

CHALLENGES

- Satellite network-created challenges in sending and receiving TCP communications
- High network latency and loss
- Decreased training efficiency
- Delays in training schedules, reduced productivity

SOLUTION

Circadence MVO™ 1200
WAN Optimization Software

BENEFIT SUMMARY

- Faster delivery of training content
- More reliable delivery
- Consistent user experience
- Improved training efficiency
- Improved speed from 2 times to 40 times, depending upon network conditions

U.S. MILITARY AND DISTANCE LEARNING

Profile:

A division of the U.S. armed services uses the Circadence MVO™ 1200 WAN Optimization suite to dramatically enhance distance learning in remote overseas military bases.

Challenges

A division of the U.S. military often trains soldiers in remote locations such as the Middle East using “distance learning.” Distance learning has become a popular way to deliver online courses to military personnel, providing video training, Flash- or Java-based self-paced learning modules, and online certifications. Distance learning often leverages multimedia content, which requires expanded network capacity. For troops deployed overseas, numerous challenges were impeding the performance and usability of the training applications. The military needed a solution that would solve these problems to train soldiers more quickly and efficiently.

For remote field training, network delivery was a particular challenge for military applications. Satellite networks are typically used in areas where traditional terrestrial networks cannot reach. Soldiers then use laptops to download training content, programs, or other materials via satellite connection.

Satellite Internet connections, however, present several difficulties. As training modules access multimedia files that are delivered via the web, propagation delays cause high latency as message requests are sent at the speed of light to distant satellite stations and then back to the U.S. When viewing web pages, for example, soldiers were experiencing significant delays. High rates of latency were also causing training applications to time out or disconnect, which was frustrating to soldiers and severely impacting training productivity.

Network degradation due to loss was an additional concern. Both high latency and loss were severely impacting the quality and delivery speed of the training content.

Circadence® Solution and Benefits

U.S.-based military personnel assembled the training modules as packages – essentially “distance learning-in-a-box.” Server hardware was shipped to field operating bases with pre-installed training applications as a complete system in a protective “pelican case.” Overseas field trainers could then unpack and plug in the system to immediately begin training. To optimize and improve the satellite network connection used to deliver the training programs, the system also shipped with the Circadence MVO 1200 WAN Optimization suite.

Circadence MVO optimizes network speed and reliability. Before Circadence solutions were installed, soldiers complained that slow network speed was bogging down the training process.

Field training must be accomplished in limited timeframes, so it was essential to improve network speed. With Circadence MVO, bandwidth utilization was dramatically improved, ensuring that training content could be delivered much more quickly and to more soldiers at once. For example, after Circadence MVO was integrated into the system, a unit could be trained in a period of one day instead of three. Decreased training time allowed soldiers to return to field operations more quickly.

When soldiers participated in self-paced learning modules, content was running on a web server, which was particularly slow to connect. The large file sizes of video and audio content were also experiencing difficulty over the satellite connection. The Circadence MVO 1200 WAN Optimization suite helped streamline delivery of these multimedia files, enhancing the soldiers' overall training experience.

For More Information

For more information about the Circadence MVO 1200 WAN Optimization suite, visit www.circadence.com/products/MVO1200.