

## SmartNICs for Reconfigurable Computing

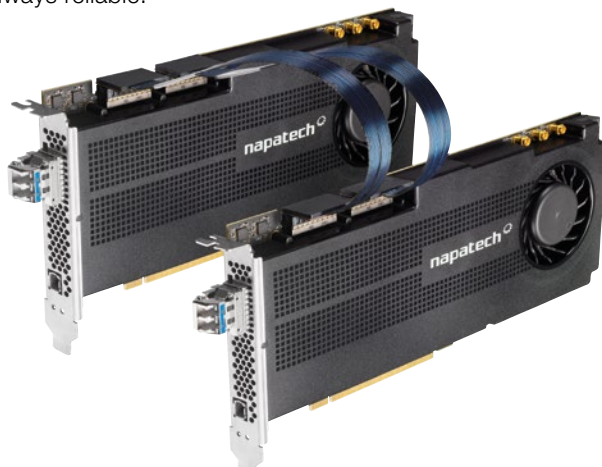
# NT200C01-2x100 200G Performance Solution 2-PORT 100G PCIe GEN3

### 2 × 100 Gbps PACKET CAPTURE AND ANALYSIS

Use cutting-edge network SmartNIC technology to add real-time line-rate performance to your application. Napatech 2-port 100 Gbps performance solutions provide full packet capture and analysis of network data at 200 Gbps with zero packet loss. The Napatech performance solution will capture all frames, including erroneous frames normally discarded by standard NICs. The Napatech NT200C01-2x100 200G Performance Solution can also be used for in-line application acceleration.

The Napatech 200 Gbps performance solution allows you to merge data from ports into a single, time-ordered analysis stream. It supports 1-128 packet streams using intelligent hardware flow distribution to allow your application to scale to higher packet rates with no packet loss. The Napatech performance solution will distribute packets based on flow or on e.g. L3/L4 filter criteria.

The 2 × 8 GB DDR3 RAM buffer allows buffering packets on the performance solution 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.



### FEATURE HIGHLIGHTS

- Network ports: 2 × CFP4
- Capture of Ethernet traffic: Full 2 × 100 Gbps
- Zero packet loss for all frame sizes
- 2 × 8 GB DDR3 RAM buffer (640 ms at 200 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
  - GTP, IP-in-IP, GRE and NVGRE tunneling support
  - IP fragment handling
  - Slicing at fixed or dynamic offset
  - 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

## SPECIFICATIONS

### 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 Gbps Ethernet support
- Network interface: 2 × CFP4 ports
- Supported CFP4 modules: 100GBASE-SR4 and 100GBASE-LR4
- Data rate: 2 × 100 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 and telecom 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 CONFIGURATION

- The NT200C01-2x100 200G Performance Solution is a combination of the following hardware components:
  - 2 × NT100E3-1-PTP SmartNICs
  - 2 × interconnect cables (different lengths available)
  - 1 × time sync cable (different lengths available)

### SmartNIC HARDWARE

- Bus type: 2 × 16-lane 8 GT/s PCIe Gen3
- 2 × 8 GB onboard DDR3 RAM
- Flash: Support for two boot images
- Built-in thermal protection
- Physical dimensions: 2 × 3/4-length and full-height PCIe
- Weight excluding pluggable modules: 2 × 455 g
- MTBF according to UTE C 80-810: 129,898 hours
- Power consumption including CFP4 LR4 modules: 2 × 75 Watts

### ENVIRONMENT FOR NT200C01-2x100 200G Performance Solution

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

### ENVIRONMENT FOR NT200C01-NEBS-2x100 Performance Solution

- 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

### COMPANY PROFILE

Napatech helps companies to reimagine their business by bringing hyperscale computing benefits to IT organizations of every size. We enhance open and standard virtualized servers to boost innovation and release valuable computing resources that improve services and increase revenue. Our Reconfigurable Computing Platform™ is based on a broad set of FPGA software for leading IT compute, network and security applications that are supported on a wide array of FPGA hardware designs.

Additional information is available at [www.napatech.com](http://www.napatech.com)

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