Spirent Landslide
Mobile Node High Capacity Test System
What is Landslide?

Landslide is a performance test system for LTE, 3G, WiMAX, Wi-Fi mobile network provided by Spirent Communications, a US based company. By emulating most type of mobile terminals, base station and various network nodes, network host, Landslide generates both control plane and data plane traffic to test and check DUT processing capability under normal condition and overload condition. It’s easy to change emulated node, so it is flexible to change topology from testing a single mobile network node to test all nodes in a system. Besides call control and QoS test, Landslide provides test solution for mobile environment specific scenario, e.g. handover between different network types like 3G to LTE.

- High capacity
- Combined control plane and data plane
- Realistic mobile communication load
- Support multiple mobile access modes
- Handover between different technologies

High capacity

In this ubiquitous society, the number of users adopting mobile technology keeps increasing dramatically. Landslide is a high capacity test system which can emulate 1M UEs per appliance to generate complex load to test whether the mobile communication core network can afford this high load traffic.

One box solution

Within one Landslide, all LTE, 3G, Wi-Fi wireless access technologies can be realized. Besides, Landslide also emulates various types of node like AAA server deployed in network. Landslide is an all-in-one solution to test multiple technologies.

Landslide’s four advantages

Real world emulation

Landslide not only emulates many UEs for capacity test, but also emulates complex load by combining session setup/disconnect, emulates mobile UE specific handover load to test each network nodes with real traffic model. Before each node is put into service, Landslide helps to test them in lab.

Converged control plane and data plane

Landslide not only emulates mobile UE session setup/tear down and handover, but also emulates real mobile phone’s application layer data for more realistic environment emulation. With this application traffic emulation, Landslide helps to test billing system and QoS control device.
Landslide hardware lineup

C100-S2 appliance
(Mainly for realistic signaling traffic emulation)
- Maximum 1.6 million UE emulation
- Maximum 8000 session/second
- Maximum 20Gbps stateful traffic
- Possible to install IPsec accelerator card

HyperMetrics module
(Mainly for data rate and QoS measurement)
- Maximum 500K UE emulation
- Maximum 1000 session/second
- Maximum 80Gbps stateless traffic
- Mobile stream QoS analysis
- Possible to share the module with Spirent TestCenter, Avalanche software

Hardware spec (C100-S2)

Performance
- Intel
- Max 3 1GbE NIC, 2 10GbE NIC, totally four NICs can be installed
- 1GbE NIC: four ports 10/100/1000BASE-T, four ports 1000BASE-SX
- 10GbE NIC: dual ports 10G SFP+

Power spec (per appliance)
- 850W non-redundant
- 100-240VAC, 50/60Hz

Size
- 3U rack mount server
- Minimum configuration = 6U: One test manager (TAS) + One test server (TS)
- One management server can control max 32 test servers
- 13.3cm (H) x 41.9cm (W) x 50.1cm (D), 14kg

