12TH ICCRTS
"Adapting C2 to the 21st Century"

1. Title: **Combining Timed Influence Net and Civil Infrastructure Input-Output Models to Support Effects Based Operations**

2. Track(s): **Track 3: Modeling and Simulation; Track 1: C2 Concepts, Theory, and Policy; Track 6: C2 Metrics and Assessment**

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Abstract

This paper describes an approach that broadens the capabilities of models used by command and control organizations to conduct effects based planning and operations by improving the understanding of the interactions between tactical actions and their effects on the infrastructure and the civil environments in an area of operation. The premise is the quality of the commodity services provided by the infrastructure is a main factor affecting the socio-cultural attitudes and the actions of the local population. The challenge is to support course of action evaluation and assessment by quantifying these interactions and their impact on the overall desired affects that a coalition is trying to achieve. The paper describes experimentation with the integration of two different modeling techniques that have been used to support effects based operations, Timed Influence Nets and a civil environment modeling tool based on the W. Leontief input-output economics model. The paper describes the experiment design and the Iraqi scenario that were used to investigate the feasibility of three different types of interoperation between the models. The type and level of interoperation that was achieved and the impact on course of action evaluation is described along with overall observations and areas for further research.

Proposed Paper Outline:

References

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