SPIRENT GEM ETHERNET NETWORK IMPAIRMENT EMULATORS

ACCELERATE DEVELOPMENT AND DEPLOYMENT

TRIPLE PLAY WITH ITU-T G.1050/TIA-921 IP NETWORK MODELS

Use Spirent GEM Ethernet Network Impairment Emulators to verify performance of multimedia solutions under real world network conditions prior to deployment.

APPLICATIONS

- Video Quality - IPTV
- Voice over IP (VoIP)
- Video Conferencing
- Video on Demand
- Multicast or Unicast Multimedia Applications
- Distributed Software Applications

The convergence of voice, video and multimedia services onto IP Networks is now a reality that opens up new possibilities for providers to drive revenue. With many alternatives available to implement Triple Play, design and testing has never been more important than at this critical stage in building the next infrastructure.

The promise of Triple Play is accompanied by significant challenges for those who develop, design and implement the solutions.

- Video and voice signals must deliver quality of experience to the customer over IP networks, which are subject to more impairments than TDM networks.
- Impairments in IP networks vary considerable over time.
- The diversity of real-world network conditions must be duplicated in the lab for reproducible, relevant and efficient testing.
- Tight budgets and increasing need for new and higher-quality services place greater demands on delivery over IP networks.
- Providers need to troubleshoot problems in the production network.
- Existing and new IP networks must be pre-qualified to verify their ability to support new Triple Play services.

KEY BENEFITS

- Reduce time to market with higher quality and greater customer satisfaction
- Reduce risk by verifying performance of multimedia solutions under real world network conditions prior to deployment
- Prevent under- and over-engineering by precisely characterizing minimum required SLAs
- Define new revenue generating services with a competitive advantage
- Discover potentially catastrophic design flaws prior to deployment
- Characterize problems painlessly with dynamic impairments through manual or automated control
- Reproduce production environment issues easily in a support lab

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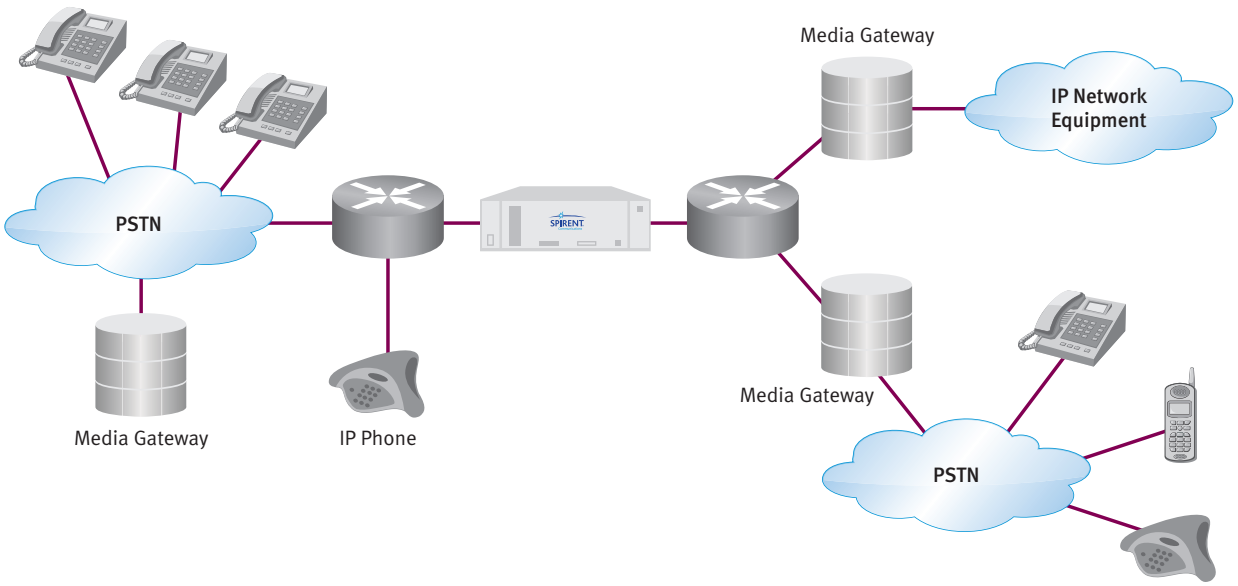

SOLUTION BENEFITS

Spirent GEM Ethernet Network Emulators enable users to accurately create the delays and impairments that occur over live production 10/100 Mbps, 1Gbps and 10Gbps Ethernet Networks for validating and evaluating new products and technologies.

Unlike other impairment emulators, Spirent GEM's hardware-based architecture provides maximum accuracy and repeatability and is 100 percent line rate (up to 11.3Gbps) capable even with minimum size frames. The ability to precisely emulate delays and impairments that occur over Ethernet networks ensures that ITU-T G.1050/TIA-921 IP Network Model test results are accurate and repeatable from test to test. This powerful combination provides users with the tools required to fully validate equipment and services both pre- and post-deployment.

ITU-T G.1050/TIA-921 FEATURES

- Evaluate the equipment and applications that comprise your Triple Play solution under real-world conditions using standard-based network modes developed by the TIA as TIA-921 and adopted by the ITU-T as G.1050
- Test with any or all of the 1064 statistically based, time-varying scenarios for well-managed, partially-managed and unmanaged networks
- Compare the performance of different or even competing implementations
- Evaluate any service running over IP, not just voice or video
- Test a variety of IP network devices such as User Agents, Call Agents, Media Servers, Media Gateway Controllers, Gatekeepers, Application Servers, Edge Routers, IP Phones, IP Video Set Top Boxes, IP Faxes
- Characterize the performance of applications running over IP networks to define minimum required Service Level Agreements (SLAs)
- Demonstrate how network conditions such as access bandwidth, bandwidth congestion, delay, delay variation (jitter), link failure, time drift, route flapping, reordered packets, and packet drops affect the quality of video and voice services over IP networks

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