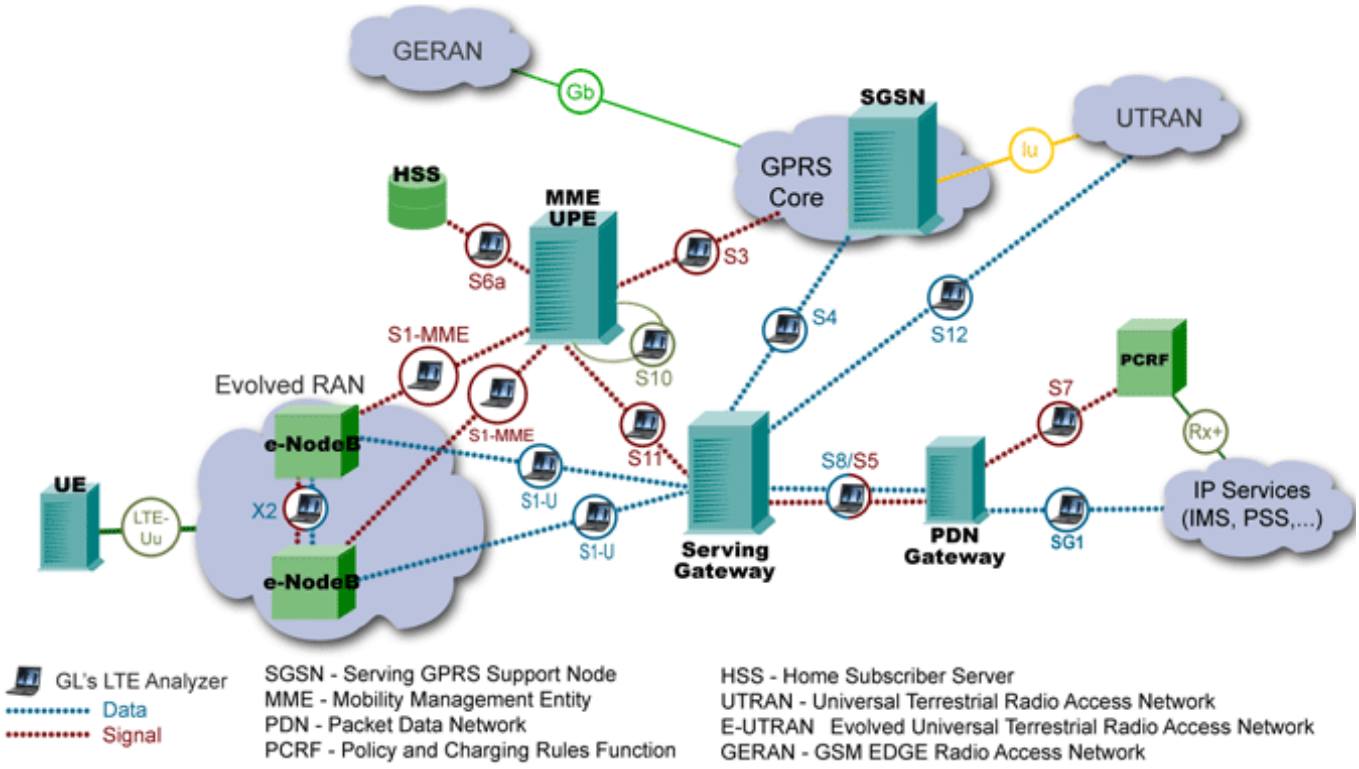
PacketScan™ LTE Protocol Analyzer



Overview

Long Term Evolution is the all packet architecture and provides significantly greater air interface bandwidth to the mobile handset. It was developed as an enhancement to the existing 3G UMTS System (Universal Mobile Telecommunications System) to provide users enhanced mobile radio and internet access.

GL's LTE Protocol Analyzer within PacketScan™-All IP Protocol Analyzer is an optional module (PKV107) available within PacketScan (PKV100) on purchase of additional licensing.

GL's LTE Protocol Analyzer offers powerful features to capture and monitor live signaling and traffic over LTE networks. It captures, segregates, monitors and collects statistics on all calls. Test eNodeB or UE over S1, S3, S4, S5 (or S8), S6a, S10, S11, S13 and X2 interfaces of the LTE network.

