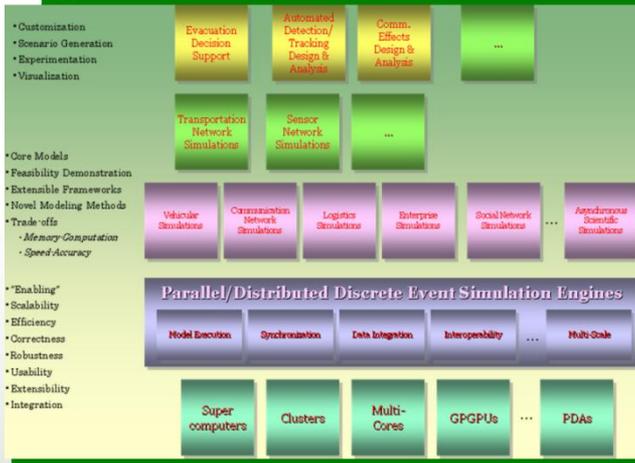


Real-Time Data-Driven Simulation Systems (RealSim)

Modeling and Simulation Group

Computational Sciences & Engineering Division

System Functional Architecture



Problem Statement:

- Scale, speed & fidelity are three important aspects in simulation-based predictive/planning needs of DHS & related agencies. Few existing systems address the desired combination of these aspects in critical applications. The RealSim code is being developed to provide these capabilities.

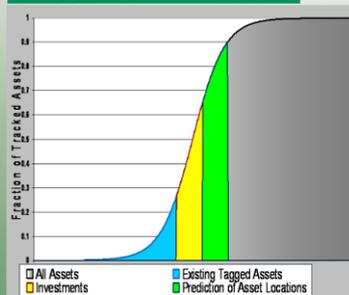
Technical Approach:

- Scale & speed are enabled by novel parallel discrete event simulation technologies. System keeps up with user needs, scaling from PDAs & GPUs to Supercomputers seamlessly. For fidelity, RealSim scales to the finest granularity on a range of applications.

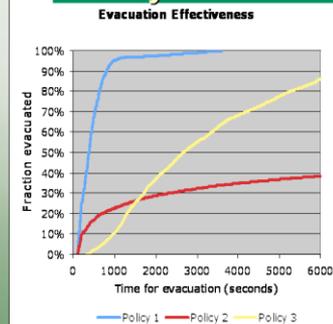
Benefit:

- RealSim helps capture unexpected behavior emergence in populations across a range of policies & constraints. It is designed to simulate the value of real-time information for optimal investment decisions, to formulate informed policies, & to determine the best tradeoff between investment & returned value.

Investment Decisions



Policy Evaluation



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