

## in a nutshell...

### Industry

Electronic Design Automation

### About Mentor Graphics

Mentor Graphics® is a technology leader in electronic design automation (EDA), providing software and hardware solutions that enable companies to bring better electronic products to market faster and more cost effectively.

### The Challenge

In its efforts to create increasingly advanced and reliable electronic products for the market, Mentor Graphics required a sophisticated solution to speed and ease both development and troubleshooting processes.

### The Solution

Mentor Graphics needed a packet analyzer capable of pinpointing protocol errors, detecting network problems, troubleshooting and debugging stacks and Ethernet drives, decoding IPv6, and easing the creation of protocols. OmniPeek, WildPackets' award-winning protocol analyzer, was the only software-based packet analyzer that was able to meet all of their requirements and more.

## Mentor Graphics: IPv6 Development and OmniPeek

### About Mentor Graphics

Mentor Graphics® is a technology leader in electronic design automation (EDA), providing software and hardware solutions that enable companies to bring better electronic products to market faster and more cost-effectively. The company offers innovative products that help engineers overcome the challenges they face in the increasingly complex worlds of board and chip design—where deep submicron (DSM) technology and System-on-Chip (SoC) design multiply the challenges of getting great product ideas to market.

### Product Development Challenges

In its efforts to create increasingly advanced and reliable electronic products for the market, Mentor Graphics required a sophisticated solution to speed and ease both development and troubleshooting processes. To assist with numerous projects to develop new protocols and debug Nucleus NET stack and Ethernet drivers, Mentor Graphics turned to a well-known standard packet sniffer. Mentor Graphics' engineers found that the packet sniffer they had chosen, however, lacked support for IPv6 decodes, a key protocol in their development work.

In searching for an alternative, they came to realize that most packet sniffers do not provide this essential decoding support. OmniPeek was the only affordable analyzer option that could deliver the capability required.

“Most sniffer packages do not decode IPv6 packets, while OmniPeek does, so it has become a crucial tool in our development of IPv6.”

—Tammy Leino, Software Development Engineer

In addition to their requirement for IPv6 decoding, Mentor Graphics needed a sophisticated tool that would give them the ability to generate a variety of traffic onto their network to test protocol compliance.

“The ability to transmit captured packets and create packets in OmniPeek to be transmitted is very handy when writing new protocols. When troubleshooting,

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I wouldn't want to develop or debug without OmniPeek!

—Tammy Leino

*Software Development Engineer*

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### About WildPackets

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 industrial sectors. Customers include Boeing, Chrysler, Fidelity, 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).

### WildPackets Training

WildPackets Training offers comprehensive network analysis instruction, meeting the professional requirements of network managers at all levels. All course offerings are available in public venues and as customizable on-site programs. For complete course outlines and schedules, visit [www.wildpackets.com/academy](http://www.wildpackets.com/academy).

the first thing we do is capture a packet trace of the session in question and then evaluate the packets to determine where in the code to start debugging. I wouldn't want to develop or debug without OmniPeek!"

### Developing and Debugging with OmniPeek

Tammy uses OmniPeek to transmit and then view packets on the network from the Nucleus node and insure they are correctly formatted. Using the traffic generation functionality of OmniPeek, she creates IPv6 "dummy" packets to transmit to a Nucleus IPv6 node to test the behavior of the node. OmniPeek interprets the protocol layers of a captured frame and exposes the core information. By monitoring, filtering, decoding and displaying packet data, OmniPeek easily pinpoints protocol errors and detects network problems such as unauthorized, or misconfigured nodes and unreachable devices.

"The ability to capture packets and view the decoded protocol headers is the most useful feature of OmniPeek to our company. We are able to easily view source/destination MAC/IP addresses, the summary field shows the SEQ and ACK numbers for TCP sessions, we can filter on a specific address or protocol to capture only the packets we want, and all of the information is decoded in a reader friendly format. OmniPeek has been very helpful in finding problems with TCP thanks to its Summary and Absolute Time reporting!"

### OmniPeek, Addressing Different Needs

Well-known for its friendly graphical interface, OmniPeek provides a wide variety of detailed information on network utilization, node conversations and packet contents. Use OmniPeek to localize network problems, perform sophisticated diagnostic tests, monitor network traffic and events, trace illicit network activities, and test and debug network hardware and software. Mentor Graphics needed a packet analyzer capable of pinpointing protocol errors, detecting network problems, troubleshooting and debugging stacks and Ethernet drives, decoding IPv6, and easing the creation of protocols. OmniPeek, WildPackets' award-winning protocol analyzer, was the only software-based packet analyzer that was able to meet all of their requirements and more.

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