# Department of Defense (DOD) Teleport

Executive Summary

- The Defense Information Systems Agency (DISA) is developing the Teleport Generation 3 Phase 3 (G3P3) capability that is intended to provide interconnectivity between legacy Ultra High Frequency (UHF) radios and Mobile User Objective System (MUOS) radios. To achieve the G3P3 capability, the program manager is adding two new components to the Teleport architecture: the MUOS to Legacy Gateway Component (MLGC) and MUOS Voice Gateway (MVG). The program manager is planning to install the MLGC at five of the six primary Teleport sites and the MVG at the Virginia and Hawaii Teleport sites, collocated with two MUOS Radio Access Facilities.
- During developmental test and evaluation (DT&E), DISA tested G3P3 voice capability but did not test data capability. The unclassified voice test results met the 88 percent required completion rate, but classified legacy to MUOS voice did not meet this completion rate. The data DISA collected during DT&E were insufficient to provide statistical confidence.
- DISA postponed the OT&E from October 2016 to 4QFY17, and the FOT&E from 4QFY17 to 1QFY18 due to technical and integration problems. The program manager is conducting root cause analysis and corrective actions to address the problems.

System

- DOD Teleport sites are globally distributed Satellite Communication (SATCOM) facilities. There are six core Teleport facilities located in Virginia, Germany, Italy, Japan, Hawaii, and California, and two secondary facilities located in Bahrain and Australia (future). Teleport sites consist of four segments:
  - The radio frequency segment consists of SATCOM earth terminals that operate in UHF, X, C, Ku, Ka, and Extremely High Frequency bands. The terminals provide radio frequency links between the Teleport site and the deployed user SATCOM terminal via military or commercial satellites.
  - The baseband segment includes encryption, switching, multiplexing, and routing functions for connecting data streams or packetized data to the terrestrial Defense Information Systems Network (DISN).
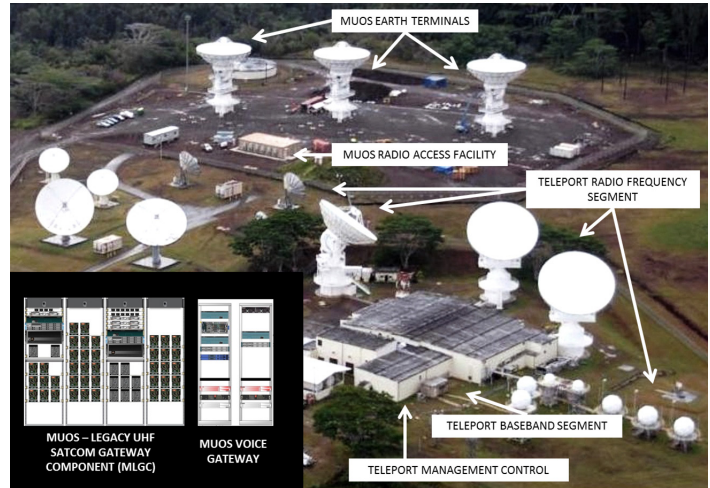
MLGC - MUOS-Legacy UHF STACOM Gateway Component
MUOS - Mobile User Objective System
UHF - Ultra High Frequency

  - The network services segment provides connectivity to the DISN long-haul networks and other internet functions necessary to meet the user's requirements.
  - The management control segment provides centralized monitoring and control of Teleport baseband hardware, earth terminal hardware, transmission security, and test equipment.
- Teleport provides deployed forces access to standard fixed gateways from anywhere in the world for all six DISN services:
  - Secret Internet Protocol Router Network
  - Non-secure Internet Protocol Router Network
  - Defense Red Switch Network
  - Defense Switched Network
  - Video Teleconference
  - Joint Worldwide Intelligence Communications System

Mission

Combatant Commanders, Services, and deployed operational forces use DOD Teleport systems in all phases of conflict to gain access to worldwide military and commercial SATCOM services.

Major Contractor

Government Integrator: DISA – Fort Meade, Maryland

Activity

- DISA is developing the Teleport G3P3 capability that is intended to provide interconnectivity between legacy UHF radios and MUOS radios. To achieve the capability, the program manager is adding two new components to the Teleport architecture, the MLGC and MVG. The program manager is planning to install the MLGC at five of the six primary Teleport sites and the MVG at the Virginia and Hawaii Teleport sites, collocated with two MUOS Radio Access Facilities.

- DISA conducted the initial DT&E from April through May 2016 at the Northwest Teleport site in Chesapeake, Virginia. Deployed users participated from the Navy's USS *Gridley* (San Diego, California) and USS *Schamal* (Mayport, Florida); the Coast Guard's USCGC *Sherman* (Pearl Harbor, Hawaii); Air Station Elizabeth City, North Carolina; and the Army's 10th Mountain Division (Fort Drum, New York). Government technicians operated the MLGC at the Northwest Teleport, and operated radios at the Space and Naval Warfare Systems Command (SPAWAR) Systems Center in Charleston, South Carolina.
- DISA conducted DT&E-2 from July through August 2016 at the Northwest Teleport site. Deployed users participated from the Navy's USS *Sampson* (San Diego, California), the Army's 3rd Corps at Fort Hood, Texas, and the Air Force's 59th Test and Evaluation Squadron at Nellis AFB, Nevada. Government technicians operated the MLGC at the Northwest Teleport, and radios at the SPAWAR Systems Center in Charleston, South Carolina.
- DISA postponed the OT&E from October 2016 to 4QFY17, and the FOT&E from 4QFY17 to 1QFY18 due to technical and integration problems. The program manager is conducting root cause analysis and corrective actions to address the problems.
- The Joint Interoperability Test Command is developing the operational test plan, with guidance from DOT&E.

Assessment
- Since the Services have not yet fielded MUOS terminals, operator inexperience and immature user operations impaired effective involvement of deployed users for testing. Inexperience contributed to problematic cryptographic key management, problems creating profiles for the MUOS terminal, and the inability of a MUOS terminal to join an Internet Protocol network. User experience and proficiency will be essential to successful future operational testing.
- During DT&E, DISA tested the G3P3 voice capability but did not test the data capability. The unclassified voice test results met the 88 percent required completion rate but classified legacy-to-MUOS voice did not meet this completion rate. The data DISA collected during DT&E were insufficient to provide statistical confidence.
- During DT&E-2, DISA tested both G3P3 classified and unclassified voice and unclassified data capabilities. The classified legacy UHF to MUOS voice test results indicate that the capability may not be operationally viable without changes to techniques and procedures. The data DISA collected during the DT&E-2 were insufficient to provide statistical confidence.

Recommendations
- Status of Previous Recommendations. DISA has satisfactorily addressed all previous recommendations.
- FY16 Recommendation.
  1. The Joint Interoperability Test Command should ensure the data collected during the OT&E are sufficient to provide statistical confidence in the results.