

Headquarters U.S. Air Force

Integrity - Service - Excellence

PANEL DISCUSSION Software TRAs/TRLs SSTC 2010

**Year of the Air Force
Family**



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Panel Goals

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- **Define issues and concerns with the Technology Readiness Assessments / Technology Readiness Levels (TRAs/TRLs) as it applies to software**
 - **Develop recommendations for DDR&E to incorporate in policy and guidance to improve how software is addressed in the DoD TRA Deskbook**



Background

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- **1999 GAO Report: DoD programs at risk due to immature technologies**
 - **FY 2002 NDAA: DoD must identify programs entering systems development with immature technologies**
 - **Sep 04 SEI report for U.S. Army assessed feasibility of a TRA process for software comparable to TRLs**
 - **Major defense acquisition program require mature technologies (hardware and software) by Milestone B as demonstrated in a relevant environment**
 - **As required by**
 - **Title 10 U.S. Code, Section 2366b**
 - **DoDI 5000.02, December 2, 2008 (EMD Entrance Criteria)**
 - **OSD (AT&L) Directive Type Memorandum 4 Dec 09**
 - **DoD TRA Deskbook (Jul 09) provides guidance for assessing maturity of software CTE**



On-going TRA/TRL Work

- **Develop & Sustain Warfighting Systems initiative, Technology Development team (TD-1-12)**
 - **Air Force Smart Operations for the 21st Century (AFSO21) core process**
- **Two main TRA/TRL related products**
 - **Report on short- and long-term recommendations for clarifying guidance for software CTEs and TRAs**
 - **TRA course and computer-based training (AFIT)**



Air Force Perspective with software-intensive TRAs

- **Symptoms:**
 - IRTs “fail” to identify all software-based CTEs
 - IRTs assess software-based CTEs at higher TRL than DDR&E/DRD

- **Potential root cause sources:**
 - Determination/understanding of a relevant environment
 - Physical, logical, data, and security interfaces
 - Defining “full-scale, realistic problems” for TRL 6
 - What test results constitute demonstration of maturity in a relevant or operational environment?
 - Lack of balanced guidance and training for IRT members



Discussion ROEs

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- **Objective: document issues, experiences and recommendations for software-intensive TRAs/TRLs**
 - **Focus on DoD-wide problems and solutions; avoid focusing on individual, one-of-a-kind problems**
 - **Open discussion, brainstorming, etc. is encouraged but be respectful of those who are speaking so that they may be heard by everyone**
 - **All participants have the right to speak and be heard**