Landslide architecture

- Landslide hardware consists of Test Administration Server (TAS) and Test Server (TS)
- Test Administration Server (TAS, only C100 appliance)
  - Manage and control test scenario, manage license, save test result data. Users can login TAS and control TS through it
- Test Server (TS, C100-S2 appliance, HyperMetrics module)
  - It will send signaling and data traffic. TAS can manage maximum 32 TS connected with it
<table>
<thead>
<tr>
<th>Landslide emulation function</th>
<th>Landslide Device Under Test (DUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTE/UMTS/cdma2000/GPRS terminal • Base station (Macro/Femto)</td>
<td>LTE EPC node (MME/SGW/PGW)</td>
</tr>
<tr>
<td>WiMAX terminal • Base station</td>
<td>Femtocell gateway (HeNB GW/HNB GW/cdma2000 FGW)</td>
</tr>
<tr>
<td>Wi-Fi terminal, AP</td>
<td>IMS (Voice over LTE)</td>
</tr>
<tr>
<td>IPsec client (IKEv1/IKEv2)</td>
<td>UMTS/GPRS core node (SGSN/GGSN)</td>
</tr>
<tr>
<td>Mobile IP terminal (MIPv4/MIPv6)</td>
<td>cdma2000 core node (PDSN/HSGW)</td>
</tr>
<tr>
<td>LTE EPC node (MME/SGW/PGW)</td>
<td>WiMAX core node (ASN-GW/CSN)</td>
</tr>
<tr>
<td>MSC/IMS (Voice over LTE)</td>
<td>Wi-Fi offload GW (GRE/CAPWAP/no tunnel)</td>
</tr>
<tr>
<td>UMTS/GPRS core node (SGSN/GGSN)</td>
<td>PDG/PDIF</td>
</tr>
<tr>
<td>cdma2000 core node (PDSN/HSGW)</td>
<td>Security gateway (IPsec)</td>
</tr>
<tr>
<td>WiMAX core node (ASN-GW/CSN)</td>
<td>Home agent/foreign agent</td>
</tr>
<tr>
<td>Home agent/foreign agent</td>
<td>PCRF</td>
</tr>
<tr>
<td>PCRF</td>
<td>HSS/HLR</td>
</tr>
<tr>
<td>HSS/HLR</td>
<td>DRA/DEA</td>
</tr>
<tr>
<td>DRA/DEA</td>
<td>Charging Data Record (CDR)</td>
</tr>
<tr>
<td>Charging node (CGF/OCS/OFCS)</td>
<td>AAA RADIUS/Diameter server</td>
</tr>
<tr>
<td>AAA RADIUS/Diameter client</td>
<td>L2TP LNS</td>
</tr>
<tr>
<td>AAA RADIUS/Diameter server</td>
<td>DPI node</td>
</tr>
<tr>
<td>DHCP server (DHCPv4/DHCPv6)</td>
<td></td>
</tr>
</tbody>
</table>
Network topology

Test Target
Emulation Target

Spirent Landslide

Charging System
OCS
OFCS
CGF

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Mobile Node High Capacity Test System

LTE

Landslide LTE test application is the performance test solution targeted for EPC nodes like MME (Mobility Management Entity), SGW (Serving Gateway), PGW (PDN Gateway).

Test scenarios
- Session capacity test
- Session rate test
- Session loading test
- Intra-LTE handover test
  - S1, X2, TAU, SGW relocation with direct/indirect forwarding
- Inter-RAT handover test
  - LTE ↔ UMTS, LTE ↔ eHRPD, LTE ↔ Wi-Fi
- Paging flooding test
- Idle/reactivation test

Features
- One TS cover all test phases from single node test to full system test
- Support 3GPP Rel. 8, 9, 10, 11
- Support multi-PDN
- Support UE/network initiated dedicated bearer
- Support emergency call
- S1-AP, NAS message editor function (optional)
- Support CS fallback, SRVCC, VoLTE (optional)
- Real node (HSS, EIR, PCRF) interface
- Support charging accuracy test (CDR generation/validation) (optional)

Performance (per TS)

<table>
<thead>
<tr>
<th>Items</th>
<th>Standard configuration</th>
<th>Maximum configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE number (one default bearer/UE)</td>
<td>200,000</td>
<td>1,600,000</td>
</tr>
<tr>
<td>eNB number</td>
<td>4,000</td>
<td>32,000</td>
</tr>
<tr>
<td>Session rate</td>
<td>3,000</td>
<td>6,000</td>
</tr>
<tr>
<td>MME/SGW/PGW number</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Data throughput</td>
<td>5Gbps bi-directional</td>
<td>15Gbps bi-directional</td>
</tr>
</tbody>
</table>
VoLTE/IMS

Landslide VoLTE/IMS test function is an add-on feature for Landslide LTE test application. It adds VoLTE UE and IMS emulation function and support from EPC node’s VoLTE function evaluation to EPC+IMS’s VoLTE system test.

Test Scenarios
- VoLTE call capacity test
- VoLTE call rate test
- VoLTE call loading test
- Handover
  - S1, X2, TAU, Inter-RAT, SGW relocation with direct/indirect forwarding

Features
- Support 3GPP Rel. 8, 9, 10, 11
- With reference to GSMA IR.92 (VoLTE voice profile), IR.94 (VoLTE video profile)
- Support internet/IMS multi-PDN
- Support voice RTP/video RTP traffic
- Support emergency call
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3G–UMTS (SGSN/GGSN)

Landslide GPRS test application, UMTS test application is the performance test solution targeted for GGSN (Gateway GPRS Support Node) and SGSN (Serving GPRS Support Node).

