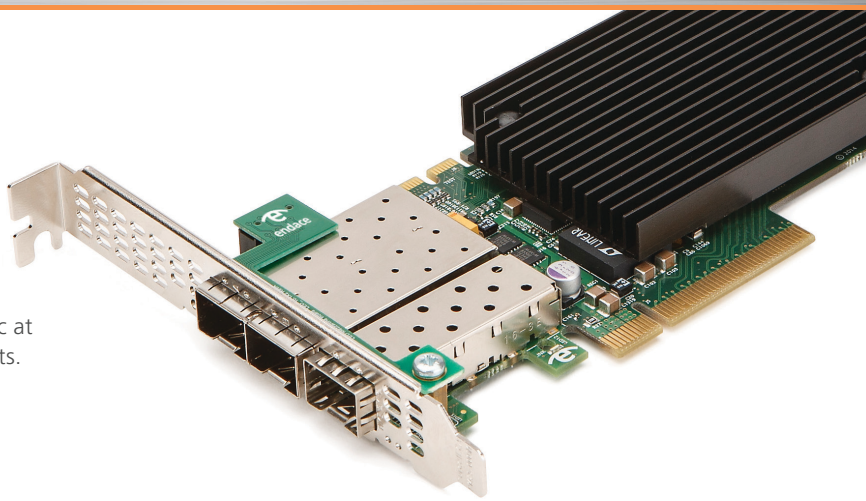
Endace DAG 10X2-P



Endace DAG™ 10X series data capture cards are designed for use in appliances for monitoring and capturing network traffic at high-speed, in 10GbE or mixed 1GbE and 10GbE environments.

They deliver 100% data capture accuracy at full line rate and are ideally suited for use in network performance monitoring, security analytics, data archival and latency measurement applications in large, complex network environments where 100% packet capture is critical.

The DAG 10X2-P is Endace's premium 2-port capture card, offering two monitoring ports, each configurable for monitoring either 10GbE or 1GbE links, and a built-in 1GbE PTP or 1PPS port for high resolution hardware time-stamping with nanosecond-level accuracy.

The DAG 10X2-P delivers full line rate data capture for both ports, regardless of packet size. It supports PCI Express (PCIe) 3.0 with packet transfer direct to host memory (DMA). This removes interrupt overhead from the host CPU and frees up CPU cycles for analysis or other tasks while ensuring accurate 100% capture and processing of all packets at full line rate.

With class-leading performance and reliability, the DAG 10X2-P offers a broad range of features. In addition to interrupt free and zero copy packet capture, the DAG 10X2-P supports allocating up to 2TB of host memory for DMA. Up to 32 capture streams can be allocated. Each stream can be configured with its own memory allocation (up to 64GB) up to the 2TB maximum supported by the card. This allows for increased traffic buffering and enables highly sophisticated software analysis. Additionally on-card rule-based filtering, duplication and steering further reduces processing load on the host CPU.

The DAG 10X2-P enables onboard, hardware-based processing on a host of enterprise protocols and encapsulated telecom protocols, such as General Packet Radio Service Tunneling Protocol (GTP) and Generic Routing Encapsulation (GRE), for load balancing, classification and filtering. This makes the DAG 10X2-P ideally suited for deployment in core, mobile, enterprise and cloud network environments with high-speed links and complex data types.

In simpler environments where less sophisticated on-board traffic processing is required, Endace's DAG10X2-S offers a low-cost, entry-level alternative. Or, if you need increased port density, the DAG10X4-P is a 4-port alternative to the DAG10X2-P.

Multiple Endace DAG cards can be combined in a single appliance, enabling high-density deployment, saving rack-space, and further reducing the total cost-of-ownership.

Endace's DAG cards are engineered to ensure long life and reliability. They are trusted by customers around the world to deliver proven 100% accurate capture and low cost-of-ownership with best-in-class performance.