GL's PacketScan™-All IP Protocol Analyzer supports monitoring almost all of 2G, 3G and 4G protocols over IP network such as GSM, GPRS, UMTS, SIGTRAN, and LTE, in addition to SIP, MGCP, MEGACO, Skinny, SCCP, Diameter, and H.323.

For more details, visit PacketScan™ - All-IP Analyzer and LTE (Long Term Evolution) Protocol Analyzer webpages.

GL Communications Inc.

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Main Features

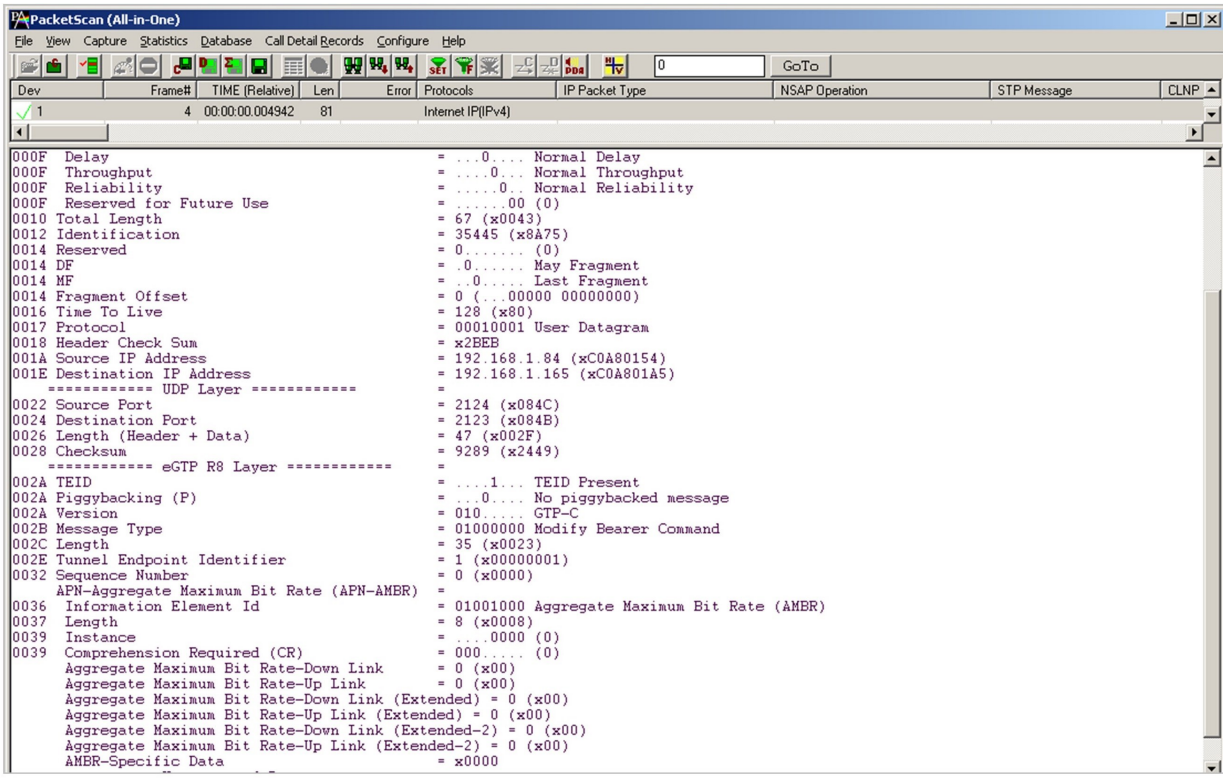
- Capture, Decode, and Analysis of Calls in LTE Network
- Supported protocols - NAS, S1AP, X2AP, eGTP, GTP-U, Diameter, SCTP, UDP, TCP, and IP
- Supported interfaces - LTE S1, S3, S4, S5 (or S8), S6a, S10, S11, S13 and X2 interfaces
- Advanced filtering and search based on any user selected protocol fields
- Any protocol field can be added to the summary view, filtering, and search features providing users more flexibility to monitor required protocol fields
- Trigger intelligent actions based on signaling and traffic conditions
- Support for Multi-technology, Multi-protocol data analysis
- Displays Summary, Detail, Hex dump, Statistics, and Call Detail Views
- Hex dump View displays the frame information in HEX and ASCII format, the contents of this view can also be copied to clipboard
- Statistics View displays statistics based on frame count, byte count, frames/sec, bytes/sec etc for the entire capture data
- Call Detail View displays called/ calling number, released calls, call status, & more
- Provides a consolidated interface for all the important settings required in the analyzer. All the configuration settings done in any of these options can be saved to a file, loaded from a configuration file
- Supported on Windows® 8 and above (32 bit and 64 bit) Operating System

