PCTE:
2024 and Beyond

PERSISTENT CYBER TRAINING ENVIRONMENT
DELIVERING CYBERSPACE TRAINING TO THE DOD CYBERSPACE WORK FORCE

LTC Dan Rodriguez
Product Manager
Cyber Resiliency and Training (CRT)

Distribution Statement A. Approved for public release: distribution is unlimited

What is PCTE?

The Persistent Cyber Training Environment (PCTE) provides DoD cyber operators (and their partners) with a distributed capability to "train as they fight" in a relevant, configurable, and real-time virtual environment IOT increase overall mission readiness.

Realistic Training

PCTE provides DoD Cyber Mission Forces with the ability to train using Industrial Control Systems that they will encounter while on mission, such as power plants and fuel lines. Experience with these networks prepares operators for events such as the Keystone oil pipeline hack earlier this year.

Individual and Collective Training

PCTE provides built-in learning development platform and assessment capabilities for structured and live action training which can facilitate both onsite and distributed training events.

Mission Rehearsal

PCTE provides Cyber operators the ability familiarize actions on an objective to ensure mission readiness. Over the last year, PCTE has been used to host more than 30 Mission Rehearsal events on its classified instance since JAN '21.

Multinational Collaboration

Many PCTE training events foster strategic multi-national coordination and interoperability. All Cyber Flag events have included FVEY partners; Cyber Flag 21-3 included all 5 FVEY countries as participants and featured a multi-national OPFOR team.

PdM CRT spans the breath of the Cyber domain aggressively pursuing ruthless collaboration and transparency to more effectively and rapidly deliver capability.

Distribution Statement A.

PCTE Programmatic Priorities

FY24-FY28

Requirements Development

PCTE requirement enhancements (features) are matured through the agile DevSecOps execution. Capability is delivered twice a year through software releases consistent with the approved PCTE IS-CDD, IT-Box construct.

(FY23 – PCTE v6.0 & 7.0 - Continuous)

JCWA Integration

PCTE integrates with other JCWA components consistent with the defined JCWA mission objectives and architecture data fabric.

At endstate, PCTE is postured to support readiness tracking and JCWA training content and ingest intel feeds for near real time preparation.

Capacity Expansion/Institutional

Improvements to PCTE capacity limitations are resolved through scalable enterprise solutions. Legacy PCTE infrastructure will be replaced by PCTE Enterprise at Unclass, Secret, and Top-Secret enclaves. At endstate, PCTE delivers capacity with a scalable hybrid cloud/on-prem infrastructure model that supports Cyber Schoolhouse Training, JQRs and Mission Rehearsal.

Fee For Service & International

PCTE develops a Fee For Service (FFS) model that supports scalability for non-COF mission partners to include multi-national allies, as prioritized by USCC. This approach is consistent with USCC's ambition to transition to Holistic Readiness for all elements of the Cyberspace Workforce when they are ready to conduct training.

Distribution Statement A.

PCTE Execution Strategy

Acquisition Streamlining

The rapid rise and success of PCTE is due to PdM CRT's hyper-tailoring and acquisition streamlining innovation in close collaboration with Milestone Decision Authority, USCC, Joint CMF operators, Army Contracting Command, and combat developers at the operational, strategic, and tactical levels of execution.

- ***Key Takeaway: Acquisition requirements achieved while prioritizing ruthless collaboration and transparency with all stakeholders with Milestone B achieved in 2019.***

Cyber Innovation Challenge 4

PdM CRT solicited and awarded a series of micro-capabilities through Cyber Innovation Challenges (CICs) resulting in awards to multiple vendors in CIC 1-3. CIC 4 represents the culmination of all previous lessons learned.

- ***Key Takeaway: Enables prime relationship with non-traditional vendors.***
- ***Example: Hardware Procurement & CRE-B***

Cyber Training, Readiness, Integration, Delivery, and Enterprise Technology (TRIDENT)

Enables long term sustainment, substantial contract ceiling, increased ability to scale, and agile contracting methods embedded throughout.

- ***Key Takeaway: Empowers both the program and external community customers to have a long-term contract vehicle to evolve at the pace of cyber.***
- ***Example: Capability Releases***

Contract Services and Support (CSS)

PdM CRT's holistic approach to CSS provides program support for Engineering, Operations & Cyber Security, Test & Evaluation, as well as Development & Integration.

- ***Key Takeaway: Allows for a proficient and capable workforce across the Cyberspace ecosystem.***
- ***Example: Field Service Support (FSR)***

PCTE leverages a number of contracting vehicles and acquisition streamlining methods to delivery capability rapidly and efficiently in support of the Joint and Allied Warfighter

Distribution Statement A.

Cyber Innovation Challenge (CIC) 5

PdM CRT Topic: Persistent Cyber Training Environment (PCTE) Cyber Innovation Challenge (CIC) #5

Objective

- Decrease **Time** to Produce and Present Training
- Increase Training **Quality**
- Increase Training **Re-use**
- Increase Training **Throughput**

Purpose

The purpose of the PCTE training platform is to establish distributed, secure, reconfigurable environments where numerous independent training activities occur simultaneously to create a reliable training environment.

Vision

At endstate, PCTE provides the DoD Cyberspace Workforce the capability to build and conduct full-spectrum, combined/joint cyberspace training, exercises, certification and mission rehearsal in a training environment that emulates a realistic operational environment that provides scope, scalability, and fidelity driven by training objectives and user-defined specifications.

PdM CRT in support of the Persistent Cyber Training Environment (PCTE) is pursuing CIC #5 for FY2026 award. We are seeking to enhance and address PCTE application needs through a continued multi-vendor best-of-breed integrated capability.

Desired potential topics Include:

1 – Deployable Persistent Cyber Training
2 – Automated Opposing Forces (OPFOR)
3 – Disruptive Technologies to Enhance Cyber Training e.g. AI/ML
4 – Multi-Domain Operations Integration

CIC 5 will build on the successes of PCTE and provide even greater capabilities to U.S. and Allied Cyber Warfighters.

Distribution Statement A.

HOW IS PCTE SUCCESSFUL?

MARFORCYBER
RAPID DELIVERY
COLLABORATIVE COMPETITION
FIRST USE EVENTS
DEVOPS
TEAMWORK
INTEGRATION FACTORY
ORLANDO
RUTHLESS
AFCYBER
COLLABORATION
USER FEEDBACK
MILESTONE B
ARCYBER
AND
TRANSPARENCY
CONTENT
SUFFOLK
CYBER INNOVATION CHALLENGES
AGILE
FORT GORDON
FLTCYBER
CYBER TRIDENT
USCC
REGIONAL COMPUTE & STORAGE
ARMY REQUIREMENTS OVERSIGHT COUNCIL

PERSISTENT CYBER TRAINING ENVIRONMENT
PCTE

PARA CYBER BELLUM
CYBER RESILIENCY & TRAINING