DAG 10X2-P AT A GLANCE

- 2x SFP+ monitoring ports each configurable to 10GbE or 1GbE
- LAN and WAN-PHY configuration
- Hardware time-stamping with synchronization from host, external time reference or dedicated IEEE 1588 port
- PCIe 3.0 x8 based card
- Linux and FreeBSD drivers

BENEFITS

Accurate

- 100% packet capture at full line rate for all packet sizes from 64 Bytes to 9600 Bytes
- Nanosecond-level time-stamping accuracy on every packet

Powerful

- Supports up to 64 classification rules for onboard filtering, duplication and steering of captured traffic in hardware at full line rate
- Relative timed replay enables precise reproduction of traffic as captured for testing, performance measurement and other purposes

Flexible

- Supports up to 32 capture streams with configurable memory allocation per stream (up to 64GB per stream) for load balancing in multi-core host architecture
- Full packet capture or set length capture configurable for every capture stream
- Up to seven DAG cards per server (in a 3U chassis) delivers high-density and low cost of ownership. If even higher density is required, the DAG 10X4-P offers a quad-port alternative to the 10X2-S and 10X2-P cards.
- Compatible with standard server architecture using PCIe 3.0 x8 bus technology

Reliable

- Engineered for high-reliability and extended mean time between failure (MTBF) rates
- Zero-fan cooling reduces failure points

DAG 10X2-P – Technical Specifications

Monitoring interfaces	2x SFP+ transceivers
Network type	IEEE 802.3ae LAN IEEE 802.3ae WAN-PHY* IEEE 802.3ab
Packet encapsulations	Ethernet
Hardware packet processing	Enhanced Packet Processing v2
Time synchronization	External: - RJ45 connector for RS-422 PPS and IRIG-B signal from GPS, CDMA, other Endace DAG Cards or TDS (using adapter) - 1GbE SFP for IEEE 1588 Internal: - Host clock
Timestamp Resolution	4ns
PCI interface	x8 lane PCIe 3.0
Operating system supported	Linux, FreeBSD
Power requirements	Less than 25W
Operating temperature	0 to 55°C (32 to 131°F)
Airflow requirements	200 LFM (@50°C/122°F ambient)
Operating humidity	5 to 95% non condensing
Physical dimensions	Half Height, Half Length Height 68.9mm (2.71") Length 166.65mm (6.56")

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communications Commission [FCC] Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction document, may cause harmful interference to radio communications.

Companion Products

Transceivers

10Gb SR (300m) Multi-mode 850nm SFP+ transceiver with LC-type connections	TXR-10G-850-MM-SFP+
10Gb LR (10km) Single-mode 1310nm SFP+ transceiver with LCtype connections	TXR-10G-1310-SM-SFP+
10Gb LR (40km) Single-mode 1550nm SFP+ transceiver with LCtype connections	TXR-10G-1550-SM-SFP+
10Gb ZR (80km) Single-mode 1550nm SFP+ transceiver with LCtype connections	TXR-10G-1550-SM-HS-SFP+
1GbE SX Multi-mode 850nm fibre SFP transceiver with LC-type connections	TXR-1000SX
1GbE LX Single-mode 1310nm fibre SFP transceiver with LC-type connections	TXR-1000LX
1GbE ZX Single-mode 1550nm fibre SFP transceiver with LC-type connections	TXR-1000ZX
1/10 Gb SR Multi-mode 850nm SFP+ transceiver with LC-type connections	TXR-10G-1G-SWCH-850-MM-SFP+
1/10 Gb LR (10km) Single-mode 1310nm SFP+ transceiver with LCtype connections	TXR-10G-1G-SWCH-1310-SM-SFP+

Time Measurement Accessories

Trimble Acutime™ Gold GPS receiver	GPS-2
Endace 2-port Time Distribution Server, accepts serial input from GPS/CDMA sources	TDS-2
Endace 6-port expansion module for TDS-2, shares common reference time source	TDS-6
Endace 24-port Time Distribution Server, accepts serial input from GPS/CDMA sources	TDS-24

For more information on the Endace portfolio of products, visit: endace.com/products

For further information, email: info@endace.com