



Distributed Testing and the "Transforming" T&E Culture

**DOT&E, Systems and Test Resources
Mike Crisp, Deputy Director**

**ATEC Test Technology Symposium '03
Las Vegas, Nevada
26 June 2003**



OSD On Transforming T&E Capabilities



- “. . . we are requiring that a joint operational concept be fashioned that will then be used to test proposals from the various Services to see to the extent to which they can be rationalized and harmonized to fit within a joint operation concept.”

The Honorable Donald Rumsfeld
Secretary of Defense

- “The future T&E infrastructure should comprise a comprehensive suite of joint, interoperable capabilities that provide a spectrum of full and realistic opportunities to test new technologies, improved platforms, and innovative tactics and training methods.”

The Honorable Thomas P. Christie
Director, Operational Test and Evaluation



About DOT&E

- **The Director, Operational Test & Evaluation (DOT&E) is the principal staff assistant and senior advisor to the Secretary of Defense on operational test and evaluation (OT&E) in the Department of Defense.**

Main responsibilities:

- **Issuing DoD OT&E policy and procedures;**
- **Reviewing and analyzing the results of OT&E conducted for each major DoD acquisition program;**
- **Providing independent assessments to SecDef, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)), and Congress making budgetary and financial recommendations to the SecDef regarding OT&E;**
- **Oversight to ensure OT&E for major DoD acquisition programs is adequate to confirm operational effectiveness, survivability and lethality of the defense system in combat use.**



The Director's T&E Goals



- **Rigorous, robust testing that is adequate by any standard, focused on military missions and mission accomplishment and total life-cycle suitability.**
- ***A test infrastructure that can execute adequate testing in time to meet a program's reasonable schedule.***
- **Accurate, objective, evaluation reports to support acquisition decisions.**



T&E Transformation "Drivers"



Transformation Planning Guidance

**T&E
Transformation**

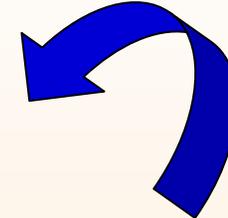
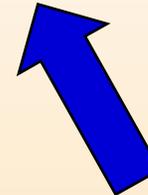
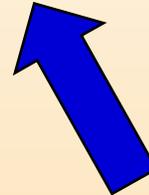
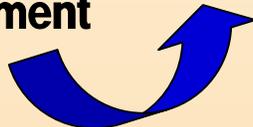
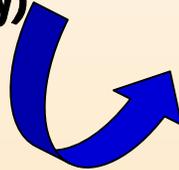
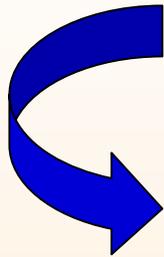
JointTEC (Joint Test & Evaluation Capability)

Joint Test and Training

Joint National Training Capability

DTRMC - DoD Test Resource Management Center

DOT&E/JFCOM MOA



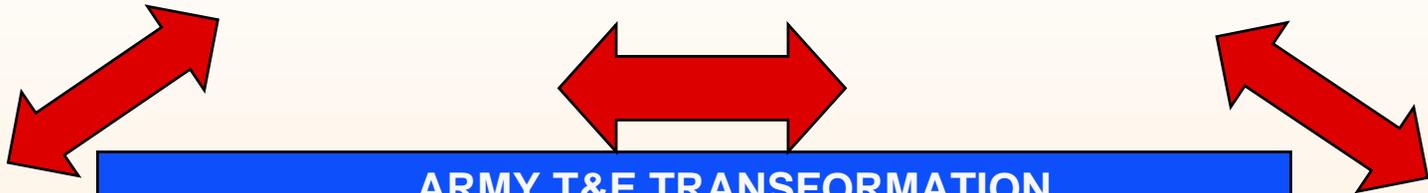


Army T&E Transformation and "T&E Transformation Drivers"



T&E Investments

T&E Policy



ARMY T&E TRANSFORMATION

Army T&E Objectives - Develop advanced automated test data collection capabilities, and analytical and evaluation tools and methodologies.

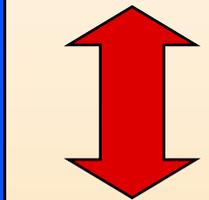
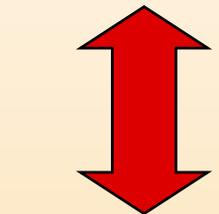
The 21st Century Range - The capabilities that will comprise the FCS, will be a distributed force, thus requiring a distributed test infrastructure to test these capabilities.

