

Teleport

Executive Summary

- A November 2009 Multi-Service Operational Test and Evaluation (MOT&E) demonstrated that the Teleport Generation 2, Phase 2 (G2P2) system is effective and suitable with some limitations. DoD Teleport G2P2 added military Ka-band terminals to access Wideband Global Satellites (WGS), the LinkStar Internet Protocol (IP) modem, and upgraded the software versions of the LinkWay and iDirect IP modems to use existing Teleport capabilities.
- Follow-on integrated testing in April 2010 demonstrated that the program manager corrected a power control problem with the iDirect IP Version-7 modem observed during the MOT&E.
- The Milestone Decision Authority granted the Defense Information Systems Agency (DISA) the authority to enter Teleport Generation 3, Phase 1 (G3P1) into the Production and Deployment Phase. Teleport G3P1 will integrate Advanced Extremely High Frequency (AEHF) Extended Data Rate (XDR) capability into the existing Teleport system Extremely High Frequency (EHF) architecture.

System

- DoD Teleport sites are globally distributed satellite communications (SATCOM) facilities. The system has six core Teleport facilities located in Virginia, Germany, Italy, Japan, Hawaii, and California. Teleport sites consist of four segments:
 - The radio frequency segment consists of SATCOM earth terminals that operate in X-, C-, Ku-, Ka-, Ultra High Frequency (UHF), and EHF bands. The terminals provide radio frequency links between the Teleport site and the deployed user SATCOM terminal via commercial or military satellites.
 - The Teleport base-band segment includes encryption, switching, multiplexing, and routing functions for connecting data streams or packetized data to the Defense Information Systems Network (DISN).
 - The network services segment provides connectivity to the DISN long-haul networks and data conversion functions necessary to meet the user's requirements.



- The management control segment provides centralized monitoring and control of Teleport base-band hardware, SATCOM earth terminal hardware, transmission security, and test equipment.

Mission

- Combatant Commanders, Services, and deployed operational forces use Teleport systems in all phases of conflict to gain worldwide military and commercial SATCOM services.
- Teleport provides deployed forces access to standard fixed gateways from anywhere in the world for all six DISN services:
 - Secret Internet Protocol Router Network (SIPRNet)
 - Non-secure Internet Protocol Router Network (NIPRNet)
 - Defense Red Switch Network (DRSN)
 - Defense Switched Network (DSN)
 - Video Teleconferences (VTC)
 - Joint Worldwide Intelligence Communications System (JWICS)

Major Contractor

Government Integrator – DISA

Activity

- The Joint Interoperability Test Command (JITC) conducted the G2P2 MOT&E November 2009 at the Hawaii DoD Teleport site and the Pacific Theater Network Operations Center (TNC) at Wheeler Army Air Field, Hawaii. Eleven operational units along with a special LinkStar unit operated from deployed locations in California, Oklahoma, Arizona, Idaho, Hawaii, and Korea.
- The MOT&E focused on Teleport's capability to provide deployed users Ka-band access, DISN services using three different current force IP modem variants, and the system control and management capability.
- JITC and the program office conducted a follow-on test at the Wahiawa Teleport in April 2010 to verify correction of a

power control problem associated with the iDirect Version-7 IP modems.

- Teleport G3P1, which consists of adding Navy Multi-band Terminals (NMT) to communicate over AEHF satellites, has achieved Milestone C.

Assessment

- The MOT&E was adequate to evaluate the operational effectiveness and suitability of the Teleport G2P2 system. The Teleport G2P2 system is effective and suitable with limitations. The newly installed Ka-band access provides connectivity over the WGS system. The newly installed LinkStar IP modem and upgraded Linkway and iDirect Version-7 IP modems provide connectivity over commercial Ku-band and military X- and Ka-band satellites.
- The two major deficiencies in effectiveness observed during MOT&E were an iDirect Version-7 IP modem power control problem that prevented consistent IP access over WGS and the inability of users to complete DSN secure calls on a consistent basis.
- The major deficiencies in suitability were lack of documentation and training preparing Teleport operators

to troubleshoot system-level problems, and lack of detailed Concepts of Operations that adequately describe the roles and responsibilities and operational configurations of IP-based SATCOM networks.

- Follow-on testing in April 2010 confirmed that the program manager corrected the power control problem observed during MOT&E with the iDirect Version-7 IP access over WGS.

Recommendations

- Status of Previous Recommendations. DISA has satisfactorily addressed all previous recommendations.
- FY10 Recommendations. DISA should:
 1. Develop a technical or procedural solution for DSN secure calls approved by the user community and JITC should validate the corrective action.
 2. Improve system documentation and maintenance training, particularly with respect to system-level troubleshooting procedures.
 3. Develop documentation that adequately describes the roles and responsibilities and operational configurations of IP-based SATCOM networks.