

CASE STUDY

NASDAQ Listed Network Monitoring Company Eases Burden on Host Application with ANIC-40Ku



SUMMARY

The company integrates ANIC-40Ku adapter into their network monitoring and analysis appliance.

KEY CHALLENGES

- Packet loss with standard NIC
- Packet processing consuming too many host CPU resources
- Require cost effective, lossless solution with 4 x 10G port density

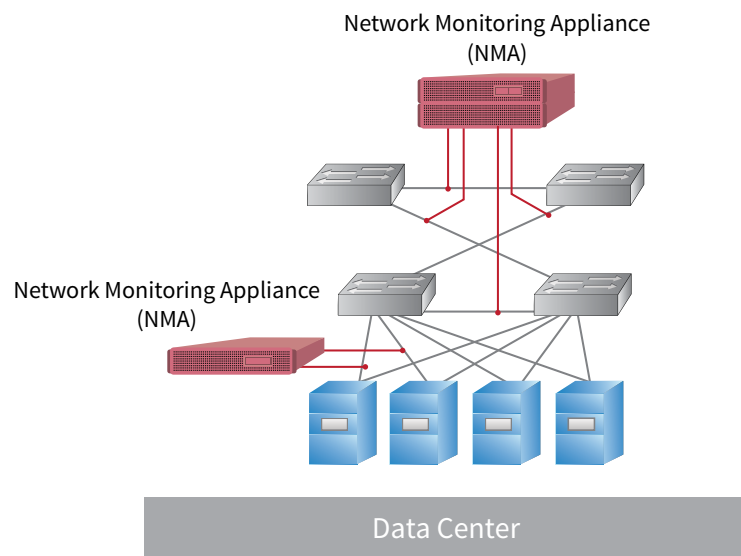
WHY ACCOLADE?

- Provide cost effective, 4 x 10G lossless packet capture adapter
- Provide complete suite of packet processing features
- Responsive technical support to help with software integration

ANIC FEATURES USED

- 100% packet capture
- Timestamping
- Packet Merging
- Packet Filtering
- Packet Slicing
- Packet Steering

The company is a market leader in the enterprise network performance monitoring industry. They provide network monitoring appliances (NMAs) that are strategically deployed across an enterprise network to passively and non-intrusively capture all network traffic and generate metrics to continuously track application and network performance. The company integrates an [ANIC-40Ku](#) packet capture adapter from Accolade into each appliance.



TECHNICAL CHALLENGE

The most popular NMA configuration offers four 10 gigabit Ethernet ports which receive traffic from switch SPAN ports or optical TAPs deployed strategically across an enterprise network. Initially the company used standard network interface cards (NICs) from Intel to capture traffic and subsequently perform all packet processing functions in software. This approach worked fine for modest traffic volumes, but as packet traffic increased there was noticeable packet loss and the host application software was consuming a large percentage of the CPU resources to perform basic packet processing functions such as packet filtering and slicing. The level of packet loss and CPU usage was unacceptable and clearly something had to be done to mitigate the situation.

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THE SOLUTION

The company's engineering team analyzed different options to stem packet loss and alleviate CPU over usage, and concluded that hardware based packet processing offload was the best solution. Engineering management then decided that instead of building the packet processing adapter internally the best way to achieve time to market goals was to integrate a third party solution. This of course presented the additional challenge of integrating the third party solution with the existing host software. Ease of software integration was deemed one of the key requirements in vendor selection.



After an extensive search, the engineering team selected the Accolade ANIC-40Ku packet capture adapter because it best satisfied each of the identified major criterion as listed in the table below.

CRITERION	REQUIREMENT	ACCOLADE FIT
Ease of Integration	Host application software modification must be kept to a minimum	ANIC APIs along with responsive technical integration support was key
Cost Effective	The selected solution must meet specific budgetary requirements	The ANIC solution was the lowest cost of all that met each other criterion
Zero Packet Loss	No packet loss could be tolerated even with 64 byte packets	All ANIC adapters perform 100% lossless packet capture
Timestamp	Each packet had to be timestamped with nanosecond precision	All ANIC adapters offer nanosecond precision timestamping
Packet Filtering	Filter traffic based on source/dest IP address range and be able to programmatically change the range "on the fly"	ANIC adapters can filter based on most any L2/L3/L4 header field
Future Proof	There may be need for some custom features in the future	ANIC adapters are FPGA-based and thus programmable and field upgradeable

CONCLUSION

The company provides enterprise grade network monitoring appliances (NMAs) that non-intrusively capture network traffic to continuously track application and network performance. The company's four-port 10 gigabit Ethernet NMA began experiencing unacceptable levels of packet loss and host CPU usage prompting the engineering team to search for a cost-effective solution. The team laid out a series of requirements including ease of integration, zero packet loss, and robust packet filtering. After an exhaustive search the Accolade ANIC-40Ku lossless packet capture adapter was selected and successfully integrated into the company's NMA.

COMPANY PROFILE

Accolade is the technology leader in high performance, FPGA-based, lossless packet capture and application acceleration adapters. Accolade serves the global network appliance OEM market. Customers integrate the company's ANIC adapters in to their network appliances in order to gain advanced capabilities such as line rate packet capture, time stamping, packet filtering, and flow classification at the best value per GigE port. Established in 2003, Accolade Technology is a privately held company based in Massachusetts with additional offices in Silicon Valley, California and Atlanta, Georgia

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