WANic™ 3850 Packet Processor

Intelligent High-performance 4-Port Gigabit Ethernet Packet Processor PCI-X Card

Features

Interface Support
- Supports intelligent high-performance Cavium OCTEON 12 core 500 MHz CN3850-SCP (Secure Communications Processor)
- Up to 4 GB of high-speed DDR2 packet memory via mini-RDIMMs
- 4 front panel access ports of Gigabit Ethernet (GbE)
- Copper or fiber SFP line interface ports
- PCI/PCI-X connector

PCI-SIG Compliance/Form Factor
- PCI-SIG PCI-X 64bit/133 MHz 1.0b compliant for control and data plane
- PCI R3.0

Software Support
- Support available for:
  - Popular Debian Linux®
  - Embedded boot loader and diagnostics (POST)

Applications
- Session Border Controller (SBC)
- Secure Access (e.g. IPsec)
- Network Address Translation (NAT)
- Traffic Management
- Firewall

Product Reliability
- Reliability calculated via Telcordia SR-332 Issue 1
- Technical support for OEM customers and resellers

WANic 3850 is an intelligent high-performance Packet Processor based on the high-performance OCTEON multi-core processor. Ideal for applications demanding wire-speed communications for secure IP access, the WANic 3850 card is designed to enable rapid application development using open, modular, highly available systems based on PCI-X platform architectures.

WANic 3850 provides a 12-core Cavium OCTEON multi-core CN3850-SCP Packet Processor with 1MB of shared L2 cache memory, delivering up to 4Gb/s line-speed packet processing for layers 2-7. To optimize application performance, the CN3850-SCP supports a dual-issue, five-stage pipeline and optimized latencies as well as auto instruction pre-fetching and advanced data pre-fetching features to minimize memory delays.

The packet processor card can be configured to enable a wide variety of applications. Up to 4GB of high-speed low-power/low-latency DDR2 memory is implemented using mini-RDIMM modules.

WANic 3850 supports high-speed communications via a 64-bit/133 MHz PCI-X bus interface for PCI-X platforms. It is keyed for 3 volts to ensure safe operation and compatible voltage.

For application flexibility, the WANic 3850 supports multiple front panel configuration options including:
- 4 front panel ports of Gigabit Ethernet supporting IEEE 1000BaseT via Small Form factor Pluggable (SFP) transceivers, or
- 4 front panel ports of Gigabit Ethernet supporting IEEE 1000BaseSX via Small Form factor Pluggable (SFP) transceivers

Software

The WANic 3850 software implementation is a comprehensive development package designed to improve time-to-revenue for our customers. This software development package is optimized to simplify application integration for multi-core processor development environments.

At its lowest level, the WANic 3850 software includes Universal Boot loader (U-Boot) and comprehensive Power on Self Test (POST) embedded in the hardware.

A Linux Support Package (LSP) and sample application code designed to exercise the WANic 3850 is provided to aid in application development. The LSP includes a Linux Operating System and user application diagnostics. It loads user application code from a TFTP server or Flash memory, and includes a well-defined Application Program Interface (API) to ease application development. Other operating systems are available upon request.

To further improve customer time-to-market, optional software modules such as an IPv4/IPv6 stack, IPSec, QoS management, multicast forwarding, IP filtering, VLAN, L2 tunneling and application programming frameworks will be available from GE Fanuc and/or its partners.

WANic 3850 Intelligent High-Performance 4-Port Gigabit Ethernet Packet Processor PCI-X Card

Specifications

Processor
- OCTEON CN3850-SCP, 12-core 500 MHz

Memory
- Up to 4 GB of DDR2 SDRAM via mini-RDIMMs
- Up to 128 MB flash memory

Front-Panel
- 4 x 1 GbE via SFPs
- Status LEDs

Bus Interconnect
- PCI/PCI-X

Network Interface
- 4 x 1 GbE MAC/PHY

PCI-SIG Compliance
- PCI-SIG PCI-X 64-bit 133MHz 1.0b compliant for control and data plane

Dimensions
- Form factor: PCI R 3.0 dual slot card
- Dimensions: 4.2 inches (H) x 6.6 inches (W)
- Weight: 0.612 lbs. (277.598 g)

Power Requirements
- +12.0 VDC and +3.3V DC
- Less than 40 watts

Environmental
- Temperature
  - Operating: 0° to +55 °C
  - Storage: -40° to +85 °C
- Relative Humidity
  - Operating: 5% to 95%, noncondensing
  - Storage: 5% to 95%, noncondensing

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

Block Diagram
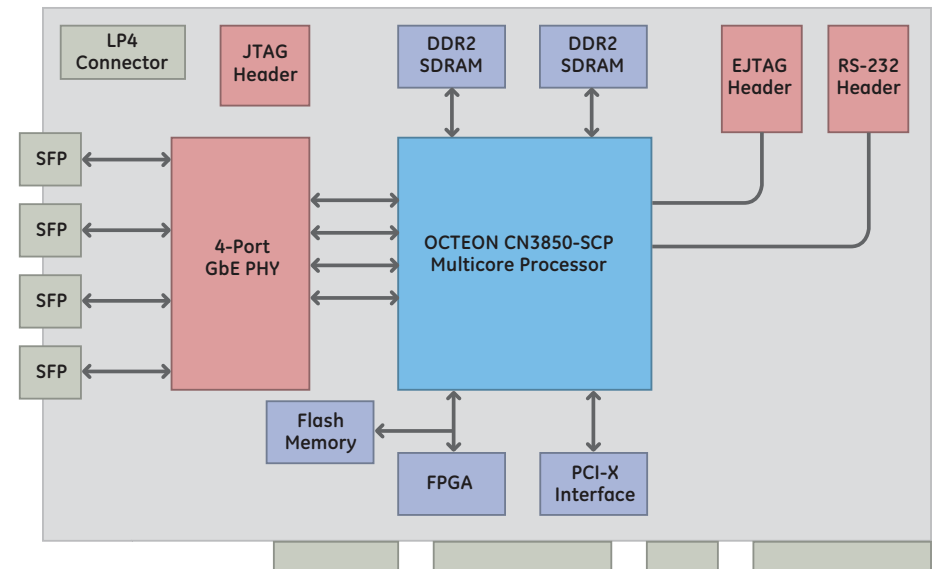
Ordering Information

84020-101   WANic 3850-1T with 12-core CN3850-SCP @ 500MHz; 1GB DDR2; twisted pair copper ports (SFPs)
84020-102   WANic 3850-1SR1 with 12-core CN3850-SCP @ 500MHz; 1GB DDR2; short range fiber ports (SFP)
84020-103   WANic 3850 Serial Adapter Cable Kit

Ask your GE Fanuc Embedded Systems sales person for additional models.

About GE Fanuc Embedded Systems

GE Fanuc Embedded Systems is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is head-quartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Embedded Systems has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanucembedded.com.

GE Fanuc Embedded Systems Information Centers

Americas:
1 800 322 3616 or 1 256 880 0444

Asia Pacific:
+81 3 5544 3973

EMEA:
   Germany: +49 821 5034-0
   UK: +44 1327 35944

Additional Resources

For more information, please visit the GE Fanuc Embedded Systems web site at:

www.gefanucembedded.com