

Joint Time Sensitive Targeting (TST) Experimentation

Jim Dear

703-983-7601 • jdear@mitre.org

Army-Contract MOIE

The logo for the MITRE Technology Program, featuring a stylized graphic of stacked blocks in yellow, orange, and blue to the left of the text.

MITRE
Technology
Program

Joint TST Experimentation

Project Leader: Jim Dear

Project Team: Army (CECOM-12WD and CTSF)

Navy(Strike Cell
NAVAIR/ONR

USAF(SWIFT/AFRL)

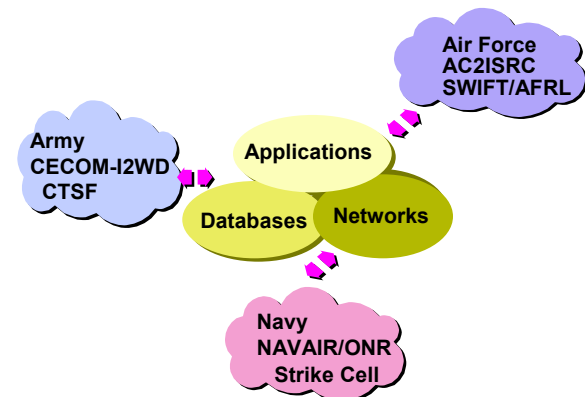
Sponsor POC: OUSD AT&L

Objectives

- Demonstrate Inter-Service interoperability in TST through intra-MITRE and inter-service experimentation
- Examine and demonstrate technologies that will enhance interoperability
- Delineate Interoperability issues for OSD

Planned Activities

- Develop Joint TST Experiment Plan
- Examine technical and operational interfaces during experiments
- Identify possible interoperability problems
- Recommend/insert selected technologies
- Evolve CONOPS
- **MITRE** Recommend programmatic solutions



