



Future Army System of Integrated Targets (FASIT) Working Group



***PM TRADE
Target Modernization***

1 December 2010



Target Modernization



Total Ownership Cost Management through Standardization
Revitalization of Existing Ranges and Equipment through Innovation
Improve Training through Enhanced Realism



FASIT

- BLUF: Standardization
 - Performance Specification
 - Interface Controls
 - Vender Agnostic
 - Black Box Approach
 - Plug-n-Play
 - Everything in the Target Pit
- Legacy Software Adapters



TECHNOLOGY

- BLUF: Target Realism Enhancements
 - Non-Contact Hit Sensors
 - Standard Armor Silhouettes
 - Combat Identification Enablers
 - Thermal Realism
 - Fuel Cell Integration
- DSL Over Legacy Copper Modernization

TRACR

- BLUF: Common Control
 - LT2/CTIA
 - Implements FASIT
 - Common Look and Feel
 - TC 25-8 Ranges
 - Maneuver
 - Lane based
- 92+ Ranges/30+ Installations

"Training then - both good and bad - is habit forming. The difference is that one develops the battlefield habits that win; the other gets you killed."



Agenda



- Introductions
- Updates to Audio Requirements
- FASIT and ATS II Deltas
- Other FASIT Concerns
- FASIT.PD.ICD v.2
- Information Assurance (IA)
- Future FASIT Working Groups
- Feedback / Discussion



Introductions



PM TRADE Target Modernization Team

James Todd – *Lead Systems Engineer/Project Director*

Michelle Garcia – *Systems/Project Engineer*

Thomas Kehr – *Systems/Project Engineer*

Jim Styerwalt – *Support Contractor/Technical Support*



Opening Remarks



The desire is for open communication, with goal of improvement to the FASIT standards

Nothing stated in this meeting constitutes a change to any contract

BLUF: One target standard/solution for all Army live training ranges



Updates to Audio Requirements

Michelle Garcia

Systems/Project Engineer

1 December 2010



FASIT Audio Goals



- Provide realistic and representative sounds for training to the individual soldier
- Provide an ease of operation and sustainment to the range operators
- Provide a reliable system



Concerns/Issues



- Centralized Operation
 - TRACR use on RF ranges requires a translator
 - Audio streaming (i.e. PA system) capability combined with decentralized operation
- ✓ Remove centralized streaming playback and PA requirements
 - Focus on decentralized (device) storage of sounds
 - Create standard library



Concerns/Issues



- Audio Output Quality
 - Output levels format (X dB at 1 W 1 meter)
 - Requires use of a large amplifier and several large hi-efficiency speakers
- ✓ Use industry standard terms and parameters to specify the output levels
- ? Reduce audio output quality requirements
 - Training realism vs. cost and power efficiency



Concerns/Issues



- Submersion (IP67)
 - Leads to the use of horn type speakers
 - Requires fully weatherproof speakers
- ✓ Reduce environmental requirements
 - Minimum speaker and amplifier rating of IP55



Concerns/Issues



- Sound Quality
 - Unspecified number of channels
 - Unspecified minimum quality of file formats
 - Unspecified if playback of both stereo and mono files is required
- ✓ Specify sound quality parameters
 - Maximum of four (4) channels
 - Minimum 32 kHz sampling rate
 - Mono files



Concerns/Issues



- Angle of Dispersion
 - Maximum of 90° is unnecessarily limiting
- ✓ Remove maximum angle of dispersion
 - Must still support 90° angle of dispersion



Concerns/Issues



- Sound Downloads
 - Remote downloading challenges
 - HW Ethernet
 - RF
- ? Remove remote downloading of sounds
 - Must balance ease of operation and sustainment with implementation challenges



Path Forward



- Industry:
 - Review the changes
 - Assess as to whether the concerns were addressed accordingly
 - Provide feedback to continue the maturation of the FASIT Specifications
- Government
 - Analyze and incorporate feedback
 - Republish Audio Requirement
 - Decision point on Acquisition Strategy



FASIT Requirements

Thomas Kehr

Systems/Project Engineer

1 December 2010



FASIT and ATS II Deltas



- Greatest Concerns to Industry
 - Submersion Requirements
 - Non-FASIT Connections
 - Hand-Held Controller (HHC)
 - Power Requirements
 - Communication Protocols
 - Sliding Trays



Submersion Requirements



- Hand-Held Device
 - High cost of IP67 devices larger than PDA size
- Audio Devices
 - Marine Speakers vs. Horn Design
 - Loss of Fidelity
 - Ventilation vs. Water-tight Tradeoffs
- Solution – Revisit requirements



Non-FASIT Connections



- Battlefield Effects Simulator
 - ATKS Connection
- BES devices should be controlled via the network and not as subordinate device
 - Applies to SES and other range effects
- Solution – Change requirement driving an additional connector on PD



Hand Held Controller



- Full or Client version of TRACR
- Indirect RF link to tower and direct link to target
 - Communication latency?
 - Unique protocol for indirect RF link?
- Solution – Either depending on mode.
Only links to tower; no direct link to target



Power Requirements



- Dual (AC and DC) powered devices
 - Allow simultaneous use of both voltages
 - Move to single power requirement
- Solution – Goal was to only support one, and if needed have conversion external to PD/device.



Communication Networks



- Serial
- RF (VHF/UHF)
- Ethernet (WiFi)
- Product design complicated by having to support each interface

- Solution – Movement toward LT2 common player unit radio
 - Interim solution is to develop streamline FASIT protocol and let vendors solve RF



Sliding Trays



- Do we leave this up to the vendors installing the targets?
- Do we implement this on a use-case basis?
- Solution – Revisit requirements



FASIT Concerns



- Incomplete/Draft ICDs
- RF Solution
- TRACR Updates



Incomplete/DRAFT ICDs



- Device development based on best estimates
 - Inconsistent language
 - Draft status
 - Tech gaps
- Significant derivation from current ICDs will significantly drive costs and cause delays in production



FASIT RF Solution



- WiMax
 - Concerns over spectrum management
 - High Initial Costs
- Handle RF within the target lifter
 - Leave solution up to vendor
 - Govt Specified frequency
- Reduced Protocol and TCP message set
 - Low-Bandwidth ICD



TRACR Updates



- How do vendors give input to TRACR updates?
 - LT2 Portal
 - Working Groups
- PD ICD V2.0
 - Applets for vendor-unique function calls
 - Allows unique target distinction

- FASIT PD ICD Update
 - By end of January 2011
- Publish for comments
- PD ICD v.2 to be re-published
 - March 2011
- PD ICD V2.0 into TRACR
 - June 2011
- PD ICD V2.0 as Standard
 - October 2011



Information Assurance (IA)



- TRACR Reaccreditation
 - Windows 7
 - April 2011 timeframe
- May be working toward Platform IT (PIT)
 - Less oversight than SATO
 - In house annual CIO approval vice G6 approval
- Commoditize TRACR Computer
 - Government requires fully “STIG’ed” PC’s
 - TDP package upload to SRP or LT2 Portal



Future Working Groups



- FASIT Working Groups with Industry to be held during each:
 - I/ITSEC
 - Training Support System Workshop (TSS)
 - Additional (rotating sites) as beneficial
- Purpose of this is to guarantee industry participation and provide more frequent updates to the standard.



Wrap-up



- Need to publish path forward for Audio Devices
- Need to publish a path forward for TRACR control system
 - Information Assurance
 - Central storage of range data
- Need to plan/execute a training schema for TRACR