GR-303 Analyzer

Simultaneous TMC/CSC & EOC Monitoring

TMC/CSC Call Setup Analysis

Decodes EOC Messages

Multiple GR-303 Link Monitoring

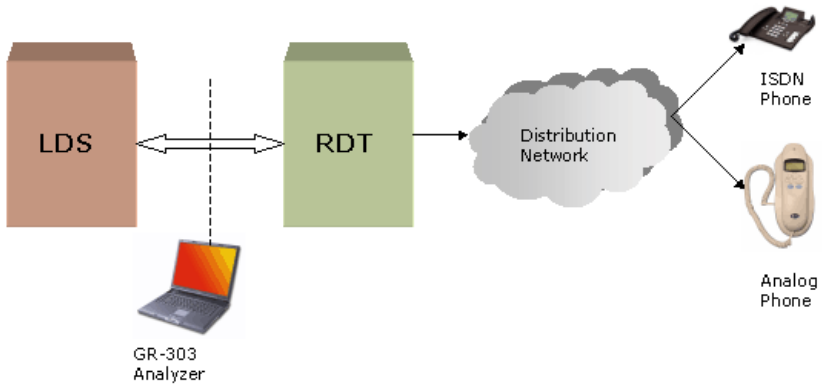
Filtering and Search Features

Summary, Detail, Hex Dump, Statistics, and Call Detail Views

Non-Intrusive Analysis using GL's T1/E1 Analyzers

Real-time, Remote and Offline Analysis

Statistics based on Frame-Count, Byte-Count, and more



GR-303 is a standard interface for Integrated Digital Loop Carrier (IDLC) systems that consists of an Integrated Digital Terminal (IDT) located in the Local Digital Switch (LDS) and a Remote Digital Terminal (RDT) at the customer premises. GR-303 uses three message-based signaling channels namely, Timeslot Management Channels (TMC), Common Signaling Channels (CSC), and Embedded Operation Channels (EOC).

GL's GR303 Analyzer offers testing for all aspects of GR-303 systems: monitoring T1 Line, monitoring the TMC/CSC control channel, monitoring EOC channel, viewing robbed ABCD signaling and dialed digits, listening to voice channels, and thorough tests for the physical layer. The GR-303 option troubleshoots signaling problems between the switch and remote terminal to determine call status, monitor for any dropped calls, detect any abnormal conditions, and identify when service was unavailable.

GL Communications supports the following types of GR-303 analyzers:

- Real-time GR-303 Analyzer (Pre-requisites: GL's E1/T1 internal cards or USB E1/T1 external units, required licenses and Windows XP (or higher) Operating System
- Remote/Offline GR-303 Analyzers (Pre-requisites: Hardware Dongle, and Windows XP (or higher) Operating System

Main Features

- Decode Embedded Operational Channel (EOC) messages for diagnosing operations, administration, maintenance and provisioning (OAM&P).
- Provides real-time call-setup analysis of the Timeslot Management Channel (TMC) and Common Signaling Channel (CSC).
- Monitor both TMC/CSC and EOC simultaneously to correlate call-setup and OAM&P
- Provides Summary, Detail, Hex dump, Statistics, and Call Detail Views.
- Call Detail Recording feature includes data link groups that help in defining the direction of the calls in a given network and form logical groups comprised of unidirectional (either 'Forward' or 'Backward') data links.
- Simultaneous decoding of multiple GR-303 Links.
- Capability to export Summary View details to comma separated values (CSV) format for subsequent import into a database or spreadsheet.
- Capability to export detail decode information to an ASCII file.
- Supports filtering and search based on CRV and many other message types.
- Supports real-time filtering based on the frame length value.
- Remote monitoring capability using GL's Network Surveillance System.
- Multiple remote clients may access a single T1/E1 server. Also, the T1/E1 server is fully functional while being accessed as a server. Thus, a user may perform T1/E1 operations on the server while a remote client is accessing the same server, in real time.

For more details, please visit our web page http://www.gl.com/GR-303analysis.html.

GL Communications Inc.

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Summary, Detail, and Hex dump Views

The analyzer displays Summary, Detail, and Hex dump View in different panes. The Summary View displays Frame Number, C/R, SAPI, CTL, P/F, FUNC, CRV message type (for TMC/CSC) and ROSE APDU (for EOC) and more. User can select a frame in Summary View to analyze and decode in the Detail View. The Hex dump View displays the frame information in HEX and ASCII format.

