NGN, IMS, LTE and IPX networks need next generation tools to monitor and control voice quality. Common tools neither provide an accurate understanding of the user experience nor the power to see inside the network.
Voipfuture’s Qrystal monitoring solution offers superior support for voice service operation. Its unique technology provides full control over voice service performance and can be used to:

- Monitor voice quality
- Troubleshoot VoIP services
- Optimize network performance
- Offer and verify voice quality SLAs (e.g. for IPX and SIP trunks)
- Support customer care agents
Solution

The Voipfuture system is a passive, mid-point monitoring solution, i.e. it measures live traffic in real-time. The power of RTP Monitoring shows in the technology’s unique characteristics, particularly in regards to availability of data, troubleshooting support and support for voice quality SLAs.

Voipfuture’s solution provides a complete and unified view on the entire network and service quality. Quality data is always available, since analysis is based on the media streams carrying the actual voice data.

There are no dependencies on the network configuration or on data from 3rd party sources.

Voipfuture probes determine the quality at multiple points in the network. This approach speeds up troubleshooting by isolating network elements/segments that cause impairments.

In addition, the solution provides automatic root cause indicators. Network overload situations, faulty endpoints causing jitter and temporally correlated issues in the network are some examples of faults that are automatically identified.

The solution conforms to P.564, meaning its MOS and R-Factor values are trustworthy and comparable to results from PESQ and other conformant systems. Furthermore, the system performs fixed time slicing.

Quality data is available for every 5 second segment of every voice stream, enabling meaningful and verifiable voice quality SLAs.

Qrystal covers the entire spectrum of voice quality assurance, including IP interconnection monitoring, network performance optimization and VoIP troubleshooting.

For all these use cases Voipfuture has active references from incumbent communication service providers.
Key Benefits

- Full visibility of voice service quality for single calls, SIP trunks, IPX SLAs and entire networks
- Trustworthy & accurate MOS scores for every live call
- Enabler for SLAs through KPIs based on fixed time slice measurements
- Quality data also for off-net calls and multi-vendor domains
- Protect own network from bad traffic originating in foreign networks
- Rapid fault isolation through network segmentation
- Automated root cause analysis enabling more effective troubleshooting
- Applicable to all SIP/RTP based VoIP services in NGN, IMS and LTE networks

Qrystal Technology

The solution is based on a two-tier architecture comprising probes and a central application manager platform.

The non-intrusive probes analyze copies of all VoIP packets on a link in real-time.

The central application manager collects, analyses and aggregates data from the probes. It provides a web-based user interface, post-processes the probe data and generates KPIs and detailed reports.

Voipfuture’s unique approach performs fixed time slice measurements of RTP streams. All information relevant to the quality of a stream slice is stored in quality data records (QDR), containing highly condensed statistical information for every 5 s segment of an RTP stream.

The QDR metric is generated by the probes and consists of over 400 values, ratios, KPIs and indicators.

Indicators enable effective root cause analysis, as they automatically identify QDRs that suffered from specific impairment types, such as network overload conditions.
Specifications

Key Features
- Configurable dashboard with key network KPIs and drilldown to call and in-call QDR information
- Grouping, filtering and aggregation by user-defined criteria, e.g. by SIP trunks and numbering plans
- Media plane and control plane KPIs including MOS, hangup causes, ASR, ACD and all other SIP Performance Metrics as defined in RFC 6076
- Automated root cause analysis detects faulty senders, policy violations and network deficiencies
- Configurable quality alarms via SNMP, syslog or email for pro-active operations
- Powerful reporting engine with preconfigured and customizable reports
- Optional packet recording feature for documenting impaired calls

Supported standards
- RTP (RFC3550/3551), SRTP (RFC3711), Comfort Noise (RFC3389), DTMF (RFC2833)
- SIP (RFC 3261) and SIP extensions e.g. SDP (RFC 4566), Private Header Extensions for 3GPP (RFC 3455), SIP UPDATE Method (RFC 3311), the REASON header field (RFC 3326), etc.
- All common codec types such as G.711, G.722, G.722-2 (AMR-WB), G.723, G.726, G.729, GSM-FR and AMR
- Other relevant standards, e.g. DiffServ (RFC2474/2475), GRE (RFC 2784), UDP and TCP transport including defragmentation

Appliances
- Voipfuture software comes pre-installed on dedicated appliances
- Appliances are based on standard Intel-servers from HP, IBM or Dell depending on customer preferences
- Many different models are available to meet customer requirements

Voipfuture Qrystal Manager Appliances (VMA)
- Single appliances can import between 10,000 cc and 80,000 cc
- Storage capacities from 75 to 360 million minutes of call quality history
- Central Application Manager may be fully virtualized

Voipfuture Probe Appliances (VPA)
- Appliances differ in form factor performance, number and speed of interfaces
- Performance ranges from 200 cc up to 100,000 cc
- Appliances offer between two to eight 1 GbE monitoring interfaces or two to four 10 GbE interfaces (optical/electrical)
About

Founded in 2007, Voipfuture is the leading provider of RTP Monitoring as a standard network solution.

Live traffic RTP Monitoring provides insight into customer experience and network performance of voice services in IP networks.

Voipfuture delivers leading edge technology to monitor and evaluate voice quality in Next Generation Networks. The products are characterized by performance, precision and vendor independence.

Our solutions offered to carriers, enterprises and system integrators open up a new dimension in the efficient operation of VoIP networks. Secure your VoIP future with Voipfuture.