



## Fort Knox

### Next-Generation ATM In Action

There's more to Fort Knox than a vault filled with gold. It's the headquarters for the Army's Armor Center, home of the 16th Cavalry Regiment, and a community of over 42,000 people—172 square miles that includes seven elementary schools, a high school, police and fire departments and its own municipal infrastructure. Enterasys Networks™ is helping the base to quickly upgrade its 155 Mbps OC-3 network to the next generation of ATM networks.

**Industry:**

Government

**Challenge:**

Deploying a high-performance, scalable network

**Solution:**

Enterasys multilayer switches enable mission-critical applications

**Benefits:**

- Scalability provides immediate increase in bandwidth—without interrupting network operations
- Wire-speed throughput handles the most bandwidth-intensive applications—training simulations, telemedicine, mapping
- Redundancy and fault tolerance ensure uptime—even under the most demanding network traffic

**The Challenge:****Deploying a High-Performance, Scalable Network**

The primary business of Fort Knox and the Armor Center is developing professional, well-trained soldiers. The 1st Armor Training Brigade, part of the Armor Center, teaches recruits discipline, esprit and combat skills to prepare them for assignments throughout the world. The Armor Center also prepares experienced officers and enlisted soldiers for tactical combat, develops weapons and tactics, and establishes doctrine for the Armor force. Soldiers train with field weaponry and complex battle simulators to hone their combat readiness. The simulators save money and, more importantly, save lives, introducing a “real-time” facet to training that approximates battlefield conditions. For example, turret trainers and driver simulators supplement actual tank use, reducing costs and increasing the amount of training time that's available. As a result of these technological improvements, crewmen at the Armor Center receive five times more training than their counterparts did in 1977, and gunners and loaders receive three times as much preparation.

The Armor Center's sophisticated simulation equipment and operations require a network with plenty of bandwidth and scalability. That's where the Director of Information Management (DOIM) enters the picture. The DOIM is responsible for building and maintaining networks that handle base telecommunications, automation and data processing, records management and the post office. The DOIM is also responsible for making network resources available to other military sites via WANs and T1 connections.

All of Fort Knox—not just the Armor Center—is taking advantage of the network. The hospital is using it for telemedicine; the police force plans to utilize the network for remote surveillance and video streaming; and the police, fire department and ambulance services look forward to real-time global mapping. This application will allow these organizations to pull up a map—on the way to an emergency, for example—and determine the best route. Enterasys hardware and network management software are at the core of the network.

**The Solution:****Enterasys Multilayer Switches Enable Mission-Critical Applications**

To support the continued growth of Fort Knox's network, the DOIM has implemented a two-pronged approach: flattening its network and using a network management platform. Upgrading the network from OC-3 to OC-12 was easy, thanks to the scalability of the module-based SmartSwitch 9500. Newer, faster ATM boards were simply inserted to provide an immediate increase in bandwidth, without disrupting network operations. Each 9A656-04 module has eight OC-12 ports, contributing to a total capacity of 112 OC-12 ports per SmartSwitch 9500. Each module is completely redundant and fault tolerant, and provides the unprecedented speed and performance—up to 622 Mbps—that makes the training simulations, telemedicine, mapping and other applications possible.

The network, which currently serves ten buildings, is anchored by five SmartSwitch 9500s with a variety of ATM modules. The 9500s are tied together in a mesh topology of OC-3, while underlying OC-12 links connect the switches to the backbone. The 9500s are then connected to Matrix E6s and Vertical Horizon 2200s in the wiring closets. The high-speed ATM uplinks on modules in the Matrix E6 combine with ATM uplink modules in the Vertical Horizon 2200 to provide a complete, end-to-end ATM solution from the data center to the desktop. The network incorporates 15 ATM switches and serves close to 4,000 users, all tied to the network backbone. What Fort Knox is doing with the network now—simulation, telemedicine, distance learning—and the speed at which they are doing it, is virtually unprecedented.

As the DOIM continues to expand its network throughout Fort Knox, the move to an OC-12 ATM network backbone ensures that all users—whether they're processing the mail or trying out the latest battlefield weapon—will have the response time and performance they need from the network.

## Contact Us

For more information, call Enterasys Networks toll free at **1-877-801-7082**,  
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