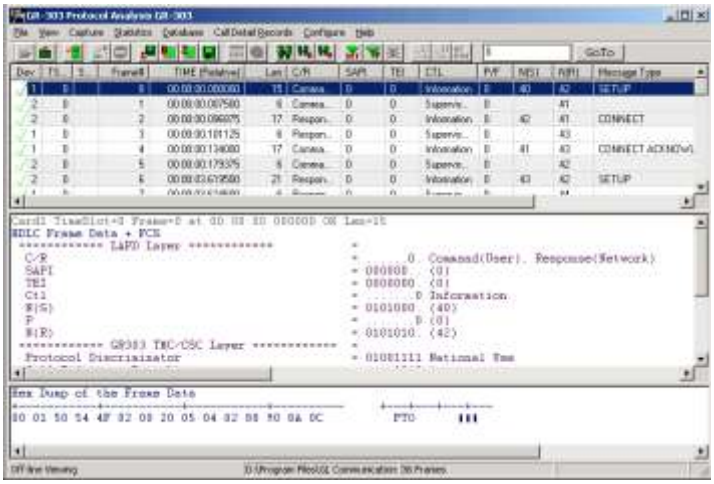

Figure: Summary, Detail, & Hex dump Views

Real-time, Remote, and Offline Analysis

Users can capture and analyze GR-303 frames using either real-time or remote analyzers, and record all or filtered traffic into a trace file. The recorded trace file can be used for offline analysis or exported to a comma-delimited file, or ASCII file. Real-time capturing requires user to specify timeslots, bit inversion, octet bit reversion, user/network side, FCS, and data transmission rate.

Recorded trace file can be played back on T1/E1 using the HDLC file Playback application.

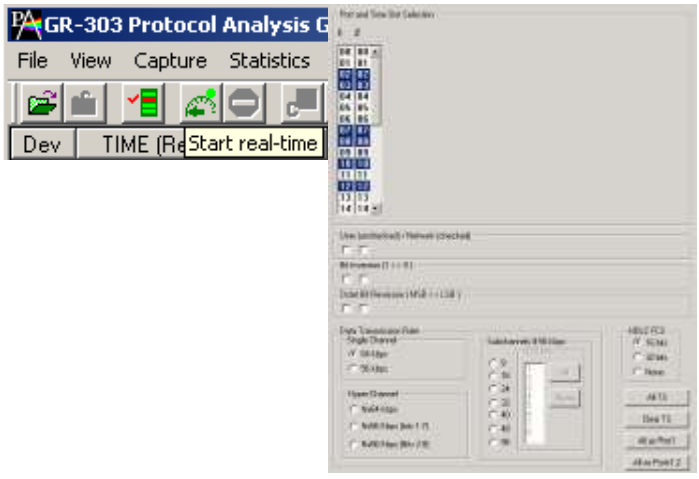

Figure: Stream / Interface Selection

Filtering and Search

Users can record all or filtered traffic into a trace file. Filter and search capabilities adds a powerful dimension to the GR-303 analyzer. These features isolate required frames from captured frames in real-time/remote/offline.

Users can specify custom values for frame length to filter frames during real-time capture. The frames can also be filtered after completion of capture based on Frame Number, Time, Length, Error, C/R, SAPI, and more.

Similarly, search capability helps user to search for a particular frame based on specific search criteria.

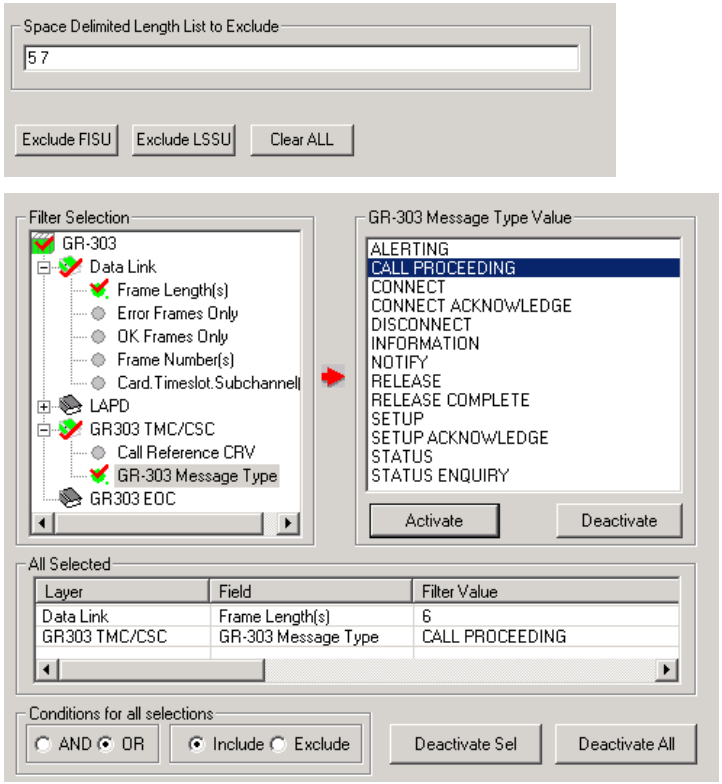

Figure: Real-time and Offline Filter

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Call Detail Record & Statistics View

Important call specific parameters like Call ID, Call Status, Call duration, CRV, Release Cause etc are calculated and displayed in the Call Detail View. Additionally, users are provided with the option to search a particular call detail record from the captured traces.

Various statistics can be obtained to study the performance and trend in the GR-303 network based on protocol fields and parameters.

