PacketScan™ vs Wireshark®

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PacketScan™ vs. Wireshark®

	PacketScan™	Wireshark®
Product Type	**Desktop Application**: Windows x64 **Web Application**: Windows and Linux	Windows x64 and Linux
Primary Use Case	Real-Time Voice, Signaling & Network Monitoring	Offline Packet Analysis
Real-Time Capture Rate	Up to 1 Gbps and HD version real-time capture rate up to 5 Gbps	Limited to hundreds of Mbps on standard systems
Scalability	Enterprise-grade	Limited to small and moderate size files
Monitoring Role	Probe + Analytics	Offline Analyzer

Performance, Monitoring & Scalability

Feature	PacketScan™	Wireshark®
Simultaneous Calls	Up to 3000	~700
HD Version	Up to 30,000 calls	Not Supported
Data Rate	1G–10G Real time 5G to 400G – Wirespeed Capture and Offline up to 400 G	Limited
Continuous Capture	Yes	No
Alerting	Yes	No
Probe Mode	Yes	No
Offline Packet Analysis	Yes	Yes

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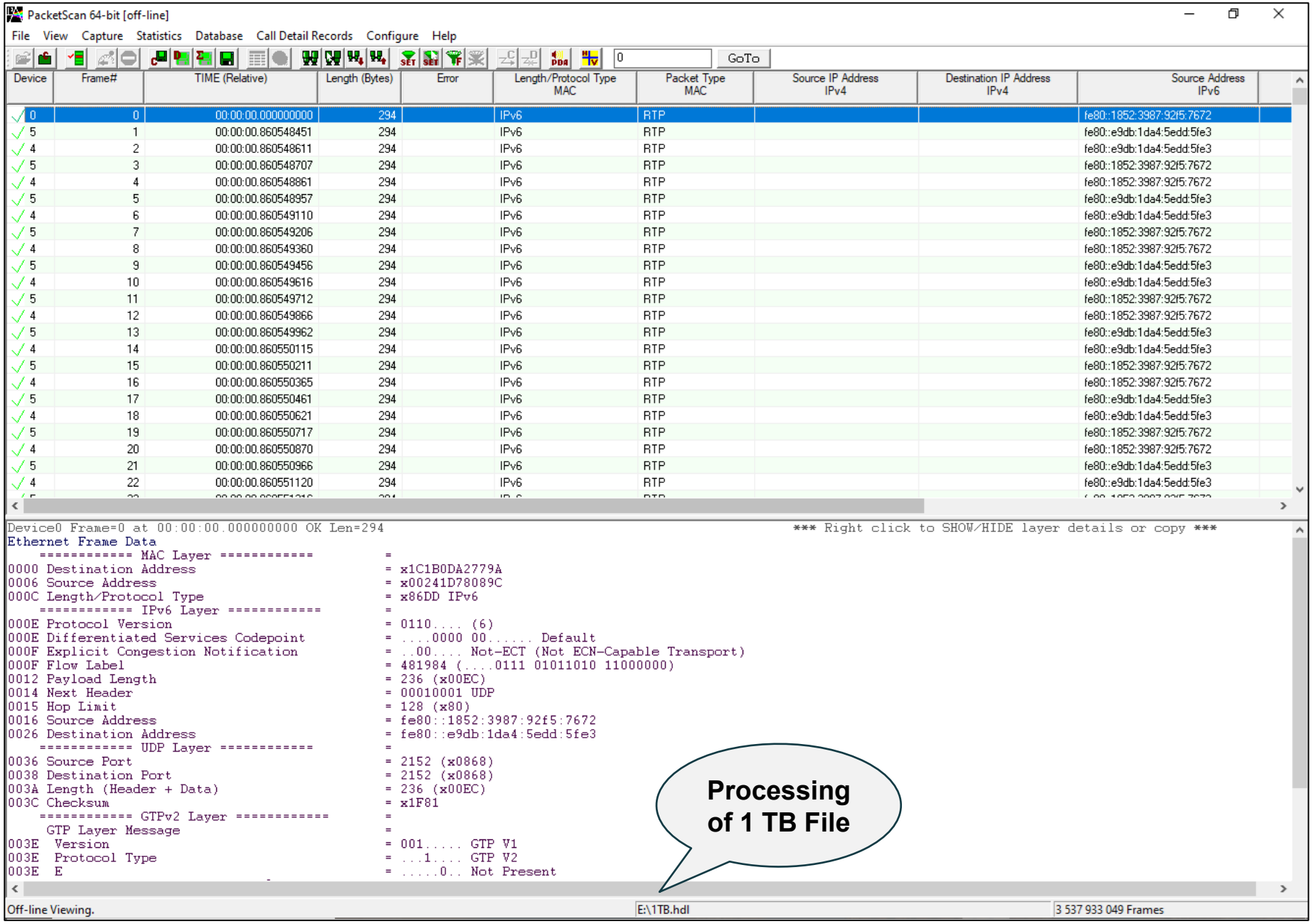
Large File Processing – Terabyte Analysis

Feature	PacketScan™	Wireshark®
File Size	1 TB+	~ 5 GB
Continuous Capture	Yes (via Circular Buffer)	No
Long-Term Analysis	Yes	Limited

