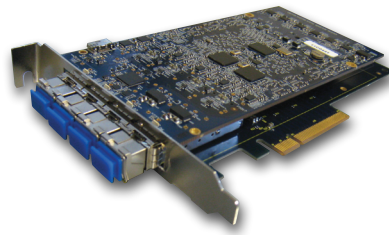


MPAC-IP 'JACKAL'

4x 10Gb/s Packet Capture Analysis Card

The MPAC-IP 'JACKAL' provides 4x 10Gb/s line-rate packet capture and acceleration for real-time monitoring applications, with a three second capture buffer for 'miss nothing' delivery.

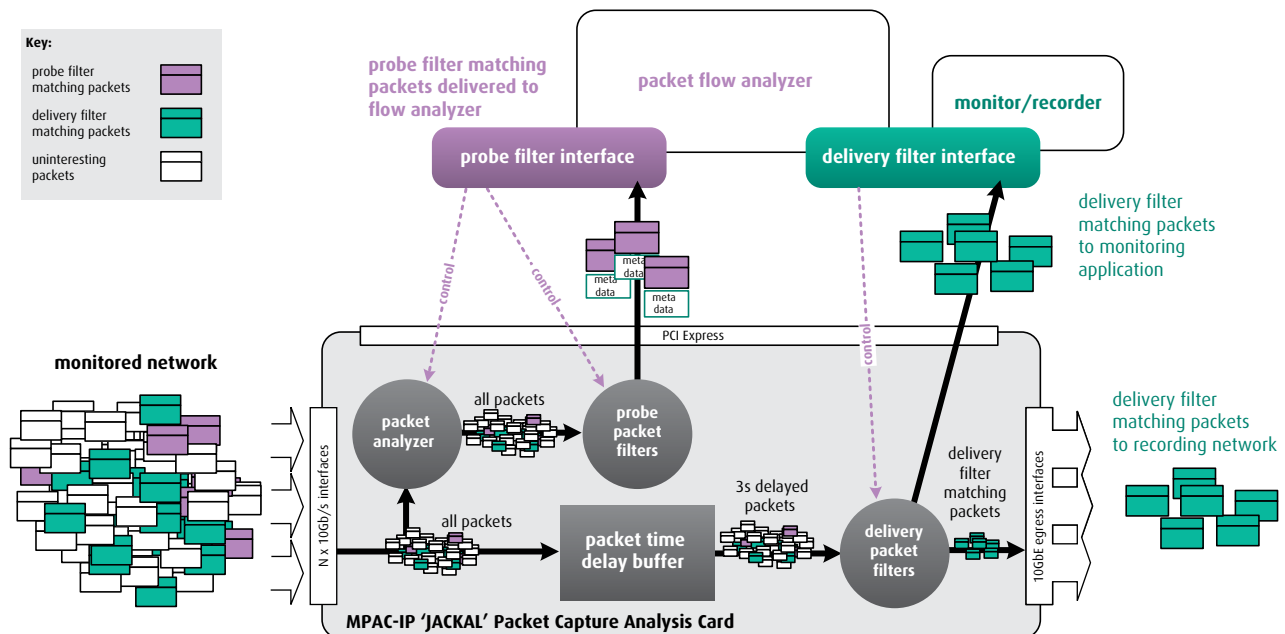


OVERVIEW

The MPAC-IP 'JACKAL' 4x 10Gb/s Packet Capture Analysis card ensures no data is missed during packet flow analysis in real-time monitoring applications. The card is equipped with a packet receive buffer that stores up to three seconds of 4x 10Gb/s captured input. This allows packet analysis applications to analyze packet flows in real time, then intercept delayed content once specific sessions have been identified for monitoring.

The JACKAL's probe filters sift through the 4x 10Gb/s of captured packets, searching for user-defined keywords, patterns, or packet headers. When a probe filter matches, the JACKAL delivers the matching packet plus the next N packets from the same communication flow to the packet flow analysis application via gen 2 PCIe Express (N is user-defined).

If the user's packet flow analyzer detects a session to be monitored, it configures a delivery filter on the JACKAL, which then delivers every packet in that flow starting from three seconds prior to delivery filter configuration. This ensures that information such as the beginning of an email, which occurs earlier in the communication session than where the probe filters match, is captured.



