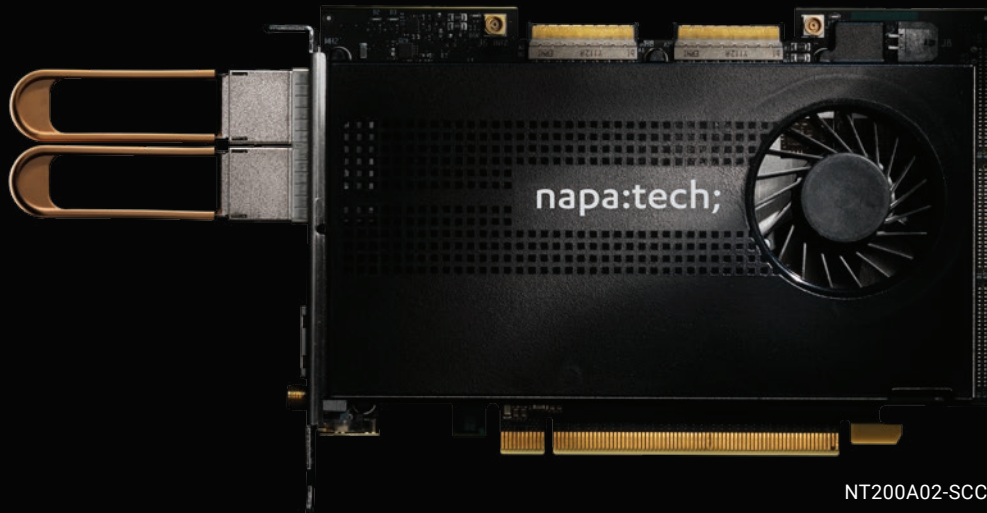


## Link™ NT200A02 SmartNIC

2x1/10G, 8x10G, 2x10/25G, 4x10/25G, 2x40G, 2x100G



### APPLICATIONS AND SERVICES



Link™ Capture Software



Suricata



n2disk



Snort



Zeek



TRex



Wireshark



+More



Community



Support



Docs



Tutorials

### PACKET CAPTURE AND REPLAY

Use cutting-edge network SmartNIC technology to add real-time line-rate performance to your application. The Link™ NT200A02 SmartNIC provides full packet capture of network data at 100 Gbps and of traffic bursts at 200 Gbps with zero packet loss. The SmartNIC can capture all frames, including erroneous frames normally discarded by standard NICs. The SmartNIC can also be used for 100% packet replay with nanosecond precision of all networking traffic for analytics, testing and simulation.

The 12GB DDR4 RAM buffer allows buffering packets on the SmartNIC to prevent packet loss during peak server loads. Packets are hardware time-stamped when they arrive at the network ports, ensuring that the time stamp is always reliable. The Napatech SmartNIC allows you to merge data from two ports into a single, time-ordered analysis stream. The compact form factor enables 2x1/10Gbps/8x10Gbps/2x10/25Gbps/4x10/25Gbps/2x40Gbps/2x100Gbps applications in 1U server platforms, saving rack space and reducing the overall cost of the solution. The SmartNIC also comes in a NEBS level 3 compliant variant.

# HIGHLIGHTS, APPLICATIONS AND SPECIFICATIONS

## Feature Highlights

- Network ports: 2xQSFP28
- Capture of Ethernet traffic: 2x1/10 Gbps, 8x10 Gbps, 2x10/25 Gbps, 4x10/25 Gbps, 2x40 Gbps or 2x100 Gbps
- Zero packet loss for all frame sizes
- 12GB DDR4 RAM buffer (500 ms at 200 Gbps or 1280 ms at 80 Gbps)
- Typical CPU load: < 5% of one core
- Addressing up to 1 TB application buffer memory
- Packet or segment delivery to application
- Hardware-accelerated:
  - Multi-port packet merge
  - Load distribution across up to 128 CPU cores
  - 1 ns time stamp resolution
  - Frame and protocol information
  - Filtering based on e.g. L3/L4 criteria
  - Stateful flow management
  - GTP, IP-in-IP, GRE and NVGRE tunneling support
  - IP fragment handling
  - Slicing at fixed or dynamic offset
  - Deduplication in hardware
  - RMON1 counters, including jumbo frames
- IEEE 1588-2008 PTP and PPS time synchronization
- OS time synchronization
- Easy-to-integrate API
- Linux, Windows, libpcap, WinPcap and DPDK