PacketScan™ - Large File Processing, Terabyte Analysis



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Supported Codecs

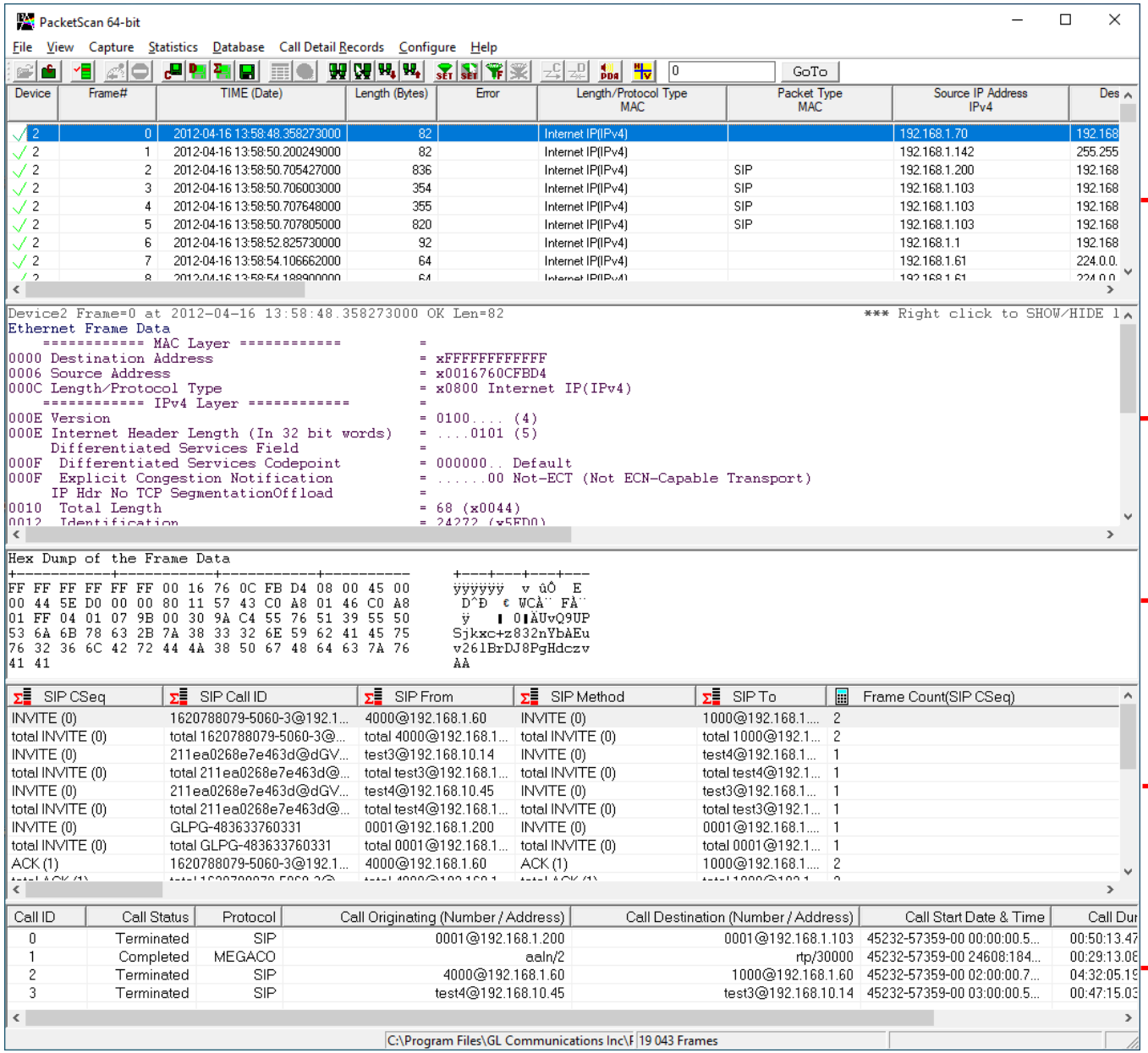
PacketScan™

- G.711 (mu-Law and A-Law), G.711 Application II (A-law and μ-law with VAD)
- G726 (40, 32, 24, 16kbps)
- GSM (13.2kbps), GSM EFR (12.2 kbit/s), GSM HR
- G729, G729B (8kbps)
- G.722, G.722.1
- ILBC_15_2 (for 20 msec), ILBC_13_33 (for 30 msec)
- SPEEX (Narrow band and Wideband)
- SMV* (Modes - 0, 1, 2 and 3)
- Video codecs include H263++ CIF 190, 350, 512 kbps, QCIF 64, 80, 128 kbps, and H264 codec offers video compression
- Other optional codec include (must be purchased with additional license)
  - AMR (Narrow band and Wideband)
  - EVRC, EVRC0 (Rates - 1/8, ½ and 1)
  - EVRCB, EVRCB0 (Rates - 1/8, ½ and 1); EVRC-C
  - Opus and EVS (Narrow Band, Wideband, Super Wideband, Full Band)

Wireshark®

- Limited codec support
- Primarily supports:
  - G.711
  - G.729
- No integrated voice quality scoring

PacketScan™ Analyzer View



Summary View

Detail View

Hex Dump View

Call Detail Statistics View

CDR View

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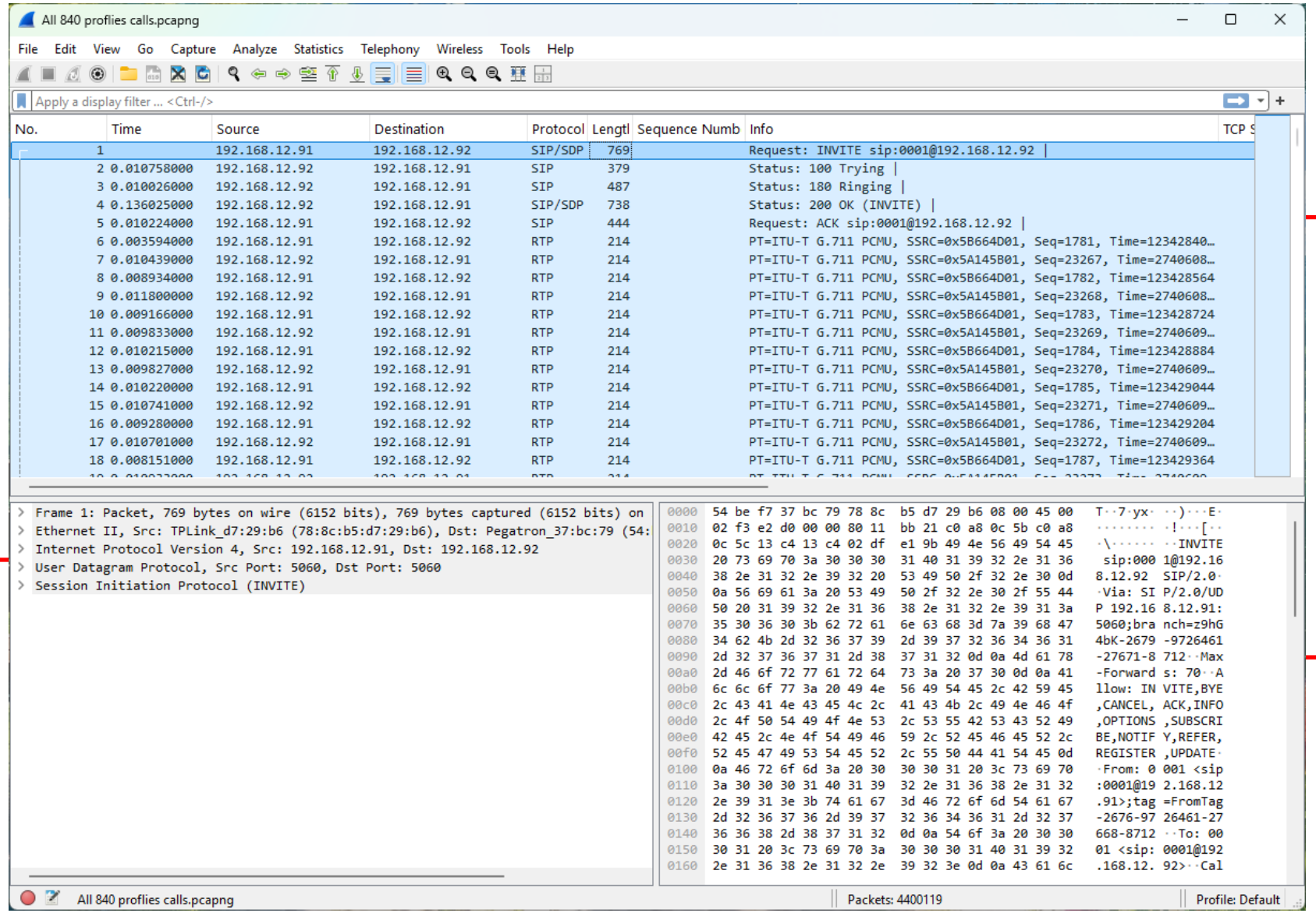
Wireshark® View