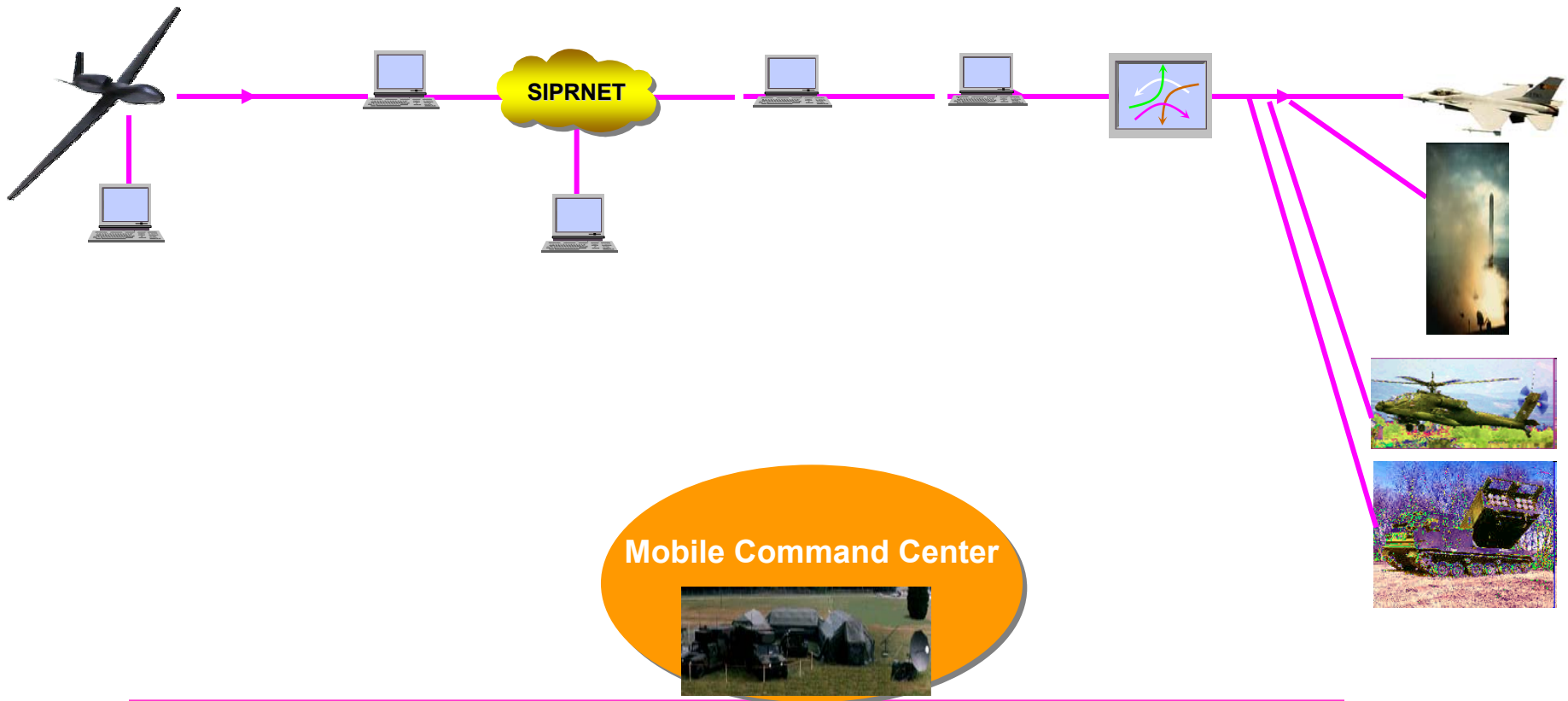
OUSD AT&L Role

- Sponsorship: Dr. V. Garber, Director for System Integration
 - FY02 sponsorship initiated 21 November 2001
 - Sponsorship extended to FY03 on 3 July 2002
- Sponsor objectives:
 - Consider Joint TST Project as experimental arm of TST Working Group
 - Closely observe progress of experiments
 - Provide ongoing guidance (from DSB) on goals and objectives
 - Note key interoperability issues derived from experiments
 - Relate issues to problem of system acquisition
 - Review project reports for possible joint acquisition guidance for TST
 - Support Joint Air and Missile Defense Attack Operations and Joint Staff PE Task Force*

2020 Precision Engagement Ops Concept

- Definition: “...ability to locate, surveil, discern and track targets...select, organize and use correct systems...generate desired effects...assess results...reengage with decisive speed”
- Doctrine: “The distributed nature of future operations and associated decentralized execution require an innovative approach to battle space control measures-an approach that focuses on synchronization, vice deconfliction.”
- Future Joint Targeting Cycle: “...less sequential and more concurrent...connectivity and consistent relevant information should produce targeting system capable of rapid response”
- Targeting Staff: “...broad-based and collaborative...using consistent, coherent and focused target information.”

Time Sensitive Targeting (TST) Functional Flow



SIMEX Overview

- Sensor and Weapons simulations with operators and targeting/mission planning tools in the loop
- Incorporates CENTCOM ROEs and TST Scenarios
- Nine SIMEXs conducted to date
- SIMEXs used to:
 - Test and evaluate systems and system interfaces
 - Provide feedback to developers
 - Refine TST procedures and CONOPS
 - Measure sensor to shooter timelines
 - Address interoperability issues
 - Evolve virtual TST Cell Concept and Capability

