



SPIRENT LANDSLIDE

CHARGING GATEWAY EMULATION AND VALIDATION

Spirent Communications has introduced the Landslide™ Charging Gateway Emulation and CDR Validation capabilities for carriers who want to determine the accuracy of records generated by SGSNs and GGSNs based on data traffic accessed by the user. As carriers introduce new content based billing algorithms, it becomes critical to determine the accuracy of the associated CDR records.

The Landslide CGF emulation capability can be used with the GGSN performance test application or the UMTS performance test application. The emulation can be used as a standalone application supporting real SGSNs and GGSNs. The CGF emulator allows the user to test the SGSN or GGSN without a real CGF server, ensuring the CGF server does not become a bottleneck when measuring performance.

Spirent has introduced G-CDR and S-CDR validation features. These features are used with the CGF emulator to provide real-time validation of G-CDR and S-CDR records generated by a GGSN or an SGSN. The Landslide generated records are based on the actual data transactions performed by the emulated mobile stations. Lastly the CGF emulator can collect both S-CDR records from a SGSN and G-CDR records from a GGSN, and compare the associated records.

APPLICATIONS

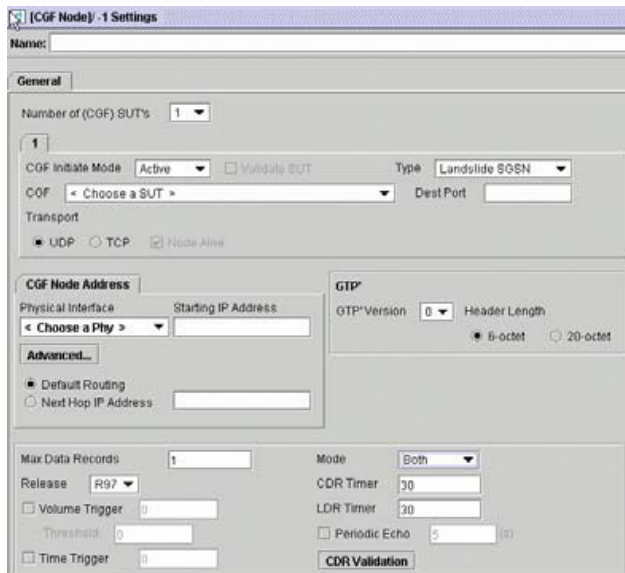
- Validate system scalability and identify capacity limits
- Measure call/data performance
- Characterize system before trial/delivery
- Identify performance ceilings
- Enable accurate capacity planning

FEATURES & BENEFITS

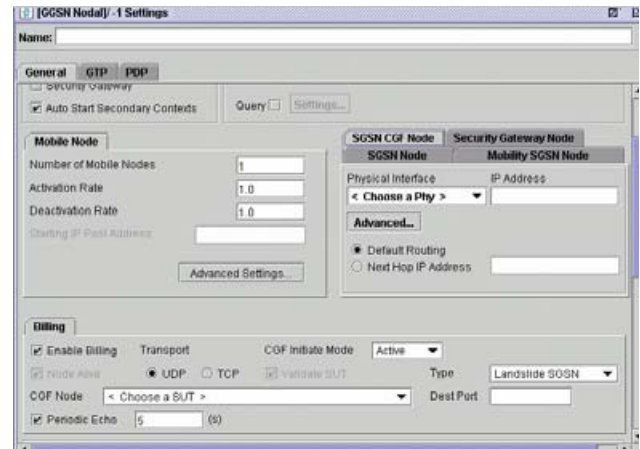
- Realistic, real-world simulations allow equipment vendors to accurately specify the performance characteristics of their equipment under real-world conditions
- Simultaneous control and user plane allows service providers to measure the performance of their network and to validate new features and services in the lab
- Unmatched scalability for the user to simulate subscriber loads ranging from a small rural town to the largest metropolitan city
- Standard Web browser interface means there is no need to load software onto user equipment
- Emulation of multiple network elements for the user to test in a variety of network topologies providing more effective utilization of lab equipment and reducing capital expenditure and ongoing support costs associated with a test lab
- Automation control so the user can run many test cases simultaneously or serially on multiple Landslide test servers, creating real-world scenarios for heavy load and long-duration stability tests
- TCL Interface for the user to control/monitor the Landslide from a higher level management system, making it possible to compile specific test reports for both the emulation (Landslide) and the device under test

SPIRENT LANDSLIDE CHARGING GATEWAY EMULATION AND VALIDATION

FEATURES & BENEFITS (CONTINUED)