Summary View

Detail view

Hex Dump View

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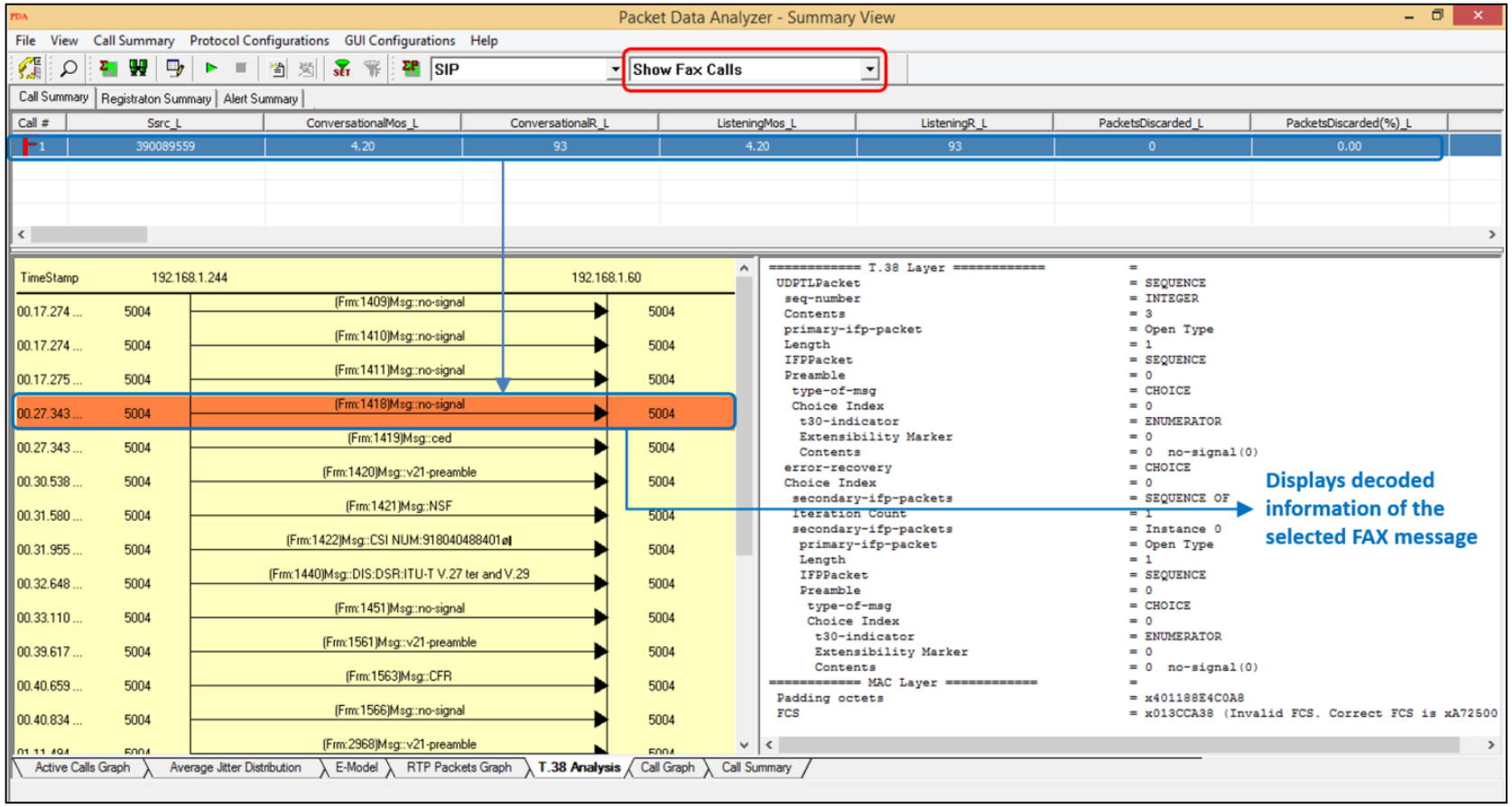
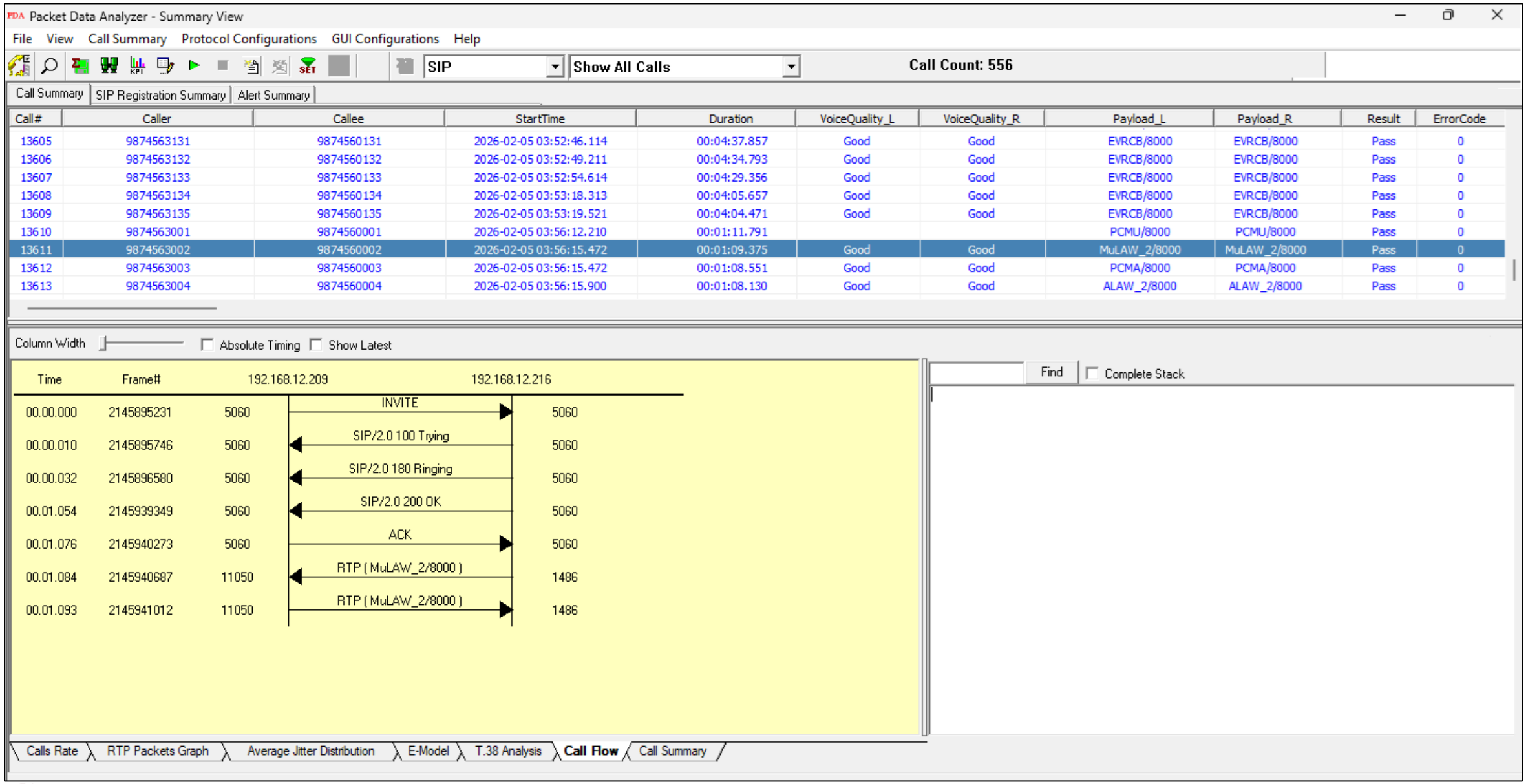
T.38 Analysis - Fax over IP

