

# **Automatic Sound Signals Quality Estimation. Business Benefits.**

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# Easing Voice Quality Measurements for Unified Communications

Modern telecommunications environments nowadays force companies to provide high quality solutions.

Sevana voice quality analysis software is specially targeted to assist companies assure top quality delivered to their customers and end users. Sevana voice quality analysis suits all comprehensive solutions that are working in fixed, mobile and IP networks, assuring voice quality even under adverse network conditions.

Sevana voice quality analysis gives application developers, service providers and hardware manufacturers the ability to easily build and test complex voice processing technology, without worrying about means for voice quality testing even at the effects of delay, jitter, packet loss, background noise and echo.

Our software is optimized for high performance on different platforms: PC, mobile devices, Windows and Unix based systems allowing our customers the flexibility to design almost any application or device with cutting-edge voice quality measurement technology assuring industry-leading voice quality.

## Sevana Voice Quality Measurement Benefits

- High sustainability of voice quality measurement over IP networks
- Test-proven solution over **all signals in the speech band** (not just only voice!)
- Unique opportunity to **test ANY voice codec** quality in test environment
- Optimizes voice quality testing in VoIP/SIP environments
- Flexible and easy integration
- Optimized for complex speech processing solutions
- Robustness against packet losses, delays and other network disturbances

## **Sevana Voice Quality Measurement Benefits Compared with ITU P.862 PESQ**

- PESQ demands test signals to be speech-like because many systems are optimized for speech and respond in unpredictable way to non-speech signals (e.g. tones, noise, ITU-T P.50)
  - Sevana solution works with non-speech signals also, one can test different spectrums and “parasite” frequencies in the channel will not affect our system

## **Sevana Voice Quality Measurement Benefits Compared with ITU P.862 PESQ**

- PESQ test signal is set by tester and thus vendor estimations may vary from end customer estimations
  - Sevana solution does not demand that. Furthermore, our solution can check voice quality directly comparing two audio files, which is a unique feature on the market

## **Sevana Voice Quality Measurement Benefits Compared with ITU P.862 PESQ**

- PESQ has the so-called "disturbance processing"
  - Sevana solution does not have this, because if signal spectrum is disturbed, that will be reflected in the estimation and will low down its accuracy

## **Sevana Voice Quality Measurement Benefits Compared with ITU P.862 PESQ**

### **We catch audio quality loss when PESQ fails!**

The following article describes situation when ITU P.862 standard fails to detect voice quality loss:

<http://www.microtronix.ca/pesq-disc.html>

The article presents a voice file that was equalized such that there is far less low frequency and high frequency energy when compared to the original file thus making it clearly audible that the speech file is degraded when you listen to it, but PESQ reports that the quality between degraded file and the original are the same!

## **Sevana Voice Quality Measurement Benefits Compared with ITU P.862 PESQ**

Test results of our software applied to Microtronix files:

- dg001.wav -> 4.7 (4.96) MOS (94% similarity in our units)
- dg002.wav -> 1.29 (0.73) MOS (26% similarity in our units)

This example clearly shows that our software does catch that significant quality loss, which occurs when the file is equalized with far less low frequency and high frequency energy.



## Sevana Voice Quality Measurement Products Family

- **PC Desktop Solution** is a full-featured voice quality measurement Windows based solution designed to generate speech models for voice quality estimation, automatically test voice codecs discovering MOS\* values for them, compare two audio files reporting quality difference between original and examined file. It perfectly suits VoIP, QoS, QoE, quality enhancement tasks, including codecs, net equalizers and voice quality systems.

\* 95% to 97% correspondence to CISCO or ITU P.862 PESQ MOS values

## **Sevana Voice Quality Measurement Products Family**

- **Voice Quality API** is a complete software library that allows easy integration to any quality assurance solution:
  - Windows based systems (DLL)
  - Linux (please contact us for details)

## Sevana Voice Quality Measurement Products Family

- **Voice Quality Mobile** extends Sevana Voice Quality Measurement functionality to mobile applications by handling voice quality estimation on smartphones, dual-mode phones and PDAs thus enabling handheld devices advanced voice quality estimation technology. Contact us about mobile platforms to port the software to.

## **Sevana Voice Quality Measurement Target Group**

- Sevana Voice Quality Measurement software perfectly suits companies providing hardware and software solutions in the following areas:
  - Voice/speech processing
  - Voice compression (codec development)
  - VoIP, SIP
  - Voice Quality of Service
  - Voice Quality of Experience
  - Voice quality measurement over different carriers (fixed lines, mobile, packet-switched networks)

## **Sevana Voice Quality Measurement Pricing**

- We are ready to offer highly competitive market prices:
  - low cost agent to implement in a STB (Set Top Box)
    - at least 20% lower than competitive product
    - down to 99% lower than competitive product in case of high volume
  - fully functional software for a service provider or enterprise not depending on the number of calls or sessions monitored
    - 20-50% lower than competitive product
  - Customization and customer product development
    - down to 20 Euros / man-hour for software development
  - Lowest cost maintenance contract for software support and updates

**In 2009 we offer offshore prices for voice quality software customization!**

# Sevana Voice Quality Measurement Partner Program

We encourage companies and consultants to inquire details of our partner program for promotion and distribution this state-of-the-art technology

- We demand:
  - NDA signed
  - Sales perspective vision
- We provide:
  - Additional information on scientific and technological concept proof
  - Technical support and consulting
  - Attractive business model for cooperation

It's difficult to believe and accept that new state-of-the art demanded technology exists, but the first one who does  
- wins... and the “winner takes it all”!

**THANK YOU!**