Summary and Detail View of LTE

User can select a frame in Summary View to analyze and decode each LTE frame in the Detail View.

The detail view of LTE call displays the following:

- MAC Layer
- IP Layer
- UDP Layer
- eGTP Layer

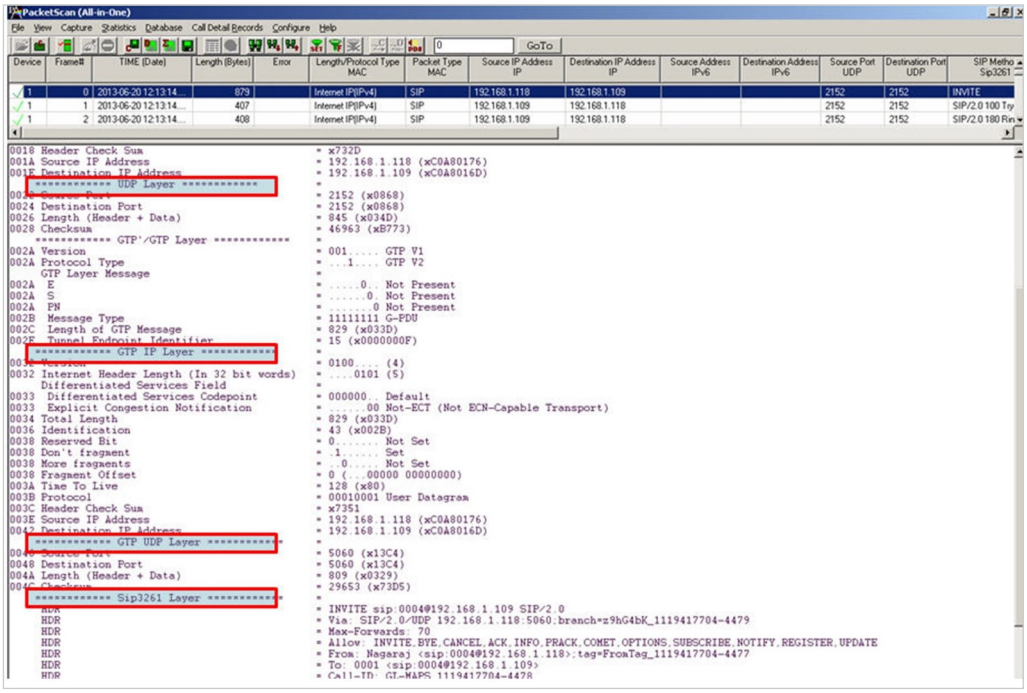


Detail View of LTE

Summary and Detail View of LTE (*Contd.*)

The detail view of VoLTE call displays the following:

