Version 13.0.0.2

Release Date: Feb 17, 2017

New in this Release

1. C-SGN Emulator:
   Includes the MME, SGW and PGW Emulators – with new interfaces and functions for testing CIoT base stations and devices compatible with 3GPP Release 13 specifications.

   New Functions:
   - Control Plane CIoT EPS Optimization for eMTC and NB-IoT
     - Enhancements in S1 Setup, eNodeB Configuration Update, UE Attach, Detach, Context Release, TAU, Handover
     - IP Data Transport over NAS
     - MO Data from and MT Data to Idle UE
     - Paging enhancement for eDRX and PSM capable UE
     - Extended buffering of downlink data for Idle UE to support high-latency communication
   - EPS Attach without PDN Connectivity
   - SMS Transfer for CIoT UE

   New Interfaces:
   - GTPu based S11-U between MME and SGW

2. eNodeB Emulator:
   Simulation of eMTC and NB-IoT UE and eNodeB conforming to 3GPP Release 13 enhancements for Cellular IoT.

3. User Plane performance improvement:
   More than 1 Gbps user-plane throughput on suitable hardware.

Version 11.1.0.9

Release Date: Jan 20, 2017

Version 11.1.0.7

Release Date: Nov 11, 2016

Version 11.1.0.5

Release Date: Sep 29, 2016

Version 11.1.0.4

Release Date: Sep 5, 2016

New in this Release

1. HeNB-GW Emulator:
   - Overload handling.
2. Supported Linux distributions:
   - CentOS 7.2 and Ubuntu 16

Version 11.1.0.3

Release Date: Jul 18, 2016

New in this Release

1. UE Controller:
   - Support for iPhone devices.

Version 11.1.0.2

Release Date: Jun 21, 2016

New in this Release

1. PGW Emulator:
   - Handover between 3GPP Access and trusted/untrusted non-3GPP IP Access over GTP-based S2a/S2b interface.
2. ePDG Emulator:
   Enhancements over GTP-based S2b interface:
   - Handover between 3GPP Access and untrusted non-3GPP IP Access.
   - IPv6 addressing.
   - Complete Path Failure handling.
3. HeNB-GW Emulator:
   - Location Reporting.
   - LPPa Transport.
4. UE Controller:
   - Support for Windows devices.

5. Reduced memory footprint compared to version 11.0. Refer to the *NetTest EPC Emulators KPI* datasheet for the memory consumed per attached user and per bearer.
6. NetTest UE Tester: Includes a small cell and a complete EPC Emulator on a portable platform.

Version 11.1.0.1 Alpha

Release Date: May 11, 2016

New in this Release

1. PGW Emulator:
   - GTP-based S2a and S2b interface.

   Handover between 3GPP Access and trusted/untrusted non-3GPP IP Access will be supported in the next build.
2. ePDG Emulator:
   - GTP-based S2b interface.
   - IPv6 addressing on SWu interface.
   - Dead Peer Detection on SWu interface.
   - PGW selection using DNS.
   - Peer node failure detection and handling.
3. UE SWu Emulator:
   - IPv6 addressing.
   - Dead Peer Detection.
   - IKEv2 and ESP Re-keying.
   - NAT Traversal.
4. HeNB-GW Emulator:
   - IPv6 addressing on S1-MME and S1-U interfaces.
   - Trace.
   - DSCP marking on Uplink and Downlink data traffic.
5. MME Emulator:
   - UE Radio Capability Match support.
   - Management-based MDT PLMN List.
6. UE Controller:
   - IMS call quality (MOS) measurement.
   - File streaming during IMS call.
   - YouTube video streaming and quality (MOS) measurement.
   - GPS information retrieval.
   - Signal Status Tracking.
   - Support for newer versions of adb.
   - Support for Android M devices.
   - IPv6 support for iPerf and FTP.

Version 11.0.0.114

Release Date: Mar 18, 2016

Version 11.0.0.113

Release Date: Feb 18, 2016

Version 11.0.0.112

Release Date: Jan 4, 2016

Version 11.0.0.111 Beta

Release Date: Dec 3, 2015

New in this Release

1. User Plane performance improvement: Up to 2x faster user-plane throughput on suitable hardware compared to release 10.2.
2. UE Emulator with S14 and SWu interfaces.
3. ePDG: NAT Traversal on SWu interface.
4. HeNB-GW: Optional user-plane aggregation, LIPA, protocol policy setting for negative testing.
5. User Traffic Impairment configuration.
6. Support for Kamailio IMS Server to test IMS Voice Calls, Video Calls and SMS.
7. DSCP marking on Uplink and Downlink traffic over S1u, S5u and SGi interfaces.

