Integrated Device Technology

CPS-1432 14 Port, 32 Lane Serial RapidIO® Gen2 Switch

FEATURES

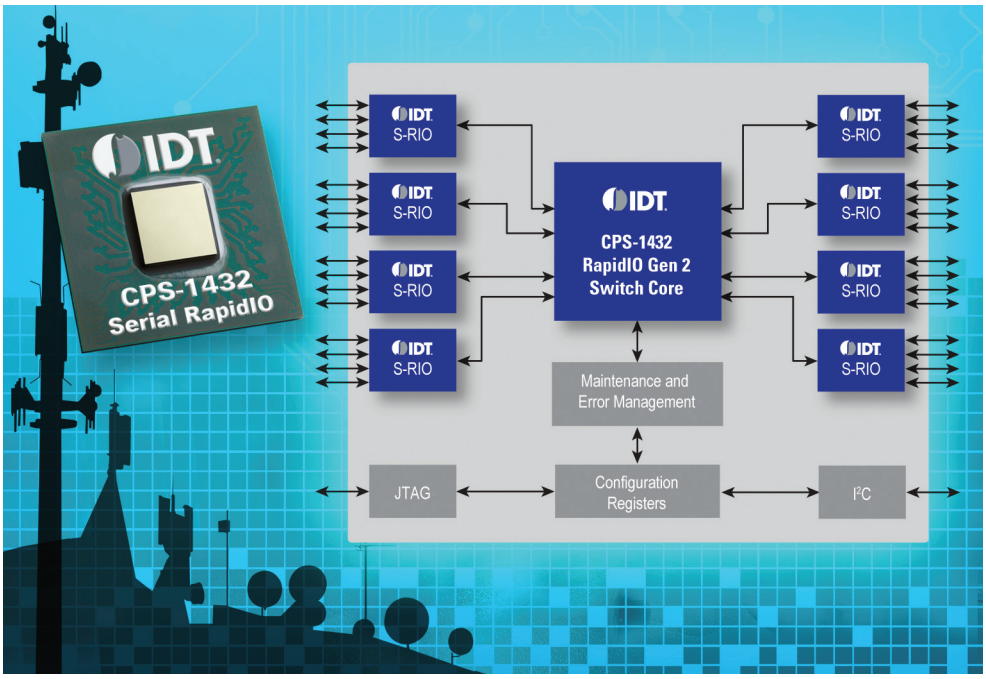
- Designed to Serial RapidIO 2.1 Specification
- 32 lanes, with up to 8x4, 14x2, 14x1 port configurations
- Full-duplex 160 Gbps non-blocking bandwidth
- Carrier-grade, high performance SerDes
  - 1.25, 2.5, 3.125, 5.0, or 6.25 Gbaud
  - Long reach 100 cm with 2 connectors
  - Transmit drive strength and Pre-emphasis
  - Receive equalization with DFE
- Up to 40% power-per-gigabit savings vs. RapidIO 1.3 Switches
- Dynamic ingress and egress buffers management improves performance over RapidIO 1.3 switches
  - Better per-port throughput
  - Better system-level traffic engineering
- 40 multicast groups per port
- Cut-through and Store-and-Forward modes
- Cut-through latency of 100 ns
- RapidIO Error Management Extension Support
- Error log captures sequence of errors
- Packet mirror, trace, filter per port
- Receiver- and Transmitter-based flow control
- Per-port reset provides robust hot swap support
- Multicast Event Control Symbol generation input pin
- Industrial and commercial temperature grades
- 25 x 25 mm FCBGA

BENEFITS VS OTHER INTERCONNECT PROTOCOLS

- Design highest performance backplane in industry with 20 Gbps data rate per link
- Lowest power per payload bit vs. other interconnect protocols
- Ecosystem support for four levels of priority plus critical request flow, providing up to eight classes of traffic
- RapidIO standard supports arbitrary system topology with true peer-to-peer networking
- Twice the performance per link compared to 10-Gb Ethernet
- RapidIO Messaging Support for transfers of 4-KB messages in hardware

