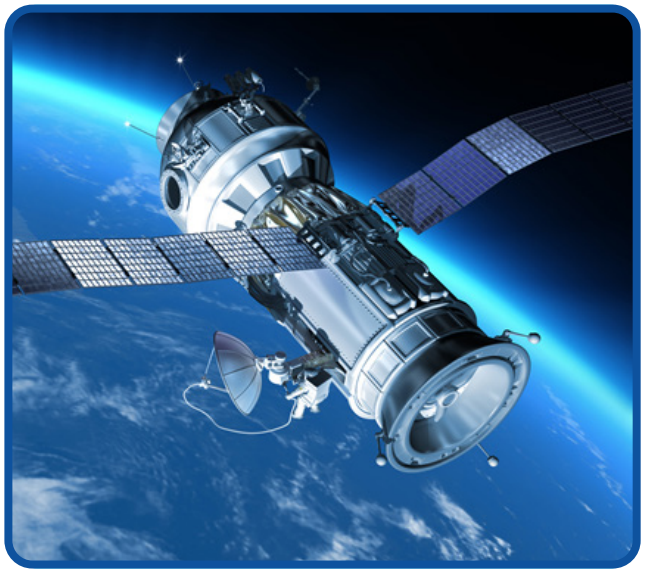
APPOSITE TECHNOLOGIES

NETROPY SATCOM TESTER

For satellites to be valuable to military and commercial operations they need to perform flawlessy. Without proper testing, the unique challenges of satellite networks—such as high latency and unpredictable environmental conditions—can significantly impact application performance and reliability.

Netropy Satcom Tester is an all-in-one satellite network testing solution designed to evaluate end-to-end performance and validate device capabilities. Generate application traffic at tremendous scale and mimic the dynamic network conditions of satellites in a lab environment for a cost-effective way to validate application performance and end user experience.



Ensure Satellite Networks Deliver Seamless and Reliable Connectivity

End-to-End Satellite Network Testing

Ensure the reliability and efficiency of complete satellite communication systems by evaluating performance across the entire network path.

Asses Full Satellite Network Performance.

Evaluate end-to-end performance by generating traffic flows between ground stations, satellites, and user terminals. Measure key performance indicators across the entire transmission path to identify weak points and optimize network efficiency.

Validate Device Interoperability.

Simulate diverse application traffic—including VoIP, video streaming, and enterprise data—to assess how satellite modems, gateways, TCP Performance Enhancing Proxies (PEPs), and other network components function together under real-world conditions. Ensure seamless interoperability between devices to deliver high quality performance.

Isolating Device Performance

Evaluate the efficiency of individual satellite network components to ensure optimal performance. Test modems, gateways, and optimization tools under controlled conditions to identify weaknesses and enhance reliability.

Benchmark Device Performance.

Simulate high-scale application traffic to measure throughput, latency, jitter, and packet loss for individual devices. Validate traffic handling capabilities and assess how well each device processes, prioritizes, and secures data flows.

Test in a Controlled Environment.

Emulate real-world network impairments in a controlled lab environment to determine to how devices adapt to challenging satellite conditions. Conduct repeatble, deterministic testing to validate efficiency under various network conditions and weather events.

Benchmarking Network Performance

Validate the resilience of satellite communication systems by simulating the their unique challenges. Generate realistic traffic patterns and recreate complex scenarios to identify performance bottlenecks before deployment.

Measure Classic Network Metrics.

Assess critical network parameters like throughput, latency, jitter, and packet loss. Emulate large-scale traffic loads to evaluate how well satellite systems handle congestion, network handovers, and environmental disruptions.

Capture, Reproduce, and Scale Satellite Traffic.

Capture live satellite network conditions and convert them into dynamic traffic patterns to detect performance issues. Transform single traffic captures into millions of flows to assess device and system capacity under real-world loads.

Optimize the Performance of Application-aware Devices and Systems.

Ensure satellite modems, VSATs, PEPs, and SD-WAN gateways operate efficiently. Validate the performance of satellite-optimized protocols and networking strategies using an extensive library of predefined application flows.

Ensuring Quality of Service (QoS)

Satellite networks must prioritize critical applications while managing limited bandwidth and high latency. Simulate realistic traffic mixes to evaluate the effectiveness of QoS policies and measure their impact on application performance.

Validate QoS Policies.

Measure application-level performance to confirm that satellite networks allocate bandwidth correctly across different application types.

Stress Test Satellite Links.

