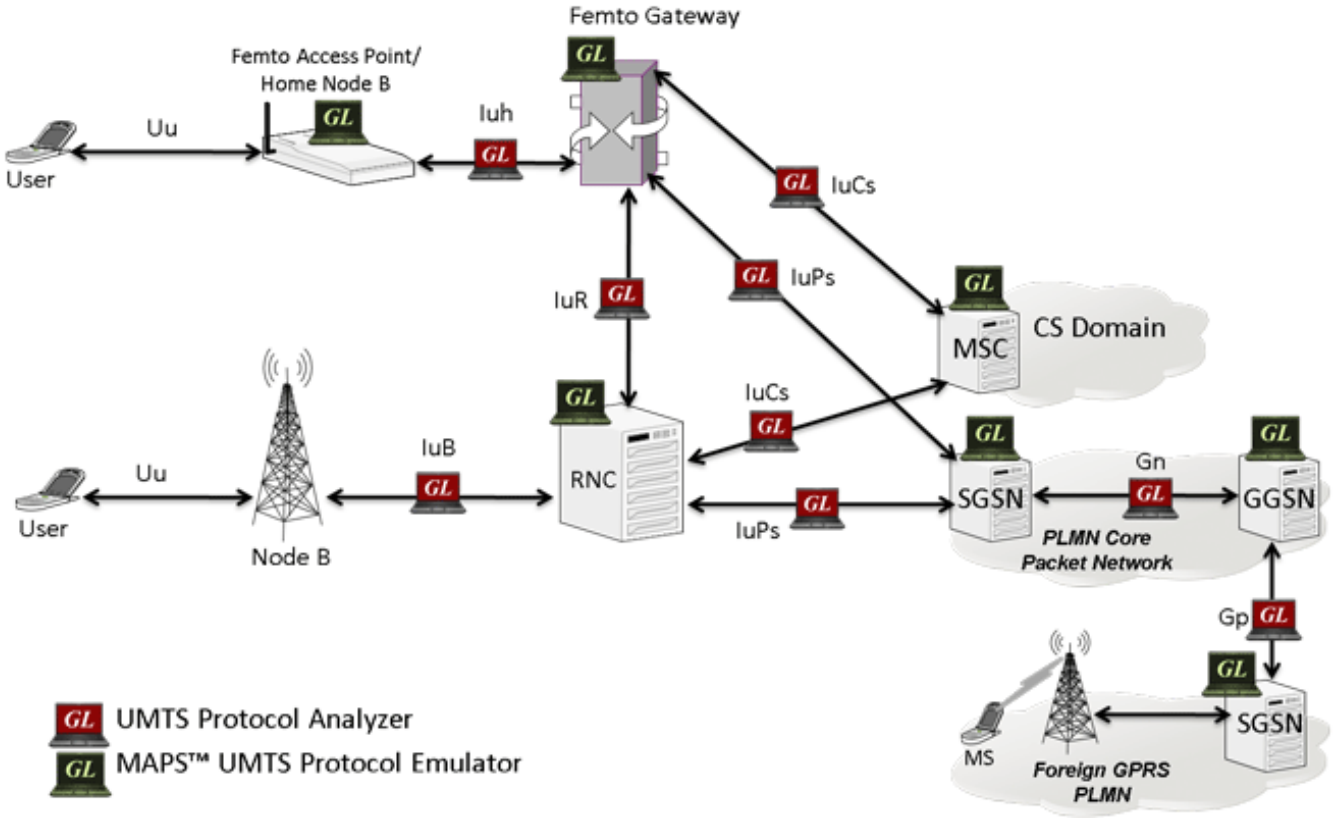
PacketScan™ UMTS Protocol Analyzer for Wireless & IP Networks



Overview

Universal Mobile Telecommunications System (UMTS) is a 3rd generation mobile technology that can support greater data rates for voice and video data to the wireless end users. UMTS is capable of handling both Circuit-Switched (CS) as well as Packet-Switched (PS) data simultaneously through its UTRAN network. It helps in fault diagnosis and troubleshooting of UMTS network

GL's UMTS Analyzer over IP within PacketScan™-All IP Protocol Analyzer is an optional module (PKV103) available with additional licensing with PacketScan analyzer (PKV100). GL's **UMTS Analyzer over IP** analyzer offers powerful features to capture, monitor, decode, and collect statistics of UMTS signaling messages over IP.

