

Satellite Network Simulator

Real-time Satellite Link Simulation and Planning Tool



General Description

Advanced satellite networks have thousands of remote terminals each with modulated return carriers. An actual test environment for such networks is cost and labor prohibitive. The per site conditions and the behavior of rain fading conditions must be modeled and tested to ensure the planned approach is consistent with real world conditions.

The DataSoft Satellite Network Simulator is a real-time software tool capable of simulating satellite links by operating as a hardware-in-the-loop tool for validation, or, as an offline planning tool for capacity and availability analysis for planned deployments.

The Simulator, when used in a hardware-in-the-loop mode, is capable of layer-2 verification and validation of real hardware. Performance, reliability, and scalability metrics are derived from realistic network scenarios.

When used in the offline mode, the simulator is capable of estimating bandwidth and power requirements by simulating years of operation in minutes. This analysis is useful for capacity and availability predictions for planned deployments.

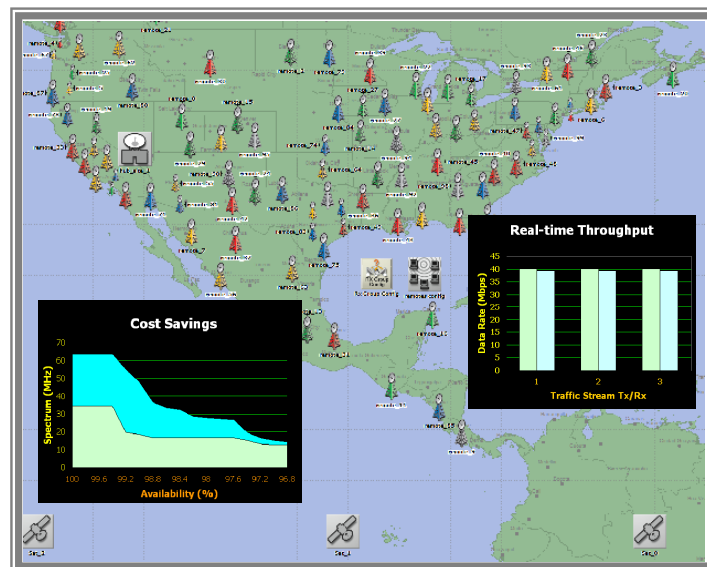
Benefits

- Simulate hundreds of links, including satellite-to-ground, ground-to-satellite, and satellite-to-satellite, in real-time
- Validate and test large satellite networking equipment and network design under realistic conditions
- Generate a multi-point link budget plus CAPEX, OPEX, and installation cost calculations for network planning

Applications

- Accurately predict capacity and availability for planned satellite network deployments
- Use as a sales and marketing tool to estimate capital and operational expenses of VSAT products
- Test satellite networking equipment and network design under realistic conditions

Simplified OPNET Model



The Satellite Network Simulator Tool is used to plan satellite network expense and performance

Features

- Supports dynamic modulation (VCM and ACM; DVB-S2)
- Simulates location-based fade and weather effects
- Generates a dynamic, multi-user link power budget analysis
- Operates on commodity hardware in a Windows or Linux based platform
- Simulates up to 1500 remote nodes, with up to 500 real-time nodes

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About DataSoft

DataSoft develops products for Information Technology and Wireless Communication Systems. Our products are used for intrusion protection, R&D, rapid prototyping, waveform development & porting, technology demonstration, SCA API compliance verification, test automation, and system integration. Our technology helps customers reduce development costs and improve time-to-market.

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