Test scenarios
- Session capacity test
- Session rate test
- Session loading test
- QoS update test
- Hand over test

Features
- Support PDP Type=IPv4, IPv6, IPv4/v6, PPP
- Support multi-APN
- Support UMTS version 4, 6, 7, 8
- Support APN DNS lookup
- Support direct tunnel
- Support DHCP client emulation
- Support L2TP VPRN (option)
- Support charging accuracy test (CDR Generation/Validation) (option)

SGSN test performance (per TS)

<table>
<thead>
<tr>
<th>Items</th>
<th>Std. config</th>
<th>Max. config</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE number (one PDP context/UE)</td>
<td>200,000</td>
<td>1,600,000</td>
</tr>
<tr>
<td>RNC number</td>
<td>255</td>
<td>255</td>
</tr>
<tr>
<td>Session rate</td>
<td>3,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Data rate</td>
<td>5Gbps bi-directional</td>
<td>15Gbps bi-directional</td>
</tr>
</tbody>
</table>

GGSN test performance (per TS)

<table>
<thead>
<tr>
<th>Items</th>
<th>Std. config</th>
<th>Max. config</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE number (one PDP context/UE)</td>
<td>600,000</td>
<td>1,600,000</td>
</tr>
<tr>
<td>RNC number</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Session rate</td>
<td>3,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Data rate</td>
<td>5Gbps bi-directional</td>
<td>15Gbps bi-directional</td>
</tr>
</tbody>
</table>
3G–eHRPD (HSGW)

Landslide eHRPD test application is the performance test solution targeted for HSGW (High-Speed GW).

**Test scenarios**
- Session capacity test
- Session rate test
- Session loading test
- Intra-CDMA handover
  - Intra-HSGW, Inter-HSGW with/without context transfer
- Inter-RAT handover
- CDMA ↔ LTE with/without optimization
- Dormant/reactivation test

**Features**
- Terminal IP address type
  - IPv4, IPv6, dual stack
- Support multi-PDN
- Support LMA emulation
- Support PMIPv6
- Support PPP NCP
  - IPCP, IPV6CP, VSNCP
- Support EAP-AKA’ authentication

**Performance (per TS)**

<table>
<thead>
<tr>
<th>Items</th>
<th>Standard configuration</th>
<th>Maximum configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE number (one main service connection/UE)</td>
<td>200,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>ePCF number</td>
<td>255</td>
<td>255</td>
</tr>
<tr>
<td>Session rate</td>
<td>2,000</td>
<td>5,333</td>
</tr>
<tr>
<td>Data rate</td>
<td>3Gbps bi-directional</td>
<td>10Gbps bi-directional</td>
</tr>
</tbody>
</table>
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**WiFi-offload**

Landslide WiFi-offload GW test application is the performance test solution targeted for WiFi-offload GW/access controller. By emulating many Wi-Fi station and AP, Landslide test tunnel capacity and data throughput of Wi-Fi offload GW/access controller. And by emulating mobile core network, Landslide tests the validity of data application traffic offloading.

![Landslide Diagram](image)

**Test scenarios**
- Session capacity test
- Session rate test
- Handover test
- Inter-AP mobility, inter-SSID mobility

**Performance (per TS)**

<table>
<thead>
<tr>
<th>Items</th>
<th>Std. config</th>
<th>Max. config</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE number</td>
<td>200,000</td>
<td>1,600,000</td>
</tr>
<tr>
<td>AP number</td>
<td>150,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Session rate</td>
<td>3,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Data rate (non-encryption)</td>
<td>5Gbps bi-directional</td>
<td>15Gbps bi-directional</td>
</tr>
</tbody>
</table>