TARGET APPLICATIONS

- Wireless: Baseband cards and backplanes in LTE/WiMAX/WCDMA/TD-SCDMA
- Defense and aerospace: Radar, sonar and navigations systems
- Medical imaging: CT scanners, MRIs
- Video: Teleconferencing and Head End
- Industrial control systems



IDT RapidIO Gen2 Switch

IDT is the industry's leading supplier of RapidIO® interconnect solutions, providing a broad portfolio of switches, bridges, IP, and development platforms for defense, aerospace, video, imaging, and wireless markets. The IDT CPS-1432 is a large port count Serial RapidIO Gen2 switch capable of supporting complex systems driving RapidIO links across backplanes, as well as for chip-to-chip interconnect on boards.

Device Overview

The CPS-1432 provides a full non-blocking bandwidth of 160 Gbps on up to 14 logical ports. The CPS-1432 uses a 5th generation switch fabric, building upon Gen 1 CPS and Tsi switching architectures. This new switch uses patent pending features to minimize latency, ensure scheduling fairness, and provide superior multicast throughput. The CPS-1432's 6.25 Gbaud SerDes is ideal for backplanes yet can run even lower power for local connectivity. This performance is realized over twice the transmission channel distance and three orders of magnitude improvement in bit error rate (BER) compared to the very capable Gen1 standard.

IDT's Gen2 switches connect the Serial RapidIO ecosystem, including full backward compatibility to RapidIO 1.3 systems and components. The Serial RapidIO ecosystem enables carrier-grade reliable, fault tolerant systems with four standard traffic priority levels for quality of service. It also offers best-in-class messaging and atomic transaction support with protocol throughput efficiencies superior to other leading embedded interconnect protocols.

Applications

IDT's Gen2 switches, in tandem with other Serial RapidIO ecosystem switches and endpoints, enable next-generation compute density and power efficiencies. This significantly increases channel capacity for 3G to 4G wireless infrastructure, media gateways, video conferencing, and defense and medical imaging systems. Full peer-to-peer networking makes systems of arbitrary topology possible.

CPS-1432 BENEFITS FOR WIRELESS

- Carrier-grade reliable packet transport
- Gen2 performance to power ratio allows unprecedented compute density to enable 3G and 4G systems
- Switched architecture allows highly scalable system for micro and macro BTS implementations
- Carrier-grade 6.25 Gbaud SerDes enables backplane-based modular systems and system scaling by inter-chassis cabling
- Ecosystem-standard support for four priorities plus Critical Request Flow provides strong QoS support for multiple data flows plus control plane

CPS-1432 BENEFITS FOR DEFENSE AND AEROSPACE

- Serial RapidIO Error Management Extension support including Time-to-Live enables fault-tolerant systems
- VITA 41, Open VPX, and ATCA fabric mappings enable rapid development of modular, standards-based systems
- RapidIO-standard, true peer-to-peer networking allows scaling of arbitrary topology and simplifies hot swap software implementation
- Per-port filter feature allows blocking errant packets or malicious attack (for example, denial of service, system memory reads and writes)

CPS-1432 BENEFITS FOR VIDEO AND IMAGING

- 40 multicast masks per port provides strong support for broadcasting or multicasting a given data stream to multiple endpoints executing unique transforms, scaling, and CODECs
- IDT-proprietary "retransmit mimic" feature improves real-time support for latency sensitive lossy data transfers

