

- Carrier Class, Scalable management for distributed test elements to assess your voice network performance
- Remote 'robots' to interface with POTS, VoIP, GSM and CDMA networks
- Remotely manage, configure and upgrade distributed intelligent agents
- Apply the latest Voice Quality Analysis algorithms: PESQ (ITU-T P.862), P.SEAM (ITU-T P.563), E-Model (ITU-T P.107)
- Advanced Management and Control system to collect and analyse data for your network
- Sophisticated Alarm generation and filtering to integrate directly to your Operational Support Systems
- Centralised database, to record call records for orchestrated field tests

"Beethoven manages voice assurance right to the edge of the network, to get a true picture of the customer experience"

Beethoven RM 100

Distributed network robot manager for your Network

Assuring Service and Performance levels in your network helps to keep you ahead of your competitors, to grow revenues, and to maintain excellence in your network operations and support. Visibility to call and signaling information, including customer experience metrics gives you the control that allows you to deliver increased customer satisfaction, and to maximize revenues.

The Beethoven RM 100 is a Network Management Solution designed for Network Operators needing a network integrated element to manage your Voice Network using distributed 'field robots'. Each Beethoven RM 100 can manage and collect data from several hundred low cost distributed field elements, including the Beethoven FR 10, FR 20 FR 30 and FR 40.

This solution is tailored to facilitate both non-intrusive and intrusive testing of operator network configuration including GSM/CDMA, Circuit Switched PSTN, Wireless Local Loop and Voice over Packet.

Applying the latest Voice Quality Metrics in combination with intelligent signaling analysis, the Beethoven RM 100 delivers unparalleled visibility of your network operation from the Voice perspective.

The Beethoven RM 100, and Field Robot distribution can be scaled to your network and analysis needs.

Features

Intrusive and Non-intrusive Voice Quality Analysis metrics including Mean Opinion Score (MOS) using P.SEAM (ITU-T P.563), PESQ (ITU-T P.862), E-Model (ITU-T G.107)

Real customer experience assessment

Scalable architecture, configurable interfaces

Intuitive web based Management System

Detail Call metrics for each call are stored in a central database

Alarm generation

Benefits

Customer experience management, allowing voice service problems to be pro-actively monitored and managed

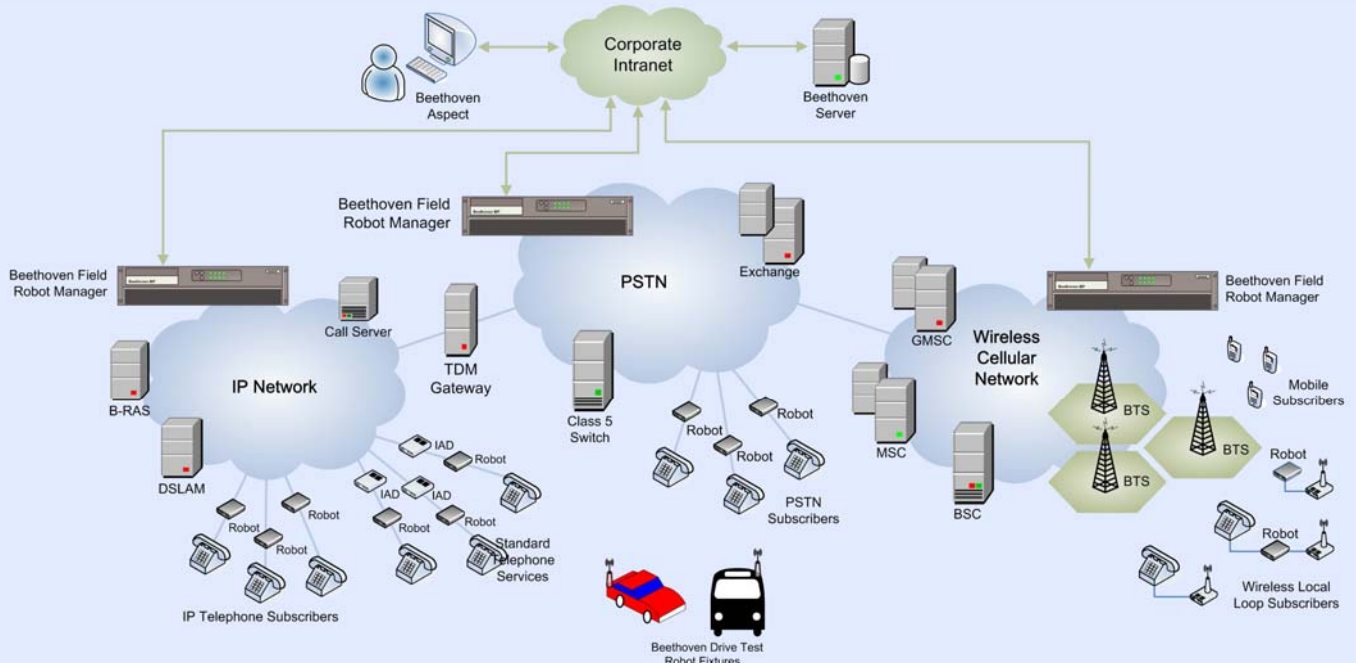
Minimise customer churn through delivering appropriate Quality of Service

System can be scaled to your network requirements

Simple management, global access, automatic report generation

Data mining and baseline trends identified for your network

Intelligent Alarm generation and filtering using trend and event data



Specifications Summary

Voice Quality Metrics

Transmission Rating Factor	ITU-T G.107 E-Model
Mean Opinion Score	Non-intrusive P.SEAM (ITU-T P.563)
	Non-intrusive E-Model (ITU-T G.107)
	Intrusive PESQ (ITU-T P.862)
Echo	Echo Return Loss, ERLpeak, transmission delay
Double Talk	% Double talk, Double Talk Muting, Front end clipping
Background Noise	Periods of non-speech, noise measurement
Speech Power Level	Power level,
Voice Activity Detection	Voice classification
DTMF detection	Configurable sensitivity

Interfaces

Type	2.048Mbps (E1) 1.544Mbps (T1), POTS, 10/100/1000Mbps (VoIP), xDSL (VoDSL)
Density	Configurable
Flexibility	Interfaces can be freely combined in the six available slots of a single MP 100

Physical, Mechanical & Power

Ambient Operating Temperature	5°C to 40°C
Power Supply	Dual, redundant -48VDC -36VDC to -64VDC operating range
Rack Mounting	19/23 inch rack mountable
Height	88mm (2U)
Width	435mm
Depth	508mm

Regulatory Compliance

Safety	UL 60950, CSA 60950, IEC 950, TUV/GS EN60950
EMC	Verified to FCC Class A; tested to CISPR 22 Class A, EN55022 Class A, VCCI Class A ITE, AS/NZS 3548 Class A, CNS13438
Immunity	EN 55024
NEBS/ETSI	Bellcore GR-63, GR-1089, ETSI 300 386, 300 019, 753



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