

Base modernization

Since its inception in 2006, the U.S. Army's Infrastructure Modernization (IMOD) program has been the most massive restructuring of information technology in the history of the military. Its ultimate goal is to provide a superior communications infrastructure to support the warfighter. The scope of the IMOD program is vast because its mandate is very broad. The program examines the IT infrastructures at selected Army locations worldwide and determines where capabilities have been constrained by the architecture of older systems. Then, this information is used to develop a reliable, secure and sustainable architecture and infrastructure. All equipment required for modernization must be technically compliant and, in some cases, certified by the Defense Information Systems Agency (DISA) Joint Interoperability Test Command (JITC).

Modernizing a congested garrison network

One of the largest military posts in the United States was fiber constrained as a result of an inefficient configuration, with point-to-point circuits being used throughout the garrison. Unimpeded communications are especially mission-critical for this garrison, since it houses a strategic crisis response force, which depends upon a rapid, reliable communications infrastructure to fulfill its mission successfully.

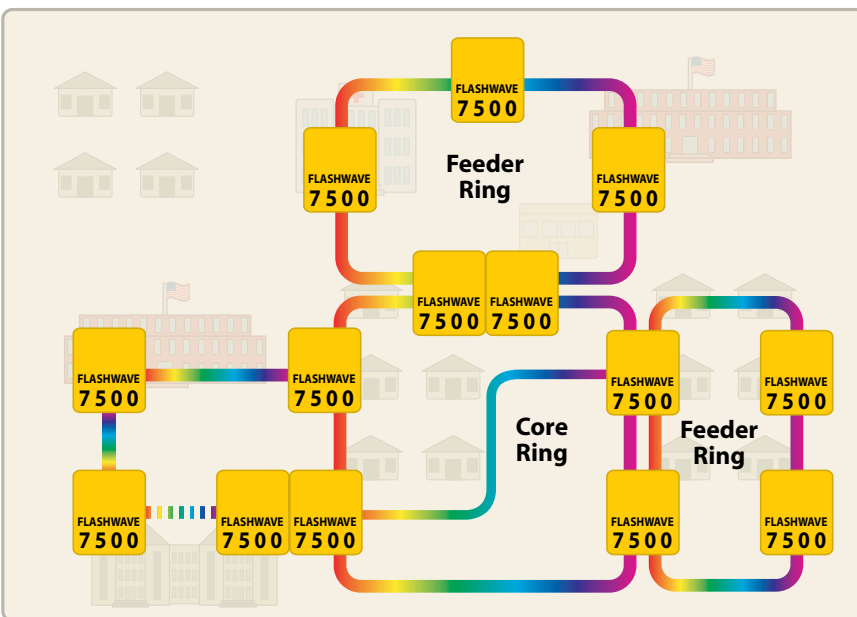
Because fiber capabilities had been maximized to the point that service expansion and enhancement was nearly impossible, the Army's IMOD initiative included major upgrades for the garrison's IT infrastructure. The government required a solution that minimized the use of fiber while providing a reliable communication service with extensive capacity for growth. At the same time, modernization had to include more than one optical ring that would reduce the number of fibers and exposure risks while providing alternative communications traffic when needed.

Technology

The IMOD prime contractor chose the Fujitsu FLASHWAVE® 7500 ROADM (Reconfigurable Optical Add/Drop Multiplexer) platform to upgrade the integral portion of the post's communications network architecture. This Fujitsu ROADM platform was selected because of its advanced, field-tested optical technologies. The FLASHWAVE 7500 ROADM provides up to 40 Gbps of bandwidth on each of its 40 wavelengths to handle IP-based and other emerging applications required for warfighter success. The platform provides multidegree optical hubbing for the switching and transport of wavelengths encompassing various bit rates, and in-service upgrades as the garrison grows and traffic demands change. The FLASHWAVE 7500 system has been successfully tested and evaluated by the JITC and the Department of Army Technology Integration Center (TIC).

Advanced WSS module

The foundation of this scalable ROADM platform is its Wavelength Selective Switch (WSS), a single, integrated device that replaces an optical multiplexer, demultiplexer and switch. This WSS module provides the most flexible and advanced routing and topology options available for any wavelength or group of wavelengths. What makes the module so valuable is its capacity to maintain an optical signal without the need for an electrical connection, reducing any concerns about latency that would slow voice, data and video signals. The WSS also removes unnecessary loss on routing paths, thus permitting more bases on the network and more reach between sites.



Field-proven ROADM solution

Smooth transition to a reliable network

Additionally, advanced FLASHWAVE 7500 platform capabilities ensure a smooth transition and a reliable network that masks the transport complexities, permitting years of trouble-free operations and service delivery. These capabilities include remote touchless service activation for dramatic improvements in service provisioning speed, along with automatic power leveling, variable signal conditioning, fully tunable optics, native 40G interfaces, and G.709 compliant digital wrappers.

The system's optical hubbing and ring capabilities are of special importance to the military because these capabilities allow a network to be configured with a "working" and "protect" path for all circuits. Should a fiber cable be cut on the working side, the FLASHWAVE 7500 ROADM can switch circuits to the protect side in less than 50 milliseconds, boosting service continuity and reliability for critical military applications. Fujitsu multi-degree ROADM technology also alleviates security issues by allowing dual-node ring interconnections so that if one site is damaged, the other site can switch the system.

The field-proven capabilities of the FLASHWAVE 7500 ROADM are helping the military create the mission-critical network infrastructure that supports it in protecting our country.

FLASHWAVE 7500 platform benefits

- JITC Certified, DoD Standards Conformance-Tested
- Scalable System Architecture from 100 Mbps to 40 Gbps
- Multidegree Optical Hubbing to Increase Reliability
- Automated Provisioning for Rapid Service Delivery
- TDM and Data on a Single Wavelength
- Ideal for Bandwidth-Intensive Video Distribution
- Eliminates Overlay Networks



Fujitsu Network Communications Inc.

2801 Telecom Parkway, Richardson, TX 75082
Tel: 800.777.FAST (3278) Fax: 972.479.6900
us.fujitsu.com/telecom

© Copyright 2009 Fujitsu Network Communications Inc.
FLASHWAVE® is a trademarks of Fujitsu Network Communications Inc. (U.S.A.)
FUJITSU (and design)™ and "shaping tomorrow with you" are trademarks of Fujitsu Limited.
All Rights Reserved. All other trademarks are the property of their respective owners.
Configuration requirements for certain uses are described in the product documentation.
Features and specifications subject to change without notice.