

iSPAN® 55CA Quad GE to PCI-x Packet Accelerator

High Performance Multi-core Packet Processing Engine

FEATURES

PCI-x card for Rack Mount Server form-factor

Cavium Networks high performance Octeon Plus 58xx family of Packet Processors with 4 to 16 cores @ up to 700MHz

4x GbE interfaces on front panel

High bandwidth PCI-x host connectivity

High Speed SPI 4.2 connector for inter-card connectivity and expansion

Rich Ecosystem of software tools and applications available through Interphase Partners including:

- TCP/IP off load
- Wire-speed IPSEC acceleration
- SRTP Off-load
- IPv4/IPv6 L2/L3 wire-speed forwarding
- Policy Management and Routing
- On board RTP/RTCP processing
- GTP-u protocol support
- Compression / De-compression off-load

APPLICATIONS

Media Servers

ASN Gateways

VoIP

Edge/Access Routers

Deep Packet Content Inspection

Line Rate Crypto and Security Functions

Stateful Protocol Identification

Policy Enforcement

Packet Processing Engine

The Interphase iSPAN® 55CA PCI-x™ Packet Accelerator extends the broad Interphase portfolio of communication and network processor solutions for use with PCI-x enabled rack-mount server platform solutions. The iSPAN® 55CA addresses the growing need for wire-speed packet inspection and processing requirements for the delivery of broadband services in the Wireless, Voice Over IP and IMS network infrastructure

High Performance – Multi-Core

The iSPAN® 55CA is based on the Cavium Octeon Plus high-performance multi-core processor architecture which provides:

- A pin compatible chip that can support 4 to 16 cnMIPS® Plus MIPS 32/64 architecture compatible cores
- Per core hardware acceleration for packet processing and security including addition of support for Kasumi for wireless security
- Integrated co-processors for packet I/O, compression/decompression, IDS and anti-virus

Flexibility

With its, powerful onboard Octeon Plus packet processor, dual management interface and upgradeable memory, the iSPAN 55CA is extremely versatile and provides the functionality necessary for migrating to next-generation infrastructures and converged networks.

Cavium Simple Executive and Linux®-based ready-to-use application / protocol suites are available to transform the 36MC1 into a specialized communications interface which can be easily integrated into solution platforms.



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55CA Solution Components

Hardware

The *iSPAN* 55CA is designed around the Cavium Octeon Plus 58xx processor family. For the PCI-x form-factor Interphase supports 4, 8, 12 or 16 core Octeon Plus processors running at up to 700MHz. It connects host processor through a 64bit 133MHz PCI-x interface.

Processor/Memory

- Support for NSP, SCP or EXP device family options
 - NSP: Network Services Processor supports encryption, reg-ex acceleration, TCP acceleration, compression/decompression, networking and QOS
 - SCP: Secure Communications Processor supports encryption, networking, TCP acceleration and QOS
 - EXP: Extreme Processor supports networking, reg-ex acceleration, compression/decompression, TCP acceleration and QOS
- Up to 4 GB of DDR2 SDRAM Memory (default 512MB)
- 8 MB downloadable 8-bit Boot Flash Memory
- 128 MB of downloadable NAND Flash memory for firmware storage (upgradeable to 1GB)
- Optional 16MB of Persistent / "Trace" PSRAM. Can be used to store event logs for fault isolation
- 2 optional banks of 16MB 18bit RLDRAM – upgradeable to 32MB modules
- PCI-x host connectivity

Front Panel Interfaces

- Four Gigabit Ethernet RJ-45 receptacles on the front panel

Additional Connectivity

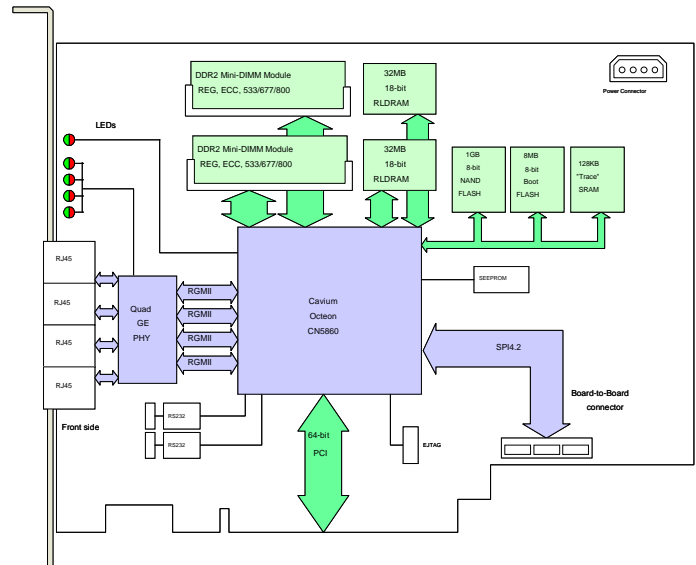
- The 55CA design includes a SPI4.2 inter-card connector for expansion ports and inter card communication. This allows 2 55CA's to be interconnected using a separately orderable 55CA SPI 4 Interconnect PCB. This option is currently not implemented. Contact Interphase if this option is of interest.

Applications

Interphase supports WindRiver PNE Linux[®] distribution with Cavium Octeon extensions and the Cavium Networks "Simple Executive". Packet Processing Modules available from 3rd parties include: TCP/IP off load, IPv4 & IPv6 stacks, Unicast and multi-cast routing acceleration, IPSEC acceleration, Stateful Firewall, SRTP Offload, Transport Protocols, and Mobile-IP.

Power and Cooling

The *iSPAN* 55CA is a high power PCI-x card. The 55CA power and cooling requirements, as described in the installation guide, must be met for correct and safe operation of the 55CA.



Technical Specifications

Architecture	
Processor	Cavium Octeon Plus @ up to 700MHz with 4, 8, 12 or 16 cores
RAM Memory	Up to 4 GB of DDR2 SDRAM System memory
Persistent Memory	16MB of Persistent / "Trace" PSRAM
RLDRAM	0, 16MB, or 32MB
EEPROM Memory	8 MB NOR Flash, 128 MB NAND Flash
Connectivity	PCI-x, 4x Gigabit Ethernet, SPI4.2
Mechanical	
Form Factor	Standard Height
Length	255 mm (10 in)
Width	98 mm (3.86 in)
Environment	
Power Consumption	67W max for 16 core implementation at 700MHz
Operating Temperature	0 to 50°C (32 to 134.3 °F)
Storage Range	-40 to 80 °C (-40 to 176 °F)
Relative Humidity	5% to 95% non-condensing
Altitude	0 to 2000 M (0 to 6500 ft)

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About Interphase Corporation

Interphase Corporation (NASDAQ: INPH) is a leading provider of robust building blocks, highly integrated subsystems and innovative gateway appliances for the converged communications network. Building on a 30-year history of providing advanced I/O solutions for telecom and enterprise applications, and addressing the need for high speed connectivity, Interphase has established a key leadership role in delivering next generation AdvancedTCA[®] and AdvancedMC[™] solutions to the marketplace.