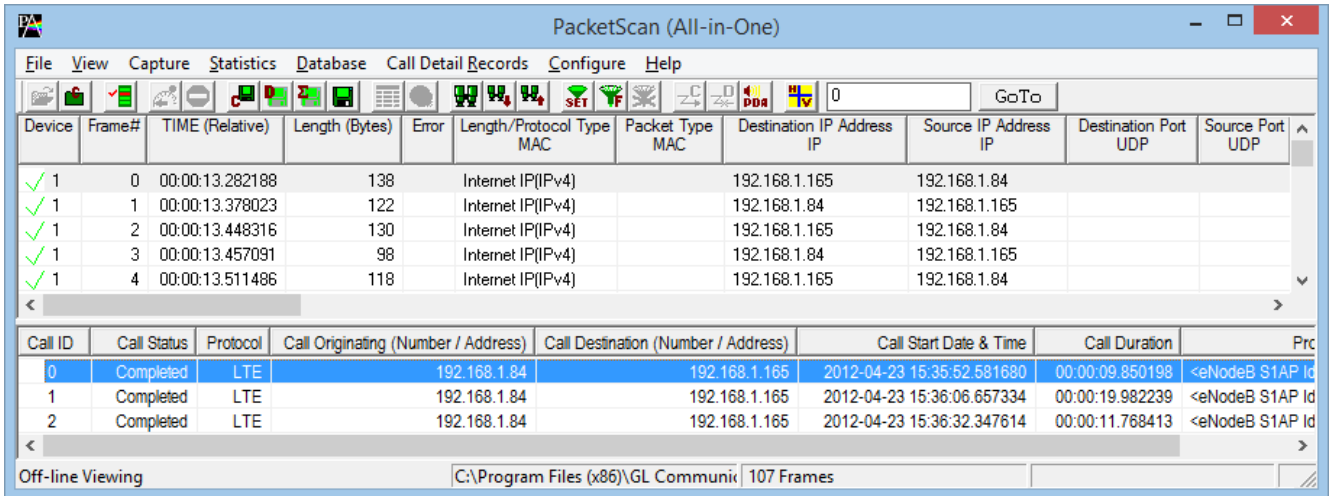
- MAC Layer
- IP Layer
- UDP Layer
- GTP IP Layer
- GTP UDP Layer
- SIP / RTP



Detail View of VoLTE

Call Detail Records

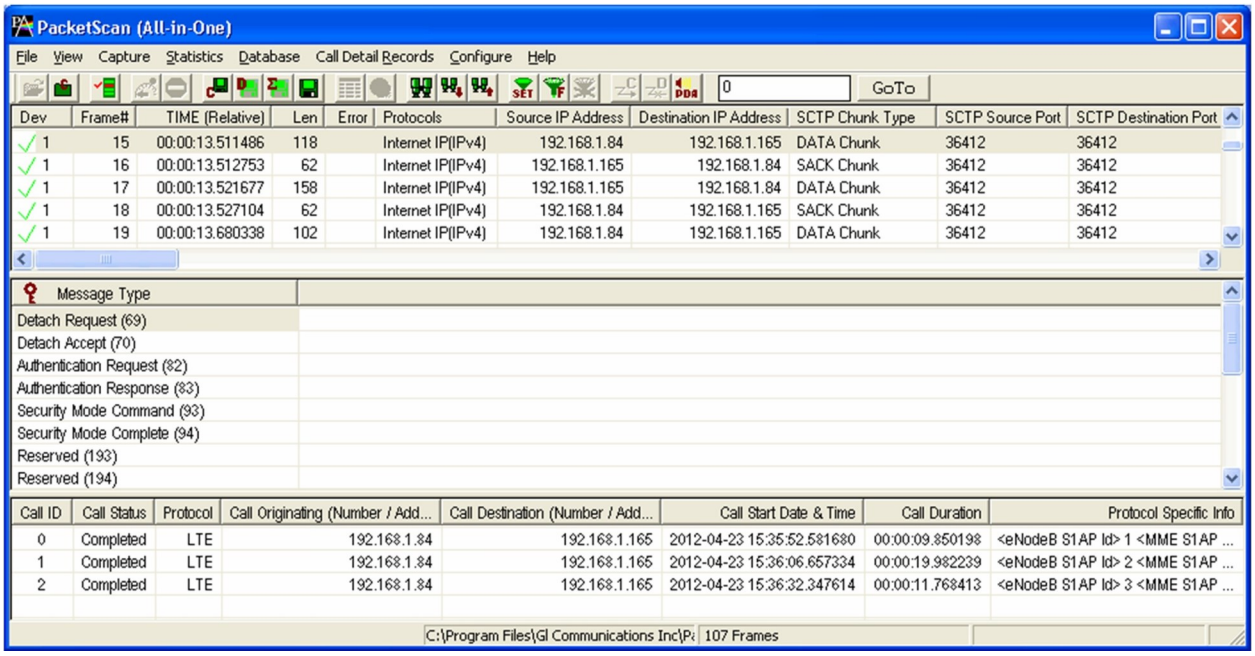
LTE call detail view displays Call ID, Call status, Protocol, Call Originating (Number/Address), Call Destination (Number/Address), Call Start Date & Time, Call Duration, and Protocol Specific Information.



