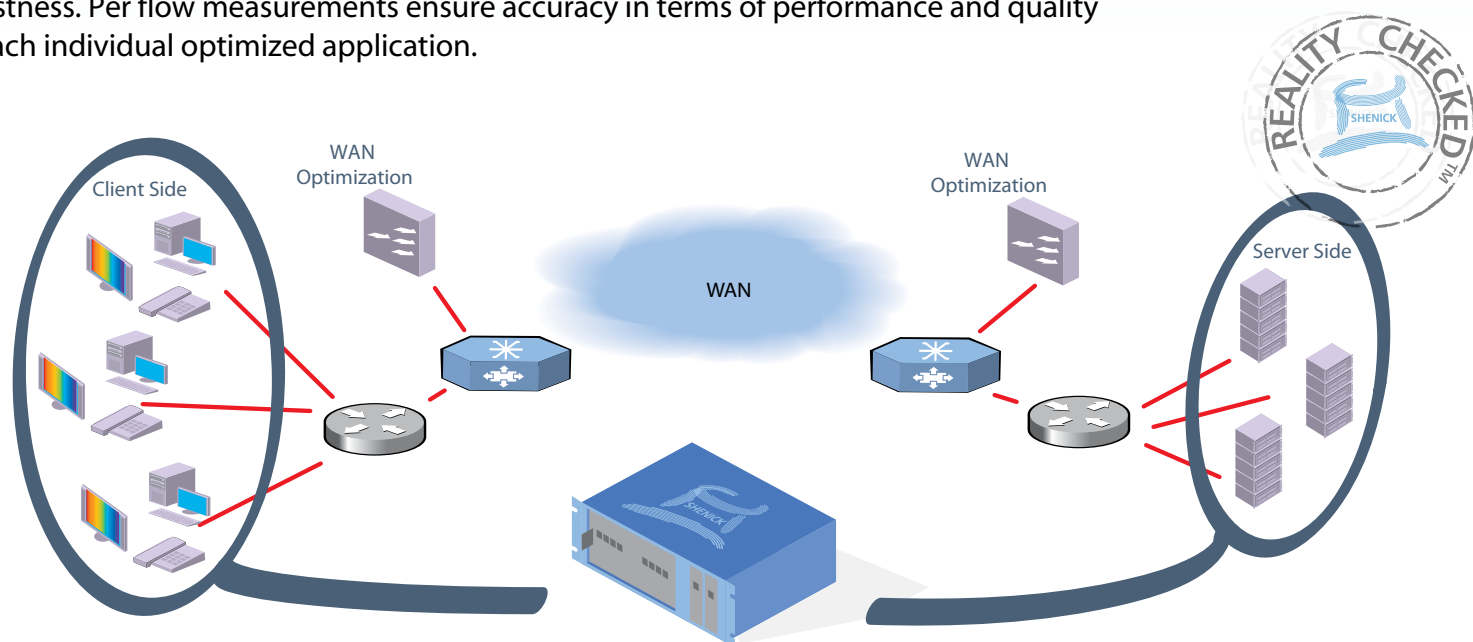




Testing WAN Acceleration with diversifEye™

WAN acceleration is an optimization of the applications being run over centralized servers as opposed to local branch office servers. WAN optimization takes many formats - prioritization, traffic altering, compression, caching, application enhancement or TCP acceleration.

Optimization processes each application traffic flow differently. In essence the perceived quality of one user is not equal to that of another user receiving a different application flow. Optimization is verified in terms of integrity and robustness. Per flow measurements ensure accuracy in terms of performance and quality for each individual optimized application.



diversifEye per flow testing for WAN Optimization

Per flow / per client emulation & measurement -

Emulate many thousands of real clients, with the ability to measure the performance of individual voice, video and data users along with thousands of other users from a single physical port (with or without VLAN tags).

Take clients in & out of service -

Emulate and analyze in real time the effect of 'waves' of real client voice, video and stateful data traffic in the network without stopping or pausing the test to restart. Critical to the financial services environment is the continuous flow of application traffic, even during critical surges of events and application loads.

