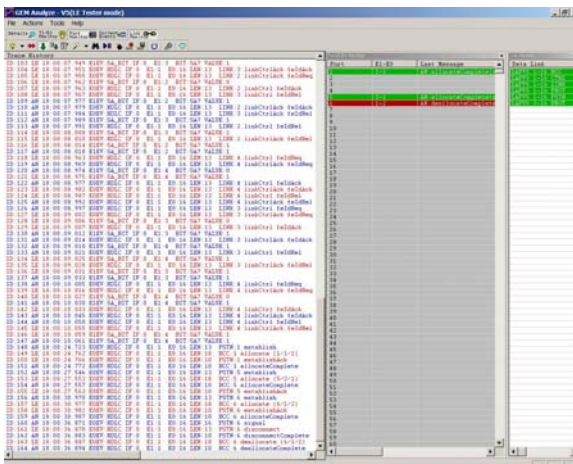## GEM-Analyze-Standard

GEM-Analyze-S is a PC-based protocol analyzer for monitoring of common signaling interfaces present in telecom central offices and test labs. GEM-Analyze-S is an essential tool for switch technicians and customer service personnel attempting to identify problematic hardware in the field. GEM-Analyze-S is an excellent tool for equipment manufacturers during development, testing, and deployment.

Features:

- Runs on desktop or laptop hardware running Microsoft Windows™ operating system.
- Monitoring up to two E1/DS1 spans per laptop and eight E1/DS1s per desktop.
- Logging of human readable trace files for later analysis.
- GUIs for viewing protocol information in real-time and recorded trace files offline.

- Allows passive, non-intrusive monitoring of the following protocols:
  o GR-303 – EOC, TMC, and ABCD bit signaling.
  o V5.1/2 – Control, PSTN, Link, BCC and Protection data links, and E1 SA7 bits.
  o TR-08 – SLC-96 AB signaling and data link information.
  o ISDN PRI – Q.921 and Q.931 messaging on E1/DS1-based ISDN PRI links.
  o SS7 – FISU, LSSU, ISUP, SCCP, CIC, point codes.
  o E1/DS1 CAS
  o E1 R2 – E1 ABCD bit and MF tone signaling, and call progress display.
  o CALEA – Monitoring of T1, RS-232, and IP-based CALEA traffic.
- Works with GEM-RDTest to monitor GR-303 and V5 systems under test.
- Filtering of protocol data based on data link type and data content.
- Monitoring of attenuated DS1/E1 (up to 20dB) signals.
- Data link monitor shows the current data link status and the latches the first occurrence of data link failures.
- Customer line monitor shows lines that are idle, active, or in transition.
- CAS monitor shows the current status of in-band signaling bits where applicable.
- DS1/E1 monitor shows current status and counts of the following items: LOS, LOF, AIS, RAI, ES, positive slip, negative slip, CRC failure, and CVC.
- Utility Perl scripts for extracting key GR-303 and V5 information.
- Real-time off-load to Perl script for real-time, customized filtering.
- DS1 Frame formats: ESF, SF, F4, SLC96.
- DS1 line codes: B8ZS, AMI.
- E1 frame formats: Double frame, Multiframe with CRC4.
- E1 line codes: HDB3, AMI.
- Includes CALEA-Cop, a collection box for CALEA CDC data.