TDSE

TSAT Dynamic Scenario Exporter

The TSAT Dynamic Scenario Exporter (TDSE) models dynamic traffic, mobility, and weather by emulating the control plane messages between the terminals in the scenario and the satellite payload resource controller.

Features

- Data-driven scenario configuration
- Flexible socket-based communication
- User-friendly GUI operation
- XML and binary interfaces
- True frame rate emulation
- PTICD-based
- TSAT terminal control plane emulation
- Flexible dynamic traffic generation engine
- Mobility modeling
- Weather system modeling
- Full link budget modeling
- Real-time with up to 1,000 terminals
- Integrates with STK for visualization
- Integrates with SET for snapshot analyses

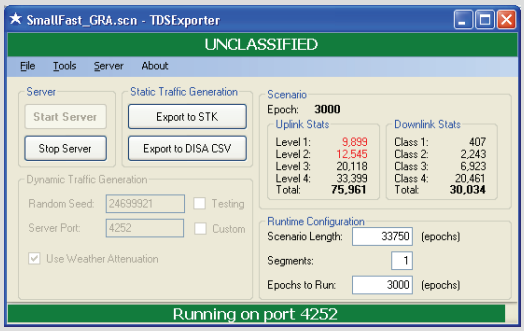
Applications

- Advanced SATCOM concepts development
- Requirements analysis/verification
- Architecture trade studies
- Policy analysis
- End-to-end application simulation

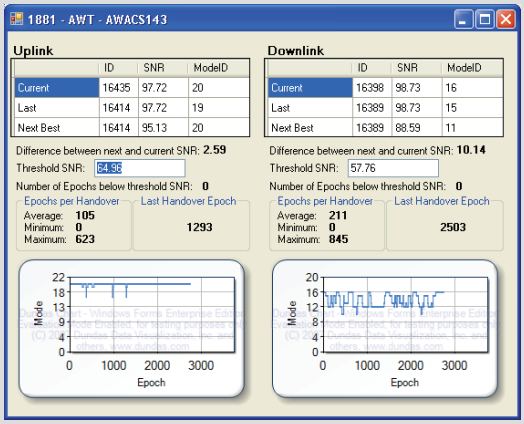
Initially developed for the TSAT SATCOM system development, the TDSE allows the user to configure satellite coverage areas and performance parameters via a user-friendly GUI. This data is used to model link performance and emulate beam handover events.

Up to 1,000 terminals can be emulated while maintaining a real-time equivalent frame rate. This includes generating TC resource control messages, modeling mobility and weather, and generating handover requests. The TDSE system is an example where modeling and simulation can be used as a stimulus throughout the design process.

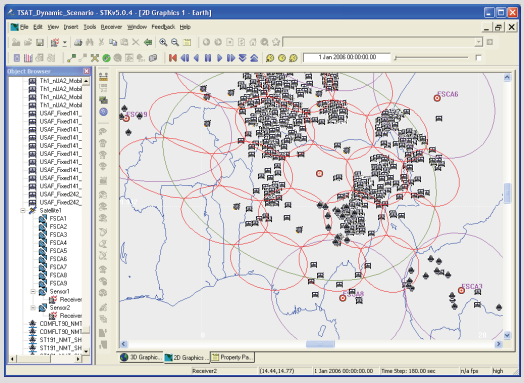
Mobility and Dynamic Traffic Generation



TDSE Traffic Server



Real-Time Terminal Observer



STK Integration

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Greg Dawson
Assistant Vice President, Software, Modeling, Simulation, and Analysis Group
719.884.8405
greg.dawson@linquest.com