

Warfighter Information Network – Tactical (WIN-T)

Executive Summary

- Warfighter Information Network – Tactical (WIN-T) Increment 2 supported voice, video, and data communications during the March 2009 Limited User Test (LUT). The network had deficiencies in reliability, ability to support on-the-move communications, training provided to Soldiers, communications speed, network operations, and information assurance.
- The Department of Defense delayed the program’s Milestone C until February 2010 to allow the Army time to resolve program problems and to prepare a plan to improve deficiencies identified during the WIN-T Increment 2 LUT.
- The February 2010 Defense Acquisition Board (DAB) approved WIN-T Increment 2 Milestone C and authorized the Army to procure a partial Low-Rate Initial Production (LRIP) (160 of 400 communications nodes). The Milestone C decision directed the Army to improve WIN-T Increment 2 reliability and performance.
- The September 2010 WIN-T Increment 2 Acquisition Decision Memorandum (ADM) recognized that WIN-T Increment 2 met its performance goals within the limited technical testing environment of the Army’s risk reduction developmental test events. The network did not meet its reliability goals. The ADM directed the Army to continue to improve WIN-T Increment 2 reliability and performance and to report the results of these improvements to the Overarching Integrated Process Team (OIPT) Chair, DOT&E, and the Director, Developmental Test and Evaluation (DDT&E).
- The program has executed a plan to fix, test and verify closure of the 16 identified WIN-T Increment 2 failure modes to improve reliability per the ADM. The program’s goal is to complete this action by January 2011.

System

- WIN-T is a three-tiered communications architecture (space, terrestrial, and airborne) designed to be the Army’s high-speed and high-capacity tactical communications network.
- The Army intends WIN-T to provide reliable, secure, and seamless communications for units operating at theater level and below.
- The WIN-T program consists of four Increments:
 - Increment 1: “Networking at the Halt” enables the exchange of voice, video, data, and imagery throughout the tactical battlefield using a Ku- and Ka- satellite-based network.
 - Increment 2: “Initial Networking on the Move” provides command and control on the move down to the company level for maneuver brigades and implements an improved network security architecture.
 - Increment 3: “Full Networking on the Move” provides full mobility command and control for all Army field



commanders, from theater to company level. Network reliability and robustness are enhanced with the addition of the air tier transport layer which consists of networked airborne communications relays.

- Increment 4: “Protected Satellite Communications on the Move” includes access to the next generation of protected communications satellites while retaining all previous on-the-move capabilities.

Mission

Commanders at theater and below will use WIN-T to:

- Integrate satellite-based communications capabilities into an everything-over-Internet Protocol network to provide connectivity, while stationary, across an extended, non-linear battlefield and at remote locations (Increment 1).
- Provide division and below maneuver commanders with mobile communications capabilities to support initial command and control on the move (Increment 2).
- Provide all maneuver commanders with mobile communications capabilities to support full command and control on the move, including the airborne relay and protected satellite communications (Increments 3 and 4).

Major Contractor

General Dynamics, C4 Systems – Taunton, Massachusetts

ARMY PROGRAMS

Activity

- The Army conducted a combined WIN-T Increment 2 and Increment 1b LUT at Fort Stewart, Georgia; Fort Lewis, Washington; and Fort Gordon, Georgia, in March 2009.
- The WIN-T Increment 2 OIPT delayed the program's Milestone C until February 2010. The OIPT took this action to allow the Army time to resolve contracting delays, interoperability issues with future WIN-T radio systems, and to prepare a plan to improve reliability and performance deficiencies identified during the WIN-T Increment 2 LUT. The OIPT developed WIN-T Increment 2 reliability and performance goals that were sufficient to assure confidence that the Army could meet its requirements at IOT&E.
- From December 2009 through July 2010, the Army executed a series of risk reduction developmental testing events to improve WIN-T Increment 2 reliability and performance. Risk reduction developmental testing events 1 - 3 were conducted at the contractor's facility in Massachusetts. Risk reduction developmental testing event 4 was conducted at Aberdeen Proving Ground, Maryland, and included on-the-move operations with fielded Army command and control systems.
- The WIN-T Increment 2 risk reduction developmental tests were limited in scope and environment due to the following:
 - The network was significantly smaller than the 2009 WIN-T Increment 2 LUT.
 - Field Service Engineers operated and maintained the WIN-T assemblages.
 - Some non-production-representative systems used commercial air conditioners and generators.
 - Message traffic was simulated and did not represent the traffic of a fielded network.
 - Test events were conducted as scripted engineering technical tests.
 - Commercial power was used to a far greater extent than actual field operations.
- On February 2, 2010, the Defense Acquisition Executive (DAE) chaired the WIN-T Increment 2 DAB to review the Army's request for Milestone C approval. The resulting March 9, 2010, ADM approved LRIP of 160 communications nodes and directed the Army to improve reliability and performance deficiencies to meet DAB goals. The ADM established a future In Progress Review (IPR) of reliability and performance improvements, and to decide whether to procure the remaining 240 LRIP communications nodes.
- On September 3, 2010, the DAE published an ADM that approved the remaining LRIP and recognized that WIN-T Increment 2 met limited performance goals, but did not meet its reliability goals in the risk reduction developmental test events. The ADM directed the Army to continue its work on reliability and performance, and to report the results to the OIPT Chair, DOT&E and the DDT&E.
- The program has executed a plan to fix, test and verify closure of the 16 identified WIN-T Increment 2 failure modes to

improve reliability per the ADM. The program reports its progress monthly and maintains a goal to complete this action by January 2011.

Assessment

- The DOT&E WIN-T Increment 2 Operational Assessment, dated January 14, 2010, assessed results from the WIN-T Increment 2 LUT as supportive of voice, video, and data communications. However, the network needs improvement in the following areas:
 - Reliability
 - Ability to support on the move communications
 - Training provided to Soldiers due to complexity of the system
 - Speed of communications due to network routing
 - Network Operations Management
 - Information Assurance
- The risk reduction developmental testing events revealed the following:
 - WIN-T Increment 2 did not demonstrate sufficient improvement to meet reliability goals.
 - WIN-T Increment 2 met performance goals under the limited test environment.
- The network requires improvements in reliability and performance to meet the demanding environment of combat operations.
- The Army needs to develop and approve requirements documents for WIN-T Increment 1b and Increment 3 to support planning for operational tests in FY12-13.
- The Army needs to complete the Milestone C update of the WIN-T Increment 2 Test and Evaluation Master Plan (TEMP) to support IOT&E and needs to develop a WIN-T Increment 3 TEMP.

Recommendations

- Status of Previous Recommendations. The Army is addressing all previous recommendations.
- FY10 Recommendations. The Army should:
 1. Correct all deficiencies identified during the WIN-T Increment 2 LUT. This plan should include improvements in performance and a reliability growth plan for all configuration items.
 2. Assure that sufficient resources including test units, configuration items, and training areas for full spectrum, on-the-move operations are allocated for future operational test events to satisfy WIN-T's theater and below network requirements.
 3. Complete requirements documents for Increment 1b and Increment 3, update the Increment 2 TEMP, and develop an Increment 3 TEMP.