- Supports capturing and decoding of Fax (T.38 data) calls over VoIP
- Decodes of selected FAX message is displayed on the right pane
- Captured fax calls by PacketScan™ can also be analyzed using GLInsight™ by saving the fax calls directly in (*.PCAP) Ethereal file format



PCM ALAW and MuLAW



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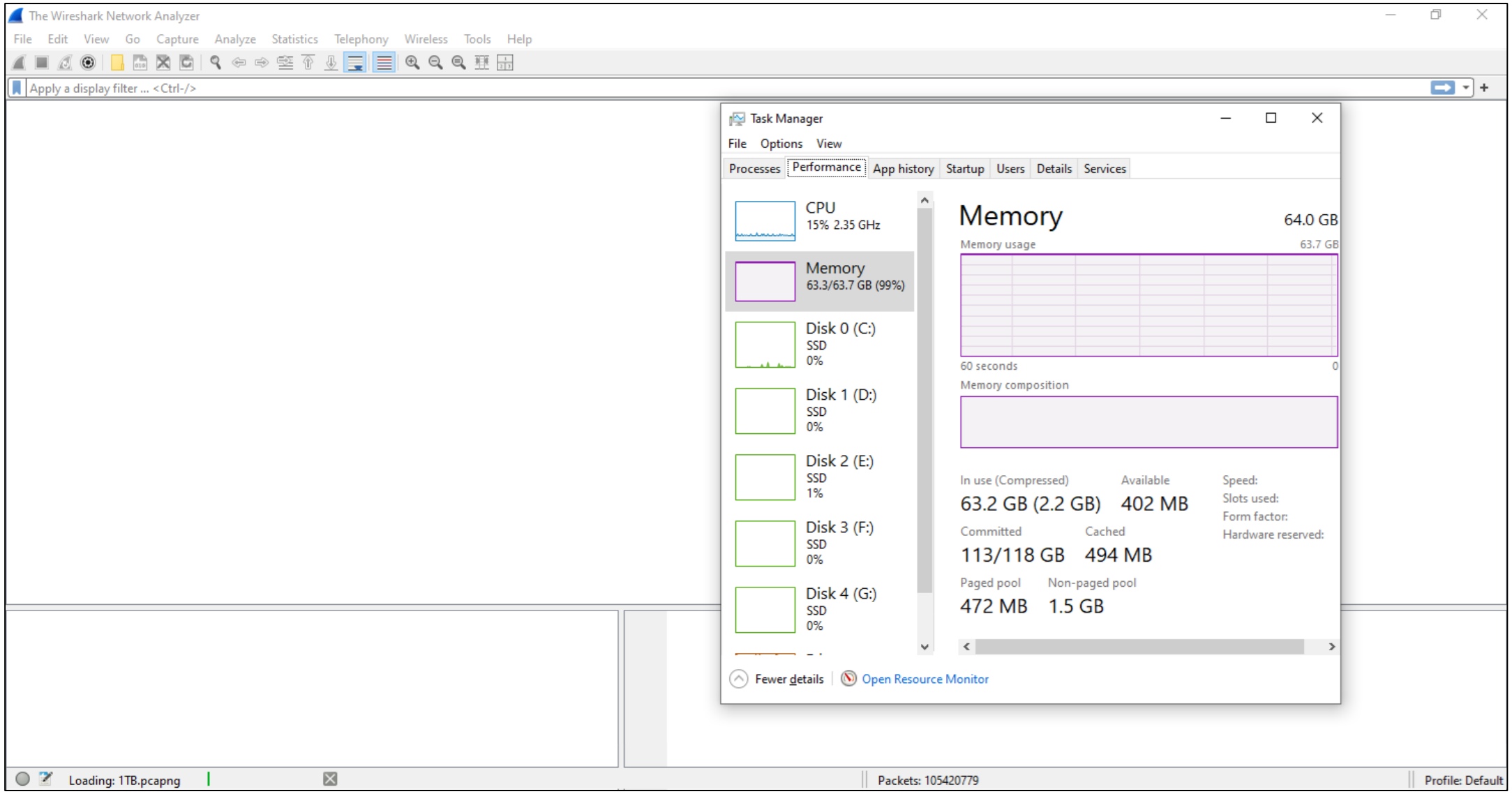
Wireshark® Cannot Reliably Process Very Large Capture Files



- Wireshark may crash when opening very large capture files due to high memory usage

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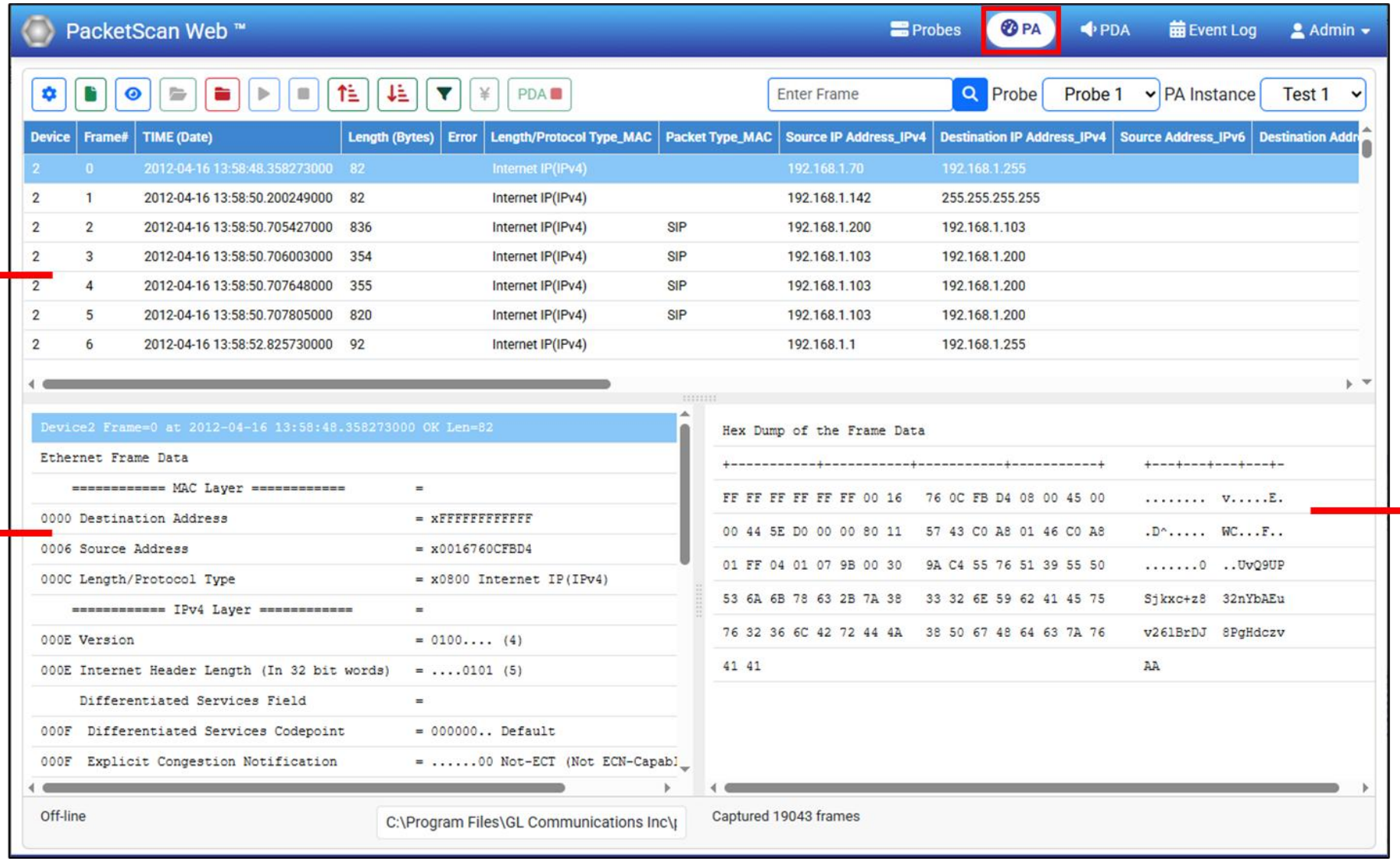
PacketScan Web™ Analyzer