CDR View of LTE Calls over IP

LTE Statistics

The Statistics are calculated based on the LTE protocol fields. Displays statistic data based on message types of LTE protocol decodes in PacketScan™.

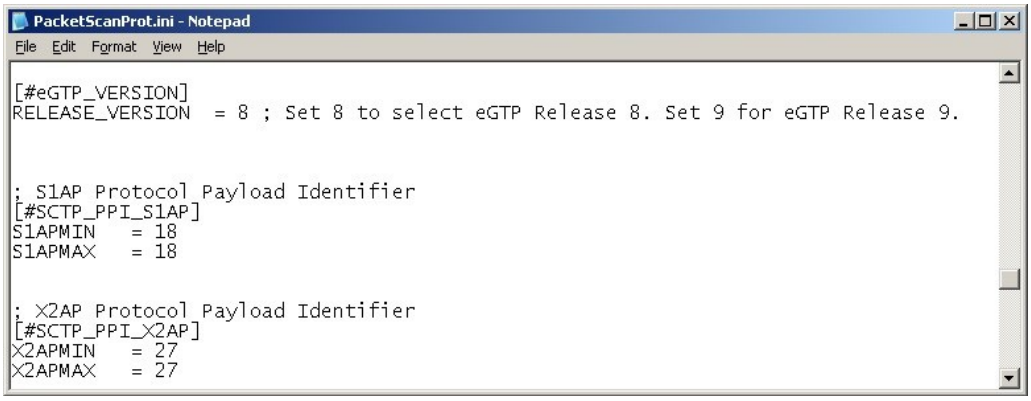


Statistic View

INI Decode Options

The .ini file configuration enables the user to enter the required custom value for each protocol in the PacketScanProt.ini file (located in Program Files\GL Communication Inc) to get proper decodes. For LTE protocols, the following options can be edited to customize the way the PacketScan™ decodes LTE protocols.

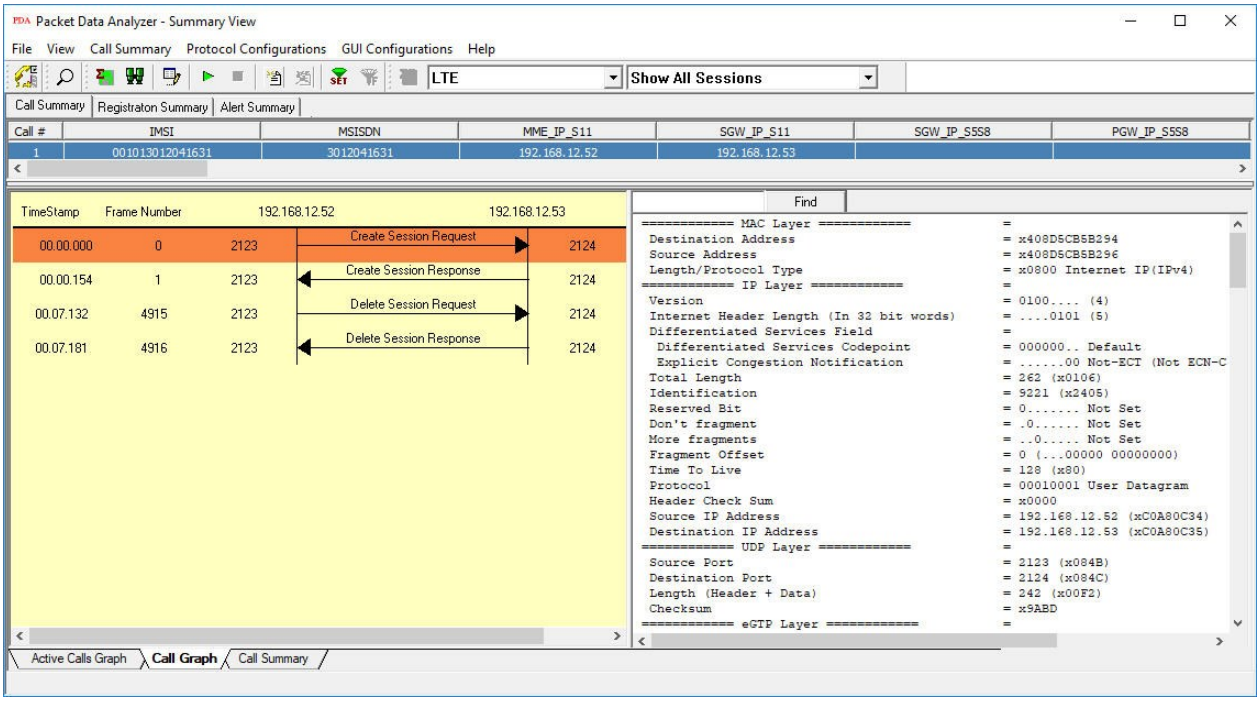
- eGTP Version – Rel 8 / Rel 9
- SCTP protocol payload identifier for S1AP – Rel 98 / Rel 9
- SCTP protocol payload identifier for X2AP