SIMEX Application to DSB Areas

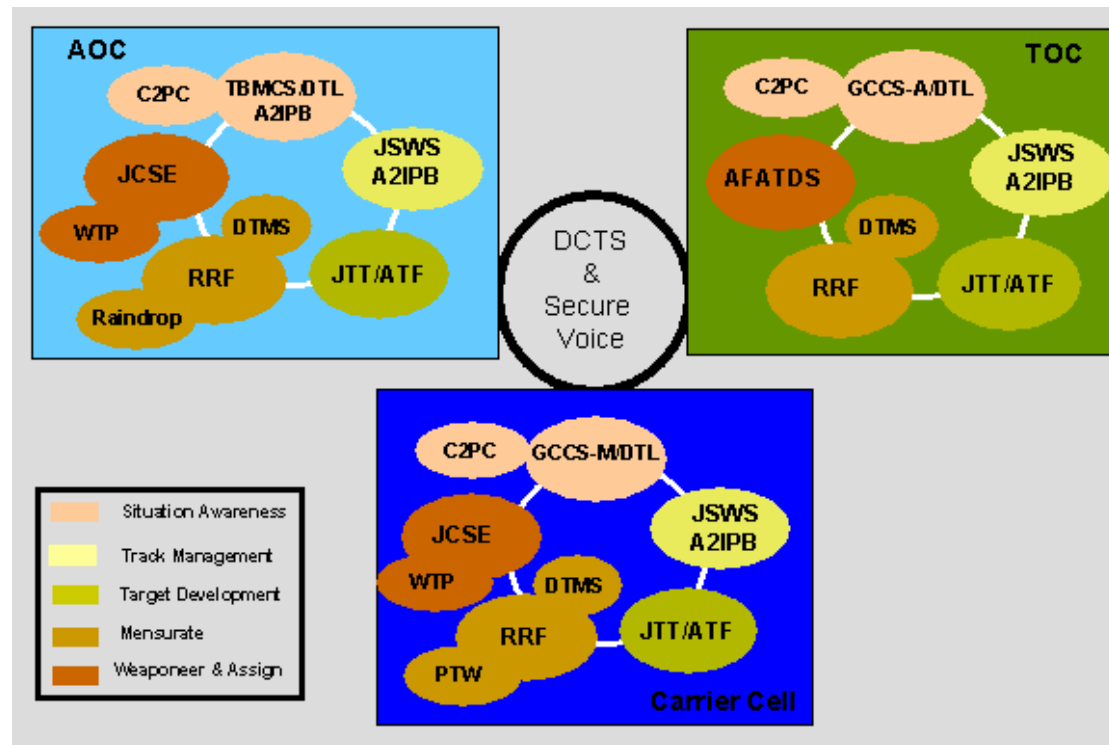
- Optimize DPPDB resources
 - DSB identified requirement to increase production and distribution of DPPDB to support field users
 - SIMEX working with web-based system to provide DPPDB via web, eliminating production, dissemination, and local storage needs
- Evaluate close-in sensing technologies
 - Experimentation with SRC program and SRC sensors is improving ability of real-time sensors to reflect battlefield environment and impact the TST process
 - Improves management and prioritization of scarce tactical UAV resources

SIMEX Application to DSB Areas (continued)

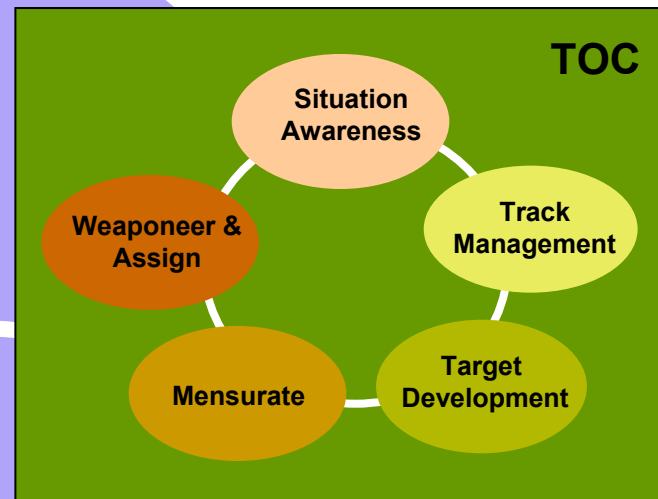
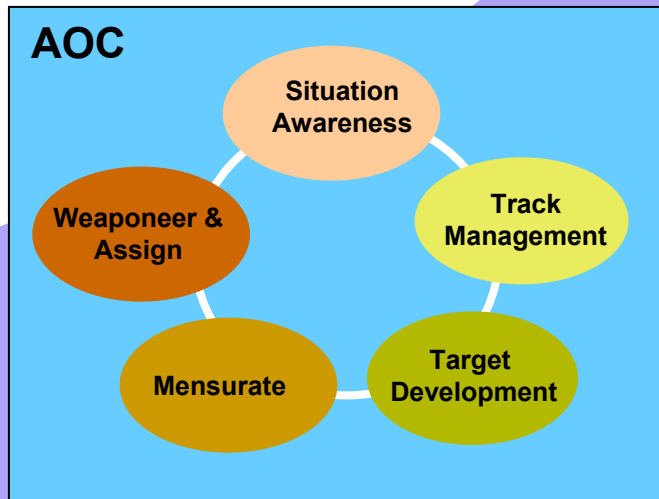
- Improve fusion and exploitation of GMTI
 - Experimentation focuses on improving accuracy of GMTI ground picture and track reporting
 - Three GMTI platforms modeled
 - Areas of investigation include:
 - Track reports, via TWS, being posted to COP
 - Representation of tracks from multiple systems and multiple nodes
 - Reconciliation of track naming conventions
 - Improved Track Correlation