Summary View

Detailed View



Hex Dump View

Filtering, Triggers & Automation

PacketScan™

- Advanced filtering:
  - IPv4 / IPv6
  - GTP (Inner UDP/TCP/SCTP)
- Triggers & Actions:
  - Email alerts
  - Save call traces
  - Auto-record calls
  - Export CSV
- Criteria-based recording
- Whitelist management (with wildcards)

Wireshark®

- Basic filters
- Manual workflows
- Slower on large datasets
- Limited automation

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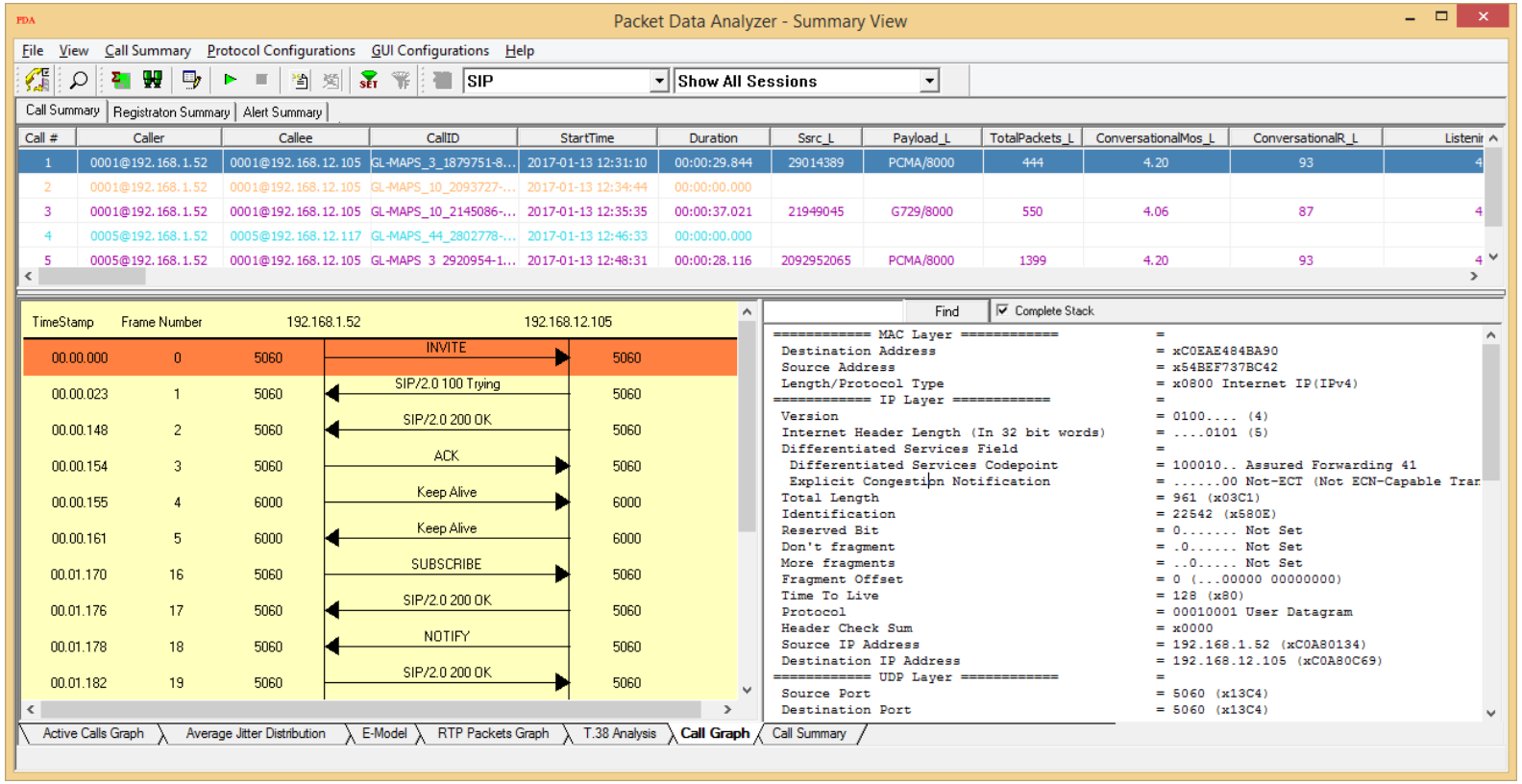
ED-137 / ED-138 Compliance

1. PacketScan provides below ED-137 aggregated statistics for all the traffic captured
   a. Total, Active, Completed, Failed Air-to-Ground Call counts
   b. Total, Active, Completed, Failed Ground-to-Ground Call counts
   c. Total PTT, Squelch, PTT Mute, PTT Summation packets detected
   d. Pilot-Pilot induced and Controller-Pilot induced SCT (Synchronous Transmissions)

2. Provides Air-to-Ground and Ground-to-Ground call graphs with below details
   a. Show call type, call priority, and call setup time.
   b. Shows all Radio Signal information like
      i. PTT on/off
      ii. Squelch on/off
      iii. Synchronous Transmissions counts
      iv. All RTP header extensions like SQI (Signa Quality Index), CLD (Climax Time Delay), RRC (Radio Remote Control) and DDM (Dynamic Delay Measurement)

