

LBC: Logistics Battle Command

What is LBC? LBC is a modeling architecture for studying logistics systems and concepts such as battle command and distribution based logistics.

LBC Objectives:

To develop a model that uses situational awareness (SA) data for dynamically executing sustainment decisions that require deviations from an existing log support plan in response to activities (friendly or enemy).

- To bridge the gap between scripted logistics planning (the current representation) and dynamic re-planning during model execution.
- Go beyond if – then planning.
- Add complex situational analysis and decision making.

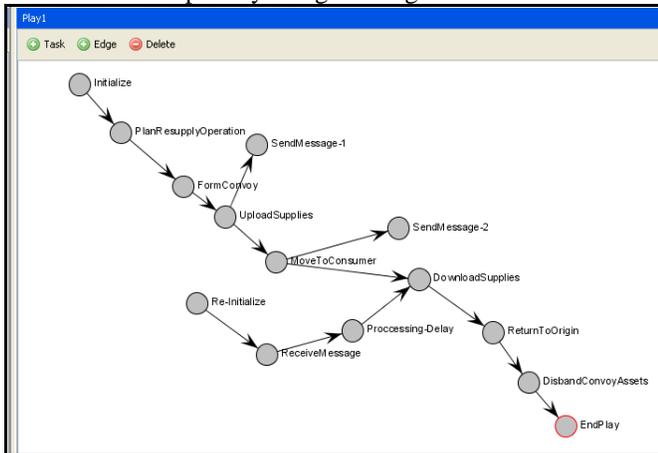
LBC Layered Architecture

Distribution Network.

- Represents the flow of supplies from point to point implicitly in stand-alone mode.
- Will link the distribution network to the actual terrain when that functionality is added.
- Will allow for dynamic route selection.

Task Network.

- Represents the sustainment plan.
- Links the sustainment plan to the execution of resupply operations.
- Will allow monitoring of execution versus the sustainment plan by using data tags.



Dynamic Movement

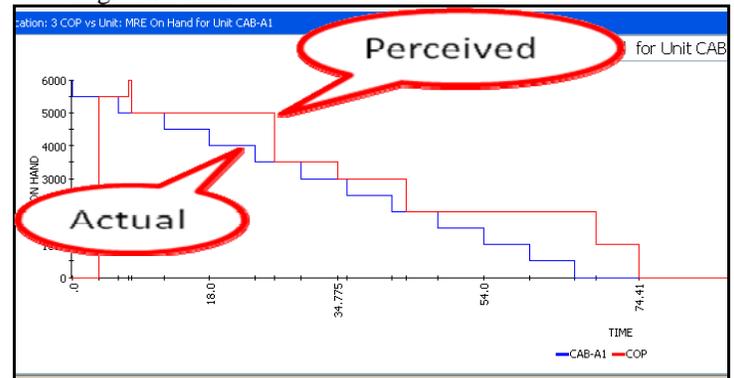
- Models decisions of how and when to move units on battlefield.

Dynamic Maintenance

- Models when vehicles break.
- Models how, where, and when to fix them.

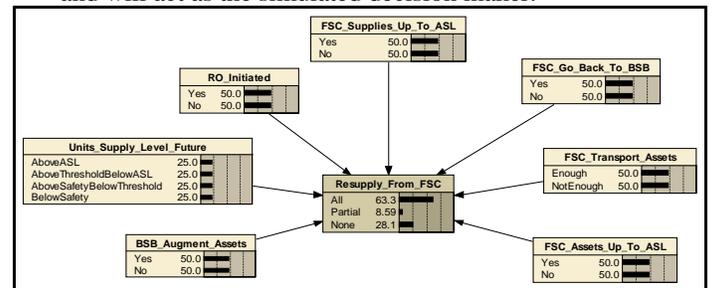
Communications.

- Links the occurrence of events to situational awareness by logging the events in the Situational Awareness data base.
- Propagation of information can be attenuated through the use of time delays and/or “message” failure rates based on a user defined probability distribution function.
- Facilitates analysis of reasoning on perceived truth vs. ground truth.



Bayesian Influence Network.

- Links the decision support logic to the task network and will act as the simulated decision maker.



Design of Experiments

- Runs and visualizes the impacts of individual assumptions in thousands of runs.

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