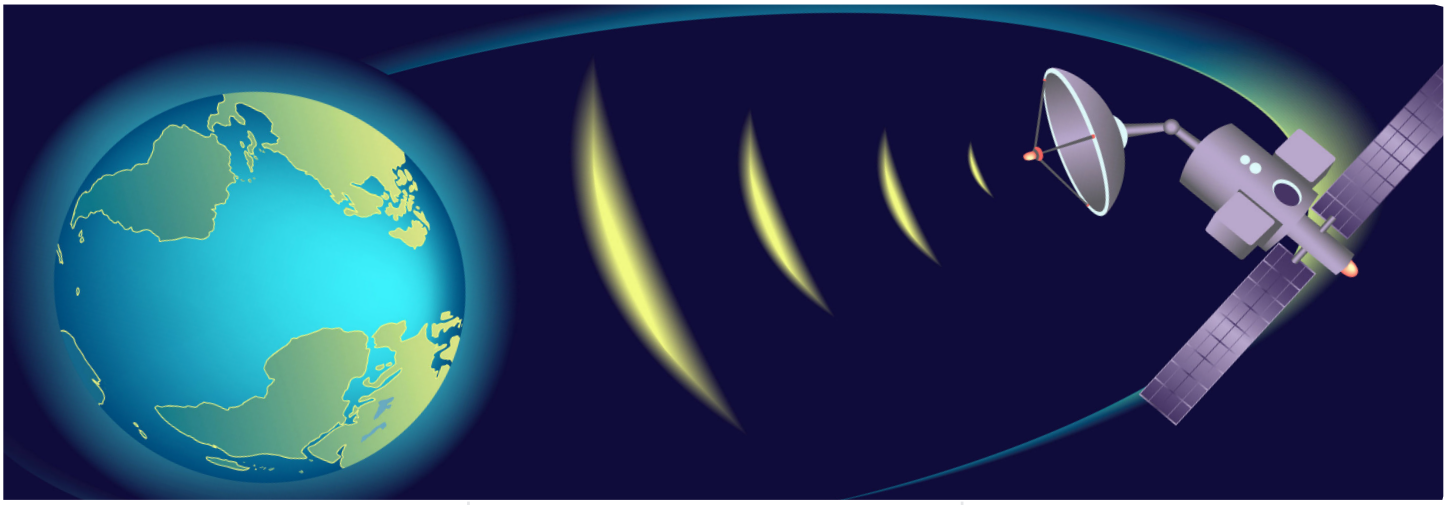
Keysight Technologies
Satellite Communication Modeling Challenges



CHALLENGE 1

Accurate prediction and increased assurance of Satcom communication system performance.

PAIN

Simulation is limited to static-equation-based models at the architecture level, which offer limited mission kinematic effects. Interference sources are poorly understood or missing.

SOLUTION

With the SystemVue and STK integrated platform, simulation can capture mission critical conditions in scenarios using the SystemVue high-fidelity channel model. The platform permits users to control STK assets from SystemVue simulation.

CHALLENGE 2

Properly allocate different system performance metrics across all subsystems during system design.

PAIN

Failure to analyze the performance of different subsystems (e.g., Tx PA, Rx antenna beamforming, Rx LNA, and baseband DSP) over the entire mission dynamics may result in a poor performing communication link.

SOLUTION

SystemVue can perform a broad set of performance analyses on different subsystems, and their interaction, during the entire mission kinematics provided by the STK mission scenario.

CHALLENGE 3

Ensure satellite ground coverage beyond just received signal strength.

PAIN

Ground coverage analysis is limited to signal strength performance. System performance analyses such as EVM and BER, which are affected by channel dynamics, are not included.

SOLUTION

The SystemVue and STK integrated virtual platform provides coverage analyses using actual standard-compliant modulated sources. Analyses include all mission dynamics with different receiver architectures.

1. AGI STK Software Technology is only available to select countries.

Free Trial

Learn More

KEYSIGHT TECHNOLOGIES

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