

Intelligent Network Adapters

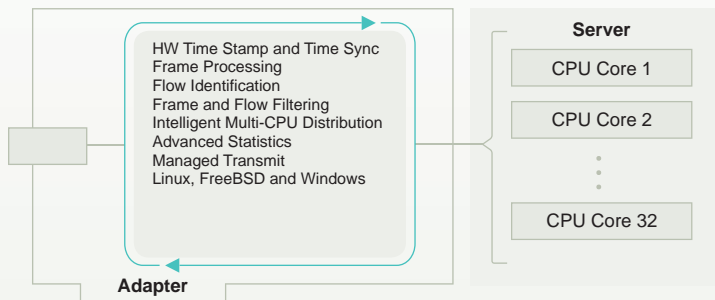
# NT40E2-1 Capture 1-Port 40 G Ethernet PCIe Gen2

DATA SHEET

## Packet Capture and Transmit for 40 Gbps Networks

The NT40E2-1 Capture Adapter provides full packet capture of 40 Gbps burst traffic with zero packet loss. High-precision time-stamping with 10 ns resolution is applied to all frames received and transmitted by the adapter.

Intelligent features for flow identification, filtering and distribution to up to 32 CPU cores accelerate application performance while consuming less than 1% of CPU resources.



NT40E2-1: 1 x 40 Gbps PCIe Gen2

## Feature Highlights and Applications

### Feature Highlights

- 1 x 40 Gbps QSFP+ connection
- Full-line-rate packet capture for all frame sizes
- 150 ms of onboard data burst buffering
- Less than 1% host CPU load
- High-precision 10 ns time-stamping
- GPS, CDMA and IEEE 1588 time synchronization
- Intelligent features for application acceleration
- Ethernet FCS and IP/UDP/TCP CRC generation
- Support for IPv4, IPv6, UDP, TCP, GRE, SCTP, GTP
- Support for ISL, VLAN and MPLS encapsulation
- On-the-fly fully reconfigurable setup
- Easy-to-integrate API
- LibPCAP and WinPCAP support

### Napatech-Supported Applications

The Napatech Network Adapters enable OEM vendors to build high-performance network appliances based on standard servers. Two NT40E2-1 network adapters can be used to implement in-line applications. Examples of applications include:

- Network Performance Monitoring
- Flow Analysis of any IP end-to-end traffic
- Data Recording of network traffic
- Data Retention, Logging and Forensic Analysis
- High-Precision Latency Measurement
- Lawful Intercept
- Intrusion Detection and Prevention
- 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 40 Gbit/s Ethernet
- Physical interface: 1 QSFP+ port
- Supported QSFP+ modules: Multi-mode SR (850 nm)
- Data rate: 1 x 40 Gbit/s
- PCIe performance: 25 Gbit/s full-duplex
- CPU load:
  - < 1% of the CPU is used for any data transfer
  - 0% of the CPU is used for any onboard processing
- Time formats: PCAP-ns/-µs, native, NDIS 10 ns/100 ns, UNIX 10 ns

### Software

- Linux kernel 2.6: 32-/64-bit
- FreeBSD 6.x: 64-bit, 7.x: 32-/64-bit and 8.0: 32-/64-bit
- Windows Server 2003/2008: 32-/64-bit, Windows XP: 64-bit and Windows 7: 32-/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

### Host Interface

- Bus type: 8-lane 5 GHz PCIe Gen2
- Data transfer modes:
  - Bus master DMA
  - Memory write or memory read transactions
- Support for 32-/64-bit addressing and host DMA addressing

### Statistics

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

### Adapter Hardware

- Flash: Supports two boot images
- 1 GB onboard DDR3 RAM
- Physical dimensions: ½-length low-profile PCIe

### Environment

- Power consumption: 28 Watts typ. including QSFP+ SR module
- Operating temperature: 0 °C to 45 °C (32 °F to 113 °F)
- Operating humidity: 20% to 80%
- Hardware compliance: RoHS, UL, CE, FCC, CSA, VCCI, C-TICK

## 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.

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