

Supported Networks

OmniPeek Enterprise can analyze traffic on Ethernet, Fast Ethernet, Gigabit Ethernet, 10GbE, WAN, or Wireless networks.

Ethernet and Gigabit

- IEEE 802.3
- Ethernet Type 2
- Data Rates: 10, 100 and 1000 Mbps.

Wireless

- Wireless 802.11 a/b/g/n
 - 802.11 a Data Rates: 6, 9, 12, 18, 24, 36, 48, 54, 72, 96, 108Mbps
 - 802.11 b Data Rates: 1, 2, 5.5, and 11 Mbps
 - 802.11 g Data Rates: 5.5, 6, 9, 11, 12, 18, 22, 24, 33, 36, 48, 54 Mbps

WAN

- WAN T1/E1
 - T1 Data Rates: 1.536 Mbps.
 - E1 Data Rates: 2.048 Mbps.

Supported Network Adapters

Ethernet Cards

OmniPeek will run with any NDIS 3 or higher compatible Ethernet promiscuous mode network adapter. Almost all Ethernet adapters on the market today meet this requirement. For example, we are compatible with adapters from 3Com, Intel, Xircom, SMC, and many others.

OmniAdapters

The OmniAdapter is a high performance network analyzer card that supports up to 2 full-duplex or 4 half-duplex connections providing advanced monitoring and troubleshooting of Gigabit networks.

OmniAdapter is a four-port, PCI-X network analyzer card available in the following configurations:

- Four SFP cages
- Four SFP RJ45 ports
- Two SFP cages and two RJ45 ports

OmniAdapters are supported on both Windows and Linux operating systems.

OmniAdapter 10G

WildPackets' OmniAdapter 10G is a high performance, 10 Gigabit Network Analyzer Card with 1x10 Gbit/s optical interfaces that has been optimized for monitoring and troubleshooting traffic on 10 Gigabit Ethernet network. The OmniAdapter 10G provides hardware accelerated packet tracing and configurable filtering together with high precision timestamping. The network adapter is available with 1x850nm MFF XFP or; 1x1310nm SMF XFP optical transceivers with LC connectors.

Other Gigabit and 10G Network Adapters

- Intel® PRO/1000 PF Quad Port Server Adapter
- Intel® PRO/1000 PT Quad Port Server Adapter
- Intel® PRO/10GbE CX4 Copper Server Adapter
- Intel® PRO/10GbE SR Fiber Server Adapter
- Intel® PRO/10GbE LR Fiber Server Adapter

WAN Analyzer Card

- WAN Analyzer Card PCMCIA T1/E1

Wireless LAN Adapter

For wireless packet capture, OmniPeek requires the installation of a special NDIS driver. For more information and to download wireless drivers, please visit: http://www.wildpackets.com/support/omni/omnipeek_enterprise/wireless

Decryption

Support for WPA/PSK

WPA (Wi-Fi Protected Access) is an encryption and authentication technique that improves the security protection available to wireless networks as compared to the more vulnerable WEP.

OmniPeek supports the decryption of WPA traffic. OmniPeek allows users to specify the WPA (Wi-Fi Protected Access) pre-shared key set for their network. This means that OmniPeek will decode and decrypt an

encrypted packet with your user-defined WPA keys, allowing application layer troubleshooting. OmniPeek can decrypt “on-the-fly” by allowing the user to enter a network’s WPA key and can also decode encrypted packet files.

Note: OmniPeek supports TKIP decryption, but doesn’t support AES or WPA2 decryption.

Support for WEP

WEP (Wired Equivalent Privacy) is a data encryption technique supported as an option in the 802.11 WLAN protocols. The technique uses shared keys and a pseudo random number (PRN) as an initial vector (IV) to encrypt the data portion of network packets. The 802.11 WLAN network headers themselves are not encrypted. OmniPeek supports the decryption of WEP traffic at various key lengths. Additionally, by allowing the user to input a network’s WEP key, OmniPeek can decrypt “on-the-fly” using multiple named key sets. Using a convenient command line utility, OmniPeek can also decode whole packet files that were captured in an encrypted state.

Noise Measurement

WLAN cards based on the Atheros chipset measure the noise to know how to distinguish between the noise and the actual signal. Using the Atheros driver, OmniPeek measures that noise every time it receives a packet and displays it in the Signal Tab as Noise (%)/Noise (dBm).