**Features**

- Support ethernet over GRE (IPv4, IPv6)
- Support CAPWAP
  - DTLS, CAPWAP message editor
- Support tunnel-less connection
- User authentication methods
  - RADIUS, 802.1x
  - Support EAP
    - EAP-SIM/AKA/AKA'
    - EAP-TLS/TTLS
    - EAP-FAST
    - PEAP
    - EAP-MSCHAPv2
- IP address type
  - DHCP, DHCPv6, IPv6 SLAAC
- RADIUS AVP editor
- Support ePDG (IPsec) (optional)
- Mobile core node emulation (PGW, GGSN) (optional)
IPsec—(IKEv2 / IKEv2)

Landslide support IPsec feature in various applications. With this function, Landslide test IPsec tunnel capacity and data throughput for those nodes which includes security Gateway function.

Test scenarios
- Session capacity test
- Session rate test
- Session loading test

Performance (per TS, pre-shared key)

<table>
<thead>
<tr>
<th>Items</th>
<th>Std. config</th>
<th>Max. config</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concurrent SA number</td>
<td>300,000</td>
<td>800,000</td>
</tr>
<tr>
<td>Connect/disconnect SA rate</td>
<td>200</td>
<td>5,333</td>
</tr>
<tr>
<td>Data rate</td>
<td>2Gbps bi-directional</td>
<td>5Gbps bi-directional</td>
</tr>
</tbody>
</table>

Features

- IKEv1 function
  - Phase 1 mode: main/aggressive
  - Authentication: pre-shared key, digital signature
  - ESP mode: transport mode, tunnel mode
  - Connection: remote access, site to site
  - Support Xauth (extended authentication)
  - Support NAT-Traversal
  - Encryption: 3DES, AES-CBC-128/192/256
  - Hash: MD5, SHA1, AES-XCBC-128, SHA2-256/384/512
  - Diffie-Hellman group: 1, 2, 5, 14, 15, 16, 17, 18
  - Phase 1 ID Type: ID_IPV4_ADDR, ID_IPV6_ADDR, ID_FQDN, ID_USER_FQDN, ID_DER_ASN1_DN
  - Phase 2 ID Type: ID_IPV4_ADDR, ID_IPV6_ADDR
  - Support L2TP over IPsec (optional)

- IKEv2 function
  - Authentication: pre-shared key, digital signature
  - ESP mode: transport mode, tunnel mode
  - Connection: remote access, site to site
  - Support NAT-Traversal
  - Support EAP authentication
    - EAP-SIM/&AKA/AK
    - EAP-TLS/TTLS
    - EAP-FAST
    - PEAP
    - EAP-MSCHAPv2
  - Encryption: NULL, 3DES, AES-CBC-128/192/256
  - Hash: MD5, SHA1, AES-XCBC-128, SHA2-256/384/512
  - Diffie-Hellman group: 1, 2, 5, 14, 15, 16, 17, 18
  - ID Type: ID_IPV4_ADDR, ID_IPV6_ADDR, ID_FQDN, I_USER_FQDN, ID_DER_ASN1_DN
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AAA–(RADIUS/Diameter) PCRF/HSS

Landslide provides test solution for different AAA server. RADIUS/Diameter test application emulate large number of RADIUS/Diameter client and send authentication to AAA server and test AAA server’s performance. PCRF test application emulates AGW, BBERF, AF, by emulating UE set up and disconnect bearer and emulate call control from IMS to test PCRF session management performance.

Test scenarios
- Session capacity test
- Session rate test
- Session loading test

AAA server DUT
- Radius server
- Diameter server
- PCRF
- HSS, HLR
- EIR

AVP editor

Features
- RADIUS/Diameter server test function
  - Support RADIUS CoA, disconnect
  - Primary/secondary server test
  - Round robin load test
  - Support IPv4/v6
  - Support acquiring IP address
  - Support Diameter base/NASREQ/EAP
  - Support 3GPP S6b, S8a, Wm interface

- PCRF test function
  - Support 3GPP Gx, Gxc, Rx interface
  - Emulate bearer connect/disconnect
  - Media component description editor
  - HSS/HLR/EIR test function
  - Support 3GPP S6a, S6d, Gr (MAP), S13, S13'
  - Support EPS/UMTS/GSM authentication