For more details, refer PacketScan™-All IP Protocol Analyzer webpage.

GL Communications Inc.

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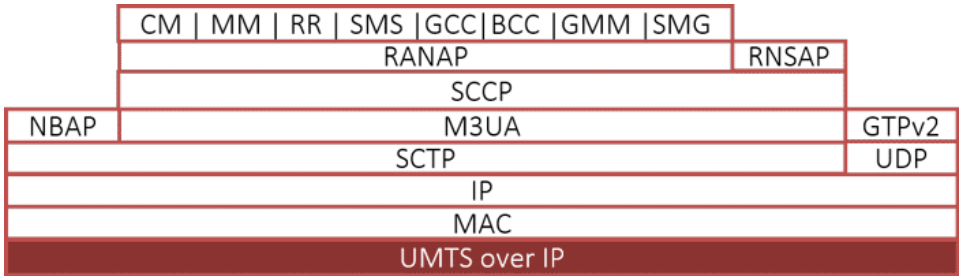
Main Features

- Decode and analyze different control plane protocols i.e. NBAP, RNSAP, RANAP and more over IuCS, IuH, and IuPS interfaces
- Test RNC, MSC, Home NodeB (HnB) and Home NodeB Gateway (HN GW) entities
- Supports decoding of AMR and AMR_WB codec with IuUP Header
- 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
- 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
- Allows the captured frames to be saved to a trace file using different conventions such as user-defined prefixes, date-time prefixes, total number of files, file size, frame count, or time limit
- Supported on Windows® 10 and above operating system

Protocol Stack and Standards

Entire GSM IP stack supported by PacketScan™.



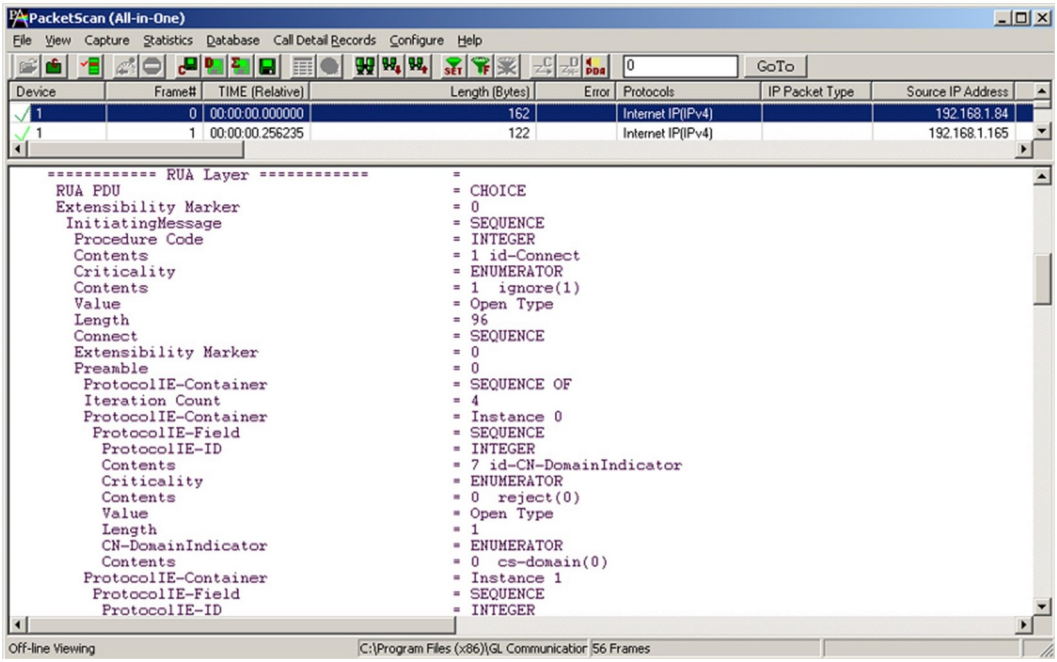
Supported Protocols	Standard / Specification Used
NBAP	3GPP TS 25.433 V6.3.0 (2004-09)
RANAP	3GPP TS 25.413 V6.3.0 (2004-09)
RNSAP	3GPP TS 25.423 V6.4.0 (2004-12)
SCCP ITU	ITU-T Q.711-Q.714
M3UA	RFC 3332
SCTP	RFC 2960
GMM (GPRS Mobility Management)	3GPP TS 24.008 V5.0.0
CC	3GPP TS 24.008 V5.0.0
MM	3GPP TS 24.008 V5.0.0
RR	3GPP TS 04.18 V8.13.0
GCC (Group Call Control)	3GPP TS 44.068 V9.0.0
BCC (Broadcast Call Control)	3GPP TS 44.069 V9.0.0
SMG (GPRS Session Management)	3GPP TS 24.008 V5.0.0
SMS	3GPP TS 03.40 V7.5.0 & 3GPP TS 04.11 V7.1.0 GSM 03.38 version 7.2.0