CGF Emulation Configuration



GGSN Nodal Billing Configuration Window

- G-CDR Validation—When enabled, the G-CDR validation feature allows the user to select one of two formats for a Landslide generated CDR record. First, the user may select a standard SGSN S-CDR record format, which could be used for testing with a real CGF server. Secondly, the user may choose to generate a Landslide SGSN format for validation of G-CDR records from the GGSN. The Landslide generated records are based on the actual data transactions performed by the emulated mobile stations. For validation, the GGSN is configured to send its GCDR records to the CGF emulator. The GGSN performance test application is then configured to send the Landslide SGSN formatted records to the same CGF emulator. The Landslide records are sent for each mobile node PDP context, with the necessary information to validate the GGSN G-CDR record. The CGF emulator then uses the Landslide records to validate content of the G-CDR records.
- S-CDR Validation—This feature has the same capabilities as the G-CDR validation feature. The difference is it validates S-CDR records from a SGSN against Landslide generated CDR records, based on the actual data sent by emulated mobile nodes. S-CDR validation is available with the UMTS performance test application.
- S-CDR vs. G-CDR Comparison—This feature allows the CGF emulator to collect both S-CDR records from a SGSN and G-CDR records from a GGSN, and then it compares the associated records. Records not matching are flagged as errors and dumped to a log file.
- Interim Records—The CGF emulator has the ability to collect and validate interim CDR records. Up to one million interim records can be maintained until the final record is generated. At that time, the combined CDR record will be validated against the associated Landslide record.
- Per Flow Validation—This feature allows the user to validate certain vendor specific CDR extensions on a per data flow basis. Combined with the Landslide’s advanced data feature, this comprehensive test capability ensures proper accounting for various types of advanced data such as HTTP, WAP, etc.
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TECHNICAL SPECIFICATIONS

- Test Activities
 - Capacity Test
- Landslide Manager
 - Up to 125 user accounts
 - Up to 48 simultaneous users
 - Up to 32 Landslide test appliances
- Landslide Test Server (without performance accelerator)
 - 100,000 simultaneous sessions
- Landslide Test Server Ethernet ports
 - 4-port 10/100/1000Base-T NIC (P/N L-NIC-12)
 - 4-port 10/100/1000Base-SX NIC (P/N L-NIC-11)
 - Single-port 10 Gigabit XF SR NIC (P/N L-NIC-10)
- Physical Specifications
 - 3U, 19-inch rack-mount
 - 5.25" H x 16.53" W x 19.75" D
 - 31 lb. (14kg)
 - Operating environment: 5° C to 30° C
 - 100-240 V, 50/60 Hz, 6 A
- Validation Options—The user has the option of selecting any of the following items for validation:
 - SGSN Address(es)
 - Access Point Name
 - PDP Type
 - PDP Address
 - Dynamic IP Address
 - MSISDN
 - Uplink bytes
 - Downlink bytes
 - Duration
 - QoS Updates
- QoS Negotiated
 - For uplink bytes, downlink bytes, duration, and QoS updates, the user may specify a threshold to account for minor differences in the two records.
- Compatible applications—The CGF emulator is available as a standalone application or it can be added to either of the following applications:
 - Landslide GPRS
 - Landslide UMTS

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ORDERING INFORMATION	
DESCRIPTION	PART NUMBER
CGF SERVER EMULATION Adds the CGF server emulation to a UMTS or GPRS Landslide Test System. Serial number or MAC ID of existing Landslide Manager required.	L-FT-012
GGSN G-CDR VALIDATION Adds GGSN G-CDR Validation to a UMTS or GPRS Landslide Test System. Note: Requires the CGF Server Emulation feature. Serial number or MAC ID of existing Landslide Manager required.	L-FT-013
SGSN CDR VALIDATION Adds SGSN S-CDR Validation to a UMTS Landslide Test System. Note: Requires the CGF Server Emulation feature. Serial number or MAC ID of existing Landslide Manager required.	L-FT-018
LANDSLIDE GPRS TEST APPLICATION Adds GPRS test application to an existing ASN-GW, CDMA, CSN or MIPv6 Landslide Test System. Serial number or MAC ID of existing Landslide Manager required.	L-APP-001
LANDSLIDE UMTS APPLICATION Adds UMTS test application to an existing ASN-GW, CDMA, CSN or MIPv6 Landslide Test system. Serial number or MAC ID of existing Landslide Manager required.	L-APP-005

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.spirentcom.com/gs or contact your Spirent sales representative.

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