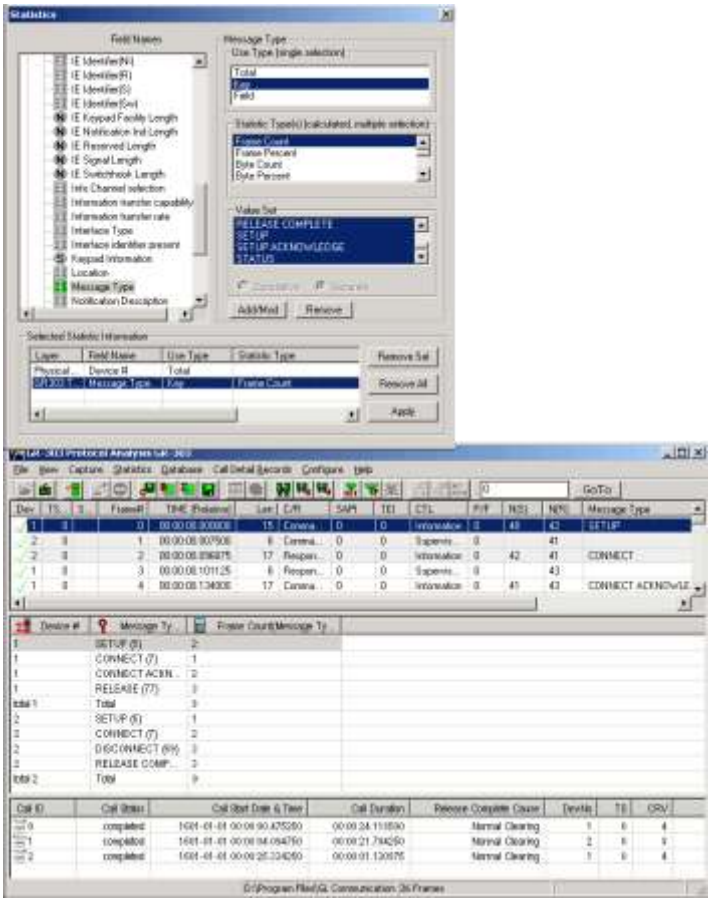

Figure: Statistics &Call Detail Record View

Buyers Guide

XX140- T1/E1 Real-Time GR-303 Analyzer
OLV140 – Offline/Remote GR-303 Analyzer

Related Software
XX090- HDLC Analyzer, & Simulation Software (T1 or E1)

Related Hardware
UTE001 - USB based Dual T1/E1 Laptop Analyzer
UTA001/UEA001 – Basic USB based Dual T1/E1 Laptop Analyzer Software
HTE001 - Universal HD T1/E1 PCI Cards
HUT001/HUE001 – Basic Universal HD T1/E1 Software

*Specifications and features subject to change without notice.

Save/Load All Configuration Settings

Protocol Configuration window provides a consolidated interface for all the important settings required in the analyzer. This includes various options such as protocol selection, startup options, stream/interface selection, filter/search criteria and so on. All the configuration settings can be saved to a file and then loaded for future operations, or user may just revert to the default values using the default option.

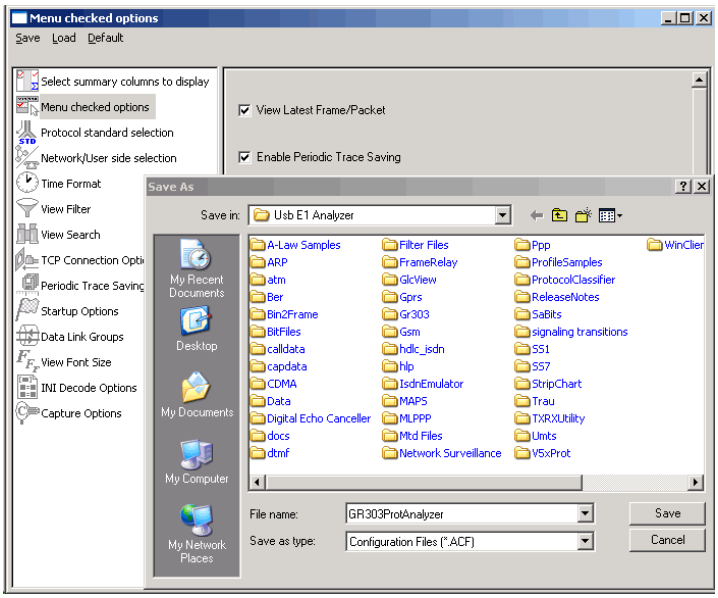

Figure: Save / Load Configuration

Supported Protocols Standards & Specifications

Available Standards	Supported Protocols	Standard / Specification Used
GR-303	LAPD	CCITT (Q.920/Q.921) Telcordia GR-303-IMD (formerly TR-TSY-000303)
	TMC & CSC	GR-303-CORE Issue 3 December 1999 / GR-303-IMD Issue 1, December 1998
	EOC	GR-303-CORE Issue 3 December 1999
	Series X (Data networks and open system communication):	X.208, X.209, X.219, X.229, X.710, and X.711.

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