Overload satellite network capacity to ensure that essential applications, such as video conferencing and mission-critical data transfers, are prioritized when resources become constrained.

Test DSCP and TOS Markings.

Generate traffic with varying Differentiated Services Code Point (DSCP) and Type of Service (ToS) values to verify correct classification, prioritization, and enforcement of QoS policies.

Proactively Resolve Problems.

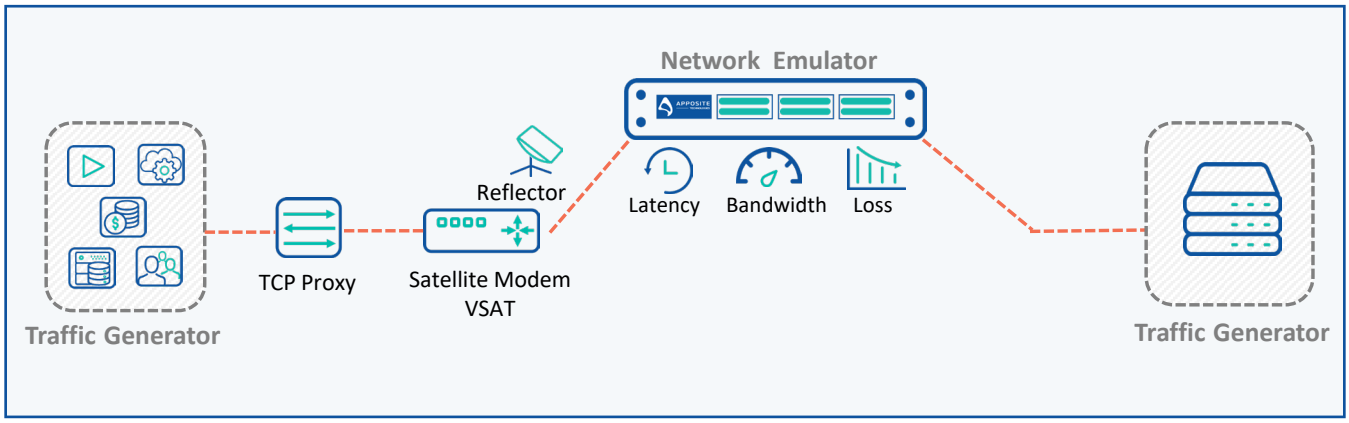
Detect and resolve performance issues early to prevent costly downtime. Recreate customer issues to refine QoS settings and resolve performance inconsistencies.

OPTIONAL NETWORK EMULATION CAPABILITIES

Network emulation provides a cost-effective and controlled alternative to live satellite testing by replicating the unique conditions of satellite links in a lab environment.

- Emulate satellite network characteristics, including high latency, packet loss, jitter, and bandwidth constraints.
- Model dynamic environmental factors such as weather-related disruptions, atmospheric changes, and outages that can affect satellite connectivity.
- Evaluate how applications and devices respond to variable network conditions without requiring access to an operational satellite system.
- Test under real-world and worst-case scenarios to validate system resilience and ensure continuous service delivery.

Netropy Satcom Tester Test Diagram



Available Appliances for Netropy Satcom Tester

Model	Speed and Ports
Netropy Satcom Tester N61	2x 1Gbps ports RJ45
Netropy Satcom Tester 10G2	4x 10Gbps ports SFP+
Netropy Satcom Tester 10G4	8x 10Gbps ports SFP+
Netropy Satcom Tester 100G	2x 100Gbps ports QSFP28
Netropy Satcom Tester 100G2	4x 100Gbps ports QSFP28
Netropy Satcom Tester VE	Virtual Edition
Netropy Satcom Tester CE	Cloud Edition

Advantages of Netropy Satcom Tester

New & Modern Satellite Test Solution
Active feature development and no EOL risk.

Rapid Custom Development
Rapid response time to new customer requests.

Best-in-Class Automation
Integrated Swagger support in RESTful API to accelerate test automation.

Unparalleled Ease of Use
Drag and drop application mix builder to create complex traffic scenarios in seconds.

Browser-based GUI
No installation of complex software on client devices, eliminating the need for high-power host devices and keeping system software consistent across the test platform.

ABOUT APPOSITE

Apposite has been in business for over 20 years and has helped customers around the globe from telecoms to system integrators, technology vendors and large enterprises. Our modern, easy-to-use test solutions enable teams to set up performance tests quickly and easily and trust the results.

Apposite Technologies

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