Raytheon Cyber Range Capability

Providing a fully functional testing center, Raytheon builds fit-for-purpose cyber ranges, using modular components, to meet the mission-unique and complex needs of our customers.

Benefits

- A Live-Fire Cyber Range to Test Cyber-Resilience of hardware, software, networks and enterprise maintenance and security operations
- Robust cyber training environment for Penetration Testers and Red–on-Blue Force exercises
- Scalable and agile range architecture enables emulation of complex enterprises up to internet scale composed of a wide diversity of host platforms (general-purpose, embedded, mobile), operating systems, and applications
- Unique range automation permits rapid set up and tear down of test environments or reconstitution in a repeatable, error-free manner to support exercises and training objectives
- Operational model located within Raytheon’s Global Cyber Solutions Center at our Dulles Hub, three miles north of Dulles Airport in Virginia

In the massively complex and chaotic environment of cyberspace, owners and defenders of interconnected networks require controlled environments to accurately and safely assess their defenses and effectiveness of day-to-day operations. Raytheon’s fit-for-purpose cyber range provides a customized virtual environment that enhances our customers’ cyber operations, training and cyber security assessment capabilities. It provides a broad set of tools and a unique range automation capability that strengthens the stability, security and performance of cyber infrastructures and IT-based systems used by large global companies, military services and government agencies.

In order to be responsive to emergent customer needs, Raytheon’s cyber range architecture supports the ability to rapidly set up and tear down test environments of moderate to high complexity (hundreds of nodes to tens of thousands and up) within hours to as many as a few days. Repeatability is a key concern with regard to test agility and consistency and our cyber range design allows for the retention of emulated environment designs (storage, hardware, and recipes) and a means to reconstitute these designs in a repeatable, error-free manner.

As scale increases, automation becomes increasingly important. Raytheon’s custom ability to automate deployment of connectivity, storage, operating systems, and applications allow range operators to create large environments in as little as a few hours or in a matter of several days where in the past equivalent manual preparation activities could extend for weeks to months. At its core, our advanced automation technologies provide a flexible layer-one switching infrastructure for a consistent and accurate automated topology deployment. It also provides an accelerated means of loading representative operating systems and application stacks. Raytheon’s cyber range architecture is scalable from as few as sixteen ports to over ten thousand and from a few nodes to hundreds of thousands of virtual and/or real nodes.

Raytheon’s cyber range architecture ensures reliable separation of test environments from range administrative and management functions. It also, enables a hardware-in-the-loop testing capability allowing real systems to
Raytheon’s custom range automation software facilitates rapid creation of a test infrastructure topology without the need to physically patch equipment every time.

System-Under-Test hardware can be quickly configured through an easy to use graphical interface.

interact with virtual stimuli; full network tap capability allowing the capture of any traffic in an event; and the aggregation, filtering and replication of that tapped traffic.

Raytheon also has a set of 40+ fully defined Standard Operating Procedures that can be easily adapted to our customers’ unique cyber range requirements.

Raytheon’s cyber range architecture is extensible to allow for simulation of friendly systems, mission services and networks ranging from a single physical host to tens of thousands of virtual hosts running in a cloud computing environment. The cyber range is also designed to support future connectivity with external entities such as other cyber ranges to carry out cooperative testing at Internet scale.

The Raytheon Cyber Range delivers the scalability, extensibility, flexibility and automation needed today by companies and organizations to maintain their edge in protecting their critical information and enterprise services.