



# VoIP Performance Management

## WildPackets Voice Solution

VoIP creates unique challenges for traditional data networks. Network packet sizes for VoIP are significantly different from those of data transfers, and sensitivity to timing (or latency) is critical for media traffic while not typically so for data. Though the network demands between voice over IP and data are different, they both rely on the same network using the same equipment and network settings.

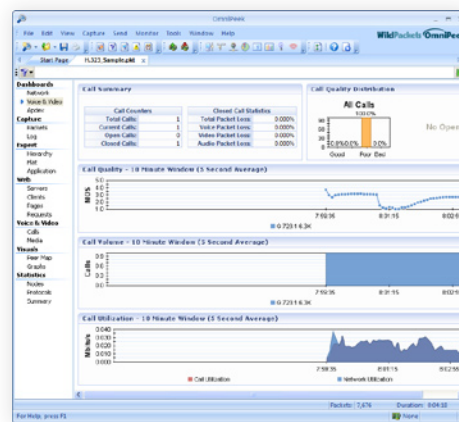
To deploy and maintain a successful voice over IP implementation, you need to be able to analyze and troubleshoot media traffic and the network the media traffic is running on, simultaneously. You need to be able to understand how other applications are affecting media traffic—and vice versa.

The WildPackets® voice solution provides in-depth monitoring, analysis and troubleshooting of both network and media traffic, eliminating the need for multiple tools. At a glance, network engineers can see the voice quality for each stream being transmitted, and can be notified when performance drops below a certain level. In cases of poor performance, network engineers can drill down and analyze the exact cause of the issue for rapid resolution.

## Global VoIP Real-Time Monitoring and Troubleshooting

WildPackets voice solution extends real-time monitoring and troubleshooting to VoIP network segments around the world, delivering Expert Analysis, detailed calls summary, signaling protocol and codec information, quality of service scores, and VoIP summary statistics, and even VoIP

packet decoding, on multiple segments, by multiple users, in real time. From one application, a network engineer can cost-effectively troubleshoot VoIP analyses and other detailed statistics on OmniEngine™ software probes down the hall, across the country, or around the globe, all without leaving their desk.



## Network and VoIP Top-Down Views

OmniPeek® network analyzer provides a high-level view of network traffic, application performance, and multimedia using its comprehensive dashboard views. Dashboards display important data that every network engineer needs to know about the network without spending lots of time analyzing the captured data. The multimedia dashboard displays important statistical information regarding the health of your VoIP network, such as a call summary, quality of calls over time, number of calls over time, network utilization vs. VoIP utilization, etc.

You can also drill down and see signaling information for each call. Click again and see the media streams associated with each call and find the quality of each stream.

## The WildPackets' Voice Solution:

- Offers a single solution for in-depth monitoring and troubleshooting of both network and VoIP traffic
- Provides a complete pre-deployment assessment and post-deployment troubleshooting solution
- Monitors and analyzes VoIP traffic for all network topologies, including 10 Gigabit, Gigabit, Ethernet, and 802.11a/b/g/n wireless
- Ensures voice service quality by providing detailed data and visual displays of voice and video signaling and quality measurements
- Provides comprehensive signaling analysis of major enterprise communication systems such as Avaya CCMS, Cisco SCCP, MGCP, etc.
- Displays top-down monitoring view of overall VoIP network health with single-click drill down for detailed troubleshooting

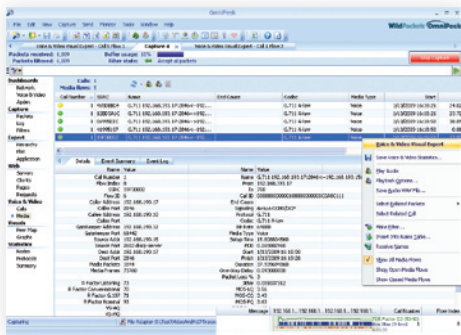
## Voice and Video over IP Analysis

WildPackets voice solution provides users with the visibility and analysis they need in order to keep voice and video applications and non-media applications running optimally on the network. Users gain access to the entire voice and video over IP network in a single view, including a wealth of detailed call quality statistics, graphical representations of the media traffic and detailed diagnostic information. Specific voice and video media, signaling, and call playback capabilities are also included.