Summary and Detail View of IuH

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

The detail view of UMTS IuH call displays the following:

- MAC Layer
- IP Layer
- SCTP Layer
- RUA Layer
- RANAP Layer
- MM, CC, RR, SMS Layer



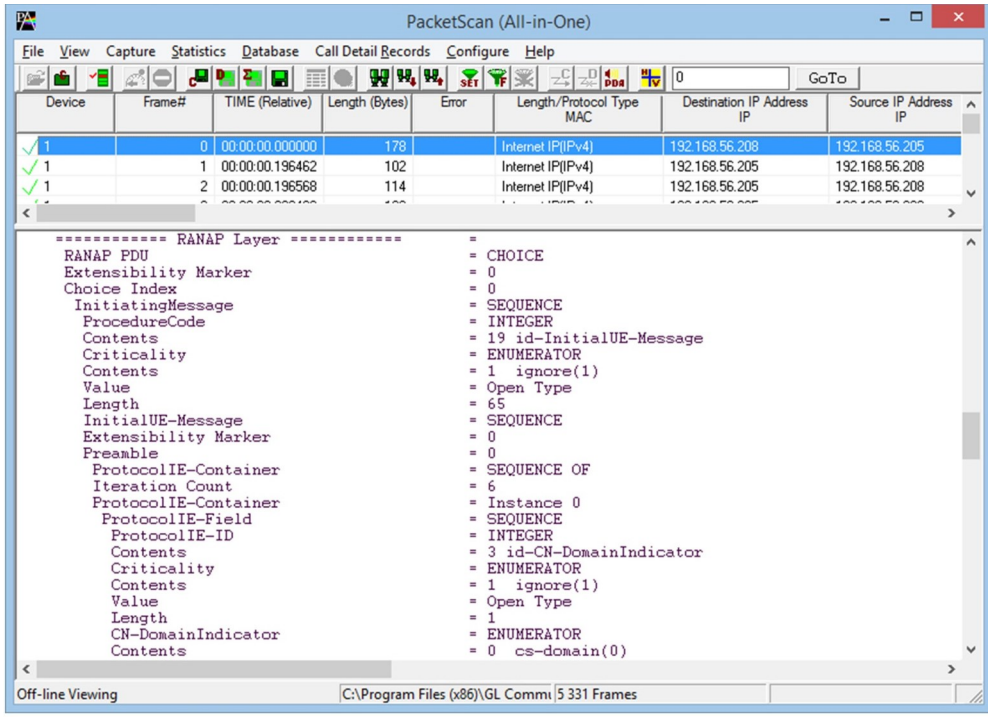
Detail View of UMTS IuH over IP

Summary and Detail View of IuCS

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

The detail view of UMTS IP call displays the following:

