

# VSC7320

VITESSE

## Meigs-I™ - 10 x 1 Gigabit Ethernet MAC Chip



### FEATURES:

- ▶ 1 x 10 Gb/s Ethernet XGMII Interface
- ▶ CSIX-64 AC\_Class2 Host Interface
- ▶ Full Bandwidth, Non-Blocking Performance on Receive and Transmit
- ▶ Internal Short-Haul Flow Control Memory
- ▶ 1024 kbit Ingress and 768 kbit Egress FIFO
- ▶ Advanced Link Aggregation/Trunking Based on SMAC/DMAC/ MPLS Label
- ▶ Aggregation/Trunking Between XGMII and CSIX Interfaces
- ▶ Intelligent VLAN and MPLS Tagging and Un-tagging
- ▶ Serial CPU Interface for Register Access
- ▶ RMON 1 Statistics Group and Applicable IEEE802.3 and SNMP Statistics
- ▶ ASIC/FPGA Friendly CSIX-64 Interface
- ▶ Advanced Test Features Including Internal Loop-Back, Frame Collection, and Replay
- ▶ Jumbo Frame Support
- ▶ IEEE 802.3ae Compliant

### SPECIFICATIONS:

- ▶ 1.8 V Core and CSIX-64 Power Supply
- ▶ 3.3 V I/O and CPU Interface Power Supply
- ▶ 792-Pin EBGA Package

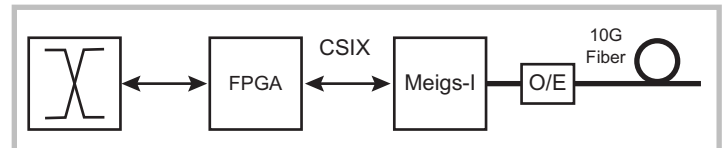
### APPLICATIONS:

- ▶ 10 Gigabit Ethernet MAC
- ▶ 10GbE Switch-Blades for Enterprise Based Routers
- ▶ 10GbE Switch-to-Switch Interconnects and Uplink Port for Gigabit
- ▶ Ethernet-Based Long-Haul Data Transport
- ▶ Backbone Connectivity Systems for Metropolitan Optical Routers Systems and Server Farms

### FUTURE-PROOF TECHNOLOGY:

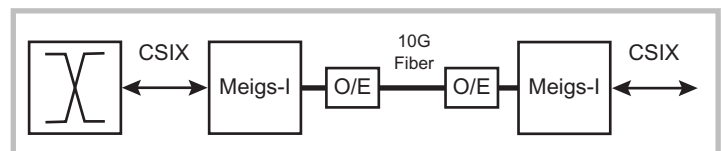
- ▶ VSC7320 is part of a product roadmap that includes advanced 10 Gigabit Ethernet technology. As such, the architecture of VSC7320 is designed to take advantage of emerging and future technologies - effectively allowing manufacturers to future-proof switching applications.

### 10 GIGABIT CONNECTIVITY WITH FPGA:



Application using the Meigs-I and a customer specific FPGA to create a 10G switching connectivity

### 10 GIGABIT CONNECTIVITY:



Chipset application using Meigs-I directly to CSIX switch fabrics to create 10G switching connectivity

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## Meigs-I™ - 10 x 1 Gigabit Ethernet MAC Chip

### GENERAL DESCRIPTION:



Meigs-I™ is an advanced Ethernet MAC chip that offers a straightforward route to 10 Gigabit Ethernet (10GbE) connectivity.

It provides access to one 10 Gigabit full duplex Ethernet port (XGMII) through a FPGA/ASIC friendly, fully standard compliant CSIX host interface.

An on-chip FIFO capable of handling short-haul flow control is located between the Ethernet port and the CSIX-64 interface.

The advance and flexible link aggregation and trunking functionality in Meigs-I (based on SMAC/DMAC and MPLS labels), allows the 10GbE port to behave like ten separate virtual 10/100/1000 Mbps connections on the CSIX host interface side. The advantage of this is that this makes integration of 10GbE capability into existing Gigabit aware products much simpler than designing a 10 Gigabit Ethernet system from scratch.

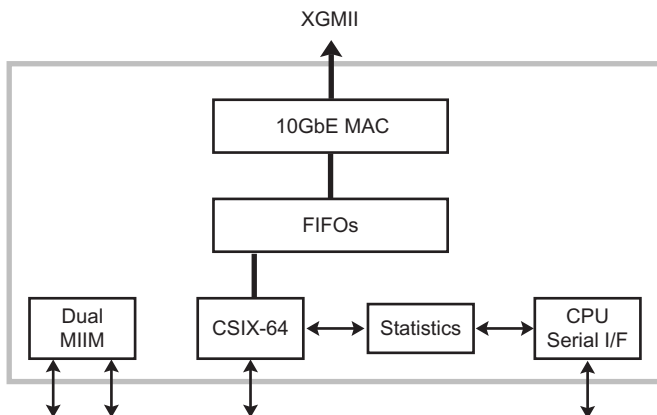
In addition Meigs-I offers advanced management capabilities. For example, the device allows users to add OAM&P channels and/or other proprietary management schemes to native Ethernet data transport equipment, thereby enhancing the added value to customers and creating increased product differentiation.

There is a dual MII Management interface to set up and control the PHYs. The serial CPU interface provides access to all registers in Meigs-I.

A comprehensive set of statistics counters are built into Meigs-I and the design takes into account the latest developments in emerging 10 Gigabit standard.

Test features include cyclic replay of frames at a user definable rate - either built by the external CPU directly inside the FIFOs or captured from incoming traffic.

### VSC7320 BLOCK DIAGRAM:



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