

SPIRENT AVALANCHE

APPLICATION AND SECURITY TESTING SOLUTIONS

GTP MOBILITY FIREWALL TESTING

By simultaneously emulating millions of mobile users tunneling between a 2G/3G SGSN and GGSN or between a 4G Serving Gateway and PDN Gateway, Spirent Avalanche supports the testing of any device in the network that operates on user application streams embedded within a GTP-tunneled mobile packet core interface. The Avalanche GTP tunneling feature is specifically designed for testing the GTP-tunneled component of Firewalls, DPI engines, load balancers, or video offload gateways located within any 3GPP Mobile Packet Core.

APPLICATIONS

- Verify the GTP tunnel component of Firewalls, DPI engines, video offload gateways and load balancers
- Emulate millions of Mobile users accessing internet data, ABR video and SIP-based voice
- Generate a comprehensive set of Avalanche applications embedded within GTP tunnels
- Correlate GTP-C Tunnel control plane setup/teardown messaging with associated GTP-U tunneled application data
- Test extremely high control plane GTP tunnel creation/teardown rates
- Find Maximum supported GTP tunnel throughput
- Find Maximum supported GTP tunnel counts
- Analyze firewall and DPI performance for GTP tunnels

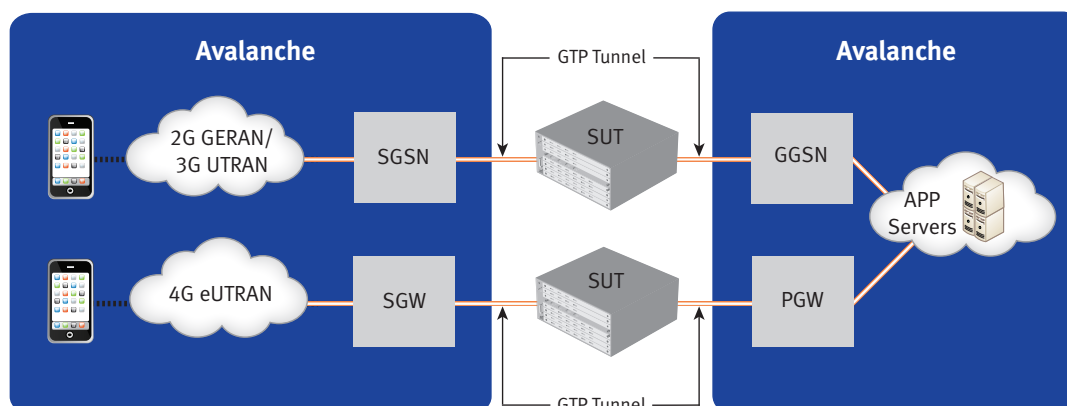


Fig 1: Avalanche GTP Tunnel Emulation

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TECHNICAL SPECIFICATIONS

- Per mobile GTP tunnel Establishment/tear down control messages
- Mobility Node Emulation (paired)
 - SGSN client emulation/GGSN server emulation (Gn interface)
 - Serving Gateway (SGW) emulation/PDN Gateway (PGW) server emulation (S5 interface) (Phase II)
- GTP Control and Data Messages/Tunnels
 - GTP-Cv1: PDP context Activation and Initial Detach Procedures per 3GPP TS 23-060
 - GTP-Cv2 (Phase II): Initial Attach and Detach Procedures per 3GPP TS 23-401
 - GTP-Uv1: Encapsulated Avalanche application data per 3GPP TS 29-060

- User specified GTP parameters
 - Mobile IMSI and ISDN
 - APN Name
 - Fixed or Random TEID assignment
- Performance
 - Tunnels/Sec > 40,000
 - Number of UEs > 100,000
 - ~ Line Rate Tunneled Bandwidth

**Phase II features are currently not supported and will be available in the next release*

SPIRENT SERVICES

Spirent Global Services provides a variety of professional services, support services and education services—all focused on helping customers meet their complex testing and service assurance requirements. For more information, visit the Global Services website at www.spirent.com or contact your Spirent sales representative.

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