

DSAP

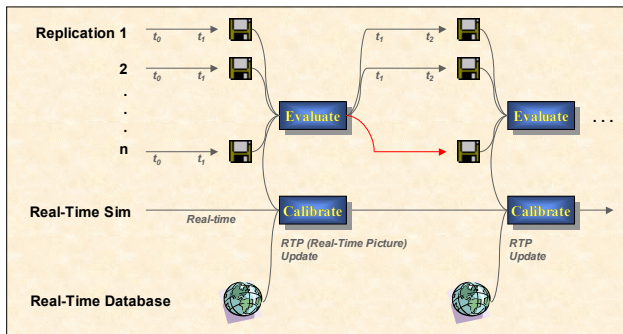
Dynamic Situation Assessment and Prediction Framework

Need for Dynamic Situation Assessment and Prediction

Technological advances and emerging threats reduce the time between target detection and action from days to minutes. To effectively assist with the decision-making process, C4I decision support tools must quickly and dynamically predict and assess alternative courses of action to assist Commanders in anticipating potential outcomes. These capabilities are provided through the faster-than-real-time predictive simulation of plans that are continuously recalibrated with the real-time picture. This capability allows decision-makers to assess the effects of re-tasking opportunities, providing the decision-maker with tremendous freedom to make time-critical, mid-course decisions.

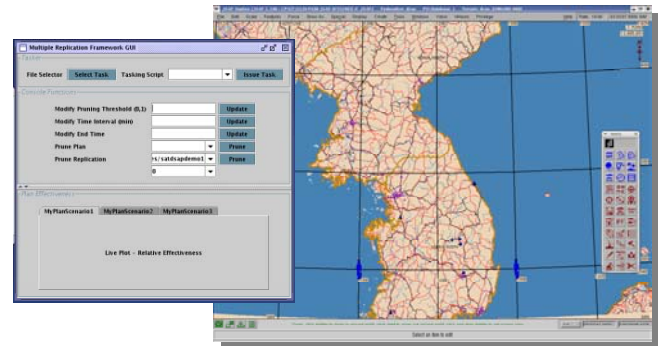
Introducing the DSAP framework

The DSAP framework supports the execution and analysis of multiple plans and replications of a plan of any simulation across parallel and distributed platforms. The framework is composed of a simulation element, such as the Joint Semi-Automated Forces (JSAF), real-time databases, such as the Theater Battle Management Core System (TBMCS) Air Operations Database (AODB) and Modernized Integrated Database (MIDB), evaluation algorithms that compare the simulation state to the plan objectives and real-time data, and grid computing concepts derived from advanced information technologies.



DSAP Course-of-Action System

This framework allows multiple predictive replications of a simulation to run concurrently across parallel and distributed platforms, gathers global statistics on the simulations upon completion, breaks up simulation executions into shorter runs, and compares simulation results with real-time data to prune simulations that diverge from the state of operations as determined via a real-time simulation used for estimating state and calibrating predictive simulations.



DSAP GUI kicking off a JSAF Replication

Features at a Glance

- Efficiently evaluates decision alternatives by simulating multiple plans
- State estimation through operationally focused simulation
- GUI driven configuration and analysis
- Evaluates and ranks plans according to their effectiveness
- Automatically prunes inaccurate replications
- Allows Commanders to prune ineffective plans
- Easily integrates with any simulation
- Supports heterogeneous environments (Linux, Unix, Mac OS X)