Ability to use profiles to create randomness -

Add randomness to voice, video and TCP / UDP based clients. This is a very effective test to prevent the DUT from being 'trained' to unrealistic regularity. For example, real people do not download 1 document every 30 seconds for hours on end.

Real voice, video, stateful TCP & UDP based data applications -

These are real application flows (not simply simulations or packets of a certain size) which can be configured to emulate specific customer scenarios etc. The TCP based application clients back off just as real clients do with network congestion etc.



Shenick's diversifEye is used specifically in WAN acceleration environments to emulate and measure voice, video, TCP and UDP based application clients. diversifEye's key strength is the ability to measure packet and application statistics on a per flow / per client basis, providing real time quality metrics on each and every optimized flow.

diversifEye™ is an integrated network, application and security attack emulation and performance analysis test system. diversifEye provides users with the ability to generate thousands of virtualized real clients and/or server flows. Key to the power of diversifEye is the per flow architecture which enables users analyze WAN optimized network flows on a granular basis - from thousands of emulated devices analyze on an individual device basis the performance and perceived quality of the received optimized application traffic flows in real time.

The Shenick diversifEye platform & GUI supports per flow test and measurement of :

Analysis Software Overview

- IGMPv1, v2, v3, MLDv1, v2
- DHCPv4 & DHCPv6
- TWAMP
- PPPoE
- VLAN & Double Tagging (Q-in-Q) with priority
- Concurrent IPv4, IPv6 and Dual-Stack Lite flows
- Voice and Video Quality Metrics
- Telepresence
- RTSP (Video on Demand)
- VoIP (SIP & RTP)
- HTTP
- FTP
- SMTP
- POP3
- P2P
- SSL
- Attack Traffic - Spam / Viruses / DDOS
- PCAP file replay (>1Gb)

WAN Acceleration Scenarios

- **Traffic Altering** Emulate and determine where traffic types can be altered in an attempt to improve timing issues and reduce traffic volumes.
- **Traffic Prioritization** Ensure in real-time, traffic shaping mechanisms or load balancing have no impact on delay sensitive applications. Determine if applications are being granted the allocated bandwidth during peak or busy hours.
- **Quality of Experience** Determine on a per client application basis individual quality of experience, define performance requirements from one to several thousand client users.
- **Emulate and Measure** Voice, video, TCP & UDP based application clients and measure packet and application statistics on a per flow / per client basis.

diversifEye Summary Features and Benefits

- Network QoS and per flow QoE granularity for individual emulated client users across multiple devices and application traffic flow types.
- Latest protocols supported from Data Applications (HTTP, FTP, POP/SMTP, P2P), IPTV (IGMP/MLD), VoD (RTSP), VoIP (SIP/RTP), Telepresence all in a single test package.
- TCP Replay Substitution automatically varies payloads so no two PCAP sessions are the same.
- Support for SSL, IPv4, IPv6 and Dual-Stack Lite.
- DHCP emulation, PPPoE and IPoE Service Interoperability Scenarios. Emulate per device MAC and IP address assignments.
- Security Attack Mitigation support for DDoS style attacks SYN/RST/UDP/ARP floods, reflective DDoS attacks, Ping of death, etc.
- Large memory space (>1Gb) for PCAP replay for Instant Messaging or Web Mail.
- Client and server support on a single blade within one chassis with complete flexibility on port allocation. Full support for multiple daisy chained chassis all controlled from a single GUI.
- Low cost of ownership and ease of use by avoiding multiple test systems and non integrated software applications.

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North America | 533 Airport Boulevard, Burlingame, CA 94010, USA

Tel: +1-650-288 0511

Fax: +1-650-745 2641

Europe | Brook House, Corrig Avenue, Dun Laoghaire, Dublin, Ireland

Tel: +353-1-236 7002

Fax: +353-1-236 7020

web: www.shenick.com email: info@shenick.com

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