

WANic™ 66512 Packet Processor

Intelligent High-Performance OCTEON® II Ethernet Packet Processor PCI Express Card

GE's WANic 66512 is an intelligent, high-performance Ethernet IP Packet Processor in PCI Express card format based on Cavium's fastest OCTEON II processor.

WANic 66512 is engineered specifically to provide the utmost performance in applications such as:

- High-frequency, low latency securities trading
- Deep Packet Inspection (DPI) & Lawful Intercept
- Secure Access (IPsec)
- Network Address Translation (NAT)
- Traffic Management
- Session Border Controller (SBC)
- Low latency gateways and packet filters
- Ethernet/IP Test & Measurement Equipment
- Firewall

At GE Intelligent Platforms we understand that every microsecond counts. Whether you are processing transactions on the trading floor or performing deep packet inspection for secure network access, our WANic 66512 Packet Processor is engineered to give you the utmost performance. Features such as the fastest Cavium OCTEON® II processor, PCI Express form factor, board-level diagnostic tools and driver development kits deliver the highest performance as well as improve your time to revenue. Plus, the WANic 66512 is designed for NEBS compliance and has been tested for interoperability, industry certification and regulatory compliance to ensure compatibility and rapid application deployment.

We know that time to market is critical and therefore complement the technical aspects of our WANic 66512 with world class expertise and a focus on exceptional customer service.

World class expertise and exceptional customer support

- Leverages GE's experiences as a provider to Tier 1 TEMs and Six Sigma processes to deliver high quality product on time
- Provides exceptional engineering support to ensure that the cost and time of development is as low as possible
- Includes driver development kits and board-level diagnostics to improve your time to revenue
- Provides a two-year standard warranty to help keep your application up and running
- Offers robust lifecycle management
- Delivers local support globally and prompt support to minimize the risks of downtime

FEATURE	BENEFIT
Cavium 10-core 1.5GHz or 1.3GHz OCTEON II CN6645-AAP processor	<ul style="list-style-type: none"> • Delivers the lowest latency and highest throughput for the overall best performance of any OCTEON II-based Packet Processor PCI Express card on the market. • Keeps line rates high by offloading compute intensive tasks from the host's central processing unit
2x 10GbE interfaces	<ul style="list-style-type: none"> • Allows connection to multiple 10GbE optical data networks
Hardware time stamping with 100ns or less granularity	<ul style="list-style-type: none"> • Facilitates reporting flow/timing details of the packets being processed by the application to help deliver the highest performance possible
Up to 8GB of high-speed DDR3 SDRAM packet memory	<ul style="list-style-type: none"> • Supports multicore processing and high-speed packet buffering
HFA/DFA memory for Regular Expression Engine	<ul style="list-style-type: none"> • Enables acceleration functions for fast, efficient packet processing
Active fan based heat sink	<ul style="list-style-type: none"> • Unburdens the host system cooling strategies
Comprehensive software development package	<ul style="list-style-type: none"> • Minimizes the complexity and time required to integrate a multi-core processor



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Specifications

Processor

- OCTEON II CN6645-AAP, 10-core, 1.5GHz
- OCTEON II CN6645-AAP, 10-core, 1.3GHz

Memory

- 4GB of DDR3 SDRAM Packet Memory via VLP Mini-RDIMMs (8GB optional)
- 512MB of DDR3 HFA/DFA SDRAM
- 32MB of Persistent Memory via Packet Memory
- 128MB Flash memory
- 2GB of eUSB Flash Disk

Front-Panel

- 2x 10GbE, SFP+ connectors
- Power, Status & Activity LEDs

Bus Interconnect

- x4 PCI Express Gen2 host interface

PCI-SIG Compliance

- PCI-SIG: PCI Express CEM R2.0
- PCI-SIG: PCI Express Base R2.1

Dimensions

- Form Factor: PCI Express standard half-length card
- Dimensions: [H] 4.2 inches (10.67cm) x [W] 6.6 inches (16.76cm)
- With a fan and heat sink

Power Requirements

- +12.0Vdc and +3.3Vdc

Current & Power Limits for Connectors @1.3GHz

- 5.2W typical max @ +3.3V Rail Voltage (PCIe Edge)
- 48.0W typical max @ +12V Rail Voltage (J4external connector)
- Total: 53.2W typical max

Current & Power Limits for Connectors @1.5GHz

- 5.2W typical max @ +3.3V Rail Voltage (PCIe Edge)
- 56.1W typical max @ +12V Rail Voltage (J4external connector)
- Total: 61.3W typical max

