

12th INTERNATIONAL COMMAND AND CONTROL RESEARCH AND TECHNOLOGY SYMPOSIUM

Adapting C2 to the 21st Century

Towards A Distributed and Integrated Command Environment (DICE)

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Abstract

DICE is a concept of enabling distributed and dynamic operations in the battlefield by virtue of a distributed yet integrated command environment. Such a command environment would be able to support not only traditional hierarchical commands, as well as enable a flattened force structure where the edge elements, that is, the disparate fighting units, are empowered with the information they need as well as the authority to collaborate and self-synchronize in the effective execution of distributed and dynamic operations. A series of 'live' field experiments were conducted by the Singapore Armed Forces (SAF) in November 2006 in the Shoalwater Bay Training Area in Queensland, Australia, to evaluate the feasibility of the DICE concept in both a traditional hierarchy as well as in an edge organization. The indicators of success in each context are categorized into the following areas: reach and richness of communications, operational awareness, team collaboration, self-synchronization, and decision agility. These emergent characteristics collectively lead to successful distributed and dynamic operations. This paper examines the results of the experiments to address the issues of implementing a Distributed and Integrated Command Environment for the SAF, as well as the potential payoffs in providing the SAF with various options regarding the organization of its forces.

Topics: Network-centric warfare, Distributed Operations, Integrated Knowledge-based Command and Control

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