Version 11.0.0.109

Release Date: Nov 11, 2015

Version 11.0.0.108

Release Date: Oct 16, 2015

Version 11.0.0.107

Release Date: Oct 12, 2015

Version 11.0.0.101 Beta

Release Date: Sep 23, 2015

Version 11.0.0.100 Beta

Release Date: Sep 21, 2015

New in this Release

1. MCE Emulator with M3 and M2 interfaces.
2. M2 interface in eNodeB Emulator.
3. Location Services (LCS):
    - SLg and SLs interfaces in MME Emulator to external GMLC and E-SMLC.
    - SLh interface in HSS Emulator to external GMLC.
4. Untrusted non-3GPP Access:
    - Handover from 3GPP Access Network.
    - Emergency Services.
    - Home-Routed and Local-breakout Roaming.
    - Re-keying over IKEv2 and ESP tunnels.
5. Trusted non-3GPP Access: HSS-initiated procedures.
6. Control Plane performance improvement: Up to 10x faster signaling procedures on suitable hardware compared to release 10.2.
7. GERAN and UTRAN support in HSS Emulator with S6d interface.
8. VoLTE with SRVCC Handovers with 3GPP Access networks:
    - S1-MME enhancements in MME Emulator.
    - Sv interface in MME Emulator to external MSC.
    - Sh interface in HSS Emulator to external IMS.
9. LIPA and SIPTO support in MME and HSS Emulator.

Version 11.0.0.5 Beta

Release Date: Apr 21, 2015

New in this Release

1. HeNB Gateway Emulator with S1-MME and S1-u interfaces.
2. Untrusted non-3GPP Access: Multiple PDN connection and disconnection.
3. Untrusted non-3GPP Access: Handover to 3GPP Access Network.

Version 11.0.0.2 Beta

Release Date: Mar 13, 2015

New in this Release

1. ePDG Emulator with SWm, SWn, SWu, S2b interfaces.
   Only PMIP based S2b is supported.
2. Untrusted non-3GPP Access Network support in HSS/AAA and PGW.

Version 10.2.0.15

Release Date: Aug 28, 2015

Version 10.2.0.14

Release Date: Jul 8, 2015

Version 10.2.0.13

Release Date: May 25, 2015

Version 10.2.0.11

Release Date: Apr 22, 2015

Version 10.2.0.10

Release Date: Mar 9, 2015

Version 10.2.0.9

Release Date: Feb 6, 2015

Version 10.2.0.8 Beta

Release Date: Jan 15, 2015

New in this Release

1. Support for IPv6 for signaling between LTE Network Elements.

Version 10.2.0.7 Beta

Release Date: Nov 19, 2014

New in this Release

1. MBMS-GW Emulator with M1, Sm, SG-mb and SGi-mb interfaces and internal BM-SC Simulator to generate MBMS traffic.
2. eMBMS support in eNodeB and MME Emulator.
3. Inter-working with trusted non-3GPP Access Network with S2a, S6b, STa and Gxa interfaces.
4. AAA Server functionality in HSS Emulator.
5. SMS transmission from MME to UE and UE-to-UE SMS loopback in MME.
6. Equivalent PLMN and Forbidden TA/LA configuration in MME.
7. Minimization of Drive Test (MDT) configuration and activation.
8. HSS-initiated Trace Activation/Deactivation on S6a.
9. GERAN and UTRAN support in PCRF.
10. AF Session Establishment/Termination/Modification in Visited PLMN.
11. Support for Diameter Redirect Agent and Diameter Proxy Agent in SGW and PCRF.
12. Gxc interface in PCRF Emulator.
13. Cx interface in HSS Emulator to test IMS Voice Calls and SMS.
14. Use of OpenIMS Server to test IMS Voice Calls and SMS.
15. Use of DHCP server co-located with PGW for allocation of UE IP addresses.

Version 10.2.0.3 Beta

Release Date: Jul 25, 2014

New in this Release

1. ANSDF Emulator with S14, Zh and Ub interfaces.
2. UES14 Emulator with S14 interface.

Version 10.1.0.12

Release Date: Nov 15, 2014

Version 10.1.0.11

Release Date: Oct 15, 2014

Version 10.1.0.10

Release Date: Sep 17, 2014

Version 10.1.0.9

Release Date: Aug 20, 2014

Version 10.1.0.7 Beta

Release Date: Jul 22, 2014

Version 10.1.0.6 Beta

Release Date: Jun 26, 2014

Version 10.1.0.4 Beta

Release Date: May 30, 2014

New in Release 10.1

1. PCRF Emulator with Gx, Rx, S9 and proprietary Sp interfaces.
2. HSS Emulator with S6a interface.
3. Multimedia Priority Service.
4. Diameter Redirect Agent and Diameter Proxy Agent support in MME and PGW.
5. Network-triggered Service Restoration on GTP based S5/S8.
6. UE IPv6 Address assignment via DHCPv6 on GTP-based S5/S8.
7. PS Handover during CS Fallback to GERAN and UTRAN.
8. Relay Node support in MME.
9. HSS Identity resolution and SGW selection using DNS in MME.
10. Radio Resource Management and Mobility Restriction in MME.
11. UE Time Zone reporting.
12. APN Restriction.
13. PGW Restart Indication and Modify Access Bearer Request in MME and SGW.