SIMEX Application to DSB Areas (concluded)

- Enhance integration/fusion of TST information
 - DSB objective is to improve overall speed and efficiency of TST operations from sensor tasking to targeting dissemination
 - SIMEX is developing joint, integrated TST architecture to improve TST TPED in context of joint operations



Draft Block 1 Distributed TST Functional Architecture

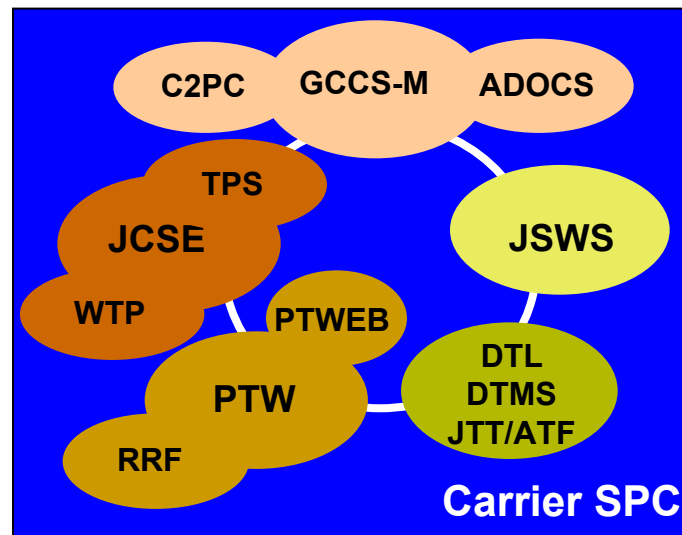
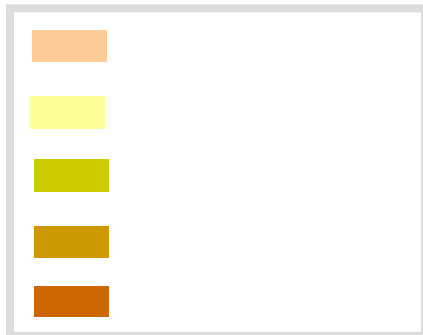
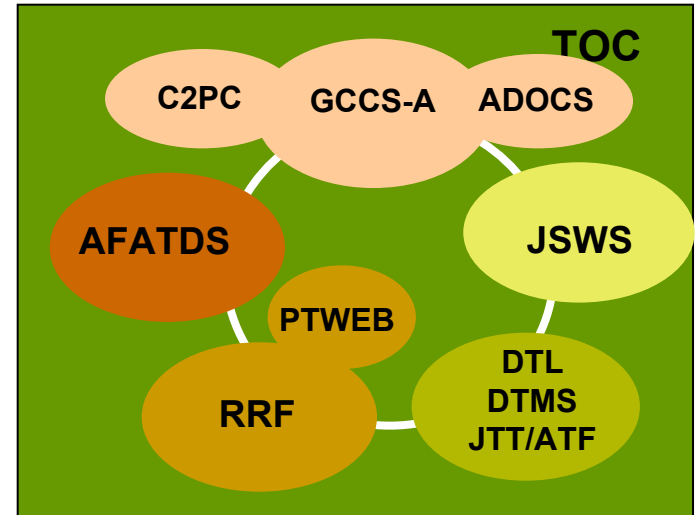
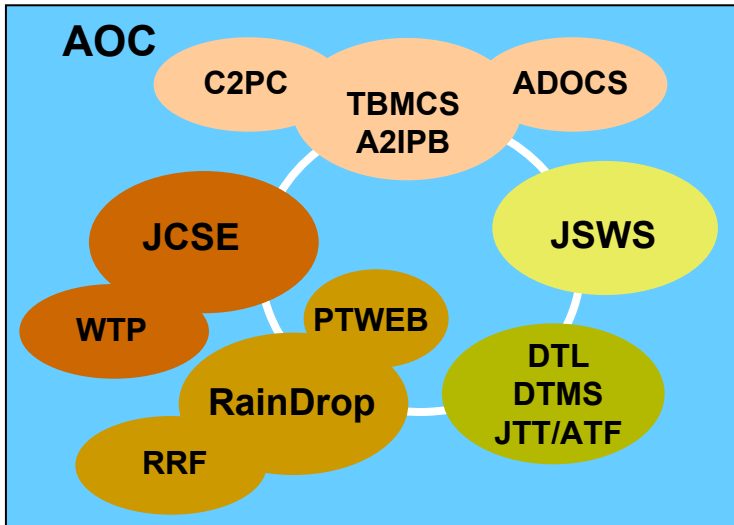


