

12th INTERNATIONAL COMMAND AND CONTROL RESEARCH AND TECHNOLOGY SYMPOSIUM

Adapting C2 to the 21st Century

Title of Paper:

Operational Applications of M&S for Mission Planning and Course of Action Analysis

Topic:

Track 8: C2 Technologies and Systems

Track 4: Cognitive and Social Issues

Track 7: Network-Centric Experimentation and Applications

Name of Authors:

Richard Jones, Nils Reker, Brian Spaulding, Miles Fidelman

Point of Contact:

Miles Fidelman

Complete Address:

MÄK Technologies

Cambridge, MA

02138, U.S.A

Tel: 1-877-MÄK-TECH x125

Fax: 617-876-9208

mfidelman@mak.com

Operational Applications of M&S for Mission Planning and Course of Action Analysis

ABSTRACT

Integration of C4I systems and Modeling and Simulation (M&S) systems has a long history, with most work to date focusing on stimulation of C4I systems during development, and linking operational C4I systems to exercise networks. There are now emerging requirements for more intimate levels of integration of M&S capabilities into C4I systems: for embedded training, to support war gaming as part of mission planning and course-of-action analysis, for mission rehearsal, and, more speculatively, to support predictive situation awareness. In this paper, we discuss use cases for embedded M&S capabilities; summarize our experiences and lessons learned from work on integrating C2PC with our Marine Air-Ground Task Force (MAGTF) trainer and from participation in the SINCE experiments (Simulation & C2 Information Systems Connectivity Experiments); discuss our current work integrating GIS-based terrain into the M&S environment (a critical capability necessary to support operational users); identify what we believe to be the current hard problems remaining to be solved; and suggest a research agenda for the community.