Invest in the 11 Army Test Technology Areas – Optical and Electronic Imaging, Telemetry, Target and Threat Rep., Networks/Test Data Management, Performance Instrumentation, M&S, Mobile Range Operations, Natural and Induced Environments, Sensor Simulation/Stimulation, Directed Energy Technologies.

Army Test Technology Roadmaps - Specific T&E modernization programs designed to help develop the T&E capabilities outlined in the 11 Army Test Technology Areas.

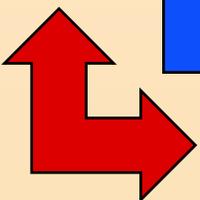
JointTec

Joint Test & Training



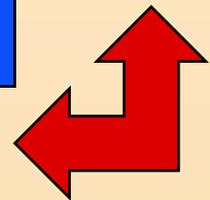
DTRMC

JNTC



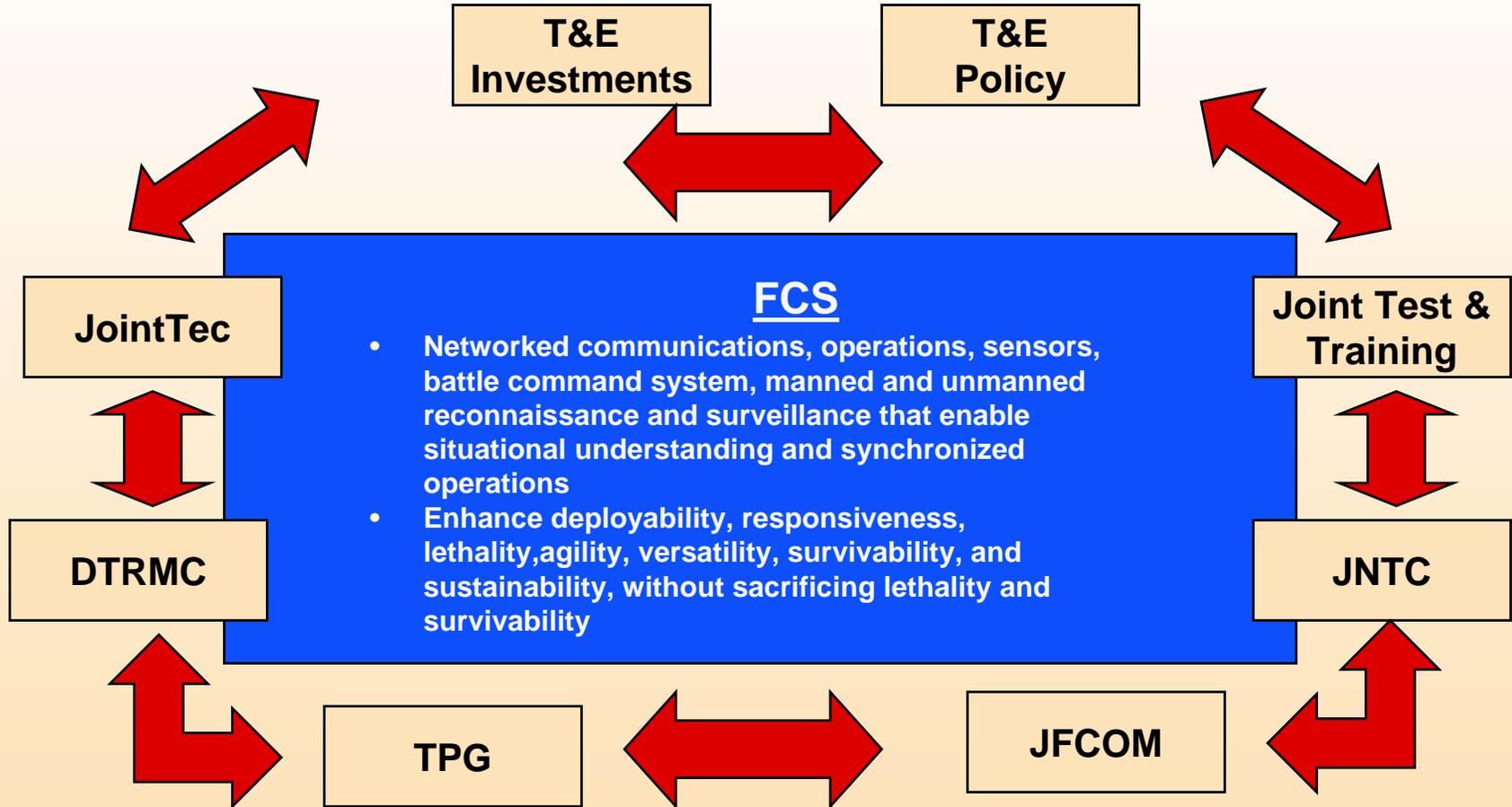
TPG

JFCOM





FCS and "T&E Transformation Drivers"





Distributed Test Systems Initiatives



- JDEP
- DREN
- SDREN
- JTEN
- ForceNet
- ReadyNet
- FCS SOSIL (System of Systems Integration Lab)

Persistent, 24/7, 99.7, SCI/Collateral, Distributed Joint Test and Training infrastructure with a common set of protocols, simulations, system representations, and mission environments.



Distributed Test Systems Issues



- **Distributed T&E investments need to be rationalized with T&E transformation drivers/efforts (TPG, Joint Test and Training, JNTC, JointTEC, JFCOM, DTRMC)**
- **Distributed Test networks compete with each other for limited resources, but are not always compatible**
- **Affordable bandwidth is not the issue, disparate management of networks is the issue**
- **OSD's role is to develop policies and investment strategies that create an environment that is conducive to the development of Distributed Test network characteristics that support transformation and Joint Test and Training**



Distributed Testing and Army Transformation - FCS



THE FCS TESTING CHALLENGE

- Support the development of a complex network of sensors, platforms, and command nodes linked by reliable, high bandwidth, and high-speed communications.
