Test and Evaluation of System-of-Systems

MG Genaro Dellarocco
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ATEC Mission

Plan, conduct, and report the results of tests, simulations, experiments, and evaluations to decision makers in order to ensure our Army’s Warfighters have the right capabilities for success across the entire spectrum of operations.

Conduct rapid testing in direct support of the OCO Warfighter in order to provide capabilities and limitations of untested weapon systems issued directly to Soldiers conducting combat operations.
ATEC Reorganization: Phases I & II Consolidation

ATEC: Yesterday

- CG/Staff / SES
- OTC / SES
- AEC / SES
- ATC
- DPG
- EPG
- RTC
- WSMR / SES
- YPG

Completed Actions
- O-7 assumed responsibility of WSMR
- O-7 assumed responsibility of OTC at Ft. Hood
- O-7 assumed responsibility of AEC at APG
- Merger of EPG and IEWTD - anticipate 20% overhead savings
- Dis-establish DTC
- Support to NIE 11.2, 12.1

ATEC: Today

- CG/Staff / SES
- OTC / SES
- AEC / SES
- ATC
- DPG
- EPG
- RTC
- WSMR / SES
- YPG

Pending Actions
- SES authorization move to Redstone Arsenal
- Create BMD OTA by attaching RTC and BMDS Directorate to SES at RSA
- Support to BMC/NIE 12.2, 13.1 & Following

AEC: Army Evaluation Center
ATC: Aberdeen Test Center
ATEC: Army Test & Evaluation Command
BMC: Brigade Modernization Command
BMD OTA: Ballistic Missile Defense Operational Test Agency
CRTC: Cold Regions Test Centers
DPG: Dugway Proving Ground
DTC: Developmental Test Command
EPG: Electronic Proving Ground
IEWTD: Intelligence Electronic Warfare Test Directorate
NIE: Network Integration Evaluation
OTA: Operational Test Agency
OTC: Operational Test Command
RTC: Redstone Test Center
TRTC: Tropical Regions Test Center
WDTC: West Desert Test Center
WSMR: White Sands Missile Range
WSTC: White Sands Test Center
YPG: Yuma Proving Ground
YTC: Yuma Test Center
**Definition**

**System(s) of Systems**: a set or arrangement of systems that results when independent and useful systems are integrated into a larger system that delivers unique capabilities

* DoD Defense Acquisition Guidebook (DAG) [2008]
ATEC & NIE

Cooperative Effort:
Brigade Modernization Command
Director System of Systems Integration
Army Test and Evaluation Command

Network Evaluation TRIAD

Test Lead

Analysis Lead

Critical Support and Infrastructure
Network Integration Evaluation (NIE)

What is the NIE?
... a series of semi-annual evaluations designed to integrate and mature the Army’s tactical network by placing a large number of emerging systems with Soldiers in operational scenarios.

What will NIE allow us to do? – Demonstrate Interoperability Early
... develop a single battlefield network able to push information to our Soldiers and link them to command posts, vehicles on-the-move and higher headquarters.

It’s a new way of doing business –
a fundamental change in how we deliver capabilities to our Soldiers
12.1 NIE Network Architecture

1-1 CAV (left side) depicts the Bridge Network as found in 1-1 CAV, 2-1AD.
- WIN-T
- ANW2
- SRW CC

1-35 AR (right side) depicts the Objective Network as found in 1-35 AR, 2-1 AD.
- WIN-T
- WNW
- SRW CC
Report Writing Efficiency

Pre-NIE

45 days

NIE 11.2

21 days

NIE 12.1

14 days
Onward to NIE 12.2!
Backups
Efficiencies Through Automation

Plan
- Tools accessible via the web to:
  - Track system information and timelines
  - Develop a Mission-Based Test & Evaluation System Evaluation Plan
  - Identify required test event data

Test
- Execute surveys and interviews using web accessible forms via handheld tablets
- Visualization tools to analyze test data faster
- Networks to transmit test data back to non-deployed analysts

Report
- Report development tool (leveraging information from other tools using metadata tags)
- MS SharePoint Workflows for reviewing and approving reports

Store
- Online storage repositories for:
  - Test Data
  - Safety Reports and Confirmations
  - Evaluation Reports

• Reduce Reporting Timelines
• Increase Distributed Team Collaboration
• Maximize Technology in Analysis
Working Toward Paperless

27 Paper Reports for Signature

46 Electronic Reports; 1 Classified Report for Signature
Aerostats On Today’s Battlefield

Persistent Threat Detection System (PTDS)

Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS)

Mako
### NIE – Schedule

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- **2/1 AD Bde @ Ft Bliss test unit**
- **50 systems in 12.1 event**
- **Systems-of-Systems Focus**
- **Critical look at DOT MLPF**

**ATEC Responsible for Materiel Evaluations**