

Napatech Software Suite

DATA SHEET

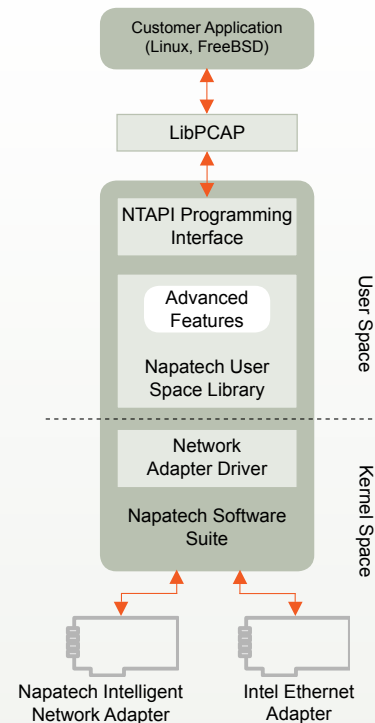
Fast, Easy Integration and On-the-Fly Configuration

Napatech Software Suite provides a well-defined application programming interface as well as support for the well-known, open-source interface LibPCAP, allowing programmers to quickly integrate Napatech network adapter products into their system.

In addition, Napatech Software Suite provides advanced features for data sharing and merging supporting multi-adapter and multi-application integration.

A common API is provided for all Napatech network adapters allowing plug-and-play operation. In addition, the Napatech Software Suite provides support for selected Intel Ethernet network adapters.

An intuitive, easy-to-learn, yet powerful programming language is also provided to allow dynamic, on-the-fly configuration of filtering and intelligent multi-CPU distribution on the Napatech network adapters.



Feature Highlights and Applications

Feature Highlights

- NTAPI: Common API for all Napatech network adapters and selected Intel Ethernet adapters
- Simple programming interface allowing fast integration
- Zero copy transfer of data to host
- Zero copy transfer of data between adapters
- Packet-based interface providing abstraction of hardware details
- Advanced features including:
 - Data merging of port data from multiple network adapters into a single data stream
 - Data sharing of captured data between multiple customer applications without the need for replication

Napatech-Supported Applications

The Napatech Software Suite is ideal for applications that require multiple high-speed ports and network adapters. Data merging functionality is provided to support accurate merging of data from multiple ports and adapters into a single stream for analysis.

Data sharing functionality allows multiple applications to be hosted on the same server with data distributed to each application using the Napatech intelligent network adapters' intelligent flow distribution capabilities.

The ability to support both Napatech and Intel Ethernet adapters with a single API allows OEM vendors to support a range of product variants with entry-level to high-end performance using a single application development effort.

Application Programming Interfaces

Packet Capture Interface

The LibPCAP packet capture interface is an interface, which is widely used in open-source applications, such as Wireshark, Ethereal, TCPdump, TCPReplay and more. It is available on Linux and FreeBSD and provides an excellent starting point for development of network monitoring and analysis appliances.

LibPCAP is supported by the NTAPI interface allowing existing implementations using LibPCAP to quickly use Napatech network adapters. The NTAPI provides additional features that are not available via the LibPCAP interface, but can be configured using the Napatech Programming Language (NTPL).

Napatech Software Suite NTAPI

The Napatech Software Suite supports the Napatech Application Programming Interface (NTAPI), which is a packet-based interface designed to make programming and integration quicker and easier. While NTAPI is packet-based, it also supports a segment-based mode.

The NTAPI interface provides a hardware abstraction, so programmers do not need to know or manage details of the individual network adapters, which in turn reduces the complexity and potential for errors.

The NTAPI interface is thus ideal for system configurations where multiple network adapters are used. The network adapter ports can be treated individually or can be merged in groups, allowing more efficient data management and distribution.

Comparing Application Programming Interfaces

LibPCAP is a widely used interface, which makes integration of Napatech network adapters quick and easy. However, to fully benefit from the acceleration and off-load features provided by Napatech network adapters, it is recommended that the Napatech NTAPI interface is used. In addition, NTAPI provides a simple interface where many of the details are managed by Napatech Software Suite and multi-adapter configurations are easily supported including extra features for data merging of multiple ports and data sharing between multiple host applications.

The following table provides a brief overview of the differences between each interface.

Feature	LibPCAP	Napatech Software Suite NTAPI
Zero copy transfer to host (OS bypass)	X	X
Zero copy transfer between adapters		X
Merging of port data from a single adapter	X	X
Merging of port data from multiple adapters		X
Data sharing between multiple applications		X
Packet classification	X	X
Advanced filters	X	X
Packet coloring / tagging		X
Hash key generation		X
Intelligent multi-CPU distribution	X	X
Deduplication	X	X
Local retransmit		X
Host-based transmit		X
Statistics		X

Naptech Programming Language (NTPL)

Programming Language for Rapid Configuration

NTPL is an easy-to-understand text-based configuration language, which abstracts the details of adapter hardware implementation from the application developer allowing faster code development.

The NTPL language can be used for configuration of features on the network adapter, such as filters, hash key generation, deduplication and local retransmit.

On-The-Fly Configuration

NTPL is designed for on-the-fly configuration of Napatech network adapter features. Commands can be sent using a tool provided by Napatech.

NTPL can also be used to configure filters when using a LibPCAP interface.

Operating System Support

The following operating systems are supported by Napatech Software Suite.

Operating System	Linux	FreeBSD	
Versions	2.6.18 and later 32-/64-bit	7.x 32-/64-bit	8.0 32-/64-bit
Napatech Software Suite	X	X	X

Additional operating system support is constantly added. Contact your sales representative for more information on planned operating system support.

Intel Ethernet Adapter Support

Napatech Software Suite provides a common API for not only all Napatech intelligent network adapters, but also selected Intel Ethernet adapters. This allows application developers to address both entry-level and high-end system requirements with a single software implementation.

This table provides an overview of currently supported Intel Ethernet adapters.

Intel Product Code	Napatech Product Code	Connector and Cable Medium	Slot Type	Slot Width	Ports	Supported Slot Heights
E1G44HT	NT4E2-4T-EL-I Intel I340-T4	RJ45 copper	PCI Express 2.0	4-lane	Quad port	Low-profile and full-height
E10G42BFSR	NT20E2-2-EL-I Intel X520-SR2	LC fiber optic	PCI Express 2.0	8-lane	Dual port	Low-profile and full-height

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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