Regulatory Compliance

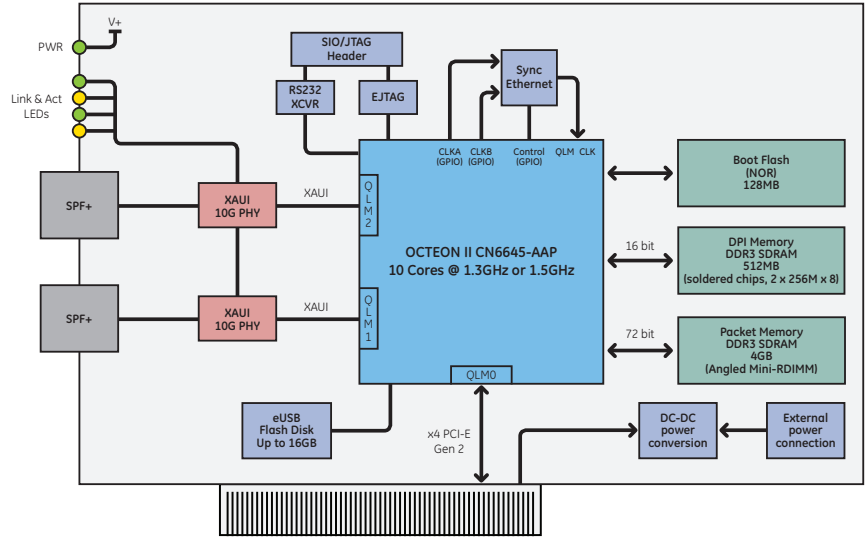
- CE Mark
- Emissions:
 - FCC 47CFR Part 15 Class A (USA)
 - EN55022: 1998/A1:2000/A2:2003 Class A ITE (EU)
 - AS/NZ CISPR 22:2002 Class A (Aus. New Zealand)
 - ICES-003 Issue 3 Class A (Canada)
 - VCCI Class A ITE (Japan)
- Immunity
 - EN55024:1998/A1:2001/A2:2003 (EU)
- Safety
 - UL60950-1 (USA)
 - CSA 22.1 no. 60950-1-03 (Canada)
 - EN 60950-1 (EU)
- Designed for NEBS compliance (1.3GHz version)
- RoHS 2002/95/EC compliant

Cooling Requirements

- Minimum volumetric flow rate at a maximum ambient temperature (Celsius) in Linear Feet per Minute (LFM):

1.3GHz processor	1.5GHz processor
– 50 LFM @ 25° C	– 50 LFM @ 25° C
– 275 LFM @ 40° C	– 300 LFM @ 40° C
– 275 LFM @ 55° C	– 300 LFM @ 50° C

Block Diagram



Environmental

- Temperature
 - Operating: 0° to +55° C (for 1.3GHz)
 - 0° to +50° C (for 1.5GHz)
 - Storage: -40° to +85° C
- Relative Humidity
 - Operating: 5% to 95%, non-condensing
 - Storage: 5% to 95%, non-condensing

Software

- Embedded firmware includes a Universal Boot (U-Boot) loader and comprehensive Power On Self Test (POST).

- Development Kit (SDK)
 - Sample application code
 - Linux Operating System
 - Device Drivers
 - User application diagnostic tools
 - Linux and Simple Executive examples
 - Well-defined Application Program Interface (API)
- Support for other operating systems is available upon request
- Optional software modules such as an IPv4/IPv6 stack, IPSec, QoS management, multicast forwarding, IP filtering, VLAN, L2 tunneling and application programming frameworks are available from GE and/or its partners

Ordering Information

WPC6D74010A	WANic 66512 - 2x 10GbE Packet Processor PCI Express Card, CN6645, 10-Core AAP, 1.3GHz, 4GB DDR3, 2GB eUSB, single slot, heat sink with fan, 0° to +55°C
WPC6D84010B	WANic 66512 - 2x 10GbE Packet Processor PCI Express Card, CN6645, 10-Core AAP, 1.5GHz, 4GB DDR3, 2GB eUSB, single slot, heat sink with fan, 0° to +50°C
WP6D-SDK-LINUX	WANic 66512 Software Development Kit (SDK)
SFP-0A	10Gb SFP+ SR Transceiver
SFP-0B	10Gb SFP+ LR Transceiver
CBL-PWR	Power adapter cable for WANic 66512
88020-366	Serial Adapter Cable Kit

GE Intelligent Platforms Contact Information

Americas: 1 800 433 2682 or 1 434 978 5100

Global regional phone numbers are listed by location on our web site at www.ge-ip.com/contact

www.ge-ip.com