## Napatech-Supported Applications

Napatech SmartNICs enable OEM vendors to build high-performance network appliances based on standard servers. Examples of applications include:

- Revenue and services optimization
- Quality of experience optimization
- Financial latency measurement
- Customer experience analysis
- Data loss prevention
- Virtualized activity analysis
- Cyber defense
- Fraud detection and compliance management
- Infrastructure management and security
- Network and application performance
- Troubleshooting and compliance

## General Features

- Full line-rate processing for all frames from 64 bytes to 10,000 bytes
  - keep or discard erroneous frames
- IEEE standard: IEEE 802.3 100/40/10 Gbps Ethernet support
- Network interface: 2xQSFP28 ports
- Supported modules: 100/1000BASE-T, 1000BASE-T, SX, LX, ZX; 10GBASE-SR, CR, LR, ER; 1000BASE-SX/10GBASE-SR, 1000BASE-LX/10GBASE-LR; QSFP+ breakout to 4x10GBASE-SR, CR, LR; 25GBASE-SR, LR, LR-BiDi; QSFP28 breakout to 4x25GBASE-SR, CR, LR; 40GBASE-SR4, SR-BiDi, CR4, LR4; 100GBASE-SR4, SR-BiDi, LR4
- Data rate: 2x1/10 Gbps, 8x10 Gbps, 2x10/25 Gbps, 4x10/25 Gbps, 2x40 Gbps or 2x100 Gbps
- Typical CPU load: < 5%
- Time formats: PCAP-ns/-µs and UNIX 10 ns/1 ns

- Time stamp resolution: 1 ns
- Stratum 3 compliant TCXO
- Pluggable options for IEEE 1588-2008 PTP and PPS time synchronization
- PTP slave in IEEE 1588-2008 default, power, enterprise and telecom (G.8265.1, G.8275.1) profiles

## SmartNIC Software

- Operating systems: Linux, Windows
- Napatech API for high performance and advanced features
- libpcap, WinPcap and DPDK
- IEEE 1588-2008 PTP stack
- SDK tools included in source code for debugging and prototyping and as application examples

## SmartNIC Hardware

- Bus type: 16-lane 8 GT/s PCIe Gen3
- 12 GB onboard DDR4 RAM
- Flash: Support for two boot images
- Built-in thermal protection
- Physical dimensions: ½-length and full-height PCIe
- Weight excluding pluggable modules:
  - NT200A02-SCC: 355 g
  - NT200A02-NEBS: 350 g
- MTBF according to UTE C 80-810:
  - NT200A02-SCC: 317,821 hours
  - NT200A02-NEBS: 398,565 hours
- Power consumption including 100GBASE-SR4 modules:
  - NT200A02-SCC: max 75 Watts
  - NT200A02-NEBS: max 75 Watts

## Environment for NT200A02-SCC

- Operating temperature: 0 °C to 45 °C (32 °F to 113 °F)
- Operating humidity: 20% to 80%

## Environment for NT200A02-NEBS

- Operating temperature: -5 °C to 55 °C (23 °F to 131 °F) measured around the SmartNIC
- Operating humidity: 5% to 85%
- Altitude: < 1,800 m
- Airflow: >= 2.5 m/s

## Regulatory Approvals and Compliances

- PCI-SIG®, NEBS level 3, CE, CB, RoHS, REACH, cURus (UL), FCC, ICES, VCCI, RCM

## Orderable products

Product	Data Rate
NT200A02-2x100/40	2x100/40 Gbps
NT200A02-2x40/8x10	2x40 Gbps/8x10 Gbps
NT200A02-2x25/10/2x40	2x10/25 Gbps/2x40 Gbps
NT200A02-4x25/10/2x40	4x10/25 Gbps/2x40 Gbps
NT200A02-8x10/2x40	8x10 Gbps/2x40 Gbps
NT200A02-2x10/1/2x25/10	2x10/1 Gbps/2x25/10 Gbps

Also available in NEBS variants.

**NAPATECH.COM**

## NAPATECH RECONFIGURABLE COMPUTING

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