



## Beethoven VQAS

### **Differentiate your Voice Service level with assured voice quality**

As a Service Provider, you must control capital and operating expenses, while managing complex network configurations and delivering assured service quality to the end customer.

The Beethoven Voice Service Assurance solution offers a customisable set of analysis capabilities that enables you to monitor and manage voice service related issues in your network.

Automating the operation of your infrastructure, and proactively monitoring the quality of the service delivered from the customer perspective will dramatically cut your costs, increase your efficiency and secure your customer loyalty.

Growing your market share depends on your ability to rapidly respond to market demands, trends and cost structures. Technology advancements can result in disruptive market shifts, giving your competitors the opportunity to capture more of your market.

Beethoven differentiates your solution, with more cost effective technical management and higher quality of voice service delivered to your customers.

- Differentiate your solution with an intrinsically assured Service Level
- Automate the management of your Voice services and reduce operational costs
- Reduce your Capital expense with equipment deployed at the right scale and cost
- Expedite the introduction of new technology to reduce time to revenue and mitigate disruptive technology effects
- Assure the Voice Service within a multi-vendor environment

*“Reduce your Capital and Operating expense while assuring the quality of the voice services in your network”*

# Service Providers: assured service and reliability

There are two main challenges facing Service Providers today. Firstly, you must maintain the same reliability standards your customers have from their existing services. New infrastructure primarily deployed to transport raw data are often configured without due regard to the special needs of voice, which is sensitive to latency and coding technologies.

Secondly, the new technology is more complex and typically requires equipment from multiple vendors. Integrating the new technology into the existing network without disrupting service or increasing operational costs requires an enormous effort.

Network designs which may incorporate "best effort" voice services are a far cry from the connection oriented networks your customers have used for a generation. How are they going to react when the new technologies exhibit problems not known to them before? They do not want to become experts in what can go wrong with their "state of the art" network. As the Service Provider, you have committed to deliver a service which helps your customers to reduce their costs with enhanced features, they will not accept the reduced reliability.

The Beethoven solution is network agnostic, and can be deployed with Enterprise Level, Voice over Internet Protocol, Wireless, PSTN or Hybrid network configurations.

## Enterprise Networks

Voice Services are no longer the preserve of large incumbent Network Operators, who managed and controlled the network right to the equipment on your desk. You now can configure your network to suit the way you work. This means that you must now accept responsibility for the way in which this network will operate, and make cost benefit decisions that can impact the quality of the service. You need the management tools that allow you to effectively determine the optimal configuration for the way your business operates.

## VoIP Networks

To manage and maintain VoIP infrastructure, and the integration of these networks with the existing infrastructure, you need tools that give you end-to-end visibility for voice calls. You need to understand the actual customer experience, you need to be able to monitor the network operation, from the core to the edge. Enterprise network managers face the choice of implementing a proactive VoIP management system, or suffering the onslaught of unhappy end customers, ill equipped support personnel and baffling service degradations.

## Wireless Networks

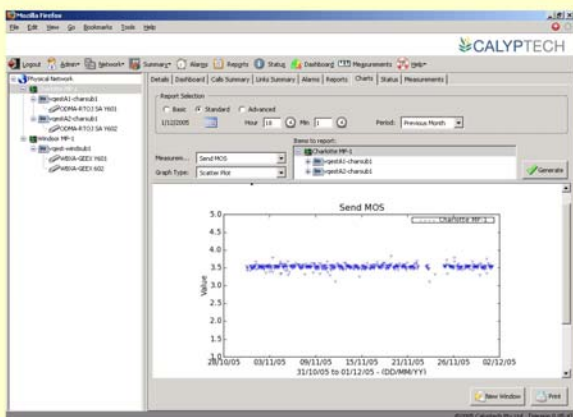
The mobility and promise of wireless telephony led to a rapid adoption of the new technology. Your customers were even willing to tolerate poor coverage, and the more than occasional drop out, one way speech, and the odd bit of echo. No longer. The customer has been educated, and their expectations are greater. They will flock to the operator that gives them value for their money, but they will not tolerate second rate service. Without a proactive monitoring capability in your network, you will end up using customer churn figures and lost revenue, to measure customer satisfaction.

## PSTN Networks

The PSTN network is aging; copper loops are degrading with time, extra demands are being placed on the lines to accommodate digital line rates for xDSL services. Revenues are falling, and the cost of maintaining the network is increasing. Currently deployed line test management, coupled with voice monitoring and analysis reduces the cost of maintaining the aging infrastructure by helping to pin point issues rapidly.

## Hybrid Networks

Your Network is a series of interconnected sub-networks, with varying operational requirements. Voice services carried on Wireless, PSTN, VoIP, and Satellite topologies are expected to 'just work'. The end customer has high expectations, and is not concerned about the technical challenges faced by the Network Provider. You may even be blamed for degradation that originated in somebody else's network. You need a tool to help you quickly isolate the problems for the responsible party.



## Beethoven Voice Quality Assurance Solution

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 customizable 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.

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