

Dante - Interactive Systems Simulation & Analysis

Christopher Symonds
 University of New Mexico
 MS in CS, May 2015

Benson Ku
 UCLA
 BS in ME, June 2015

Manager:
 Shawn Taylor
 6612/6613

Project Mentor:
 Ken Summers, 6134

Generative Modeling for the Analysis of Human / Technology Systems in Combat

DANTE is used to inform decision makers and response forces on the effectiveness of existing and future combat systems.

Analysts set up scenarios and run multiple data simulations

Data is used to determine likely outcomes in the use of employed technology and forces

Large quantities of data can be obtained for

- Assessments
- Trade-off / “What-if” studies
- Sensitivity Analysis



Powered by Umbra

Umbra is a flexible simulation framework for complex systems that can be used by itself for modeling, simulation, and analysis, or to create specific applications. Initial exploration of concepts in Umbra can often take only hours or days because of its ability to quickly decompose complex system problems into fundamental simulation constructs.



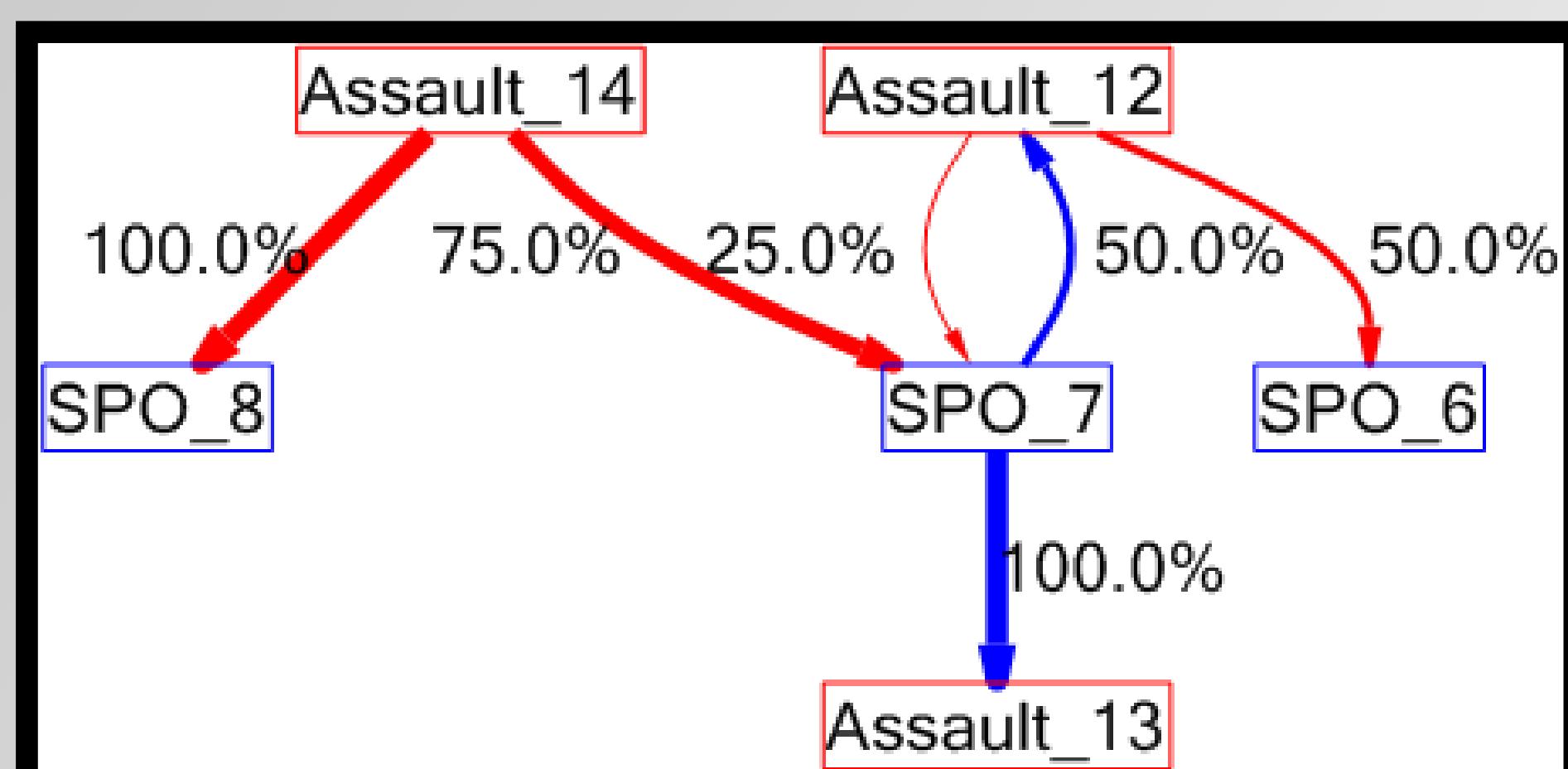
Dante - Interactive Systems Simulation & Analysis

 Christopher Symonds
 University of New Mexico
 MS in CS, May 2015

 Benson Ku
 UCLA
 BS in ME, June 2015

Advanced Artificial Intelligence Simulation

DANTE utilizes an advanced intelligent state machine system to power the decision-making capabilities of simulation agents. Units can act in concert with each other to carry out the tasks assigned by the user and actively engage and defend as needed. Actors can adapt to a rapidly changing environment to carry out mission-critical tasks as conditions change.



Contextual Decision Making

The tactical decisions made by an individual combatant can be dramatically different if that combatant is alone vs. in a group. Sometimes a subtle change in tactics can have a profound change in the outcome of a scenario. A simulated agent that can make contextual decision and work together with a team will yield a better-informed outcome that is more useful to decision makers. DANTE seeks to capture a more complete tactical landscape to better prepare for the unpredictable.