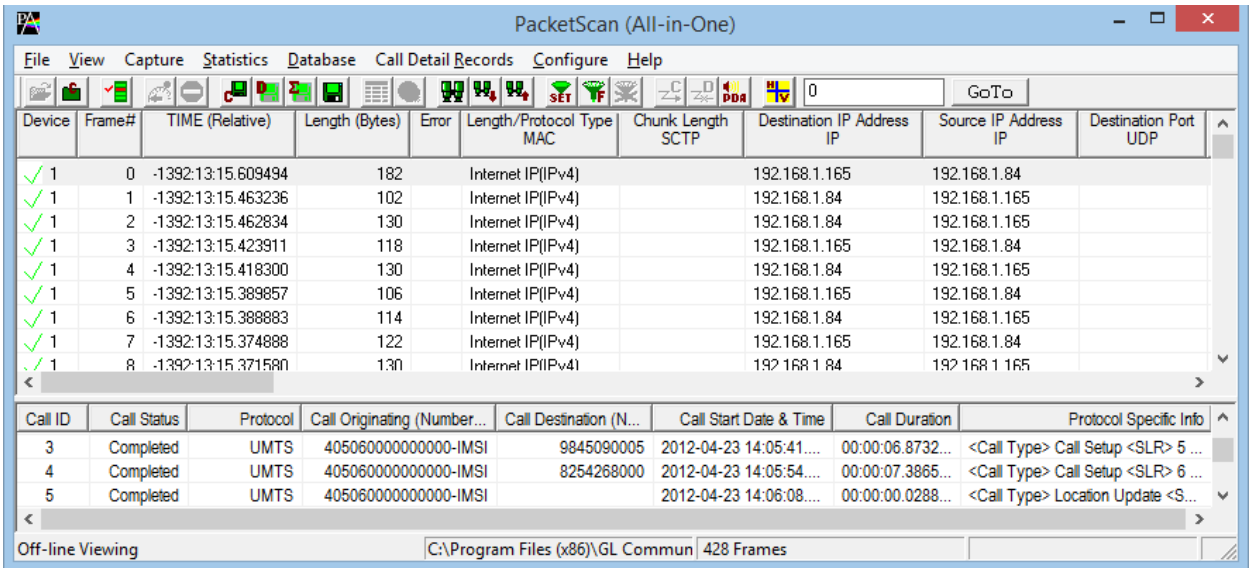
- MAC Layer
- IP Layer
- SCTP Layer
- M3UA Layer
- SCCP Layer
- RANAP Layer
- GMM Layer
- MM Layer
- CC Layer