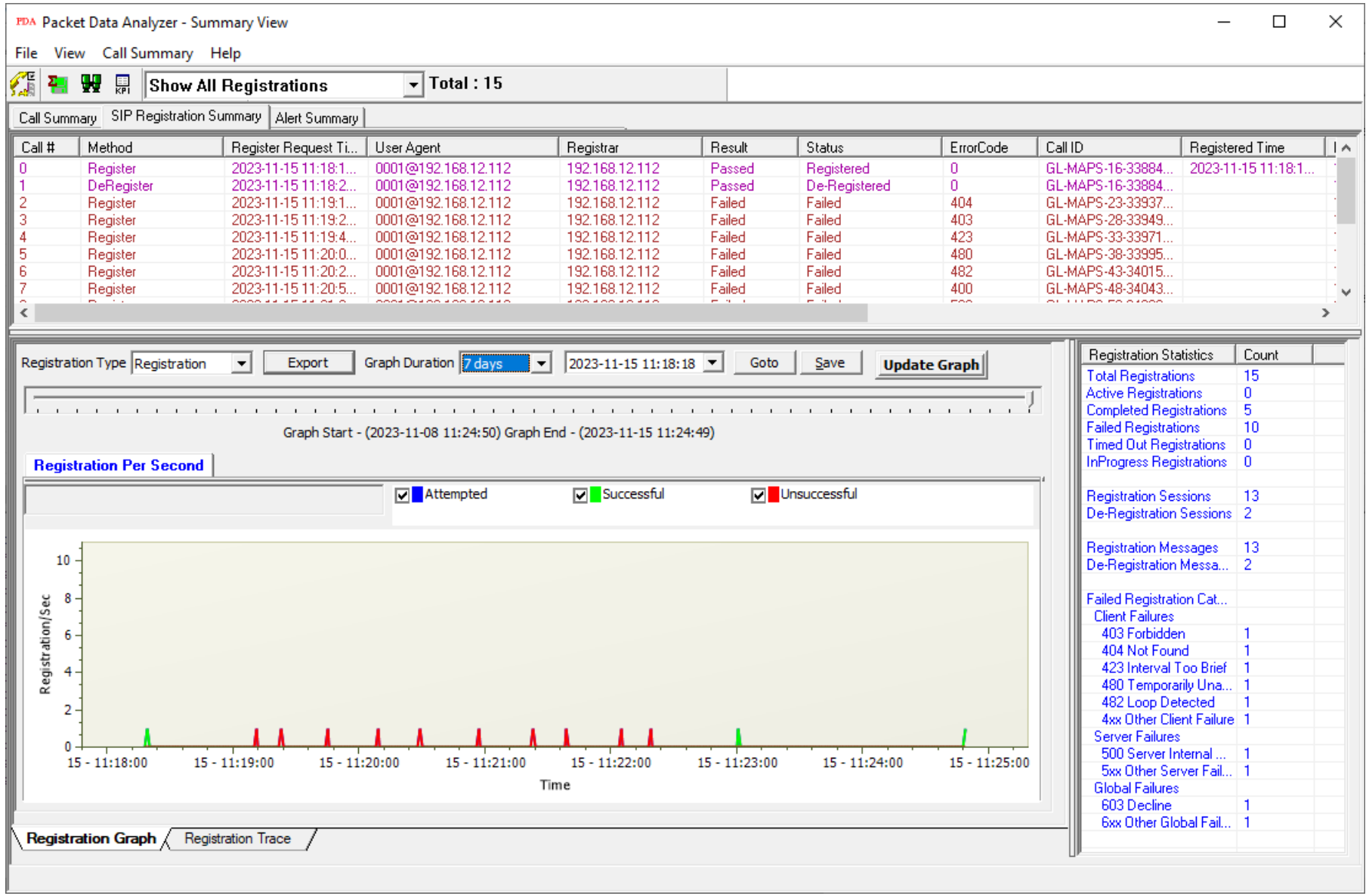
3. Provides Air-to-Ground and Ground-to-Ground call quality statistics such as MOS, Packet Loss, Latency, Jitter
   a. Calculates voice quality metrics for every PTT and Squelch transaction separately for Air-to-Ground calls
   b. Calculates voice quality metrics for every 10 second (or defined interval) to provide more granular results for the call duration

4. Creates Call Detailed Records in real time as below
   a. For Air-to-Ground calls, for every PTT and Squelch transaction a separate CDR is created
   b. For Ground-to-Ground calls, creates an updated CDR for every defined interval until call terminates

