

Assured Communications During Natural and Willful Disasters

Human and economic risk from natural (or willful) disasters is increasing as populations grow in hazard prone regions. When first responders, aide providers, and the public communicate efficiently, effectively, and reliably, property damage and loss of life are diminished and quality of life is restored. Our goal is to assure communications at all times - before, during, and after a disaster - by providing comprehensive tools for strategic and tactical planning that supports the migration to a sustainable system architecture.

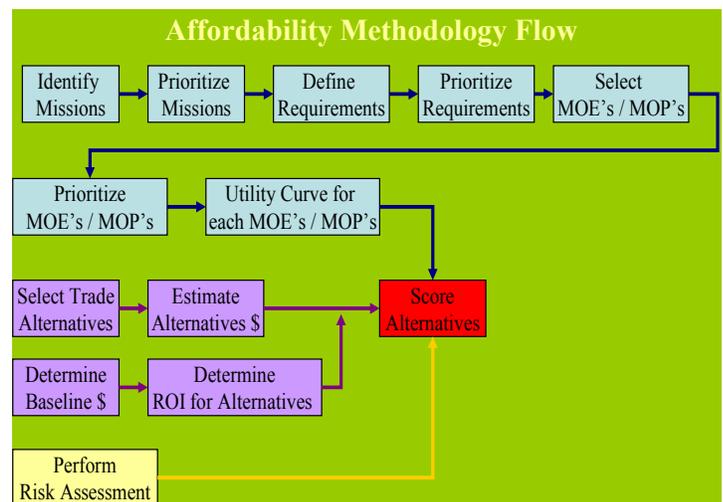
Oak Ridge National Laboratory, Mississippi State University, and RNI are working together to build a set of advanced communication planning tools. These tools are based on a requirements oriented affordability model for a highly reliable national emergency communications system. This affordability model, developed as part of our research, will be essential to defining requirements and predicting costs and performance for a large scale emergency communications system. When fielded, our tool set and the underlying affordability model will assist disaster response and management agencies with acquisition and deployment of communication resources.

The affordability model has three parts:

- a communication system performance analysis model,
- a lifetime cost model, and
- a risk analysis model.

These can be used separately or jointly to support a wide variety of communication planning and support activities, which includes

- acquisition of new emergency communications system planning,
- contingency planning for impending disasters,
- real time allocation of communication resource.

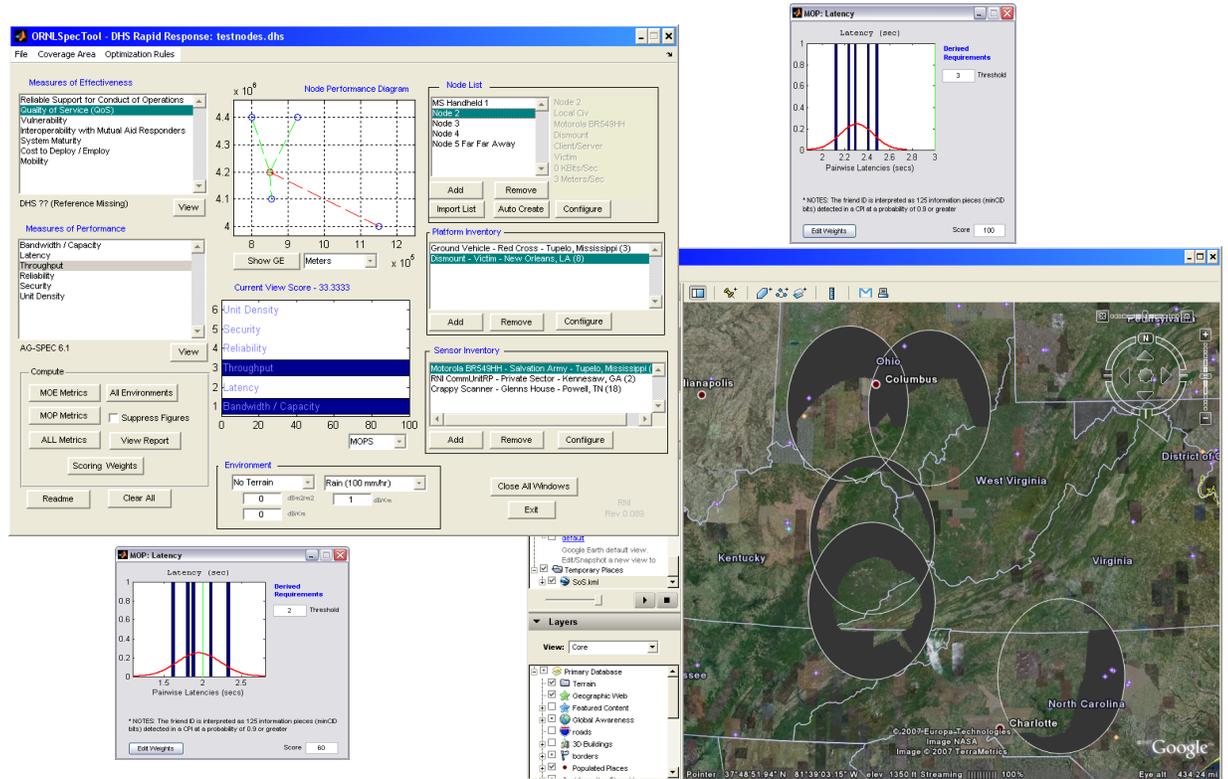


A block diagram of the affordability mode that shows the performance, cost, and risk components.

This product *integrates into a cohesive application* several decades of National Laboratory & University research in the critical areas that define assured communications, such as:

- Communications
- Operations research, Operations analysis
- Human Factors / Cognitive Reasoning
- Imagery/Topology/GIS
- Economics
- Protocols Impacts
- Infrastructure Requirements

Our comprehensive communication system analysis tool combines active data sets and inventories, models, and analysis techniques that are needed to make well informed purchasing and deployment decisions. We make these essential tools accessible to emergency response and management professionals, and by doing so help first responders, aid providers, and the public to reduce property damage and loss of life and to restore quality of life through effective, efficient, and reliable communications.



The Assured Communication Application (Beta Version)

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