

## **SUPPORTING DISTRIBUTED SIMULATION ON SCALABLE PARALLEL PROCESSOR SYSTEMS**

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The Distributed Continuous Experimentation Environment (DCEE) is a permanent simulation infrastructure being set up by U.S. Joint Forces Command (JFCOM) to support Joint experimentation. DCEE will combine simulations running on both local JFCOM networks and Scalable Parallel Processor (SPP) networks. JFCOM has been working to develop tools to manage a large number of simulation computers with a minimal number of technical support personnel. These tools allow an operator to start and stop various applications, monitor and graph machine resources, generate simulation routing topologies, check network connectivity, and perform these functions in a secure environment.

As DCEE planning continues, the requirement for centralized federation control becomes obvious. The challenge of remotely coordinating the operation of hundreds or possibly thousands of simulation applications looms ever larger. The fact that numerous machines may exist on remote networks further complicates this issue. As an integral element of DCEE, centralized control will need to be expanded to manage and monitor SPP networks along with existing systems.

This paper will address the complex challenges of controlling and monitoring an extensive simulation environment. The paper will introduce the environment, describing the simulations and the SPP. The paper shall also discuss the operational and technical advantages using a centralized set of tools. The paper will not only examine the challenges encountered by attempting to run simulations on SPP networks, but also how these challenges are met.

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