KEY FEATURES

- Up to 4x SFP+ monitoring inputs
- 10Gb/s Ethernet monitoring
- Packet/Ethernet over SDH – STM-1, STM-4, STM-16, STM-64 monitoring
- Packet/Ethernet over SONET – OC-3, OC-12, OC-48, OC-192 monitoring
- Packet delay buffer to three seconds for 4x 10Gb/s
- Dynamically reconfigurable 'probe' filters
- Dynamically reconfigurable 'delivery' filters
- Packet analysis acceleration
- 4ns precision time stamp, synchronized through external connector or host software
- 8-lane PCIe bus connection to host
- Up to 2x 10Gb/s SFP+ Ethernet egress option

KEY BENEFITS

- Detect potentially interesting packet flows using probe filters
- Miss nothing during flow analysis. Three seconds packet capture buffer on card
- Intercept detected flows using post-capture-buffer delivery filters at zero CPU processing cost
- Synchronize packets monitored at different network nodes with 4ns precision
- Offload CPU processing overhead. Packet processing acceleration features extract key data and generate additional information to support packet flow analysis

APPLICATIONS

- Test and measurement
- Quality of service monitoring
- Cyber security
- Network Intrusion Detection (IDS)
- Lawful intercept
- Internet monitoring

MPAC-IP 'JACKAL'

4x 10Gb/s Packet Capture Analysis Card

TECHNICAL SPECIFICATIONS

Monitoring interfaces:

- Up to 4 SFP+ optical monitoring inputs
- SDH (STM-1, STM-4, STM-16, STM-64)
- SONET (OC-3, OC-12, OC-48, OC-192)
- 10Gb/s Ethernet

Timing synchronization:

- 4ns resolution timestamp
- MMCS socket for 1PPS GPS timing reference (SMA adaptor supplied)
- Precision Time Protocol (PTP) support

Packet probe and delivery interfaces:

- Up to 2x 10 Gigabit Ethernet egress to user network
- 8-lane PCIe gen2 bus interface to host server (40Gb/s bandwidth)

Monitoring interface transport structure support:

- Automatic transport structure discovery
- VCAT and LCAS monitoring
- Packet/Ethernet over SDH/SONET (GFP, HDLC, PPP)
- Asynchronous Transfer Mode (ATM, including reassembly)

Configurable channel access:

- Configure specific SDH/SONET containers to monitor
- Configure full monitoring of all containers

Options for acquiring packets from delivery filters:

- 1 – IP monitored on PoS delivered over PCIe bus
- 2 – IP monitored on PoS delivered in an RTP stream over Gigabit Ethernet
- 3 – Raw ATM cells delivered over PCIe bus
- 4 – Raw ATM cells delivered as RTP stream over Gigabit Ethernet
- 5 – Reassembled IP from monitored ATM AAL2/5 delivered over PCIe bus
- 6 – Reassembled IP from monitored ATM AAL2/5 delivered over Gigabit Ethernet
- 7 – Raw Ethernet frames extracted from PoS, and delivered intact

Frame sizes:

- 64 bytes to 16,000 bytes

Up to 32,000 realtime configurable probe filters:

- String keyword matching filters
- Protocol filters (e.g. SIP, html, SMTP)
- Delivery of entire flow on string or protocol keyword match
- User-defined header (IP 5tuple, MPLS label, GTP headers, custom header)
- Fixed-location pattern

Up to 32,000 realtime configurable delivery filters:

- User-defined header (IP 5tuple, MPLS label, GTP headers, custom header)
- Fixed-location pattern filters

Packet processing offload:

- 32-bit n-tuple hash to group communication flows (for load balancing, etc.)
- Protocol-layer mapping and classification – layers 2-4
- Protocol keyword parsing
- Packet slicing

Physical characteristics:

- XMC board on half-length, full-height PCIe carrier
- 10 watt power consumption
- Operating temperature: 0° to 55°C (storage: -20° to 70°C)
- Operating humidity: 8% to 90%

API and operating system support:

- TPAF C++ API for filter control and packet delivery
- Linux

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