

Addressing the Infrastructure Needs for Cybersecurity T&E

Briefing for the 17th ITEA Engineering Workshop

and



Directed Energy T&E Workshop

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Agenda



- **Congressional direction**
- **Vision of the EA**
- **Near-term Activities to begin achievement of that vision**
 - Participation by the Services and Agencies
- **TRMC Increasing Capacity for Cyber T&E**



2015 NDAA requires Executive Agent (EA) for Cyber Test to:



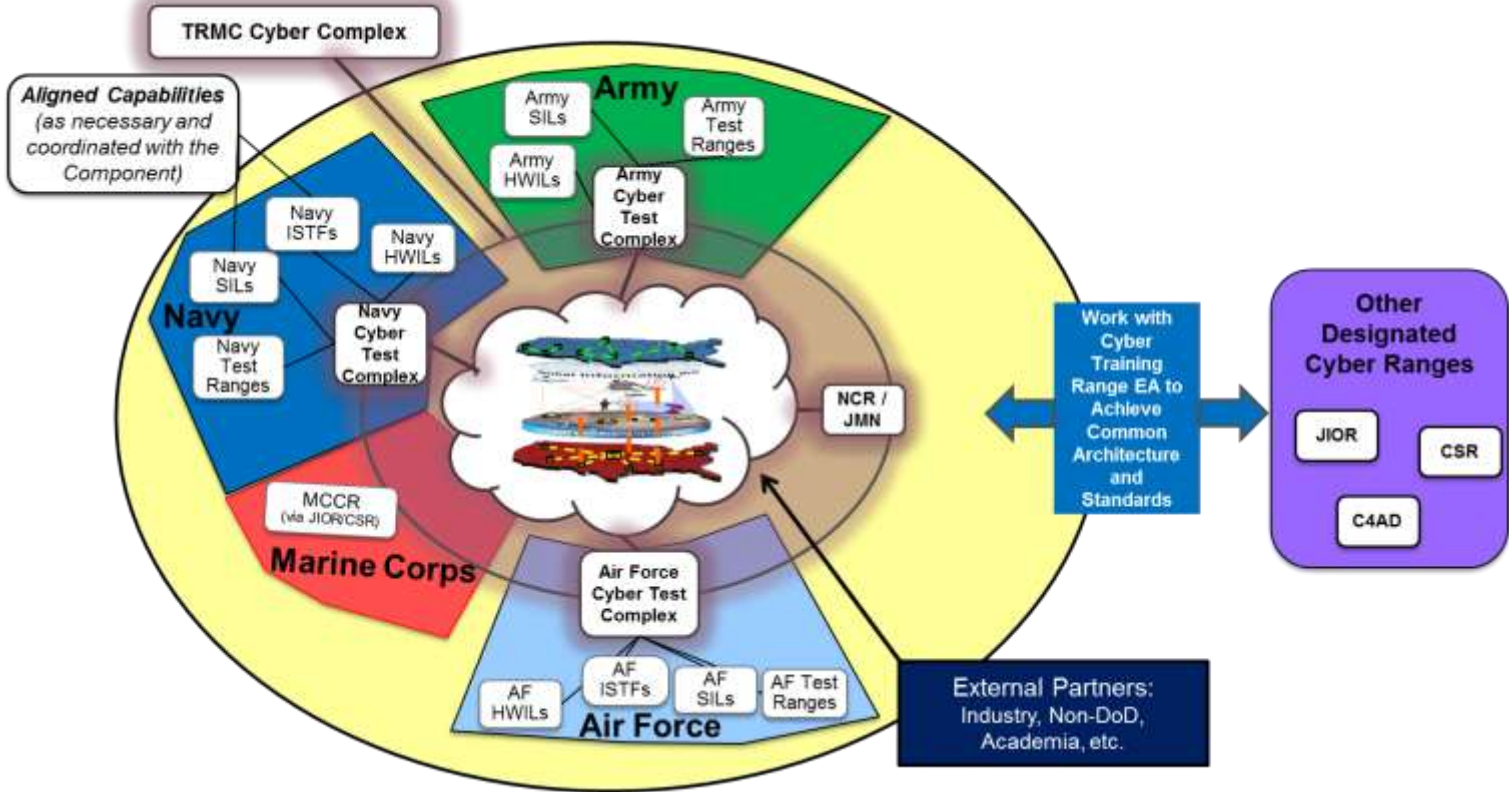
- 1) **Development of the Biennial Integrated Plan** which includes:
 - a. Maintaining comprehensive list of test capabilities (DoD and non-DoD)
 - b. Organizing and managing designated test capabilities
 - Establish priorities
 - Develop and Enforce standards
 - Guidance to integrate designated capabilities
 - Finding cost reductions
 - Add or consolidate cyber test capabilities
 - Enhance quality and expertise of workforce
 - Coordinate with interagency and industry partners
 - c. Define architectures to:
 - Meet evolving needs
 - Coordinate with interagency and industry partners
 - Allows integrated closed loop and EW
 - Supports S&T, R&D, DT&E, OT&E, etc.
 - Connectivity to existing ranges

- 2) **Certify cyber test infrastructure**

- 3) **Generate requirements and standards for cyber security test infrastructure.**



Vision: Create the Cyber Test and Evaluation Infrastructure (CT&EI)



The CT&EI is composed of existing non-kinetic Cyber test capabilities integrated with representations of kinetic and C2 systems (e.g., hardware-in-the-loop (HWIL) facilities, system integration labs (SILs), and software-in-the-loop (SWIL) facilities) via network connectivity, enabling testing those systems in a realistic combat, including cyber and interoperability, environment. We have to integrate these existing facilities in a cyber environment with low risk of damage.