Collaboration



**CINC/Contingency
Driven CONOPS**

Block 1 Distributed TST Systems System of Systems (High Level)



Evolution to SIMEX 10

- Continue to evaluate Distributed Virtual TST Cell concept
- Different operations area to obtain better imagery coverage
- Collaborating with AFRL to integrate JSF simulation and human behavior model
 - AFRL sees SIMEXs as model validation help
 - Collaboration may allow fuller problem space exploration
- Examine StrikeNet/Cursor on Target Capability
- Simulate BCIS for Blue Force Tracking
- Planning to better integrate ISR-Warrior
- Coordination with JPSD (ADOCS for SIMEX 11)
- Two new Labs
 - CTSF Ft. Hood, TX
 - AFRL Fusion Laboratory Rome, NY

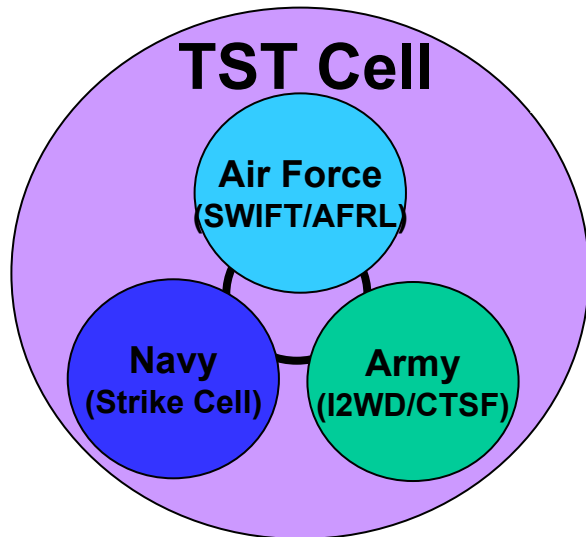
SIMEX 9/10 CONOPS (TST Cell/JFACC Relationships)

- TST Cell part of, but only partially collocated with, JAOC

Collection Request
Targeting Recommendations
Sensitive Targeting Approval
SOF Deconfliction

SOLE

JFACC/JAOC



ISR Assets

- Global Hawk
- Hairy Buffalo
- JSTARS
- SOF Teams and Sensor
- ELINT
- Tactical/National Imagery

Proposed Joint TST Experimental Network (JTEN)

- OUSD AT&L provides policy oversight of the Joint TST Experimental Network (JTEN)
- Evolve partnership between OUSD AT&L, Joint Organization (JFCOM) and JDEP
- JDEP provides technical support for maintaining/evolving the JTEN infrastructure
- JFCOM becomes the operational sponsor and primary user of JTEN
- Joint TST System description evolves from the JTEN experiments and Virtual TST Cell concept
- JFCOM acts as executive agent for acquiring and implementing Joint Virtual TST Cell capabilities