

OrcaVision™ Voice Quality Management System

Summary of Key Features:

- Total IP network visibility
- Dynamic graphical display
- Multiple customer-partitioned views
- Multiple carrier network views
- 24x7 service level monitoring
- Automated problem notification
- Trace route analysis of call path
- Root cause diagnostic toolset
- On-demand record and playback
- Historical call detail records
- Remote IP-PBX fault management
- Remote IP-PBX system configuration

Voice Quality Management

The most critical element for any IP-based telephony solution is delivering a high quality voice service. CrystalBlue Voice is a premised-based managed service that offers superior call quality and availability compared to other network-based hosted VoIP services that operate a best-effort service without the necessary tools for detecting and correcting service problems. CrystalBlue Voice service is based on a service architecture designed to meet the highest possible standards for service quality and availability. An essential element of this architecture is a comprehensive Voice Quality Management System (VQMS) called OrcaVision. OrcaVision introduces advanced technology for monitoring and managing an IP telephony service to enable a more proactive approach for detecting problems and accelerating the diagnostic process for resolving them.

Total Network Visibility

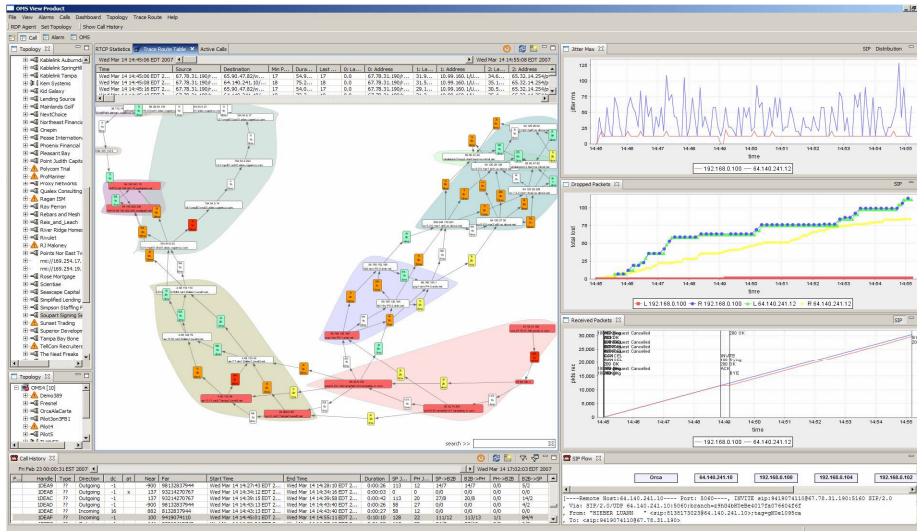
OrcaVision was developed by Whaleback engineering for use in its Network Operations Center (NOC) to provide its network engineering staff with total visibility into the customer's IP network environment. Given the complexity of modern IP networks, OrcaVision was designed to "see" into a complex and constantly changing network environment including private access networks, global Internet service providers and gateway devices that connect VoIP calls to the public switched telephone network (PSTN).

Using a real-time graphical display console, OrcaVision provides dynamic views of interconnected IP networks as voice traffic from CrystalBlue Voice subscribers crosses the infrastructure. To visually portray the state of each network domain, OrcaVision changes the shape, color and network fabric of each carrier cloud in response to its health, usage and performance characteristics.

These network views can be customized to isolate individual network service providers, geographic service areas and customer locations. This allows the NOC personnel to monitor the overall state of the network environment and to investigate areas where congestion or network anomalies might impact the quality or availability of CrystalBlue Voice service.

Proactive Service Level Monitoring

Whaleback monitors the quality of its voice network on a 24x7 basis using various alarms to provide early notification of service issues to NOC personnel. Alarms fire whenever call quality thresholds are violated. Alarm thresholds are based on strict call quality metrics that provide advance notice of service degradation before there is user impact. This proactive approach focuses on problem prevention versus reacting to the complaints of unhappy customers. OrcaVision improves the overall customer experience with their voice service while providing the NOC team with essential network management information.



OrcaVision combines a graphical real-time display of IP networks with powerful diagnostic tools for analyzing the root cause of service problems.

The flexible configuration and operation of the system allows NOC personnel to quickly assess customer impact, isolate affected service areas and identify the source of voice quality problems.

OrcaVision is also used to monitor and manage the IP-PBX from a central NOC location.

Rapid Problem Resolution

Sometimes the nature of a network problem unfolds so quickly that a proactive solution is simply not possible. Traffic spikes can create congestion and cause bottlenecks resulting in excessive packet loss, delay or jitter. Equipment faults can remove critical elements of the infrastructure and cause outages. Catastrophic events such as fire, floods and lightning strikes can impact the customer premise, compromising its telecommunications link or the IP-PBX server. And, of course, human error is always a potential contributing factor.

OrcaVision has the drill-down diagnostic tools to rapidly isolate the source of these problems and identify the root cause. By launching multiple diagnostic windows, NOC personnel can monitor a single customer, a user extension, or a voice call. Packet impairment statistics can be displayed over time and checked for abnormal readings. The suspected call path can be traced to identify all routers on all hops and the devices can be mined for diagnostic data. The power of the toolset available to the Whaleback NOC engineer is extensive and the diagnostic information it can retrieve is granular.

In addition to diagnostic results, OrcaVision also collects and stores call history data for historical analysis. Call Detail Records (CDR) are maintained for every call made by every customer for the life of the service contract. In addition to CDR data, all relevant call quality metrics are recorded and archived for subsequent retrieval and trend analysis. Together, CDR and call quality metrics can provide a wealth of information and a better understanding of the usage patterns and service quality issues affecting the customer.

Remote IP-PBX Management

In addition to the ability of OrcaVision to detect and correct service delivery problems, the system is also used to remotely manage the IP-PBX server located on the customer premise. Remote management includes monitoring health and performance information such as CPU utilization, memory usage, and disk capacity. It also means monitoring the health, status and utilization of the LAN/WAN connections to local and wide area networks.

OrcaVision performs a periodic health check on the IP-PBX to validate its ability to make and receive calls and perform its other functions. If the health check is unsuccessful, Whaleback NOC engineers are immediately alerted and a troubleshooting process is initiated. Whaleback can detect a serious outage in a matter of minutes and invoke one of the many back-up plans that are ready to restore service.

System updates such as new software releases or patches are also implemented using OrcaVision. IP-PBX software enhancements occur two or three times per year and are deployed automatically over the network during off-hours. Configuration changes are made from the central NOC location and all customer data is backed up nightly by a central system. OrcaVision greatly simplifies the task of IP-PBX administration for the customer and for the Whaleback support team.

Whaleback Systems

72 Pease Boulevard
 Portsmouth, New Hampshire 03801
 CrystalBlue Voice: 603.812.0400
 OrcaFax: 603.812.4634
info@whalebacksystems.com