INI Decode Option for LTE

VoLTE Call Analysis in PDA View

Displays a Voice over LTE call graph with decode of the selected message displayed to the right of message sequence.

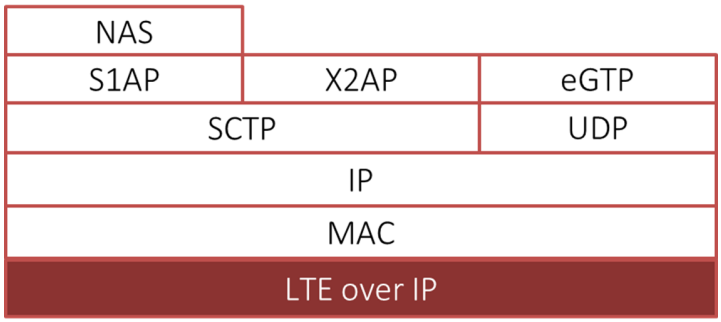


LTE Call Flow Ladder Diagram

Supported Protocol Stack and Standards

LTE stack supported by PacketScan™.

Supported Protocols	Standard / Specification Used
SCTP	RFC 2960
S1AP	3GPP TS 36.413 V9.0.0
X2AP	3GPP TS 36.423 V9.0.0
eGTP	3GPP TS 29.274 V8.0.0
NAS	3GPP TS 24.301 V9.0.0
Evolved GTP (eGTP) for EPS	3GPP TS 29.274 V8.0.0 (2008-12)
Evolved GTP (eGTP) for EPS	3GPP TS 29.274 V9.2.0 (2010-03)



Network-Wide Monitoring of LTE Network

GL's NetSurveyorWeb™ is a web-based client that can connect to LTE protocol analyzer probe for monitoring the entire LTE network through a web server that facilitates display of call data records, protocol frames, and KPIs. This system allows you to deploy multiple LTE Analyzer probes to be deployed at strategic locations in a network, transmit and collect voice, data, protocol, statistics, and performance information, and relay this information to a central / distributed Network Management System (NMS).

For more details, visit Network Monitoring over VoIP webpage.

Buyer's Guide

Item No	Product Description
PKV107	LTE (Long Term Evolution) Analyzer, Optional with PacketScan™), requires PKV100
PKV108	Offline LTE (Long Term Evolution) Analyzer (Optional with PacketScan™), requires PKV101
PKV100	PacketScan™ (Real-time and Offline)
PKV101	PacketScan™ - Offline
PKV120	PacketScan™ HD – includes PKV100 – Online (not Offline) for temporary audio codec support
PKV121	PacketScan™ FB - (Offline Analyzer)
PKV301	LAN Switch w/ Mirror Port
PKV104	FaxScan™ - Decodes Fax images in TIFF format from PCAP files
PCD103	AMR Codec for PacketScan™
PCD104	EVRC Codec for PacketScan™
PCD105	EVRC-B Codec for PacketScan™
PCD106	EVRC-C Codec for PacketScan™
PKV170	NetSurveyorWeb™ (Network Surveillance Software) for IP Network

Note: PCs which include GL hardware/software require Intel or AMD processors for compliance.

For more details, visit PacketScan™ - All-IP Analyzer and LTE (Long Term Evolution) Protocol Analyzer webpages.

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