

# Network Effects Emulation System (NE2S)/ Cyber Operational Architecture Training System (COATS)



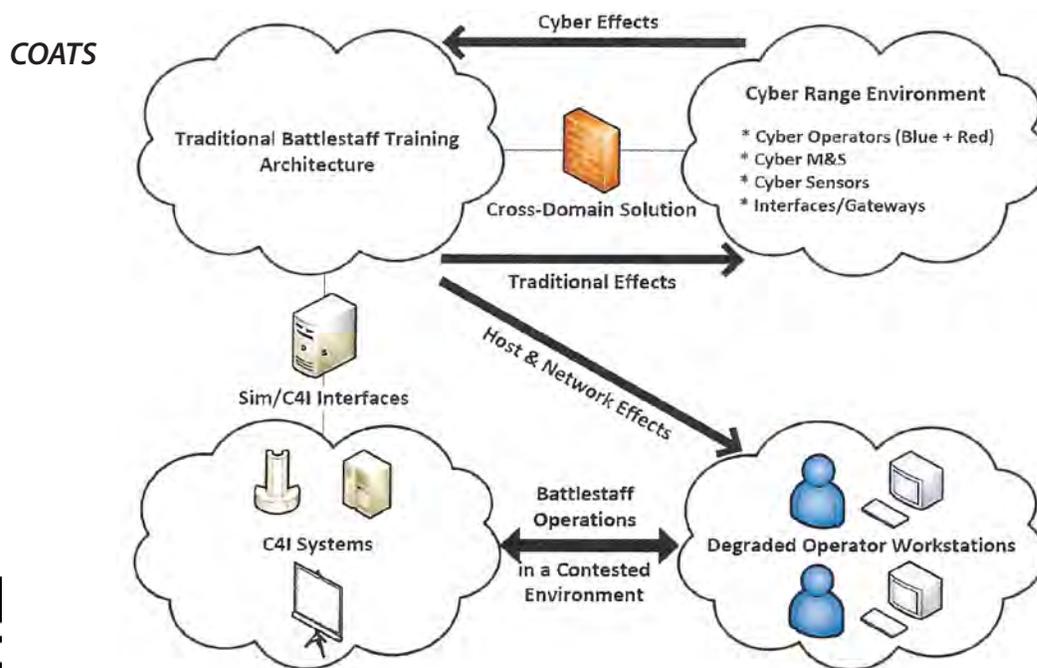
## EXHIBIT FACT SHEET

Network Effects Emulation System (NE2S)/Cyber Operational Architecture Training System (COATS) provides seamless interoperability between traditional battle staff training environments and cyber range environments. This is accomplished through the integration of enhanced concepts and tools such as traditional military Modeling and Simulation (M&S), cyber range infrastructure, M&S/emulation of cyber effects on operator workstations, and a cyber reference data exchange model.

The purpose of COATS is to significantly improve the quality of integrated cyber operations during major Department of Defense (DoD) exercises by reducing gaps between existing traditional and cyber test and training architectures. The main goals of COATS are:

- Enable synchronous execution of traditional and cyber operations
- Accurately model and simulate traditional and cyber events and interactions
- Distribute realistic cyber effects to the entire staff
- Draft interoperability guidelines for cyber-traditional Federations

The Network Effects Emulation System (NE2S) provides realistic emulation of network and host-based cyberspace attacks. NE2S integrates traditional test and training environments with cyber-attack scenarios. The Master Control Station (MCS) affords centralized control of real time, instructor-initiated



effects, or scripted scheduled scenarios. NE2S employs a network-centric architecture and currently supports Linux and Windows operating systems. The system uses encrypted communications over standard network protocols (e.g. SSL, HTTPS, SSH). Authentication credentials are encrypted at rest.

NE2S was demonstrated, at U.S. Forces Korea exercise Ulchi Freedom Guardian 2014/2015, Key Resolve 2015, and at the Air Force Warrior Preparation Center (WPC) in Germany and played in USNORTHCOM Ardent Sentry 13 and 14 COCOM exercises. NE2S is used in daily operations for the TRADOC Training Brain Repository as well as the South Carolina National Guard and Army EPG.

## How NE2S Works

