Operational Test - Tactical Engagement System (OT-TES)

OT-TES Communications Upgrade (CU) will replace the existing test communications network at Fort Hood, TX, which is becoming obsolete. OT-TES CU includes the instrumentation to provide operational testing in a force-on-force Real-Time Casualty Assessment (RTCA) environment for new and emerging weapons systems. The IP-Based Multi-Layer Auto-Adaptive Hybrid Communications Architecture (built on Argon ST's HyNet™) brings profound improvement to live test and training.

OT-TES CU HIGHLIGHTS:

- The first modern adaptive hybrid network including on-demand Mobile Ad-Hoc Network (MANET) peer-to-peer multi-hop connectivity, dynamic resource assignment, full-time frequency plane exploitation, and hybrid Media Access Control (MAC) layer for multiple Quality of Service (QOS) profiles for instrumentation.

- Employs a spectrally efficient narrow-band Orthogonal Frequency Division Multiplexing (OFDM) robust waveform which is highly efficient, highly selective, and able to coexist with tactical radio systems such as SINCGARS, UHF SATCOM, EPLRS, and the new Soldier Radio, is resistant to multi-path interference up to 50 micro-seconds and can operate at transceiver speeds up to 500 knots.

- Scales to 5000 Player Units to enable large force-on-force exercises.


OT-TES - Wearable & Vehicular Radio

- IPv6 (and/or IPv4) network carries all types of digital traffic from multiple applications with multiple Types of Service (TOS) simultaneously, rather than requiring a new data link (and corresponding spectrum allocation) for every new application. This IP networking supports GeoCast, MultiCast, UniCast, and BroadCast capability.

- Radio Independent. While OT-TES CU does include a high performing radio, the network architecture is designed for flexibility to incorporate evolving and alternate radio technology.


KOV-37 OT-TES - Secure Communications Processor

- Secure Mode. The OT-TES CU will offer a test communications capability, designed with NSA Certification in mind. ArgonST will introduce Secure Communications Processor (SCP) KOV-37, a high-performance encryptor enabling the testing and training community to customize scenarios for their exercises with secure results. The encryption is modular and separated from the radio to facilitate ease of future radio upgrades and it will be submitted for NSA Certification testing.

OT-TES CU FUNCTIONALITY:

- Simulates all new and emerging weapon systems and provides a radio independent, capacity expandable, mobile system capable of conducting operational tests at any test or training range.

- Provides high-fidelity data in a force-on-force RTCA environment. No data is lost because the OT-TES CU incorporates a Store and Forward Capability: data for out-of-range engagements are Stored and then Forwarded when the out-of-range player unit is back in range.

- Current GPS provides an adjustable Time-Space Position Information (TSPI) reporting frequency rate with a TSPI accuracy of: • Horizontal: <3 meters (50% CEP) and <8 meters (90% CEP) • Vertical: <5 meters (50% CEP) and <16 meters (90% CEP)

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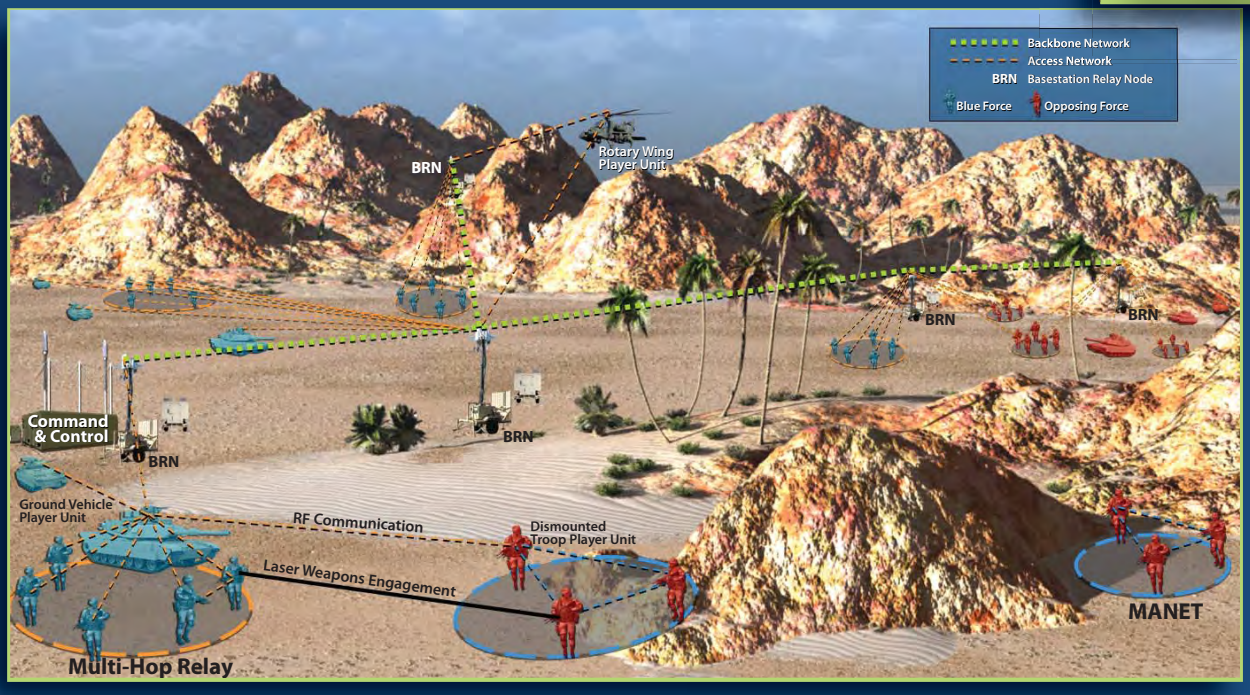
Operational Test - Tactical Engagement System (OT-TES)

OT-TES CU FUNCTIONALITY (continued):

- Provides quality test data using classified weapon system parameters and interoperates within a Live Virtual and Constructive-Integrated Architecture to support Army and Joint operational testing.
- Employs an automatic and adaptive Time Domain Multiple Access (TDMA) access to the network and backbone for high capacity and scalability.
- Standard Application Programming Interfaces (APIs) provide an open architecture to enable effective operation between key subsystems including the instrumentation, the radio, the application software, etc.
- Access Network (current contracted radio): 200 KHz or 500 KHz channels on 4 Bands: 225-380 MHz, 560-698 MHz,1350-1390 MHz, 1755-1850 MHz. The quad-band transceiver targets narrow channels in four multiple frequency bands which provide agile frequency, time and data rates.
- Dismount Body-Worn Omni-Directional Antenna. The "transparent" dismounted troop kit modifies tactical body armor by embedding the first textile (conformal) antenna used in instrumentation systems capable of operating at frequencies ranges from 225 MHz to 1.8 GHz.
- The wearable radio comes in a compact form designed to maximize battery life (10-12 hours on a single battery).


Fully collapsed Antenna Mast Assembly


Basestation Relay Node



OT-TES Communications Upgrade Concept of Operations

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