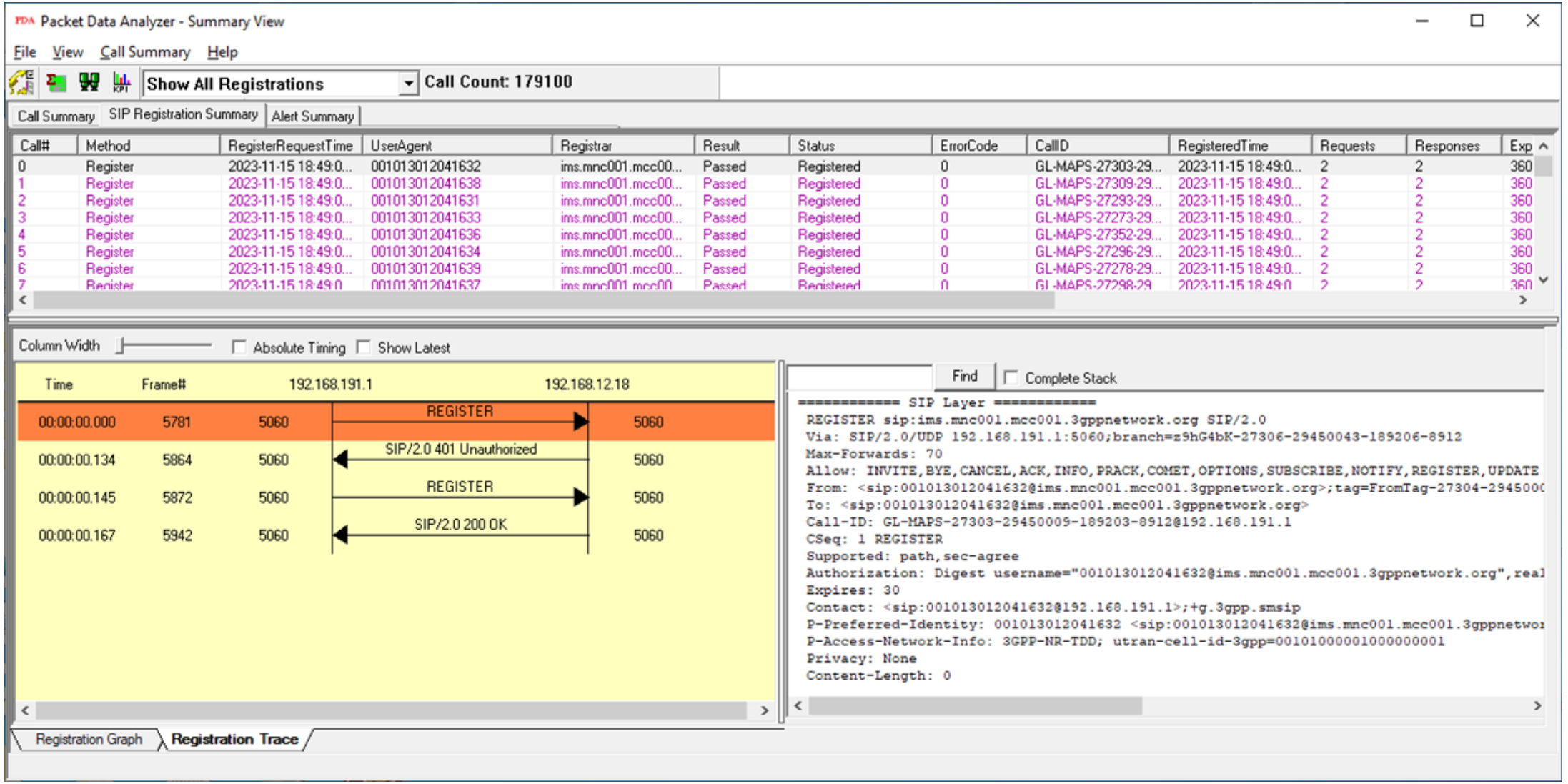


SIP User Agent Registrations

- Displays the SIP registration information in a separate tab which includes user agent, registrar, registered time, status, and so on for each user agent
- Displays the active registration graph of the entire registration summary
- Provides the trace display of each registration

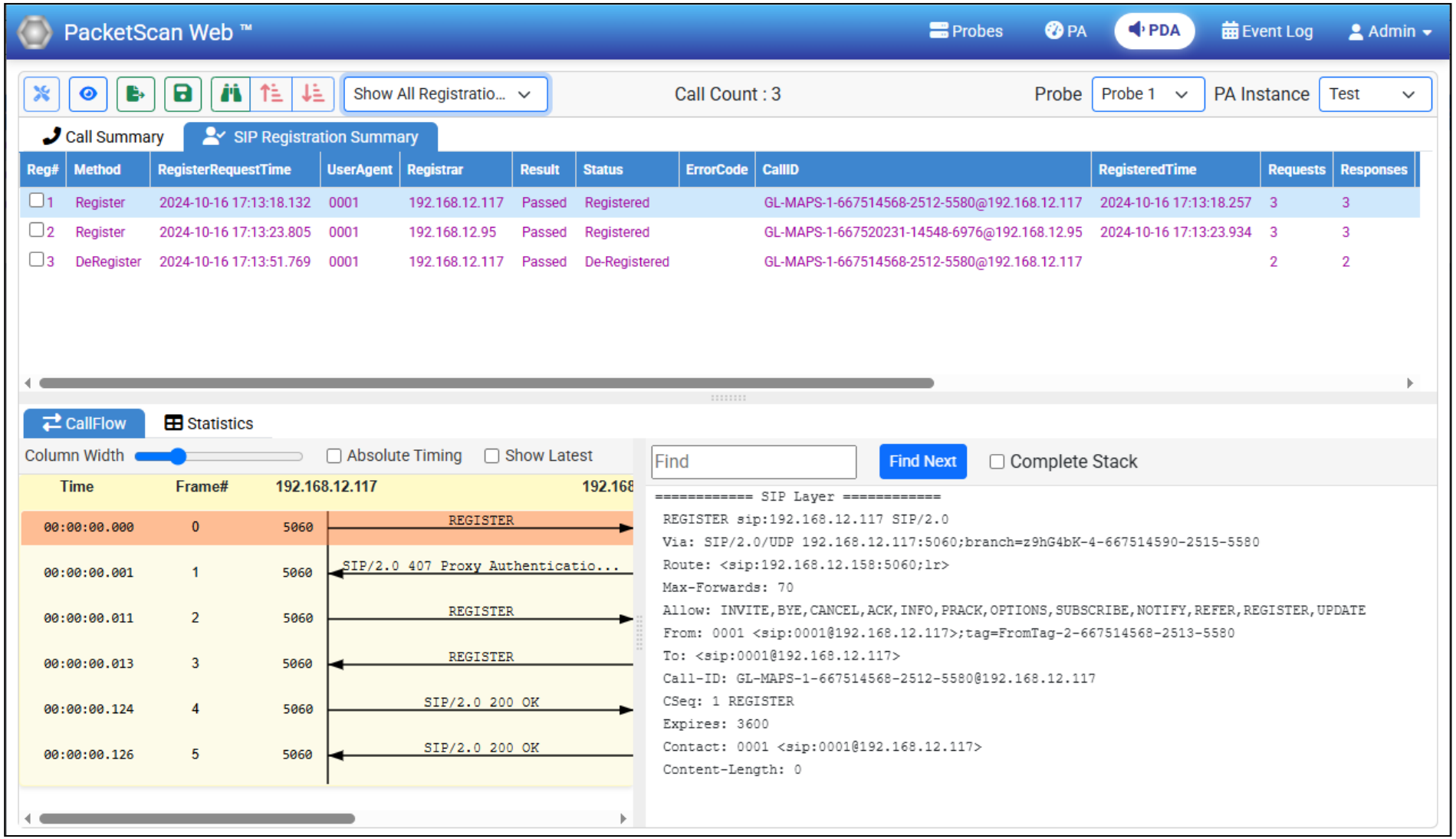


Registration Trace



- Displays the message sequence of registered calls. Message sequence pictorially displays the messages exchanged for a particular scenario between a user agent and the registrar

