

# PacketProbe™

(A CPE Based VoIP Monitoring Solution)

Based on GL's Industry Proven PacketScan™ Product

Listening and Conversational Quality MOS

CDR Includes SIP Signaling Quality

Linux or Windows Application

Perfect for Embedded Applications

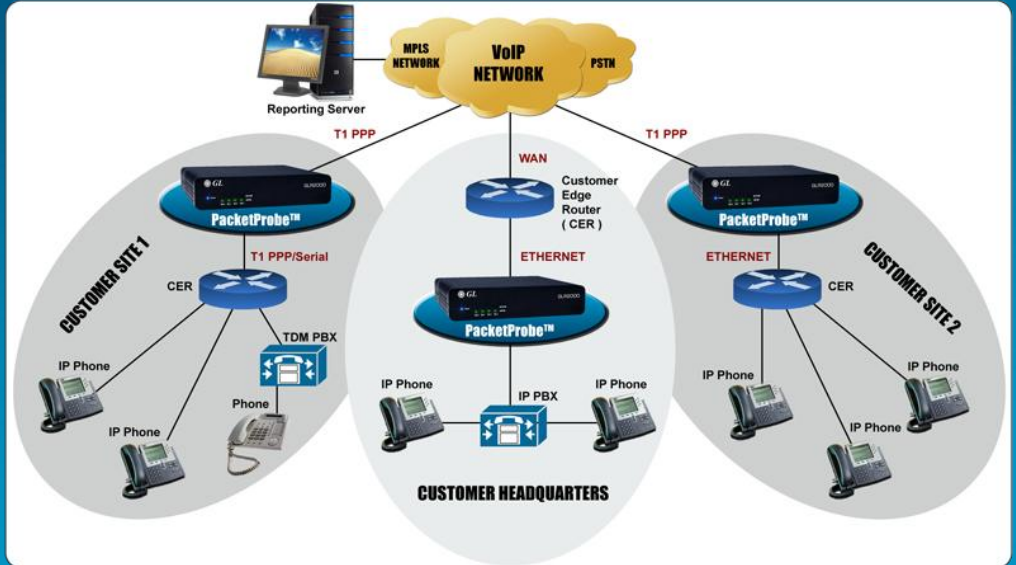
Passively Monitors VoIP Networks

Percent of Degradation due to Loss, Delay, Jitter, Codec Quality

Automatically Detects Active VoIP Calls Based on VoIP Call Signaling or RTP Session

Reports CDR with Quality Metrics for each Stream

Distributed Network Architecture



## Overview

Voice over IP (VoIP) has become a widely accepted technology, but like most IP applications it requires attention to detail to be successfully deployed. Tools like PacketProbe™ can be used to ensure successful deployments, and can also be used to help with network design, ensuring that the most efficient topologies are implemented. Additionally, PacketProbe™ can be used for ongoing network management to allow for maximum customer uptime and to allow the Service Provider to meet or exceed their Service Level Guarantee.

GL's PacketProbe™ is an advanced CPE-based VoIP monitoring, reporting and diagnostic appliance, stemming from GL's suite of market leading voice analysis tools. PacketProbe™ passively monitors VoIP traffic carried over the WAN/LAN by producing per call and per-stream voice quality metrics. Call Detail Records (CDR's) along with voice quality statistics and other vital diagnostic information provide network managers immediate visibility into service quality, call volumes and call details. Service providers are able to rapidly drill down and diagnose voice related issues.

Standards based Real-time Monitoring, Reporting and Diagnostic tools fit seamlessly into any existing standards based Management or Reporting environment, such as SNMP and RADIUS. Vital voice call quality statistics, Call Detail Records and Quality of Service metrics are available at the end of each call, using these standards based tools. Optionally GL offers its own Monitoring and Reporting System, PacketScanWEB™.

To learn more about GL's PacketProbe™, visit [www.gl.com/packetprobe.html](http://www.gl.com/packetprobe.html)



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# PacketProbe™

## Product Features

- Flexible hardware and software platform
- Available WAN interfaces
  - 8xT1E1, T3E3, OC3/STM1, Ethernet
- Available LAN interfaces
  - 10/100 or 10/100/1000 Ethernet
- Available DTE interfaces
  - Serial, 8xT1E1
- Access Types
  - PPP/MLPPP, Frame Relay
- Management and Reporting
  - SNMP, RADIUS, TCP/IP

## VoIP Reporting Features

- Automatic call detection based on VoIP call signaling
- Support for wide range of industry standard and proprietary CODECS
- CDR's and Quality reporting metrics per call/stream
  - Call summary statistics including caller number, callee number, start time, duration, etc.
  - Listening and conversational quality MOS scores (MOS-LQ, MOS-CQ)
  - Listening and conversational R-Factors (R-LQ, R-CQ)
  - Max/min/average gap, delay, jitter
  - Missing, discarded, out of sequence and duplicate packet statistics
  - Codec and SSRC identification
  - Max/min/average round trip delay

## Specifications

- Industry Standards
  - Call quality analysis using optimized ITU-T G.107 with ETSI TS 101 329-5 Annex E
  - Supports Japanese TTC JJ201.01 VoIP monitoring requirements
- Call Quality Metrics
  - Listening and conversational quality MOS scores with ACR, ITU and TTC scaling MOS-LQ, MOS-CQ
  - Listening and conversational quality R-Factors R-LQ, R-CQ
  - Separate R-Factors for burst and gap conditions R-Burst and R-GAP
- VoIP Signaling
  - Automatically detects active VoIP calls based on call signaling or RTP session
  - SIP, MGCP, Megaco, H.323/H.255
- IP/RPT Metrics
  - Packet loss rate, packet discard rate, burst length/density
- CODEC's supported
  - G.711, G.723.1, G.726, G.728, G.722.x G729A, G729B, GSM, FR, etc
- Degradation Factors
  - Percentage degradation due to loss, jitter, CODEC, delay, recency
- Interface Protocol Compatibility
  - Network monitoring interfaces IPV4/V6, UDP, RTP, (RFC3550) RTCP XR (RFC3611)

## Buyers Guide:

GLR2000 Series – Base System with PacketProbe™ + Local Client (GLRxx30)

## Related Software

PKV170 – PacketScanWeb™

PKV100 – PacketScan™ (Real-time and Offline)

PKS120 – MAPS™ -SIP

PKS100 – PacketGen™ (includes PacketScan™)

