

Capability

Predictive Modeling

Multi-scale Integrated Information and Telecommunication System

Applications

- Telecommunications Industry
 - Load balancing
 - Fewer dropped calls
 - Infrastructure layout optimization
- Financial institutions
 - Economic forecasting
- Internet Security
 - Cyber attack threat reduction
- Disaster Relief
 - Population flow
 - Emergency preparedness

Benefits

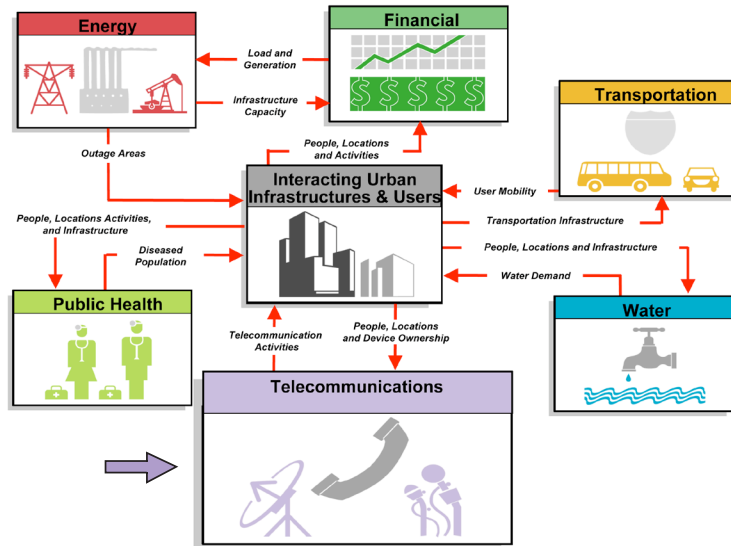
- Capable of modeling millions to billions of nodes
- Infinite scalability (with use of supercomputers)
- Expertise in model construction
- Agent-based session generation
- Extensive dataset correlation
- Capacity to integrate customers' historical data

Contact:

David Seigel, (505) 665-2743
seigel@lanl.gov
tmt-4@lanl.gov

Technology Transfer Division

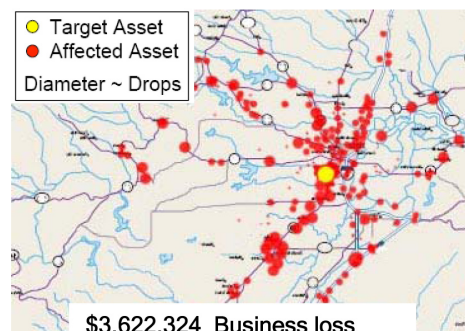
LANL is seeking partners willing to push the limits of predictive modeling.



Core Capability

Los Alamos National Laboratory (LANL) has the capability to perform modeling and simulation for large-scale interactions in industries with high value assets such as telecommunications, shipping, and energy.

This technology can augment or surpass any simulation capacity in existence. The Computer and Computational Sciences Division at LANL has the ability to model systems with millions of nodes, billions of interactions, and multiple sets of correlated data. For example, if you needed to realistically model the communications system of New York City to see how it would be affected by changes in traffic flow, the power grid, or an epidemic outbreak, LANL could do this. The technology is named Multi-scale Integrated Information and Telecommunication System, or MIITS. It offers network contingency analysis, cyber-attack analysis, simulation assessment, and course-of-action simulation.



\$3,622,324 Business loss
2,234,234 Total calls dropped

This graphic depicts a virtual telecommunications grid. The yellow dot represents a central communications switch. The red dots represent each outlying user associated with that switch. LANL, through the use of MIITS, predicts that the failure of the hub will result in the cumulative telecommunications loss of each outlying user.