OmniPeek offers in-depth analysis of latency, throughput, and numerous network problems in a conversation-oriented display. Open calls can be analyzed without requiring any expensive voice and video processing hardware providing unsurpassed capacity for post-deployment troubleshooting. In addition to voice and video decodes and analyses, OmniPeek also evaluates and displays the call setup mechanism, in real-time, for each open call. All active and closed calls are shown in an elegant summary screen with easy, single-click drill down for detailed troubleshooting.

WildPackets voice solution associates all the signaling (including RTCP status reports) and voice and video streams (RTP) on a per call basis and provides a flow of the signaling messages and endpoints that participate in the call. This includes measuring call setup durations and providing a Call Detail Record (CDR) for each call.

The calls view displays all the calls in the order in which they were captured, with caller, callee, and end cause information.



## Unified Communications Readiness Assessment Service

WildPackets offers a comprehensive Unified Communications Readiness Assessment Service to help organizations understand the current state of their network and its ability to support a converged voice, video, and data environment. The service is invaluable for evaluating whether or not your existing network infrastructure and applications are ready for a UC roll-out that properly aligns with your business and network requirements.

## Expert Analysis

WildPackets' Expert system displays both network and VoIP-specific Expert analysis diagnoses by conversation pair, so you can instantly identify where problems are occurring on the network.

## Visual Expert

The Visual Expert answers the question "Who's talking to who?" by providing comprehensive visual data about network, media and application traffic, along with Expert diagnoses of common and not-so-common network problems. The Visual Expert makes it easier to understand what's happening on the network and how to remedy problems by providing a "top-down" view of network activity.

The Visual Expert includes Packet Visualizer, payload reconstruction, a wide range of conversation-oriented graphs, optimization tuning by playing "what if" with key network parameters, packet by packet comparison between multiple saved capture files—very useful in comparing the traffic from the wireless and wired side of an access point, and a detailed summary panel.

VoIP Visual Expert includes the signaling bounce diagram which shows the caller, callee, gatekeeper for each call along with the signaling information for the whole conversation per stream.

## MPLS and VLAN Analyses

For organizations adopting MPLS and VLAN, the WildPackets voice solution

captures MPLS and VLAN traffic and provides important statistics, such as total packets and total bytes per MPLS/VLAN. All MPLS/VLAN statistics can be graphed over time providing a visual view of the MPLS/VLAN network to the user. Alarms can be set on these statistics as well notifying the administrator as soon as a problem occurs in the network.

## Network Coverage

With the Ethernet, Gigabit, 10 Gigabit, and wireless capabilities, you can now effectively monitor and troubleshoot services running on your entire network. Using the same VoIP solution for troubleshooting wired and wireless networks reduces the total cost of ownership, and illuminates network problems which would otherwise be difficult to detect.

## Intelligent 24/7 Enterprise-Wide VoIP and Network Analysis

The WildPackets distributed network analysis solution comprises OmniPeek network analyzers and consoles, as well as distributed OmniEngine software probes, Omnipliance® network recorders, and OmniAdapter™ analysis cards, which continuously capture, analyze and store data at remote locations on the network.

## About WildPackets, Inc.

WildPackets develops hardware and software solutions that drive network performance, enabling organizations of all sizes to analyze, troubleshoot, optimize, and secure their wired and wireless networks. WildPackets products are sold in over 60 countries and deployed in all market segments. Customers include Boeing, Chrysler, Motorola, Nationwide, and over 80 percent of the Fortune 1000. WildPackets is a Cisco Technical Development Partner (CTDP). For more information, visit [www.wildpackets.com](http://www.wildpackets.com).



1340 Treat Blvd, Suite 500  
Walnut Creek, CA 94597  
(925)937-3200  
fax (925)937-3211

[www.wildpackets.com](http://www.wildpackets.com)