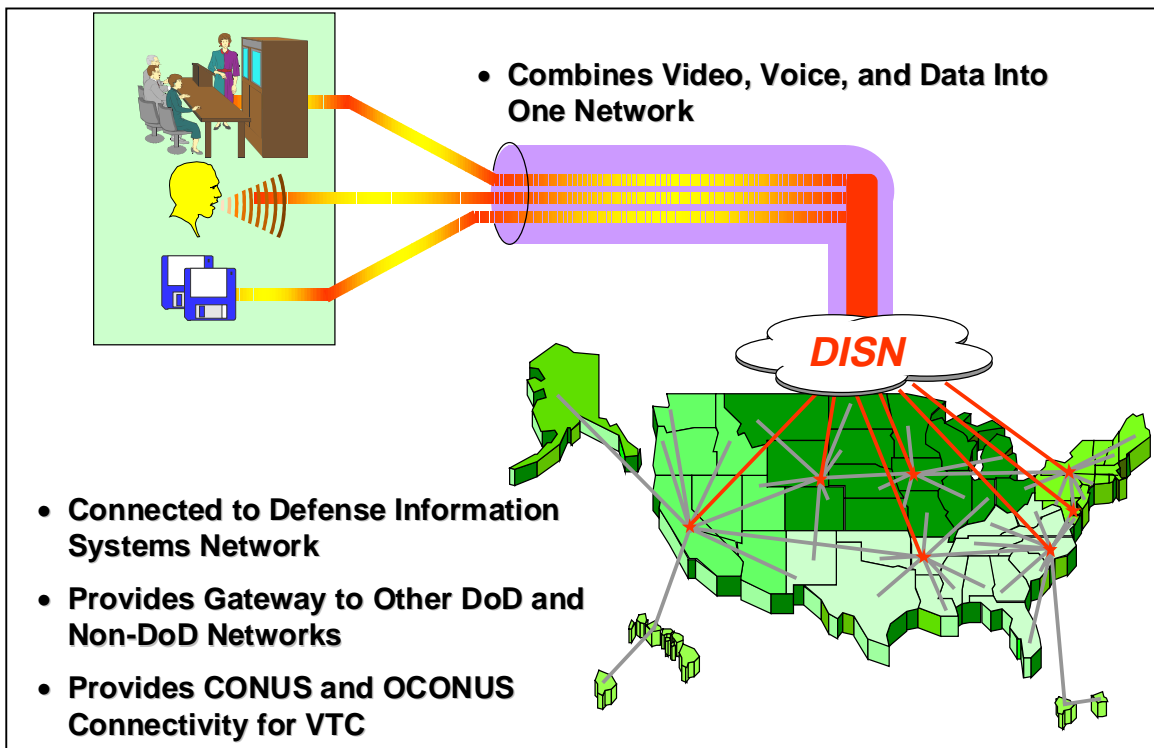


Figure 7-8. Distributive Training Technology

WARFIGHTER XXI - UNIT/COLLECTIVE TRAINING

The AMD Combined Arms Training Strategies explain how AMD units train and identify those resources required to execute the training. The strategies depict a fully supported annual unit training plan to sustain individual and collective skills. The soldier matrix, maneuver/collective matrix, and the gunnery matrix provide the foundation and standards to develop a unit training program.

Integral to where those programs fit into the digitized, combined arms and joint synthetic and virtual battlefield training is the development and acquisition of devices and simulators that provide virtual engagement and force operations training. Units equipped with state-of-the-art TADSS, distance learning classrooms, and communications technology will experience combat,

simulated at every level from platoon to battalion and beyond. Advanced technologies will permit netting across branches, with the combat training centers (CTCs), and with proponent subject-matter experts worldwide. These highly mobile training devices, supported by distributed information technologies, link units, training centers, and forces.

Without question, training devices maintain and enhance skill proficiency and save equipment resources for combat operations. The latest technology moves the training from cumbersome, conventional training systems to devices that are added onto and modified with operational system upgrades. They are networked, as needed, and provide interactive access, feedback, storage, and lessons learned as they occur.