- Ability to conduct operations with Joint/Coalition assets in a SOS/FOS environment
- Embedded Instrumentation – Linking of Joint/Coalition data sets to provide Joint System of Systems look across the battlefield (Joint Solution)
- Implement spiral development approach – IOT&E for every spiral?



Distributed Testing and Army Transformation - FCS



THE FCS TRAINING CHALLENGE

- The FCS concept entails the creation of new units, under different organizational concepts, which have to be created, manned, and trained in order to capitalize on the technological capabilities of FCS
- Tactics, techniques, and procedures, have to be developed and refined in concert with the technical capabilities development
- How to integrate Legacy, Interim, and Objective Force training requirements



SUMMARY



- **Characteristics of Distributed Testing Must be Integrated, Both Vertically and Horizontally, With Other “Transformational” Efforts (i.e., JNCT, JointTEC, JT&E, ACTD, Joint Test and Training, DTRMC, JFCOM, etc.)**
- **Distributed Testing Assets/Requirements Must be Coordinated so as to Prevent Duplication and Stove-piping**
- **OSD is Responsible for Creating Policies and Investment Strategies that can Support “Transformation” Efforts Across the Joint T&E and Training Continuum**



Questions



BACK-UP SLIDES



DOT&E/S&TR Who We Are



Mission

To assure that DoD has the T&E infrastructure required to develop, test, and evaluate the war fighting systems needed to prevail in increasingly complex battlefield environments, S&TR provides:

- Policy and oversight for the DoD T&E infrastructure (people, processes, and facilities)
- Investment for new DoD joint T&E infrastructure
- Technical and resource information to assist DOT&E systems assessment



