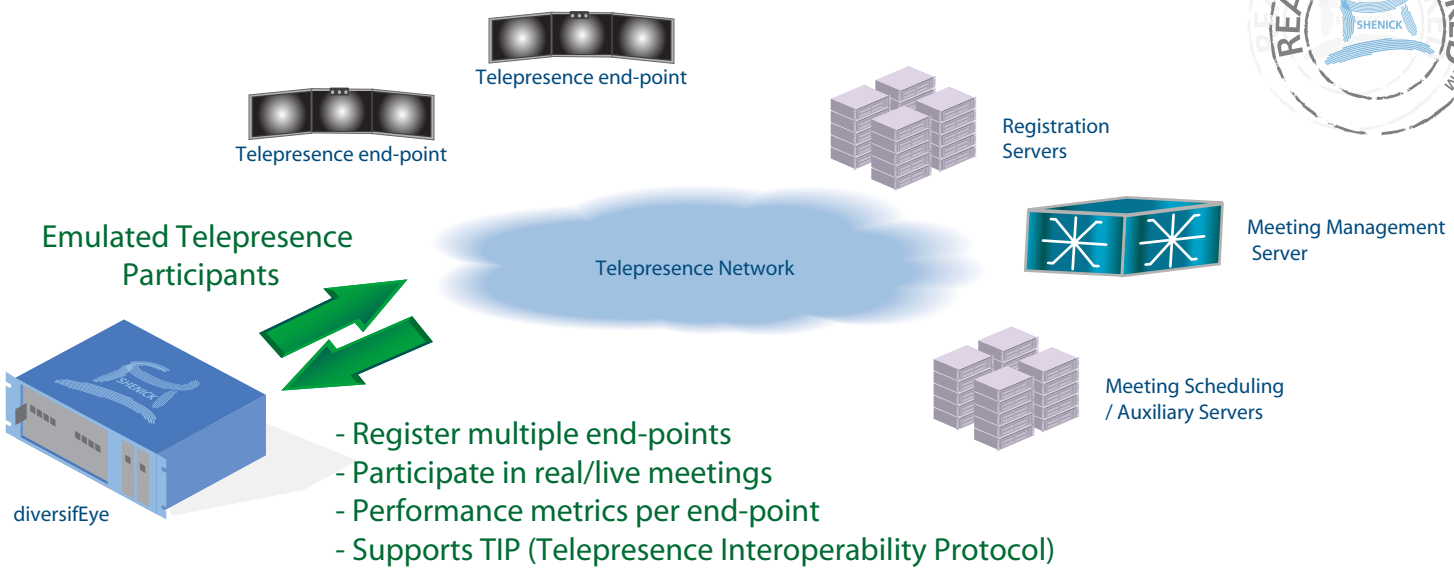
Testing Telepresence with diversifEye™

Telepresence's success is based on the ability to conduct live meetings, from remote sites, over IP networks. Telepresence is feature rich, one of these features is the ability to stimulate the attendees senses, by the delivery of high quality video and audio components. More sophisticated systems go further to deliver a complete in the room presence or sensation.

Testing Telepresence is a complex challenge, especially if the goal is to measure each and every individual end-points Quality of Experience. A suitable solution for these complex multi-flow tests is diversifEye. At a minimum each Telepresence end-point has 4 unique flows; video in - out and audio in - out. Today, diversifEye is the only test solution available that provides stateful emulation of Telepresence end-points with performance measurements on each and every associated flow.

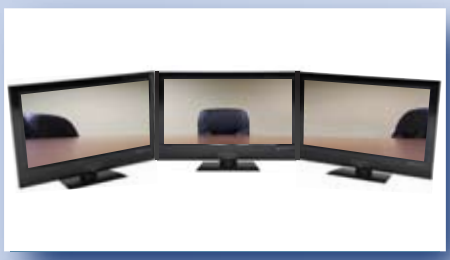


Sample Telepresence Test Scenarios

Live Meeting Performance -
Emulate and measure performance of the Telepresence meeting's video and audio with stateful emulated end-points. Test for interoperability issues with end-points using different video and audio codecs.

Network Capacity Testing -
Examine network capacity with a small number and/or many emulated Telepresence end-points, threshold test acceptable packet loss. Create real world scenarios with mixed application traffic loads. Examine the impact on each and every emulated Telepresence end-point's video and audio quality.

Telepresence Meeting Scalability -
Test the registration server capacity to handle many registrations. Determine if a meeting manager server functionality handles over subscriptions to a meeting correctly. Emulate and analyze secure media sessions such as SRTP.



diversifEye's emulated Telepresence end-points are fully stateful, the end-points can register with 3rd party registration servers, and join in real point-point calls.

diversifEye's per flow architecture enables the emulated Telepresence end-points send and receive video and audio flows concurrently. With the integrated performance analysis tools performance is measured on each and every flow, on a per emulated Telepresence end-point.

diversifEye™

For a successful Telepresence deployment, it's important that each end-point participates with no problems and furthermore each flow associated with the end-point experiences minimum quality issues. In addition, Telepresence must have no impact on existing services.

diversifEye is the only Telepresence end-point emulation and performance measurement tool available with the granularity required to measure the quality of the individual video and audio flows, for each and every emulated end-point. diversifEye is a network, application and security attack emulation and performance analysis test system providing real-time measurements, with real world scenarios.

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

Analysis Software Overview

- DHCPv4 & DHCPv6
- PPPoE
- VLAN & Double Tagging (Q-in-Q) with priority
- Concurrent IPV4 and IPV6 application flows
- MTU - Jumbo frames
- Voice and Video Quality Metrics
- RTSP (Video on Demand)
- SSL
- IPv4, IPv6 and/or Dual-Stack Lite
- VoIP (SIP & RTP)
- HTTP
- FTP
- SMTP
- POP3
- P2P
- TWAMP
- Attack Traffic - Spam / Viruses / DDOS
- PCAP file replay (>1Gb)

Telepresence Overview

End Point

- **Functionality** — Fully stateful, react to network control commands. Native support of SIP control for multimedia applications. Operate with real servers - registration, meeting managers, etc.
- **Analysis** — Each end-point collects its own set of live performance data, viewable in real-time. Each and every end-point provides Per-flow analysis on both the signaling and media flows.

Capacity Testing

- **Meeting** — Test management server capacity, with real and emulated end-points. Performance test authentication, connection and media flows. Test security parameters with unauthorized hosts.
- **Network** — It is equally important to measure performance under extreme conditions. Telepresence deployments should maintain operation throughout extreme conditions such as DDoS attacks. In addition, Telepresence should have no impact on existing services.

diversifEye Key Features And Benefits

- Network QoS and per flow QoE granularity for individual emulated Telepresence end-points. Per-flow analysis on all the signaling and unique media flows.
- Supports TIP (Telepresence Interoperability Protocol).
- Latest protocols supported - Data Applications (HTTP, FTP, POP/SMTP, P2P), IPTV (IGMP/MLD), VoD (RTSP) and VoIP (SIP/RTP).
- TCP Replay Substitution automatically varies payloads so no two PCAP sessions are the same.
- Support for SSL, TWAMP, IPv4 and IPv6, 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.

diversifEye™ is a trademark of Shenick Network Systems. All other trademarks are the trademarks of their respective owners.

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

© 2010, Shenick Network Systems Limited

(Shenick Version No. - v1.2)