Hardware Timestamping

Using the Atheros Driver, OmniPeek can provide a hardware based timestamp with microsecond accuracy. OmniPeek adds the computer time at the start of the capture and obtains a microsecond hardware timer.

Voice and Video over IP

Troubleshooting Tools

Jitter software resolution:	±1 msec
Packet delay variation resolution:	±1%
Packet loss resolution:	±1%

MOS (Mean Opinion Score) resolution:
±0.001

General Statistics

- Average jitter
- Packet loss

Voice

- MOS Score (Mos-LQ, MOS-CQ, MOS-PQ, MOS-Nom)
- R Factor (Listening, Conversational, G.107, Nominal)

Video

- VS-AQ: Video Service Audio Quality
- VS-MQ: Video Service Multimedia Quality
- VS-PQ: Video Service Picture Quality.
- VS-TQ: Video Service Transmission Quality.
- MOS Score (MOS-A, MOS-AV, MOS-MQ, MOS-V)

Protocols and Codecs

OmniPeek decodes numerous voice and video specific protocols and sub-protocols. Below is a list of the supported higher-level protocols and codecs.

Protocols

Avaya CCMS, SIP, SCCP, RTSP, MGCP, H.323

Codecs

Voice: G.711 u-law, G.711 a-law, G.722 64k, G.723.1 5.3K, G.723.1 6.3K, G.726, G.729a, G.728, GIPS iLBC, GSM 6.10

Video: H.261, H.263, H.264.

Audio: MPEG-4 AAC

Audio Compression Formats Supported for Playback

G.711 a-law, G.711 u-law, G.723.1 5.3K, G.723.1 6.3K, G.729a, G.726, G.728

Supported Operating Systems and Browser

Windows Vista (SP1), Windows XP Professional (SP3), or Windows Server 2003 (SP2)

All operating systems require Internet Explorer 7 and Microsoft .NET Framework 2.0

Minimum System Requirements

OmniPeek supports most rack mount, desktop and portable computers as long as the basic system requirements needed

to run the operating systems are met. Depending on traffic and the particular usage of OmniPeek, the requirements may be substantially higher.

Recommended System

P4 2.4 GHz Processor; 2 GB RAM; 20 GB Available HD Space

Heavier Usage Recommendations

Factors that contribute towards superior performance include, high speed CPU, dual CPUs, two or more GB of RAM, high performance disk storage subsystem (RAID 0), and as much additional hard disk space as is required to save the trace files that you plan to manage.

Error Packet Capture

OmniPeek has the ability to capture error packets on the network. These errors include: Runt, Oversize, Frame Alignment, and CRC Errors. To capture errors on 10 Gigabit segments, WildPackets OmniAdapter 10G must be used. To capture errors on Gigabit segments, you must use the WildPackets OmniAdapter. To capture errors on WAN, WildPackets WAN Analyzer Card must be used. To capture errors on Wireless, supported wireless cards with a special WildPackets driver must be installed. To capture errors on Ethernet or Fast Ethernet, you must use one of the supported cards and a special WildPackets driver.

Ethernet Error Capture Cards

Error Packet Capture CardBus cards

Vendor Model

Xircom CreditCard CardBus (CBE2-100)
Xircom RealPort CardBus (RBE-100)
RealPort2 CardBus (R2BE-100)

Error Packet Capture PCI cards

Vendor Model

Adaptec ANA-6911A/TXC
ZNXy ZX345Q Adapter (21143)

Protocols

OmniPeek decodes numerous protocols and sub-protocols. A list of higher level protocols can be found at: http://www.wildpackets.com/support/omni/omnipeek_enterprise/decodes

GPS

OmniPeek can communicate with a GPS receiver using a separate utility, the WildPackets GPS Daemon, as the interface between itself and the GPS receiver. OmniPeek can include the data provided by a GPS receiver in Capture windows. For each packet, optional columns in the Packets view can show the GPS Time, Latitude, Longitude, Altitude, and Speed most recently reported by the connected GPS receiver. The daemon supports GPS receivers following the NMEA (National Marine Equipment Association) 0183 standard which provide data in recognized GPS sentences (comma separated ASCII data strings) in the GPRMC and GPGGA formats. Devices following NMEA 0183 must be connected using an RS-232 serial port (COM port).



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