



## Beethoven Wireless

### Voice Service Assurance for your Wireless Network

- Assure the performance of your wireless network deployments from a Voice Quality perspective
- Minimise customer churn to maximise revenues
- Optimally apply your Operations and Technical staff
- Reduce the costs for “Drive Test” by automating testing procedures
- Signaling analysis and monitoring give a deep understanding of end-to-end call behaviour

The growth of wireless technologies, GSM, CDMA, 3G; has been astounding. Unfortunately, it is getting more difficult to grow your revenue, and stay ahead of your competitors. To differentiate your service, you must surpass the customers expectations of your voice service. Your customers are no longer tolerant of poor wireless network performance, they expect near wire line voice quality, and no more drop outs .

The Beethoven Voice Service Assurance solution gives you a scalable, configurable set of hardware and software components that fully instrument your network to assure the quality of the voice service. Beethoven offers a customisable suite of voice monitoring and analysis capabilities that enables you to optimally manage and control your network from a customer experience perspective.

You save money by quickly identifying and resolving issues resulting in increased network reliability, and a reduction in the cost of maintaining the high level of service demanded by end customers and regulatory authorities.

Increased revenues result from reduced customer churn through better customer service management and higher customer satisfaction.

*“Beethoven analyses the voice network performance from the customer perception perspective, enabling you to reduce customer churn”*

# Wireless Network Performance Assurance

The mobility and promise of wireless telephony led to a rapid adoption of the new technology. Your customers were even willing to tolerate poor coverage, and the more than occasional drop out, one way speech, and the odd bit of echo. No longer. The customer has been educated, and their expectations are greater. They will flock to the operator that gives them value for money, but they will not tolerate second rate service. Their business, their relationships, even their safety can depend on you providing them with a reliable, high performing network.

You cannot afford to earn a reputation for poor reliability, and poor network performance. Customer churn will lead to devastating revenue loss. Operational issues must be resolved quickly, efficiently and with minimum cost.

The need for Wireless Networks to co-exist and work along side legacy and next generation networks, places high demands on the teams maintaining and operating your network. The time to market for new services must be optimised, without compromising the existing service, or the current customer base.

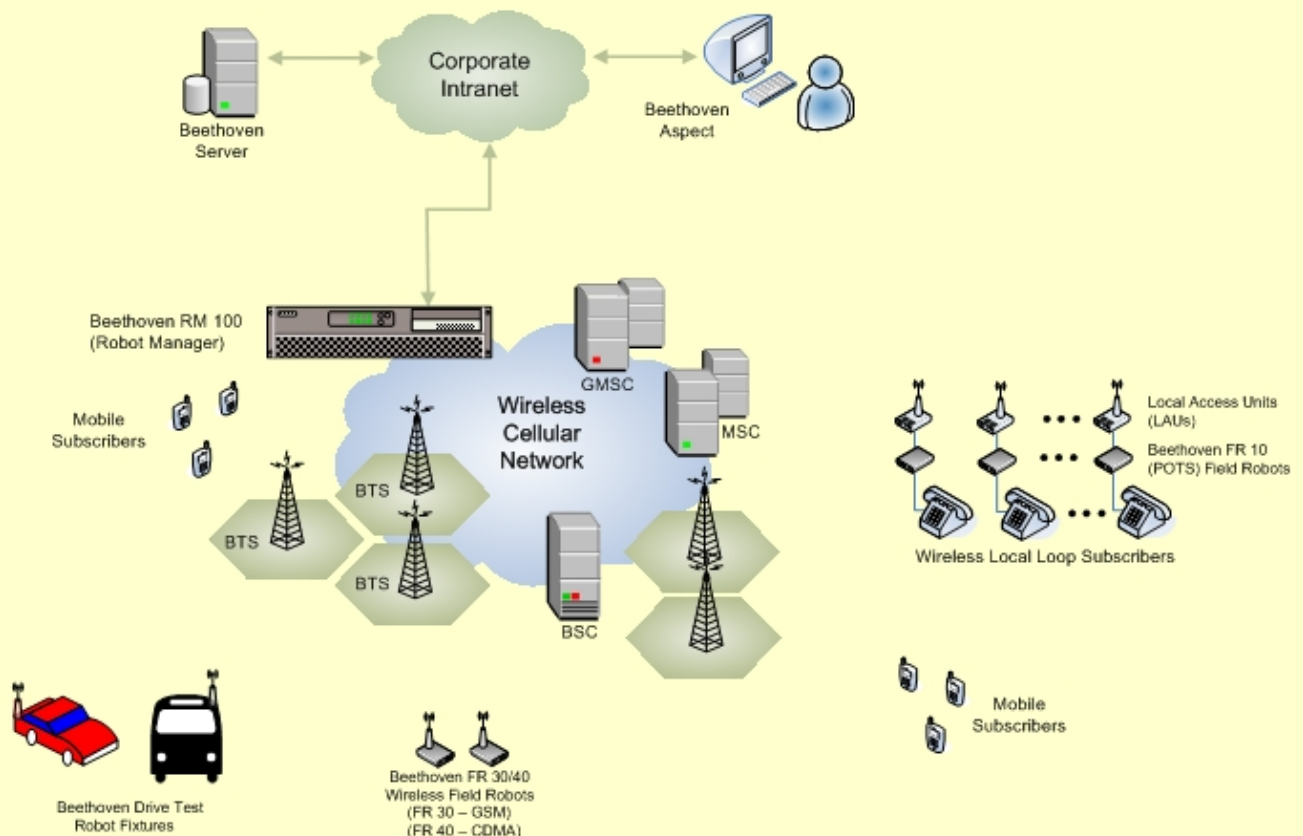
To manage and maintain your wireless network, and the integration of these networks with existing infrastructure and future infrastructure, you need tools that give you end-to-end visibility for calls on your network. You need to understand the actual customer experience, you need to be able to reach the very edge of the network.

## Beethoven Voice Quality Assurance Solution

The Beethoven Solution offers you the capability to address all of your voice quality concerns. Beethoven offers you as much visibility as you need, to understand how your network is operating from your customer's perspective. The Beethoven solution is a complementary set of hardware and software elements that can be tailored to your exacting needs. Calyptech understands that not all networks are the same, and that networks are constantly changing. Beethoven is built to give you one fundamental constant, the highest quality of service that can be delivered to your customers.

## Beethoven Solution Components

MP 100	Network integrated voice quality monitoring element for Network Operators, for intrusive and non-intrusive voice quality monitoring
MP 100e	Enterprise level voice quality monitoring element
CG 100	Voice call stimulus generation element, integrated in the Network Operator's network
CG 100p	A portable voice call stimulus generator, ideal for used during deployment and field trial, and general network troubleshooting
FR 10/FR 20/FR 30/FR 40	POTS/VoIP/GSM/CDMA interface field 'robot' element. These elements are distributed to strategic locations, or used in drive test applications
RM 100	Distributed Robot Management and control unit. This element co-ordinates and manages the distributed Beethoven Robots
Beethoven Server	Sophisticated central database management system, data mining and trend analysis. The Beethoven Server is the core of the solution, and co-ordinates the Beethoven solution elements, with intuitive setup
Beethoven Aspect	Client application enabling unified element management for all the Beethoven elements, real time reports, alarm configuration, trend analysis historical reports, structured testing. Beethoven Aspect can be operated from anywhere, with appropriate access permission settings.



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