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"Adapting C2 to the 21<sup>st</sup> Century"
Resource Integration and Inference in Vanilla World
Modeling and Simulation, Network-Centric Experimentation and Applications,
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Abstract:

In a highly dynamic environment, knowledge of currently available and relevant resources is essential to the development of comprehensive situational awareness and assessment of threat level or status.  We present an agent-based framework, the Active Metadata Framework, which supports the intelligent distribution of resource information among diverse assets, in a manner which supports focused awareness of resources and provides some measure of network disruption tolerance.  This framework supports the concept of *power to the edge* by rapidly moving key data products directly to front-line warfighters. This accelerated movements of information improves war-fighter effectiveness by accelerates the observe-orient-decide-act (OODA) loop. This framework is demonstrated within a simulated complex military engagement in which assets are required to identify information sources (such as other similar assets, sensors, or databases), and utilize the data they provide to infer information about their situation and required actions.  Inference in this framework is performed using Markov logic with temporal extensions.  Preliminary results are presented which demonstrate the successful, ad-hoc creation of networks of assets using this framework, the effective distribution of data through this dynamic network of assets, and the ability to infer information of value from the available data.