T&E Transformation Drivers - The TPG Force Transformation a Major Focus

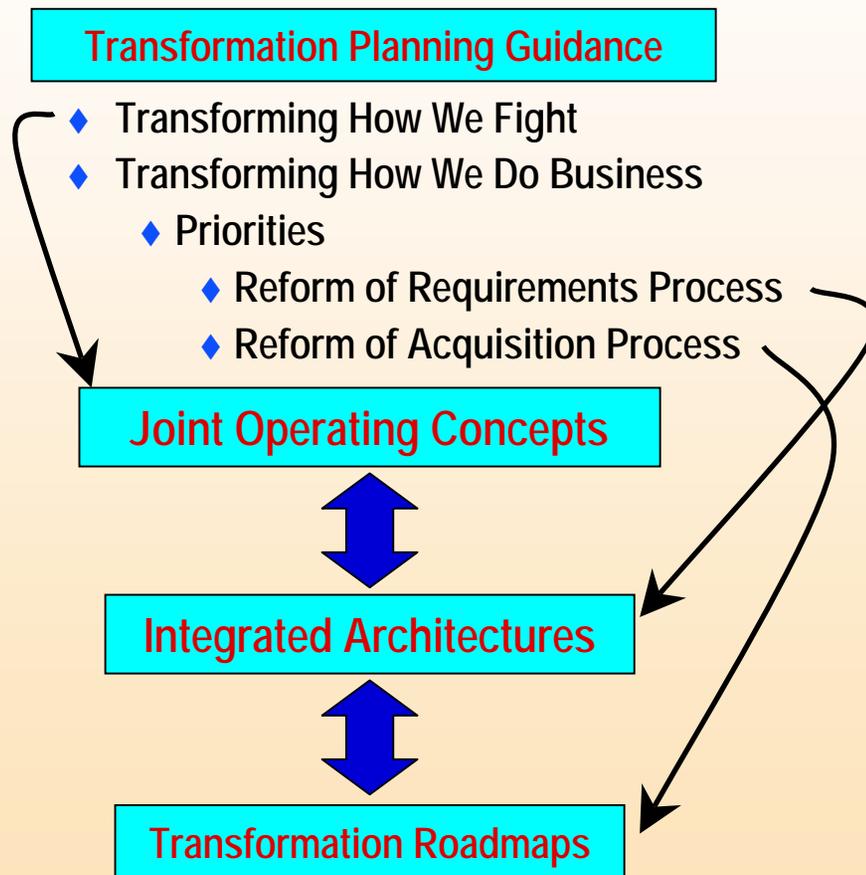


Joint Operating Concepts:

- New joint concepts will emerge from ongoing, iterative joint concept development and experimentation;
- CJCS is responsible for recommending how and whether these new concepts merit inclusion in approved joint operating concepts;
- Joint operating concepts will include identification of requisite supporting operations to which the Services, JFCOM, and the Combatant Commands will develop accompanying concepts.

Transformation Roadmaps:

- Services and JFCOM will submit transformation roadmaps NLT 1 November;
- Roadmaps will demonstrate how the Services and JFCOM intend to build the capabilities necessary for executing the joint operating concepts.





T&E Transformation Drivers Joint Test and Training



In the spirit of *Transformation* -

- **Service Secretaries, CJCS, JTF Combatant Commanders & OSD are developing plans to upgrade test and training resources and facilities to better enable:**
 - Interoperability testing
 - Joint Force Operations

- **Plans are being worked to address:**
 - Ensuring ranges and devices are modernized and sustainable
 - Interoperability is measured and reported
 - Acquisition and logistic procedures are being amended & integrated



