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Key Features

- Flow Classification: track up to 32 million unique IP flows
- Flow Shunting: Programmatically forward, drop, or redirect flows (blacklist matching)
- 5.7ns precision timestamping
- Gigamon, Arista timestamp support
- Reduced power consumption: 20 watts per adapter
- Linux and FreeBSD drivers

Hardware-at-a-Glance

- 4 Gbps Lossless Packet Capture
- 4-port SFP: Optical (SR & LR) and Copper interfaces (purchased separately)
- 8 lane, Gen 3 PCIe (supports all standard motherboards)
- External 1 PPS TTL serial input via front panel mini coax
- Passive Heat Sink

ANIC-4Ku

4-Port, GE, FPGA-Based Host CPU Offload Adapter

The ANIC-4Ku is an intelligent, cost-effective, 4-port GE adapter/NIC designed to enhance the most demanding network monitoring and security applications by offloading the host CPU from various processor intensive tasks. The adapter is plugged into an available PCIe slot and seamlessly integrated with the host application via a software API. The adapter features four SFP interfaces which can accomodate SR and LR optical modules as well as copper for up to 4 Gbps lossless packet capture.

Packets enter the ANIC-4Ku via the SFP ports and are processed by the onboard FPGA, which performs application critical CPU offload functions such as 100% packet capture, precise timestamping (5.7ns precision), flow classification, flow shunting, packet merging (in timestamp order), tunnel decapsulation (e.g. VLAN, MPLS, GRE, GTP, VXLAN), packet slicing, packet filtering, deduplication, packet steering, direct memory access (DMA)—including multi-core DMA—and more.

Timing Sub-System

In order to offer precise timestamping, the ANIC-4Ku must be disciplined by an available timing source. The highest precision is achieved via a direct attached (mini coax) 1PPS (pulse-per-second) signal from a source such as GPS or cellular network connection. Other potential timing sources are the host OS, another ANIC adapter or the local clock (free running).

Fast Path Data Communication (Kernel Bypass)

All data is transferred from the ANIC-4Ku directly into host memory at up to 4 Gbps via the PCIe bus. The host operating system is not involved in the data transfer. This fast path data communication facilitates extraordinarily high performance with zero packet loss.

Management and Control

The ANIC-4Ku provides all RMON1 (RFC 2819) related per-port statistics such as packets received, packets in error and dropped packets. Onboard hardware sensors track information such as: FPGA temperature; optical power; Ethernet link status; and time synchronization status.

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Applications

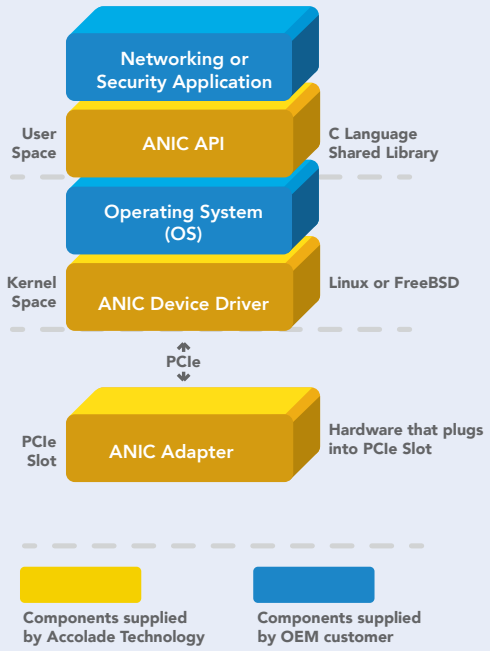
- Passive and Inline Network Monitoring
- Network Security and Forensics
- In-Line Deep Packet Inspection (DPI)
- Network Test and Measurement
- Network Probes
- Video Stream Monitoring
- High Frequency Trading (HFT)
- Application Performance Monitoring (APM)
- High Performance Computing (HPC)

Software Support

The ANIC-4Ku comes with a software development kit and world class technical support.

A lightweight, C language API is linked to the network monitoring or security application as a shared library. Various API calls are then made to communicate with and control the ANIC-4Ku. Native integration is available with PF_RING and Suricata.

The ANIC device driver facilitates communication with the adapter (via the host kernel) for common operations such as adapter setup, turning ports on and off or reading port status. All data communication however completely by passes the host operating system.



Specifications

Hardware

- PCI Interface: 8 lanes Gen 3 PCI Express
- 1G Connector: SFP per SFP MSA, 1000BASE-SR and 1000BASE-LR
- Timing Interface: TTL external 1 PPS input via mini-coax and repeater output

Memory

- Packet Memory: 2-4GB
- Flash Memory: 32MB

Environmental

- Operating Temperature: 0° to 50°C (32° to 122°F)
- Operating Humidity: 0 to 95%, non-condensing

Power

- 20 watts (without SFP)
- Each SFP adds less than 1 watt

Dimensions

- 4.25 (H) x 6.25 (L) inches (107 x 158 mm)
- Full Height, 1/2 Length

Compliance

- EMI per FCC Part 15/EN 55022/VCCI/AS/NZS Immunity per EN 55024
- Ethernet: IEEE 802.3z for 1000BASE-X
- PCI-SIG®, RoHS, REACH

RoHS Compliant

REACH

ID:180405

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