Remote Protocol Analyzers



Overview

"Remote Protocol Analyzer" or RPA functionality is an extension of the feature rich capability available with GL's GUI based Protocol Analyzers.

HDLC based protocols such as ISDN, SS7, GR303, Frame Relay, V5.x and others can be monitored remotely via a set of hardware and software features available with our T1 or E1 based protocol analyzers.

Pre-requisites of the remote functionality are:

At the site of monitoring

- Dual Capture T1 E1 Cards or USB Based T1 E1 Hardware
- T1 E1 Server software with HDLC capture software

At the client location

- Appropriate GUI based "Remote Protocol Analyzer" such as ISDN, SS7, and others licensed via "Dongle"
- LAN / WAN TCP / IP network with sufficient bandwidth to transport HDLC frames

The RPA functionality permits:

- Unattended and 24/7 operation
- Remote accessibility for difficult connection situations
- Remote non-intrusive operation
- Remote detailed diagnostic capability

For more information, refer to <u>Remote Network Protocol Analysis</u> and <u>Protocol Decodes and Analysis</u> webpages.

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Main Features

- Client side consists of a PC with Ethernet connectivity and GUI Remote Protocol Analysis software no special T1 or E1 hardware is required
- Supports Real-time and Offline analysis at the Remote Client side
- Remote Analyzers support capturing of encapsulated protocols and long frames
- Streams can be captured on the selected time slots (contiguous or non-contiguous), sub-channels or full bandwidth
- Captured frames in any of these analyzers can later be used for traffic simulation using Transmit / Receive / Playback applications
- Common Filtering criteria can be set for T1 / E1 cards located on multiple servers
- Analyzer displays summary, detail and hex dump view in different panes
- Summary pane displays Frame Number, Time, Length, Error, Message Type and more. To analyze in detail, user can select a frame in summary view

Remote Client / Server

For HDLC based protocols, HDLC frames can be transported via TCP/IP and captured remotely with a GUI Protocol Analyzer Client. At the Client location the full capability of a real-time Protocol Analyzer is available for storing, analyzing, filtering, displaying, and processing the protocol information.

At the monitoring site, the T1 E1 hardware, Server software, and HDLC capture software is all that is required irrespective of the protocol being monitored. At the Remote site, the appropriate GUI based PA receives HDLC frames and performs the PA function as if the remote link did not exist. The bandwidth of the LAN or WAN link transporting the HDLC frames should be adequate for the protocol being monitored.

HDLC Protocol Analysis LAPD																		
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Connected Servers																		

Remote Client / Server

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Filtering and Search

Filtering and search capability adds a powerful dimension to the Remote analyzers. Offline filter can isolate required frames from all frames in real-time / remote / offline. This allows filtering according to Frame Number, Time, Length, Error, Message Types, Type of calls, and more. The real-time filter isolates frames during capture based on the frame length and logic operators.

Filter Selection		-Frame Numbers: space d	elimited N or Min-Max ₁			
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📄 💓 Data Link		P				
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Error Frames	Only					
📃 🚽 💮 OK Frames O	nly					
🔰 🚽 🏹 Frame Numbe	er(s)					
Card. Timeslot	.Subchannel 💌					
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🗄 😓 Information						
🗄 🛞 Q.93x Layer 3						
		······				
		Activate	Deactivate			
All Selected						
Layer	Field	Filter Value				
Data Link	Frame Length(s)	6				
Data Link	Frame Number(s)	9				
•			► I			
Conditions for all selections						
C AND C OB C	Include C. Duchada	Deservise Cal	Deservised All			
		Deactivate Sei	Deactivate All			

Filtering and Search



Call Detail and Statistics View

Call trace define important call specific parameters Such as Call ID, Call Status, Call duration, Called / Calling Number, CRV, Release Cause and so on. Further in SS7 analyzer, call traces can also be logically grouped with each group comprised of unidirectional (either 'Forward' or 'Backward') data links. Numerous statistics can be obtained to study the performance, which is based on protocol fields and different parameters for example, Use Type (Key / Total / Field), Statistic type (Frame count, Byte count, Frames / Sec) and patterns like Range List, Wild card.

Statistics X						
Field Names C/R Use Type (single selection) Physical Link Device # N Error Code StattTsOrTsSc Time Stamp C/R Cl Modifier Function N(R) N(S) N N(S) N P N N(S) N P N SAPI Supervisory Function N TEI	ile selection)					
Layer Field Name Use Type Statistic Type Physical Device # Total Frame Count	Remove Sel					
LAPD C/R Key	Remove All					
	Apply					

Call Detail Records and Statistics View

Supported protocols

- Frame Relay- Q.921, Q.922, LAPF, Multi-protocol encapsulation, FRF.9, FRF.12, SNAP, PPP, link control protocol RFC 1661, Q.933, SVC, and LMI signaling. IP, TCP, UDP, SMTP, POP3, STUN, DNS, DHCP, HTTP, FTP, SNMP, RIP
- GR-303 LAPD, Series X (Data networks and open system communication), TMC and CSC, and EOC
- ISDN Q.93x, 4ESS, 5ESS, ETSI 300-102, DMS 100, DMS-250, and QSIG ETSI
- SS7 MTP2, MTP3, SCCP, MAP, INAP, CAMEL, ISUP, TUP, and TCAP (IS 41)
- V5.x Support capturing and decoding of LAPV5, ISDN Call Signaling Q.93 as layer 3, Link Control Protocol (LCP), Protection Protocol (PP), Bearer Channel Connection (BCC), and PSTN
- HDLC LAPD, LAPF, LAPD+IP, and LAPX+IP



Buyer's Guide

Item No	Product Description
<u>OLV130</u>	Remote /Offline Frame Relay Analyzer
<u>OLV140</u>	Remote /Offline GR-303 Analyzer
<u>OLV090</u>	Remote /Offline HDLC Protocol Analyzer
<u>OLV100</u>	Remote /Offline ISDN Protocol Analyzer
<u>OLV120</u>	Remote /Offline SS7 Analyzer Software
<u>OLV110</u>	Remote /Offline V5.x Protocol Analyzer
<u>XX600</u>	Basic Windows Client/Server Scripted Control

Item No	Related Software
<u>XX090</u>	HDLC Capture and Playback Software (T1 or E1)
<u>XX130</u>	Frame Relay Protocol Analyzer (T1 or E1)
<u>XX155</u>	GPRS Analysis Software (T1 or E1)
<u>XX150</u>	GSM Analysis Software (T1 or E1)
<u>XX100</u>	ISDN Analysis Software (T1 or E1)
<u>XX153</u>	TRAU Analysis Software (T1 or E1)
<u>XX120</u>	SS7 Analyzer Software (T1 or E1)

Item No	Related Hardware
<u>PTE001</u>	tProbe™ Dual T1 E1 Laptop Analyzer with Basic Analyzer Software
<u>XTE001</u>	Dual T1 E1 Express (PCIe) Boards (requires additional licenses)
<u>FTE001</u>	QuadXpress T1E1 Main Board (Quad Port- requires additional licenses)
<u>ETE001</u>	OctalXpress T1E1 Main Board plus Daughter Board (Octal Port- requires additional licenses)

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

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