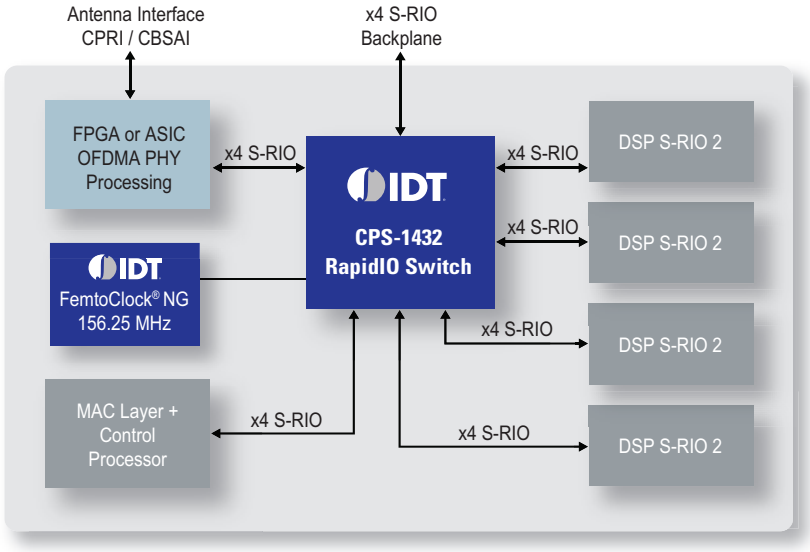
SOFTWARE AND HARDWARE ECOSYSTEM

- Serial RapidIO Development Platform Gen2 (SRDP2)
- Serial RapidIO Gen2 Endpoint Intellectual Property for ASIC, CPU, DSP, and FPGAs
- Numerous partner RapidIO-enabled AMCs
- RapidFET JTAG edition software support
- RapidIO Linux support
- Power Calculator tool
- HSPICE and IBIS models

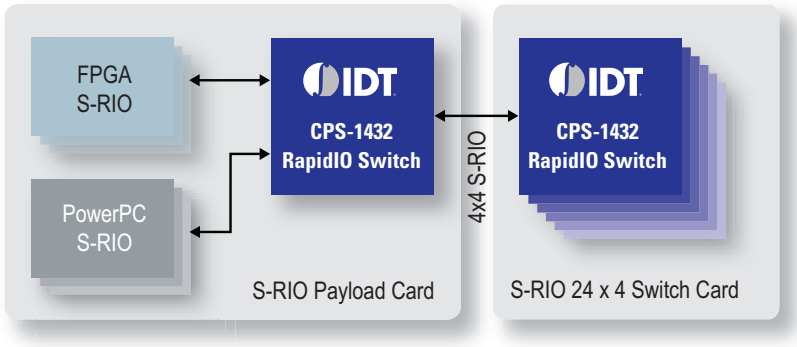
Discover what IDT know-how can do for you:

www.IDT.com/go/SRIOGen2

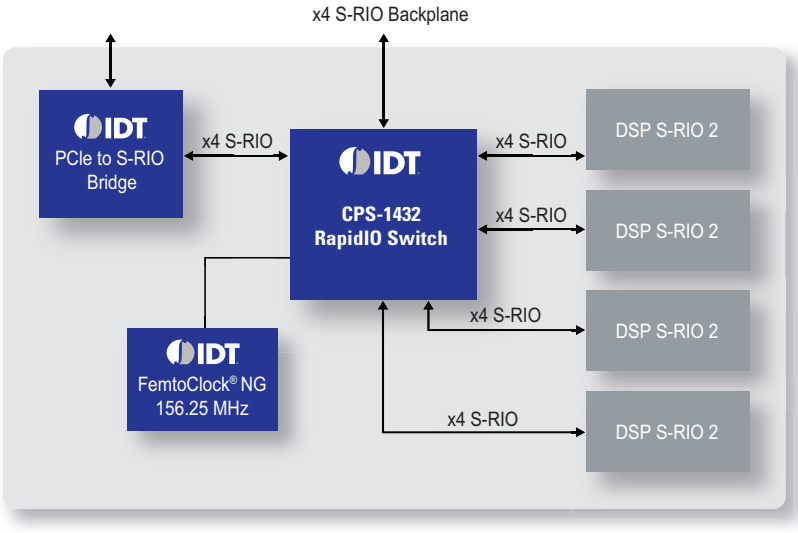
Wireless Application



Military Open VPX System



Imaging Application



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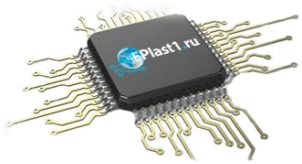
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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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