

Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR)

Executive Summary

- The Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR) product line continues progress within its Increment 1 program baseline, including finalizing acquisition documentation and movement toward operational test.
- The prime contractor is conducting a series of field tests on waveform software using pre-Engineering Developmental Model sets.
- The program's testing effort needs to determine the number of radios and associated platforms required to assess networking scalability, performance of the networking waveforms, and network enterprise services appropriate for the GMR.
- The Joint Program Executive Office (JPEO) should examine JTRS enterprise level testing requirements and establish responsibilities between GMR, the Networking Enterprise Domain, and other JTRS product lines for testing the performance of large-scale JTRS networks as the tactical component of the Global Information Grid.

System

- JTRS is a family of software-programmable and hardware-configurable digital radios designed to provide increased interoperability, flexibility, and adaptability to support many diverse warfighter communications requirements.
- JTRS GMR components include control display devices, universal transceivers, network/information security interface



1 - Control Display Device
2 - Universal Transceivers with Network / Information Security Interface Unit
3 - Power Amplifiers

units, and power amplifiers, which combine to create radio sets for Army, Marine Corps, and Air Force ground vehicle installations.

Mission

Commanders from the Army, Marine Corps, and Air Force intend to use JTRS GMR to:

- Communicate and create networks to exchange voice, video, and data during all aspects of military operations
- Provide the capability to interface with other JTRS product line radios and legacy radio systems in joint and coalition operations

Activity

- The JTRS GMR program continues progress in its Systems Development and Demonstration phase and Acquisition Program Baseline (APB) reset. The program is finalizing acquisition documents including the GMR annex to the JTRS Enterprise Acquisition Strategy and the GMR Test and Evaluation Master Plan (TEMP). However, the program is working an issue with the National Security Agency that might impact TEMP approval and their overall T&E schedule.
- The prime contractor continued a series of field experiments using pre-Engineering Developmental Model (pre-EDM) hardware versions of the GMR. The program uses recurring field experiments to test incremental improvements in software and waveforms to mitigate risk to Production Qualification Testing.
- The prime contractor started the design of the Engineering Developmental Model versions of GMR radios.
- DOT&E approved the JTRS Enterprise Test and Evaluation Strategic Guidance in July 2007.

Assessment

- The JTRS GMR program is making progress toward completing the Increment 1 baseline under the restructured JTRS program. Update of all acquisition documents is planned prior to a Milestone C decision (4QFY10).
- The Test and Evaluation Working Integrated Product Team (T&E WIPT) is identifying and resolving issues affecting test adequacy as part of the process for updating the GMR TEMP. The most significant issue is determining the numbers of radios and associated platforms necessary to adequately assess network scalability, performance of the networking waveforms, and network enterprise services appropriate for GMR.
- JTRS GMR field experiments with pre-EDM radios are providing insights on the performance of the software waveforms and experience in testing software-defined radios.

DOD PROGRAMS

Recommendations

- Status of Previous Recommendations. JTRS GMR is making good progress in creating a TEMP and supporting an enterprise strategy as published in the 2007 JTRS Enterprise Test and Evaluation Strategic Guidance (FY06).
- FY07 Recommendations. The JTRS JPEO should:
 1. Identify and resolve potential test adequacy issues across the areas of network scalability, waveform performance, and enterprise services.
 2. Examine enterprise level testing requirements and establish responsibilities for testing the performance of large-scale JTRS networks.