- Common function
  - Support Diameter over TCP, Diameter over SCTP
  - RADIUS/Diameter AVP editor
  - Support EAP authentication
    - EAP-SIM/AKA/AKA'
    - EAP-TLS/TTLS
    - EAP-FAST
    - PEAP
    - EAP-MSCHAPv2

Performance (per TS)
- RADIUS/Diameter server test performance (per TS)
- PCRF test performance (per TS)
- HSS/HLR/EIR test performance (per TS)

<table>
<thead>
<tr>
<th>Items</th>
<th>Std. config</th>
<th>Max. config</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE number</td>
<td>600,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Session rate</td>
<td>3,000</td>
<td>8,000</td>
</tr>
<tr>
<td>UE number</td>
<td>300,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Session rate</td>
<td>3,000</td>
<td>8,000</td>
</tr>
<tr>
<td>UE number</td>
<td>300,000</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Session rate</td>
<td>3,000</td>
<td>8,000</td>
</tr>
</tbody>
</table>
AAA–DRA/DEA

Landslide DRA test application is the performance test solution targeted for DRA (Diameter Routing Agent)/DEA (Diameter Edge Agent). With the flexibility to emulate different topology, Landslide tests DRA/DEA in isolation or test including other surrounding node as system test.

Test scenarios
- Session capacity test
- Session rate test
- Session loading test

DUT interface
- 3GPP S6a, S6d
- 3GPP Gx, Gxc
- 3GPP Rx
- 3GPP S9

Features
- Surrounding node emulation
  - Support MME, HSS, PCRF, PGW, AF emulation
- Diameter message editor
- Diameter AVP editor
- Support Diameter over TCP, Diameter over SCTP
- Support SCTP multi-homing

Diameter message editor

Flexible topology animation

Performance (per TS)

<table>
<thead>
<tr>
<th>Items</th>
<th>Standard configuration</th>
<th>Maximum configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE number</td>
<td>1,500,000</td>
<td>6,000,000</td>
</tr>
<tr>
<td>Diameter transaction rate</td>
<td>30,000</td>
<td>60,000</td>
</tr>
<tr>
<td>MME/HSS/PGW/PCRF/AF number</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>
Command mode

Command mode is an add-on option for LTE test application. There are “Command Mode” and “Sequencer” function added in the solution to define more realistic UE’s behavior from real world.

Command mode supported test case
- MME nodal
- SGW nodal
- PGW nodal
- GGSN nodal
- UMTS
- PCRF node

Realistic mobile phone’s signaling emulation by “Sequencer”
Server emulation

Landslide is able to emulate multiple type of Server. It helps not only to reduce the steps to prepare, set up real server, remove the possible performance bottleneck of real server, but also be able to emulate congestion situation which is hard to reproduce with real server.

Mobile core network node emulation

By adding mobile core node emulation option, Landslide is able to emulate multiple type of mobile core node.

AAA server emulation (RADIUS/Diameter)

With AAA RADIUS server emulation option and AAA Diameter server emulation option, Landslide is able to emulate RADIUS/Diameter server function. It supports Authentication/Accounting, IP address assignment, EAP authentication function and RADIUS/Diameter AVP editor function are the same as they are in AAA server test application.

- Diameter application supported
  - Diameter base/NASREQ/EAP
  - S6b, STa, SWx interface
  - Wm/Wg interface
- EAP authentication supported
  - EAP-SIM/AKA/AKA’
  - EAP-TLS/TTLS
  - EAP-FAST
  - PEAP
  - EAP-MSCHAPv2

DHCP server emulation

With DHCP server emulation option, Landslide is able to provide DHCP server emulation function. Support IPv4 and IPv6 address assignment.

