

Agilent NetworkTester Application Mix

Real-World Performance Testing Library for Application-Aware Network Devices

New Testing Challenges

Modern trends in networking have resulted in many network devices becoming application-aware or performing conditional processing based on information contained in Layers 4-7 of the IP packets. This has changed the requirements towards the methodologies applicable to testing of such devices, service providers and equipment manufacturers alike must use real application traffic in protocol and transaction distributions representative of live networks to measure the performance, scalability and stress resilience characteristics of application-aware firewalls, Layer 4-7 traffic management devices or next generation service routers.

The Agilent Application Mix Test Library provides instant and precise answers to these challenges by subjecting devices to complex traffic conditions indistinguishable from real-world network environments, measuring the performance characteristics the devices will exhibit in real networks and assessing the peak levels of load and stress the devices will be able to withstand without disrupting service or compromising quality of user experience.

Real-World Performance Analysis in the Lab

The Agilent Application Mix Test Library is a unique repository of state-of-the-art ready-to-run tests that allow for measuring the performance, scalability and stress resilience limits of application-aware network devices under conditions indistinguishable from the real-world network deployment scenarios.

Application Mix Design

The Agilent Application Mix test methodology uses a realistic mixture of data, voice and video application traffic in protocol, transaction and application parameters distributions based on extensive statistical analysis of traffic patterns measured in live networks.

HTTP
HTTPS
SMTP
POP3
VIDEO
VoIP

Fig 1: The Application Mix

The Application Mix Test Library includes a number of real-world traffic profiles implemented on Agilent NetworkTester Layer 4-7 Test Tool, that can be used individually or together in a comprehensive multi-protocol traffic mix to:

- Measure the performance limits of network devices under real-world conditions with diverse network traffic and high volumes of users.
- Quantify the device scalability and plan network capacity to accommodate for expected traffic and user loads.
- Verify the stress resilience limits of network devices under peak traffic load to ensure service availability and zero network downtime.

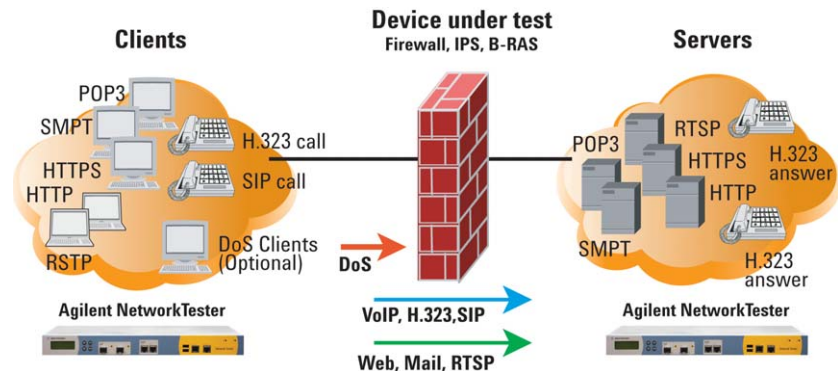


Fig 2: Real-World Performance Scenario

Application Mix Components

Real World Web Traffic Profile

- Models the HTTP and HTTPS transaction and protocol parameter distributions typical for real world Internet browsing, on-line banking and e-commerce traffic.

Real World Mail Traffic Profile

- Models SMTP and POP transaction and protocol parameter distributions typical for real world Internet mail exchanges.

Real World VoIP Traffic Profile

- Models H.323 and SIP call duration and protocol parameter distributions typical for real world Internet voice traffic.

Real World Video Traffic Profile

- RTSP streaming video stream duration and protocol parameter distribution typical for real world streaming video traffic.

Real World Microsoft File Sharing Traffic Profile

- Models Microsoft File Sharing (CIFS) file size and file access methods distributions typical for real world file sharing environments.

Anti-Virus Stress Resilience

- HTTP and SMTP Traffic Profiles – use 30,000 real virus and worm signatures embedded in HTTP and SMTP payloads to simulate infected file transfers.

Real World Application Mix Traffic Profile

- Web, Mail, VoIP and Video traffic profiles in statistically proven protocol distribution to measure device performance pertaining to real world mix of triple play traffic as generated by high volumes of users and applications.

Near-Zero Time to Insight

Development of realistic test methodology and test procedures is a complex and lengthy process that includes live network traffic monitoring, statistical analysis and implementation on the Test Tool. The Agilent Application Mix Test Library comes as ready-to-run, well-documented Agilent NetworkTester Test Plans that provide instant insight into network device real-world performance characteristics.

Saves Testing Costs

Development and implementation of a comprehensive realistic test methodology can incur manpower costs comparable with the price of the testing instrument. The Agilent Application Mix Test Library is a complementary product available with Agilent NetworkTester Test Tool at no cost.

Unlimited Power and Scalability

The Agilent Application Mix Test Library is implemented as ready-to-run Agilent NetworkTester Test Plans that utilize full power and flexibility of the NetworkTester state-of-the-art multi-protocol traffic generation engine, user-friendly graphical user interface and comprehensive real-time and off-line reporting.

Agilent NetworkTester allows the Application Mix traffic to be scaled to hundreds of thousands of simulated users, transferred over IPsec or PPPoE tunnels or complemented by simulated DoS attacks of other malicious traffic elements, all to achieve the most realistic measurement results.

For more information on the Agilent Application Mix Test Library and Agilent N5557A NetworkTester Layer 4-7 testing system please visit: www.agilent.com/comms/n2x/docs/journal/index.htm

www.agilent.com/find/networktester



Agilent Networktester

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