Requirements Generation Process



- **Lead an FFRDC to study and identify and recommend requirements to realize the vision.**
- **Leverage the work done by the DECRE Requirements Working Group**
- **Form a requirements working group with Service T&E representatives to review and approve adoption or revision of those recommended requirement(s).**
- **Example requirements to implement the vision:**
 - A common architecture
 - Standards to implement the integrated architecture
 - Methodology to integrate kinetic and C2 system representations without unacceptable risk of causing damage
 - Common processes
 - Common tools
 - An accepted lexicon

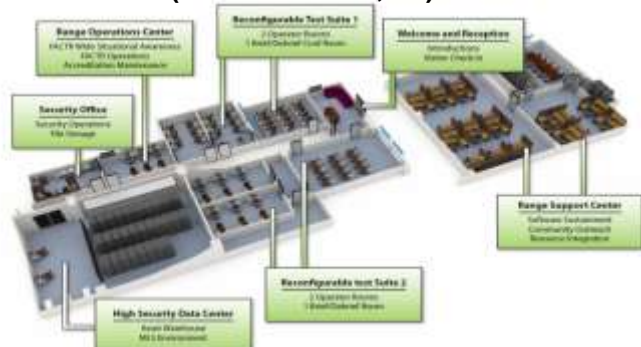


National Cyber Range (NCR) Buildout



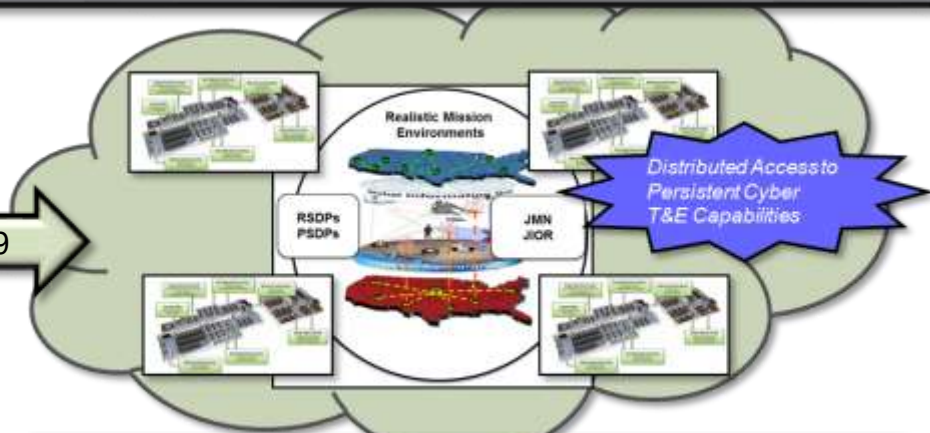
Mission: Improve the mission resiliency of our warfighters in the cyber-contested battlespace by conducting testing and training events in mission-representative cyberspace environments

Current NCR Computing Assets/Facility (LMCO Orlando, FL)



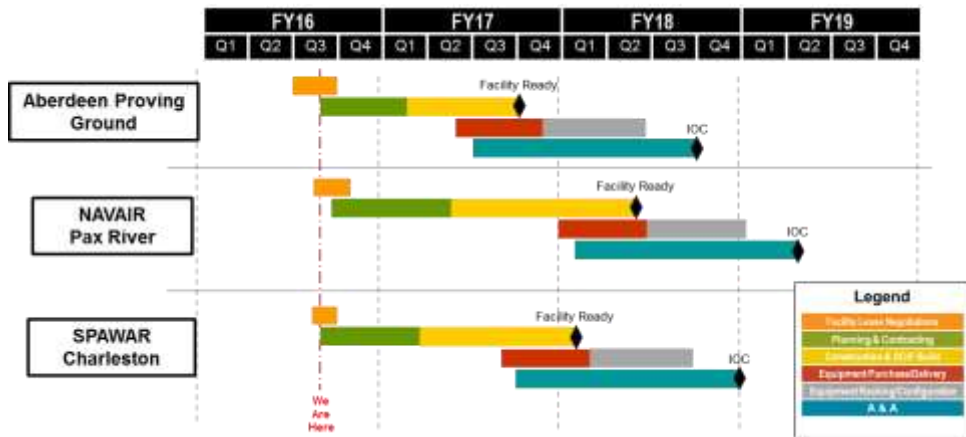
FY16: 5 Test Beds, 55 events/year, Single Location

FY17-FY19



FY19: 32 Test Beds, ~300-400 events/year, 4+ Locations

- **Complete recapitalization of existing NCR facility in Orlando**
 - Use as baseline architecture for capacity expansion
- **Build 3 additional NCR-like facilities at Government locations**
 - Increase technical and concurrent event capacity by 5X+



Estimated Best Case Build-Out Timelines



Summary



- TRMC is addressing the needs for Cyber T&E Infrastructure
- The T&E Cyber Range EA is Up and Running



Contact Information



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