Version 10.0.0.9

Release Date: May 19, 2014

Version 10.0.0.8

Release Date: Apr 9, 2014

Version 10.0.0.7

Release Date: Feb 24, 2014

Version 10.0.0.6

Release Date: Dec 30, 2013

New in Release 10.0

1. 3GPP Release 10 Compatibility:
   3GPP Release 10 enhancements in S1AP, GTP, PMIP and Diameter messages.
2. Local Breakout Roaming using GTP-based S5.
3. Inter-working with GERAN and UTRAN:
   Access to LTE Core Network via GERAN/UTRAN and Idle and Connected mode mobility between GERAN/UTRAN and LTE Network.
4. CS Fallback to GERAN and UTRAN:
   Combined Attach to CS+PS network, SMS over SGs and Mobile Originated and Terminating Voice Call with Suspension of PS service during CSFB.
5. CS Fallback to CDMA2000 1xRTT Network:
   Mobile Originated and Terminating Voice Call and SMS without PS Handover.
6. Dedicated Bearers on PMIP-based S5/S8 interface, Gxc interface in SGW.
7. Complete and Partial Path Failure handling.
8. GTP-U Error Indication handling.
9. Remote packet capture from Emulators Console using Wireshark.
10. Subscriber Monitoring using Emulator Console.
11. PGW selection in MME and Charging Server selection in PGW using DNS.
12. Trace Activation and Deactivation from external HSS using S6a interface.

Version 9.2.0.9

Release Date: Dec 4, 2013

Version 9.2.0.8

Release Date: Oct 21, 2013

Version 9.2.0.7

Release Date: July 23, 2013

Version 9.2.0.6

Release Date: June 27, 2013

Version 9.2.0.4

Release Date: May 14, 2013

New in Release 9.2

1. Emergency Session
2. CMAS - SBc interface between MME and Cell Broadcast Centre (CBC) and simulation of Alerts from MME
3. PMIP-based S5/S8 interface, with support for Default Bearer establishment only
4. Bearer Release initiated by eNB and MME
5. UE requested DHCP-based IPv4 address assignment
6. HSS Initiated APN-AMBR, QCI, ARP Modification
7. PCRF-initiated Location Reporting using the Emulators' Tcl scripting API
8. Support for IPv6 user plane traffic on dedicated bearer

Version 9.1.0.10

Release Date: April 23, 2013

Version 9.1.0.9

Release Date: March 06, 2013

New in this Release

1. Support for "Network Access Mode" configuration in EPC.

Version 9.1.0.8

Release Date: February 22, 2013

Version 9.1.0.7 Beta

Release Date: February 8, 2013

Version 9.1.0.6 Beta

Release Date: February 1, 2013

New in Release 9.1

1. S6a interface in MME to communicate with external HSS
2. S13 interface in MME to communicate with external EIR
3. IPv6 user plane traffic – only on default bearer
4. Trace in SGW and PGW
5. Roaming – Home-Routed

Version 9.0.0.10

Release Date: November 27, 2012

Supported Signaling Procedures (compliant to 3GPP Release 9 standards)

1. S1 Setup, S1 Close, S1 Flex
2. S1 Reset: eNB Initiated and MME Initiated
3. SCTP Multi-homing on S1-MME
4. UE Attach: Initial Attach with IMSI / old GUTI
5. UE Detach: UE Initiated and Network Initiated
6. UE Context Release
7. Service Request
8. Tracking Area Update
9. Downlink Data Notification / Paging
10. Dedicated Bearer Activation: UE and Network Initiated
11. Bearer Modification: UE and Network Initiated
12. Bearer Deactivation: UE and Network Initiated
13. S1-Based Handover - with or without MME and SGW relocation
14. X2-Based Handover - with or without SGW relocation
15. Multiple PDN Connection and Disconnection
16. Trace support in MME
17. Overload
18. Location Reporting on S1-MME
19. SGW selection in MME based on Tracking Area
20. UE IPv4 address allocation by PGW using DHCP based
21. Closed Subscriber Groups and Open/Closed/Hybrid Access Control to support Home eNB

Other Features

1. End-to-end IPv4 traffic on default and dedicated bearers
2. ICMP and UDP traffic generation using internal traffic generator
3. Simulation of abnormal and failure scenarios for negative testing
4. Procedure and Packet statistics for each protocol
5. Protocol timer configuration
6. Separate IP Address for each 3GPP interface