

NT4E-STD CAPTURE

Intelligent Real-time Network Adapters

4-port 10 M / 100 M / 1 G Ethernet PCIe

DATA SHEET

Hardware Acceleration

The NT4E-STD Capture Adapters provide full line-rate data capture and time-stamping capabilities that can accelerate network applications and off-load the server CPU. This enables OEM customers to build or upgrade their products to high-performing 4 Gbps network monitoring/analysis systems by using the NT4E-STD Capture Adapter and a standard Linux, FreeBSD or Windows server.

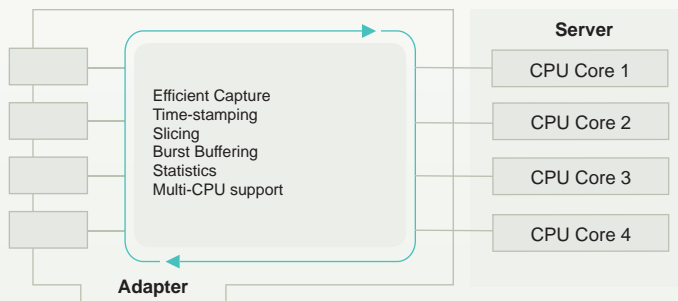
The 4 ports on the NT4E-STD Capture Adapters enable full-duplex monitoring of a network link (Rx and Tx traffic). The frame merging functionality enables Rx and Tx frames to be merged in reception time order simplifying the application processing.



NT4E-4-STD: 4 x 1 Gbps PCIe



NT4E-4T-STD: 4 x 1 Gbps PCIe



On-board memory enables 6 sec. of data burst buffering even on a fully loaded 4 x 1 Gbps network.

High-precision time-stamping with 10 ns resolution is applied to all frames received by the adapter.

The adapter hardware generates an extensive amount of statistics counters. This enables customer applications to retrieve a comprehensive network traffic analysis at virtually zero CPU load.

FEATURE HIGHLIGHTS AND APPLICATIONS

Feature Highlights

- 4 x 1 Gbps SFP and/or RJ45 connections
- Full-duplex monitoring
- Full-line-rate capture and processing for all frame sizes
- Efficient capture: < 1% host CPU load
- High-precision 10 ns time-stamping
- Advanced host time synchronization
- 6 sec. of on-board data burst buffering
- 4 Gbps frame processing including fixed slicing, buffering, statistics and multi-CPU support
- On-the-fly fully reconfigurable setup
- Easy-to-integrate API
- LibPCAP and WinPCAP support
- Linux, FreeBSD and Windows support

Napatech-supported Applications

The Napatech Standard Capture Adapters enable our OEM customers to build cost-effective and value-added appliances to meet requirements for many different solutions. Examples of supported applications are:

- Advanced Frame Analysis and Statistics
- Packet Jitter and Latency Analysis
- Data Recording of network traffic
- Data Retention, Logging and Forensic Analysis
- Lawful Intercept
- Intrusion Detection
- Network QoS Assurance for media streams
- Transaction Performance Analysis

SPECIFICATIONS

General Features

- Full-line-rate processing for all frames from 64 bytes to 10.000 bytes
- IEEE standard: IEEE 802.3 10 Mbit/s / 100 Mbit/s / 1 Gbit/s Ethernet
- Physical interfaces:
 - NT4E-4-STD: 4 SFP ports
 - NT4E-4T-STD: 4 RJ45 ports
- Supported SFP modules: Multi-mode SR (850 nm), single-mode LR (1310 nm), 1000BASE-T or 10/100/1000BASE-T
- Data rate: 4 x 1 Gbit/s
- PCIe performance: 6.3 Gbit/s
- CPU utilization:
 - < 1% of the CPU is used for any data transfer
 - 0% of the CPU is used for any on-board processing
- Time formats:
PCAP-ns/-µs, native, NDIS 10 ns/100 ns, UNIX 10 ns

Host Interface

- Bus type: 4-lane 2.5 GHz PCIe Gen1
- Data transfer modes:
 - Bus master DMA
 - Memory write or memory read transactions
- Support for 32-bit/64-bit addressing and host DMA addressing

Statistics

- RMON1 counters plus Jumbo frame counters per port
- Frame and byte counters per host buffer
- Counter sets always delivered as a consistent time-stamped snapshot

Adapter Hardware

- Flash: Supports two boot images
- Memory options: Standard SO-DIMM 200-pin 1 GB, 2 GB or 4 GB DDR2 RAM modules
- Physical dimensions: ½-length full-height PCIe

Environment

- Power consumption: 22 Watts including SFP SR or RJ45 modules
- Operating temperature: 0 - 45 °C, 32 - 113 °F
- Operating humidity: 20 - 80%
- Hardware compliance: RoHS, UL, CE, FCC, CSA, VCCI, C-TICK
- MTBF: 266329 hours according to RIAC-HDBK-217Plus

Software

- Linux kernel 2.6: 32-bit/64-bit
- FreeBSD 6.x and 7.x: 32-bit/64-bit
- Windows Server 2003/2008 and XP: 32-bit/64-bit
- API supporting user level applications
- LibPCAP and WinPCAP support
- SDK tools included in source code for debugging and prototyping and as examples of how the adapters are used

COMPANY PROFILE

Napatech develops and markets the world's most advanced programmable network adapters for network traffic analysis and application off-loading. Napatech is the leading OEM supplier of Ethernet network acceleration adapter hardware. Napatech is fully focused on providing the most cost-effective hardware acceleration solutions for Gigabit Ethernet connectivity, increasing our customers' ability to keep their competitive advantage, while maintaining the flexibility and cost position of standard server equipment and operating systems.

Napatech provides unmatched value-add to our OEM customers by offering a very flexible feature set and a highly scalable range of network adapters. With easy-to-use APIs, Napatech adapters enable effective integration of Network Monitoring, Network Security, Network Control and Assurance, and Network Traffic Generation appliances. Napatech has a strong international focus supporting OEM customers worldwide with headquarters and development located in Denmark, and sales and customer support located in the USA.

Europe, Africa and Asia

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