T&E Transformation Drivers Joint TEC



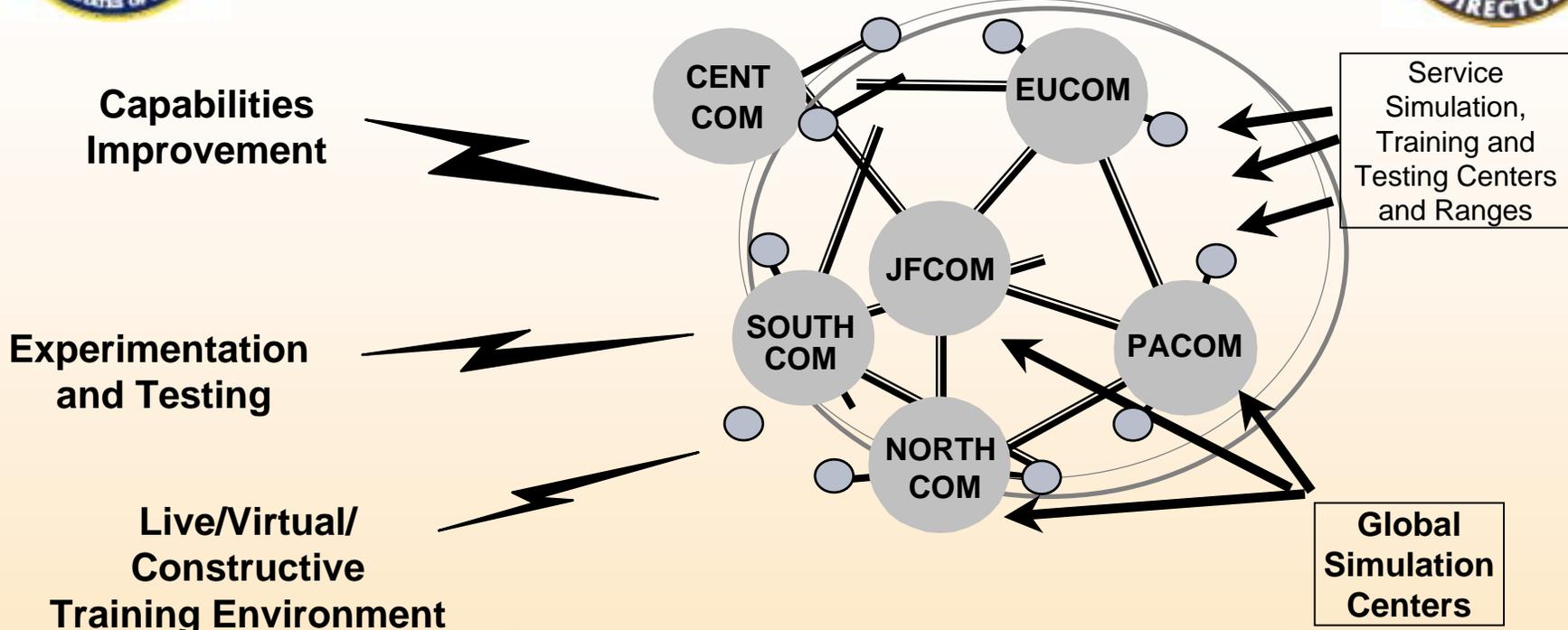
Scope of Joint TEC – Predecisional, issues still being worked out

- **Responsible for Leadership/Management to:**
 - » **Coordinate with OTAs to ensure joint OT&E is executed against integrated architectures in a realistic joint operational environment (applicable programs , e.g., JSF, FCS)**
 - » **Partner with OTAs and COCOMs to conduct assessments in accordance with DoDI 5000.2 paragraph 3.2.2 to verify that integrated architectures provide a viable application of warfighting capabilities**
 - **Prepare evaluation reports on adequacy of integrated architectures**
 - » **Promote update to policy documents (e.g., DoDI 5000.2) for joint OT&E**
 - » **Ensure TEMPs provide for adequate joint OT&E (applicable programs)**
 - » **Partner with USD(P&R), ASD(C3I), JFCOM and DISA to develop a persistent, robust, live, virtual and constructive (LVC) capability to generate the realistic joint operational environment that will enable adequate joint testing, training and experimentation**
 - » **Coordinate with JFCOM to foster opportunities for joint operational tests, JNTC training events and experimentation without adversely affecting training**



T&E Transformation Drivers

The Joint National Training Capability



JNTC Concept
 A global network of live, virtual and constructive components that provides a seamless training environment to support a broad spectrum of joint and Service training requirements



T&E Transformation Drivers The DTRMC (DoD Test Resource Management Center)



- **Established by Congress in FY03 Authorization Bill**
- **Defense field activity reporting to USD(AT&L) to certify adequacy of Services T&E investment budgets, draft 10-yr. strategic plan for T&E investment, unify T&E budget systems.**
- **Efforts on-going to stand-up organization before start of FY04**



T&E Transformation Drivers JFCOM and the JT&E Program



- **DOT&E/JFCOM MOA establishes JFCOM and DOT&E Partnership on JT&E:**
 - **DOT&E will support Joint Interoperability and Integration in leveraging JT&E as a potential solution provider and an assessment tool to document interoperability capabilities shortfalls, and to improve joint warfighting capabilities.**
 - **DOT&E will support communications between the Combatant Commanders, Services, and agencies to support USJFCOM and JT&E program goals and objectives.**
 - **DOT&E will assist with the transfer of legacy JT&E products to USJFCOM and regional combatant commanders, and function as the principal POC for transition.**



T&E Transformation Drivers JFCOM and Joint Test and Training



- **DOT&E/JFCOM MOA establishes JFCOM and DOT&E Partnership on Joint Test and Training:**
 - **DOT&E will coordinate all range (test and training) improvements needed to support joint training and experimentation.**
 - **DOT&E will identify and document requirements for test and training infrastructure and capabilities, and required investments, to provide increased capability to incorporate live, virtual, and constructive elements into joint exercises and experiments.**