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The following were results were provided on 7/28/2015 at 8:20:6 AM:

Abstract ID: 15108

Title: Cyber Operational Architecture Training System (COATS) – Cyber for All

Subcommittee: Simulation

Abstract Text: Current methods for conducting cyber training are incompatible with the traditional, simulation-based training architectures used to conduct battle staff training. As a result there is little to no interaction between the cyber domain and the traditional warfighting domains during exercises. This situation does not accurately reflect the current operational environment nor does it address standing directives and guidance for incorporating realistic cyberspace conditions into major DoD exercises. The Cyber Operational Architecture Training System (COATS) is a Modeling & Simulation Coordination Office (M&SCO) High-Level Task (HLT) that integrates existing cyber range environments, traditional simulation architectures, operational networks, and cyber emulations to safely and securely synchronize and deliver realistic cyber effects to the entire battle staff - cyber for all. In doing so COATS provides an integrated and contested training environment where operators plan, execute and experience realistic cyberspace operations and conditions in all domains. This paper describes the key components of the COATS architecture, including the application of cross domain solutions and the first draft of a cyber data exchange model, lessons learned from the demonstration and employment of COATS during two recent U.S. Forces Korea exercises, and recommendations for future cyber and traditional modeling and simulation capability research, development, test and evaluation.

Will this paper have one or more authors from outside the U.S.?

No

Discussion Points:

1. integrated cyber training
2. battle staff training
3. contested training environment
4. cyber for all

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Biography:

Dr. DAVID "Fuzzy" WELLS is Director of the U.S. Pacific Command's Cyber War Innovation Center and the Technical Lead for COATS. A retired Air Force (AF) officer, his past assignments include: Chief Scientist for R&D at the Joint Warfare Analysis Center; Chief of Ops Assessment at AFCENT's Combined Air & Space Ops Center; Chair of Ops Research Working Group, Director of M&S Education and Assistant Professor of Computer Science at the U.S. Air Force Academy; AF M&S lead for JFCOM's Millennium Challenge experiment while at the AF Agency for M&S; and Prime Warrior Course Director and AF lead for the Prairie Warrior exercise while at the AF Wargaming Institute. He has served as exercise designer and senior controller for battlestaff training exercises worldwide. He was the first AF officer to obtain a Ph.D. in Modeling, Virtual Environments and Simulation from the Naval Postgraduate School. He also earned the first MS in Modeling & Simulation from the AF Institute of Technology. He is a Certified Modeling & Simulation Professional Charter Member and a National Modeling & Simulation Coalition Plankholder.

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DEREK BRYAN has provided direct support to the U.S. Pacific Command (USPACOM) Joint Innovation and Experimentation program since 2005. In this role he is responsible for the research, testing, and assessment of innovative solutions to USPACOM capability gaps. Mr. Bryan is currently providing project management and engineering support to the USPACOM Cyber War Innovation Center and the Cyber Operational Architecture Training System (COATS) project. Mr. Bryan has a B.S. in Computer Science from James Madison University and an M.E. in Modeling and Simulation from Old Dominion University.

Status: APPROVED