PacketScan Web™ Registration Trace



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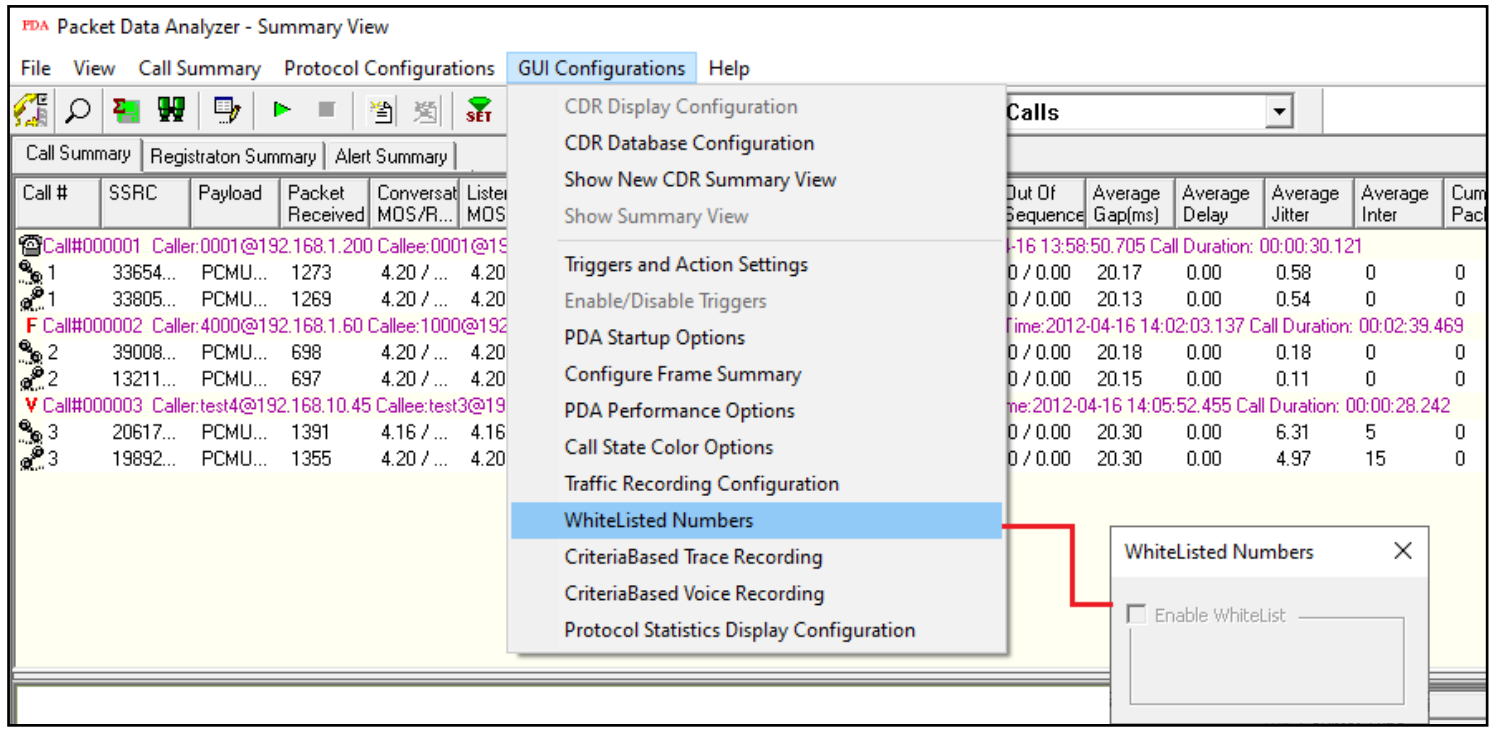
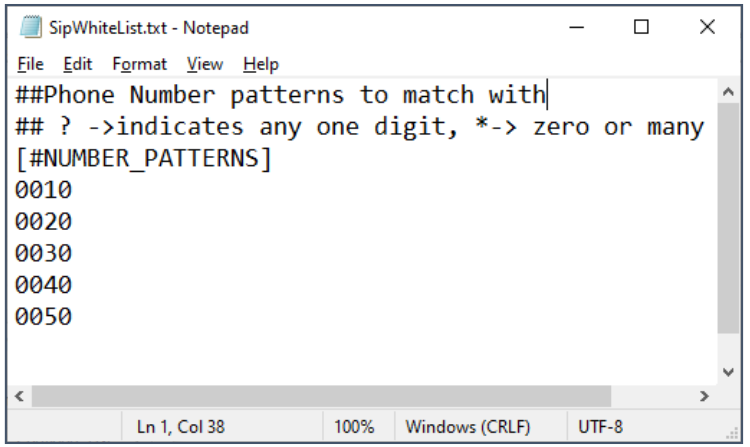
Monitoring WhiteListed Numbers





- Allows users to configure caller and callee numbers to identify calls of interest
- Supports wildcards in whitelist numbers for flexible number matching and automatic identification
- Calls matching the whitelist are identified and marked as whitelisted calls during analysis
- Enables voice and trace recording based on whitelisted numbers, helping focus on selected calls

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NetSurveyorWeb™ – CDR Population & Analytics

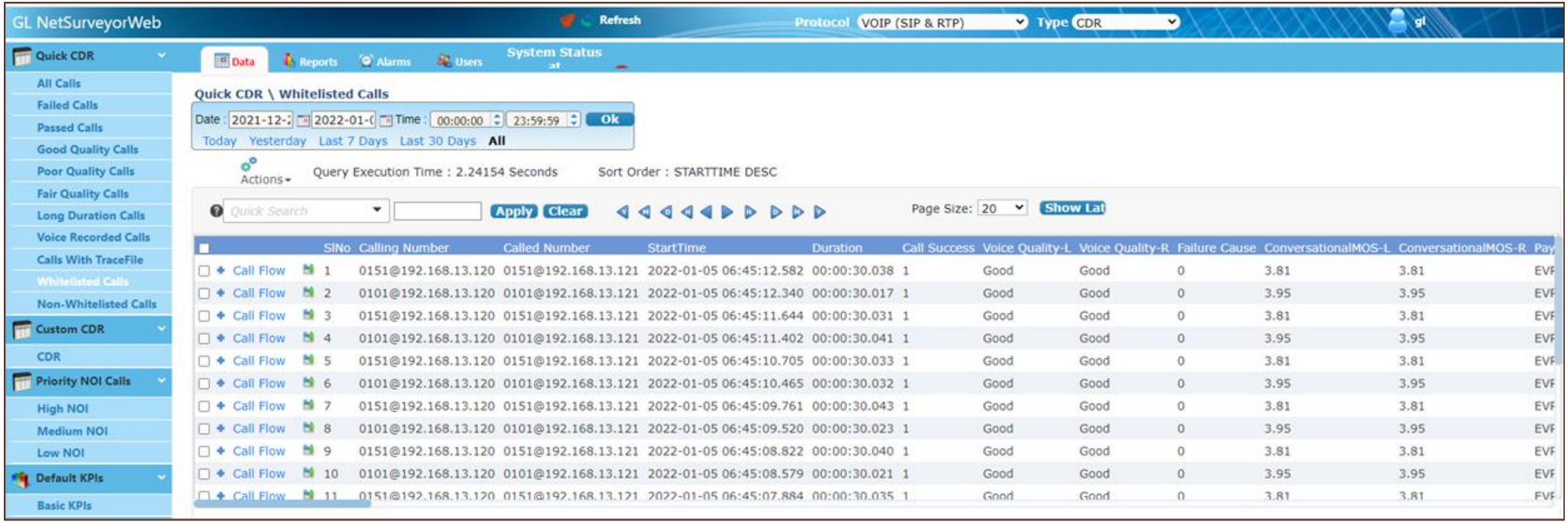
PacketScan™ as a Network Probe

- Acts as distributed probe
- Captures calls and generates CallDetail Records (CDRs)
- Sends records to central database
- Integrates with:
  - NetSurveyorWeb™
  - NetSurveyorWeb™Lite

NetSurveyorWeb™ Capabilities

- Real-time & historical analytics
- KPI & custom statistics
- Call filtering
- Large-scale data processing
- Performance trending

NetSurveyorWeb™ (Call Flow and Detail Records)



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Feature Comparison Table

Feature Category	PacketScan™	Wireshark®
Codec Support	AMR, EVS, OPUS, EVRC, etc.	G.711, G.729
Voice Metrics	MOS, R-Factor, Jitter, Delay	Not Available
Probe Function	Yes	No
CDR Generation	Yes	No
NetSurveyorWeb™ Integration	Yes	No
Large File Support	TB-scale	Limited
Triggers & Alerts	Yes	No
Continuous Capture	Yes	No
Bulk Call Processing	3k–20k	~700
Fax Extraction	Yes (TIFF)	No
ED-137 Support	Full	No

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Thank you