Detail View of UMTS IuCS over IP

UMTS Call Detail Records over IP

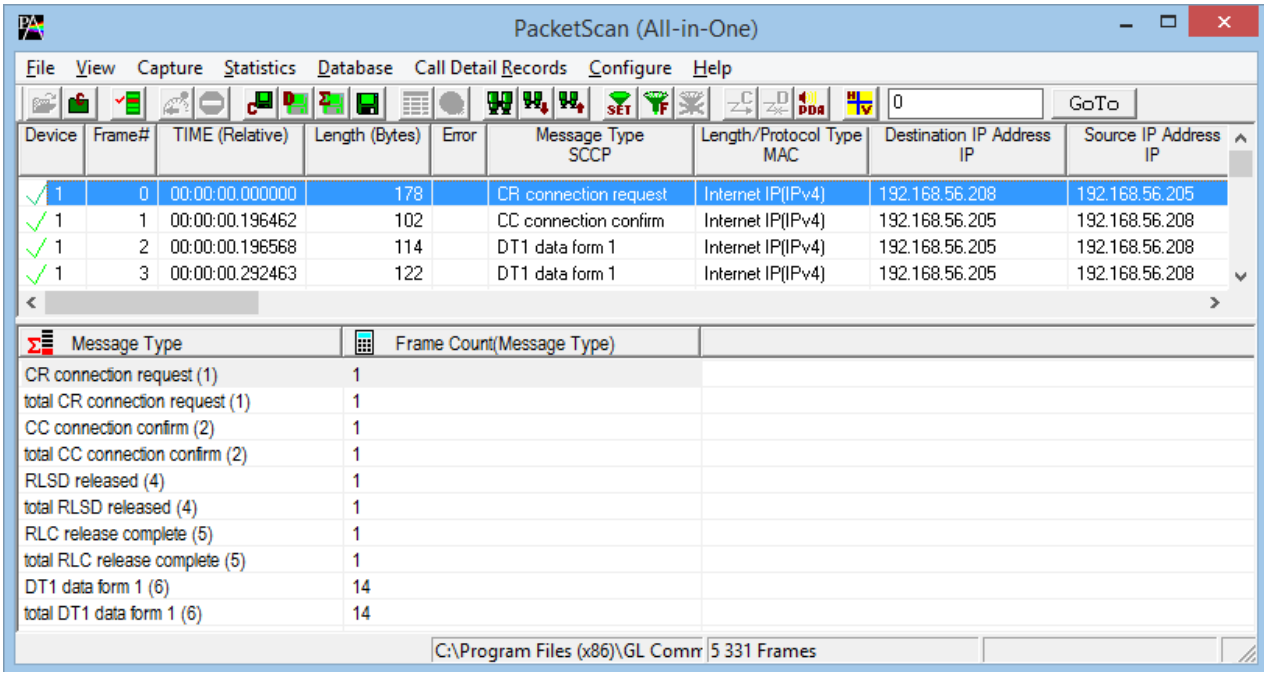
It displays the following fields - Call ID, Call status, Protocol, Call Originating (Number/Address), Call Destination (Number/Address), Call Start Date & Time, Call Duration, and Protocol Specific Information.



CDR View

UMTS Statistics

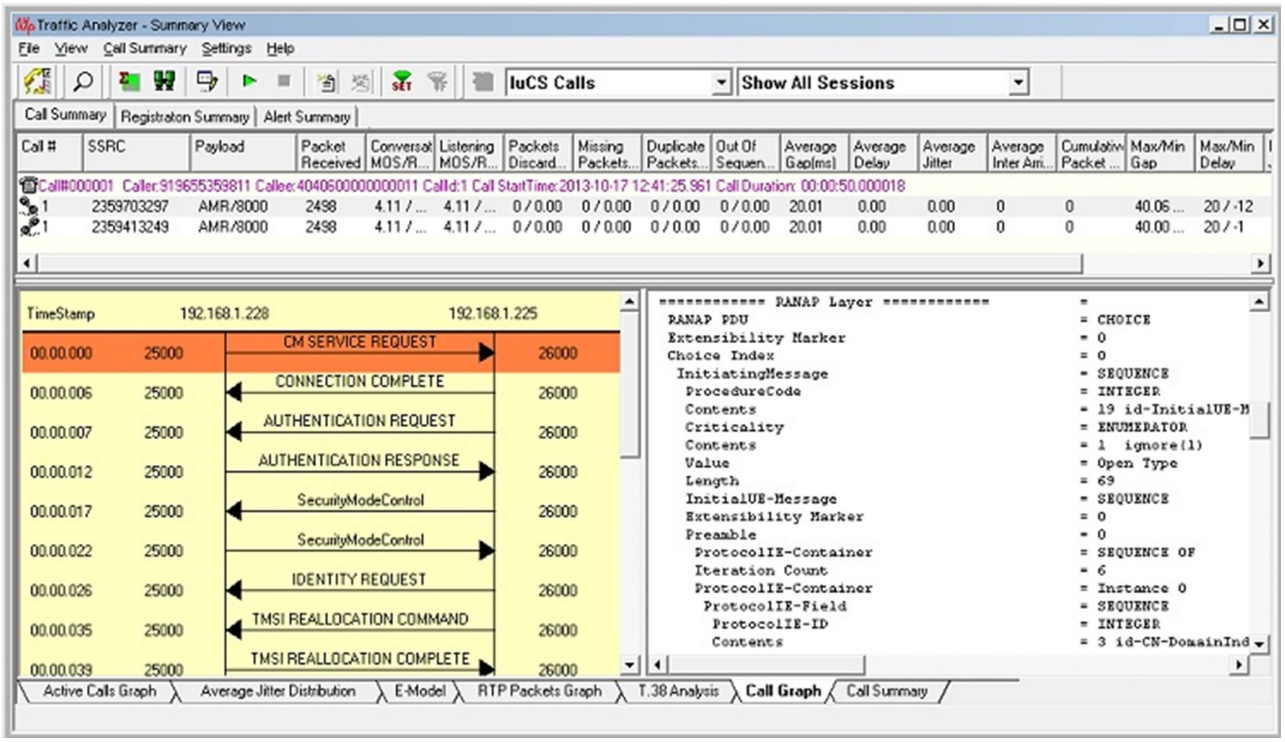
The Statistics are calculated based on the UMTS protocol fields. The figure below depicts statistic data based on message types of GSM Phase2+ in PacketScan™.