WARMOD XXI - FORCE MODERNIZATION TRAINING

In the near term, units will have distance learning classrooms that mirror the capabilities of the USAADASCH Classroom XXI and can import training through the use of VTT, VTC, the worldwide web, and connectivity to DTAC. These classrooms significantly impact WARMOD XXI new equipment training (NET). Multimedia training packages and NET can be delivered via

distance learning to units and RCTIs. The Distributive Training Technology Project, developed by the National Guard Bureau, establishes distance learning classrooms at the RCTIs. In conjunction with electronic delivery of NET, units will receive technologically enhanced training devices that provide virtual, mobile, simulated systems' training.

TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS

TADSS are the means to realize the full technological potential of future training. By providing mission rehearsal capability, being distributed and interactive compliant, and by replacing or augmenting the tactical systems in the AMD inventory, TADSS opens the training world to the virtual training environment. Mission sustainment training, institutional soldier training, and the conduct of combined arms tactical training are linked through the future capabilities of devices and simulators.

The TADSS requirements for the new systems – Bradley Linebacker, THAAD, and MEADS – will capture the current technology and build upon future training requirements. As the world of devices and simulators moves into the Army XXI digitized training structure, the days of static, immovable, manpower-intensive training facilities and devices are rapidly coming to an end. Future AMD TADSS provide portable, embedded, soldier-friendly, cost-effective training “alternatives.” Through the use of automated, electronic, integrated, netted, low-cost, computer-based devices, training in the field can be “on demand” and accessed from data base locations worldwide. Ideally, embedded training delivers the most capable and efficient training with capabilities to link over networks similar to the internet.

The Avenger training device base has been improved with the fielding of the Avenger TTT. This highly mobile, “take it with you anywhere”

conduct-of-fire-trainer has eliminated a critical training void and radically improved the readiness status of Avenger units. AC Avenger units are being equipped with the latest TTT technology. The ARNG is currently attempting to acquire this technology. The Avenger TTT was also used to acquire the demonstration-to-prototype TTT model for the Bradley Linebacker. Although both the Avenger and the Bradley Linebacker TTTs represent early models of computer-based training media, they become the foundation for future tabletop-designed training systems that can link to combined arms tactical training simulators.

The THAAD system provides an embedded, menu-driven training capability, allowing soldiers to use the system to fight air battles by displaying homemade or real-time derived scenarios. Soldiers can store and callup these scenarios as needed for operator, crew, or collective training. They can also modify the scenarios to meet real or fictitious threat parameters or to emphasize doctrine and techniques, tactics, and procedures training in the unit.

MEADS will have extensive embedded training capabilities. The training device strategy is to teach individual and collective tasks using embedded capabilities and TADSS, and to sustain training during tactical operations and joint training exercises. MEADS will be interoperable with real-world C³I systems and simulators and simulation systems that train the unit. MEADS will

be linked to a networked training capability, with ABCS devices, and into the family of simulations training systems (e.g., corps battle system [CBS] and WARSIM 2000) for training, rehearsals, and course of action determinations. Core technologies will be leveraged to train and execute mission rehearsals in the synthetic and synthetic theater of war (STOW) environments. MEADS will not require logistically intensive support. As envisioned, it is the first AMD system requiring only two levels of maintenance (no institutional maintenance trainer necessary).

The PATRIOT embedded training capability provides a controlled training environment for operator training and evaluation within the engagement control station and the information and coordination central. This training, performed under simulated conditions, supports individual, crew, collective, and unit training by providing simulated situations that replicate actual mission operations. PAC-3 requires intermediate maintenance trainers that simulate problems in the radar set and engagement control station and allow troubleshooting and repair techniques.

SUMMARY

USAADASCH will lead the way in the digitization of training and implementation of the Army Training XXI training strategy – WARRIOR XXI, WARFIGHTER XXI and WARMOD XXI. The creation of the virtual institution, multimedia courseware, distance learning capabilities, and Classroom XXI will allow AMD soldiers and units to access training materials and receive training anywhere in the world. The synthetic battlefield will permit real-world, threat-based training.

Accomplishing this goal requires investment of resources, training, and equipment. The interactive training world of the future will consist of training developers provided with state-of-the-art multimedia computers and appropriate training; instructors using multimedia courseware and TADSS; unit personnel using distance learning classrooms, multimedia courseware, and TADSS; and all training centers connected to this network of electronic and device-based training.