CACI Federated Range

CYBER RESEARCH AND TRAINING – **ANYWHERE**

The explosive growth of cyber-physical systems and other network-connected devices presents mission challenges to model, simulate, and exploit operational technology (OT), internet of things (IoT), and critical infrastructure in a timely fashion. CACI's Federated Range enables CACI researchers and customers to rapidly synthesize representative target environments that meet mission needs with variable fidelity to support experimentation to develop and verify new Cyberspace Operations Tools.

Using process automation and domain-specific languages to ingest content from multiple sources, cyber ranges are configured within the Federated Range to represent target environments using simulation, emulation, digital twin, and hardware in the loop (HIL) technologies. This approach reduces the time and cost of creating synthetic environments and dynamically links distributed physical and virtual resources, reducing the need for large, manually configured cyber ranges with high sustainment costs.

CACI has more than 40 cyber ranges equipped with hard-to-find, unique devices. The range's Distributed Operational Limited Linking Infrastructure (DOLLI) is our proprietary routing engine that virtually connects networked devices from CACI ranges and others to create a representative target environment for mission rehearsals, testing, training, exploit development, cyber research, and other activities.

For more information contact:

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For more information about our expertise and technology, visit:
www.caci.com

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Features

- Ingests reconnaissance date from multiple sources.

- Allows for variable fidelity, hardware-in-the-loop, and hardware reuse across missions.

- Highly dynamic and reprogrammable through the use of the DOLLI solution.

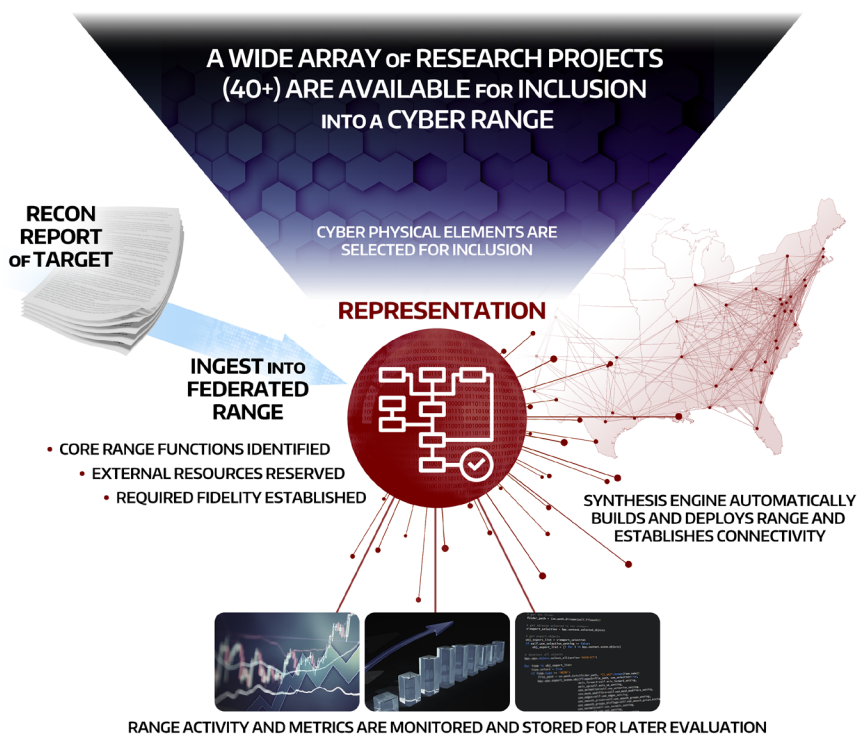- Enables real-time monitoring, including battle damage assessments.

Benefits

- Saves time by automatically building target-specific infrastructure.

- Reduces the cost of hardware, software, and need for large, manually configured laboratories.

- Provides needed fidelity to reduce mission risks and ensure success.

Use Case: Cyberspace Operations and CACI's Federated Range

A Cyber Mission Force (CMF) is tasked with developing access and capabilities to deliver effects against cyberspace targets. These targets may be a combination of communications infrastructure and cyber-physical systems. Desired effects may include disruption, deception, denial, degradation, destruction, as well as influence or other information operations.

Persistent access must be achieved and maintained while mission planning takes place. CMF operators must also begin capability development, testing, and evaluation. With CACI's Federated Range, operators can access a cyber environment that specifically represents the target with variable fidelity. By representing peripheral elements with lower fidelity, the cost of establishing the synthetic environment is greatly reduced due to the high-fidelity representation of the affected elements.

Using good tradecraft inside the cyber range, the CMF determines how to achieve persistence and what new capabilities are needed to execute effects. Because the Federated Range can enhance the fidelity of any element within the target range, the CMF can build, test, and deploy a new, highly targeted capability with no exposure and in a timeframe that meets mission parameters. The knowledge and experience gained from using CACI's Federated Range and supporting services allows the CMF to achieve persistent engagement and deliver successful mission effects.

A WIDE ARRAY OF RESEARCH PROJECTS (40+) ARE AVAILABLE FOR INCLUSION INTO A CYBER RANGE

RECON REPORT OF TARGET

CYBER PHYSICAL ELEMENTS ARE SELECTED FOR INCLUSION

REPRESENTATION

INGEST INTO FEDERATED RANGE

- CORE RANGE FUNCTIONS IDENTIFIED
- EXTERNAL RESOURCES RESERVED
- REQUIRED FIDELITY ESTABLISHED

SYNTHESIS ENGINE AUTOMATICALLY BUILDS AND DEPLOYS RANGE AND ESTABLISHES CONNECTIVITY

RANGE ACTIVITY AND METRICS ARE MONITORED AND STORED FOR LATER EVALUATION

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CACI's approximately 22,000 talented employees are vigilant in providing the unique expertise and distinctive technology that address our customers' greatest enterprise and mission challenges. Our culture of good character, innovation, and excellence drives our success and earns us recognition as a *Fortune* World's Most Admired Company. As a member of the *Fortune* 1000 Largest Companies, the Russell 1000 Index, and the S&P MidCap 400 Index, we consistently deliver strong shareholder value. Visit us at www.caci.com.

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