Statistic View

UMTS IuCS Call Flow Analysis in PDA

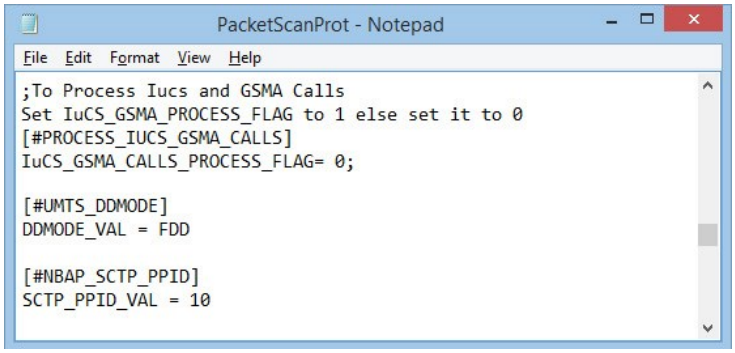
Displays a UMTS IuCS call graph with decode of the selected message displayed to the right of message sequence.



UMTS IuCS Call Flow Ladder Diagram

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 UMTS protocols, user can enter the FDD or TDD mode. Also, set the IuCS_GSMA_PROCESS_FLAG to 1 to decode UMTS signaling messages over IP.



INI Decode Option for UMTS

Network-Wide Monitoring of UMTS Network

GL's NetSurveyorWeb™ is a web-based client that can connect to UMTS protocol analyzer probe for monitoring the entire UMTS network through a web server that facilitates display of call data records, protocol frames, and KPIs. This system allows you to deploy multiple UMTS 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, refer NetSurveyorWeb™ webpage.

Buyer's Guide

Item No	Product Description
PKV103	IP Based GSM and UMTS Analyzer, requires PKV100
PKV109	Offline GSM and UMTS Analyzer, requires PKV101
PKV100	PacketScan™ (Real-time and Offline)
PKV101	PacketScan™ - Offline
PKV120	PacketScan™ HD – High Density IP Traffic Analyzer w/ 4x1GigE - includes PKV100 – Online (not Offline) for temporary audio codec support
PKV122	PacketScan™ HD – High Density IP Traffic Analyzer w/ 2x10GigE - includes PKV100 – Online (not Offline) for temporary audio codec support
PKV170	NetSurveyorWeb™ (Network Surveillance Software) for IP Network

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

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