### Performance (per TS)

<table>
<thead>
<tr>
<th>Items</th>
<th>Std. config</th>
<th>Max. config</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session number</td>
<td>600,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Session rate</td>
<td>3,000</td>
<td>8,000</td>
</tr>
<tr>
<td>AAA server number</td>
<td>1,000</td>
<td>1,000</td>
</tr>
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### Performance (per TS)

<table>
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<tr>
<th>Items</th>
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</tr>
</thead>
<tbody>
<tr>
<td>IP address number</td>
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</tr>
<tr>
<td>IP address assignment rate</td>
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<td>6,000</td>
</tr>
<tr>
<td>DHCP server number</td>
<td>1</td>
<td>3</td>
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</tbody>
</table>
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Module type platform—Landslide on HyperMetrics Next mXP

Landslide on HyperMetrics Next mXP is the module platform combining Landslide mobile signaling function with Spirent TestCenter data traffic engine module. Along with emulating realistic mobile user, it provides huge Layer2-3 data throughput and high precision GTP mobile data stream analysis.

Features
- Perfect combination of Landslide’s control plane call engine and Spirent TestCenter user plane
- Generate large volume of stateful data traffic during mobile environment specific event like handover
- Analyze mobile user IP address, subscriber identification number, latency and data packet counter in correlation.
- Maximum 80Gbps traffic per mXP module
- Provide consistent data traffic generation/analysis which is independent from data packet size.

Mobile signaling generator
Landslide

High precision traffic generator
Spirent TestCenter

<table>
<thead>
<tr>
<th>Network Port</th>
<th>Mobile Streams</th>
<th>Stream Block</th>
<th>Stream Index</th>
<th>IMSI</th>
<th>IP</th>
<th>Protocol</th>
<th>Tx Count (Frames)</th>
<th>Rx Count (Frames)</th>
<th>Tx Count (bit)</th>
<th>Avg Latency (us)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Port</td>
<td>Network Mobile Streams</td>
<td>0</td>
<td>505024101215074</td>
<td>203.0.1</td>
<td>20000000</td>
<td>248223233</td>
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<td>3379596580</td>
<td>0.129</td>
<td></td>
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<td>1</td>
<td>505024101215324</td>
<td>203.0.251</td>
<td>2000050</td>
<td>24817294</td>
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<td>3375151984</td>
<td>0.129</td>
<td></td>
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<td>Network Mobile Streams</td>
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<td>505024101215574</td>
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<td>2000050</td>
<td>24809589</td>
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<td>3374117740</td>
<td>0.129</td>
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Test setting topology (LTE)

Test scenario setting

Test scenarios can be made from GUI without any programming. All test application provide signaling pattern template and can be customized with check box or pull-down manual.

Test scenario general setting

Provides lots of interface, protocol parameter to be selected/set
Realism—real call model replication

By combining smart phone profile, application traffic and user’s call modeling, Landslide replicates mobile traffic from real world and evaluates the full system in a real world environment, check user’s Quality of Experience, system stability, test cost etc. From those different angles, Landslide helps to check whether those items can be achieved or not.

Real network mobile signaling event replication image

Realism—user traffic data

Landslide is able to emulate different pattern of user traffic from mobile network.

- Performance: adopt FPGA to generate large volume of stateless data traffic
- Realism: statefull traffic supported with multiple TCP connection
- Variation: replicate application data traffic (Web, video, VoIP, etc) from real network.

Template of various mobile application data profile
**Execution GUI**

Landslide provides real time counter and chart to reflect DUT’s status. There are counters for each protocol layer and each protocol message, with those counter, it is easy to understand the message sequence of emulated UE, what error happened and it’s possible reason. Besides, Landslide provides real time chart for any counter which indicates the performance and error trend during the test.

**Main counters**

- Session setup attempt/success number
- Session disconnect attempt/success number
- Concurrent session number
- Various protocol message sent/received number
- Various error number, reason number
- Average session setup/disconnect time etc

**Result analysis**

Report tool provides result analysis after test. It helps to confirm counter information and test result, support to build graphic chart.
HeNB GW test

Combining Landslide MME test application, IPsec feature and EPC emulation function, Landslide can run HeNB GW isolation test by emulating both HeNBs and EPC core.

Test Scenarios
- HeNB GW capacity test
- UE capacity test
- Session rate test
- Session loading test
- Inter-HeNB handover test
- Paging flooding test
- Idle/reactivation test

Features
- Support features listed in LTE part
- Support S1-MME and S1-U over IPsec

Performance (per TS)

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