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12TH ICCRTS
ADAPTING C2 TO THE 21ST CENTURY

Case-Studies of Decision Support Models for Collaboration in Tactical Mobile Environments

Track 7: Network-Centric Experimentation and Applications

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Abstract

The paper addresses experimental studies of decision support models for collaboration in tactical network-centric operations. This project, supported by partners from Lawrence Livermore National Laboratory, USSOCOM, Sweden, Austria, and Singapore is based on the NPS Tactical Network Topology (TNT) testbed, comprised of long-haul OFDM networks combined with self-forming wireless mesh links to unmanned aerial vehicles, radiation detection sensors, and geographically distributed experts. The case-study conducted by the NPS student team during the Summer of 2006 included Maritime Interdiction Operation (MIO), High-Value Target (HVT) tracking, and Emergency Response coordination scenarios, in which geographically distributed command centers and subject matter experts collaborate to facilitate situational understanding and course of action selection. During the study NPS students observed communication processes of geographically distributed teams and were able to position collaborative process in the decision making space of Simon's problem solving model, Boyd's OODA Loop, and Alberts and Hayes Collaborative C2 model. The results show high fidelity of Alberts and Hayes' Collaborative C2 model and reveal the requirements to collaborative network topology as well as multiparticipant team structure.