



Netquest Uses AMD FPGAs to Enhance Network Security

AMD Virtex™ UltraScale+™ FPGAs Deliver High Performance and Scalability, Helping Netquest Identify and Report Suspicious Activity

PARTNER



INDUSTRY

Wireless and Wired Networking

CHALLENGES

The amount of network traffic has increased exponentially over the past several years, making it increasingly challenging for companies to scan and protect growing volumes of information.

SOLUTION

Netquest built its Optical Monitoring Exchange (OMX) platform based on AMD Virtex FPGAs to deliver high-performance, high-scale extraction of intelligence from the network.

RESULTS

AMD and its distribution partner, Avnet, are delivering the performance, scalability, and support that has enabled Netquest to stay ahead of the competition.

AMD TECHNOLOGY AT A GLANCE

AMD Virtex™ UltraScale+™ FPGAs

Netquest builds solutions that extract intelligence from data traffic. These solutions combine high-scale, high-performance network platforms with deep software expertise.

Netquest has two basic product directions built around its Optical Monitoring Exchange (OMX) platform. One delivers high-speed, high-scale metadata and extracts key metrics from those packets, and the other involves packet optimization, where the company makes changes in packet flows and delivers packets to analytics tools. The company also has a portfolio of WAN solutions for optical network environments. It looks at fiber pair traffic and interprets what's going on in the provisioning, and it looks for Ethernet traffic buried in the optical communications profile and extracts that out as IP packets, delivering it to analytics tools.

“Our platform is software-defined and built around AMD FPGA technology which gives us the ability to keep up with the processing that is required,” said Steven Shalita, vice president of market strategy and business development at Netquest. “It’s all about high performance, high-scale extraction of intelligence from the network.”

Netquest focuses on the security side of network intelligence, identifying threats and extracting network intelligence for the purpose of enhancing security. Its customers include telco service providers, enterprises, and government

agencies, including defense and law enforcement, and any customer who wants to extract data for security purposes.

“What differentiates us from the competition is our ability to operate in high-scale, high-performance environments with massive traffic capacity,” Shalita said.

CHALLENGE

Over the past five to ten years, network traffic has grown exponentially. On the telco side, the evolution from 3G to 4G and 5G has driven demand for bandwidth from users. It has also enabled new applications and services, including a massive growth of streaming video.

“When monitoring for security, all that video-streaming traffic is noise, but you have to sort through it when you are trying to extract intelligence,” Shalita said.

On the enterprise side, data centers have become more dependent on the cloud. Traffic between servers and components is widely considered one of the highest risk areas from a security standpoint.

“Networks connect everything that people do. Most security attacks are low and slow and take a long time to evolve,” Shalita said. “The right set of threat-hunting tools can identify these issues before they become a problem.

Netquest looks at both encrypted and unencrypted traffic to extract

intelligence. The company said its tools are looking for any markers or indicators of “bad actors” in the system.

“We identify signatures and characters that indicate potential risk and we pass this information along to security tools that can leverage the intelligence we provide,” Shalita said.

SOLUTION

Netquest has multiple modules built into its OMX platform, and each is powered by an AMD Virtex™ UltraScale+™ FPGA which provides high-performance data processing and interface capabilities. As customers need more capacity, the company can easily add modules to scale it out. The company said it is currently designing an AMD Alveo™ accelerator card into its next-generation product to help scale the platforms, increase density and interface speeds, and add more services.

“We’ve looked at other ways to provide these services, including NPUs, ASICs, and even DPUs, but the challenge is they can’t get to scale. One real advantage of AMD is that they provide the performance and scalability that allows us to deliver the services that our customers are looking for,” Shalita said. It combines the PHY, MAC, and onboard memory, and our value add is the engineering and software around that.”

RESULT

Shalita said that AMD FPGAs allow Netquest to quickly adapt using software to leverage the power of the FPGA and provide results at scale. “AMD allows us to be very adaptive and responsive from a customer perspective. If our customers need changes, we can engineer these into the FPGA and with a relatively fast turnaround time. That flexibility allows us to be more responsive to customer requirements. We don’t have to re-spin boards or come out with new products,” he said.

Netquest said that support from AMD distributor, Avnet, has been “spectacular,” and that the company was critical in providing insights during the design cycle, and has been “very responsive” on technical issues and design ideas.

“Aside from superior support, there is technical superiority in the AMD platform that delivers the service and scale we need over the competition,” Shalita added. “We could go in a different direction, but we couldn’t scale. AMD stands well above the competition in this area.”

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About Netquest

Since its inception in 1987, NetQuest Corporation has provided innovative signal intelligence (SIGINT) and network monitoring solutions to customers around the world. The company’s product history in monitoring applications mirrors the evolution of telecommunications technologies over the last 30+ years, moving from early low-speed communication chipsets to massive optical broadband network monitoring solutions. NetQuest is an employee-owned company with a well-seasoned management team and highly skilled technical professionals. Its corporate headquarters is located in Mt. Laurel, NJ. More information at: <https://www.netquestcorp.com>

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