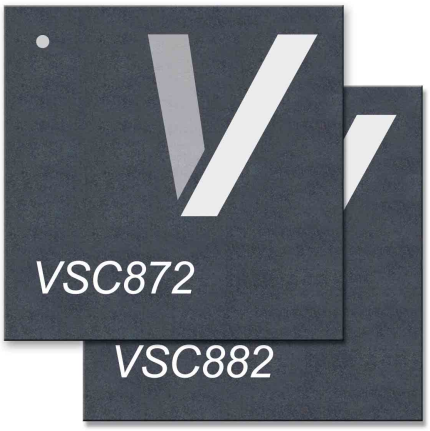
INTELLIGENT SWITCH FABRIC FAMILY

GigaStream®

VITESSE

GigaStream® Chip Set (VSC872 & VSC882) 80 Gb/s Intelligent Switch Fabric



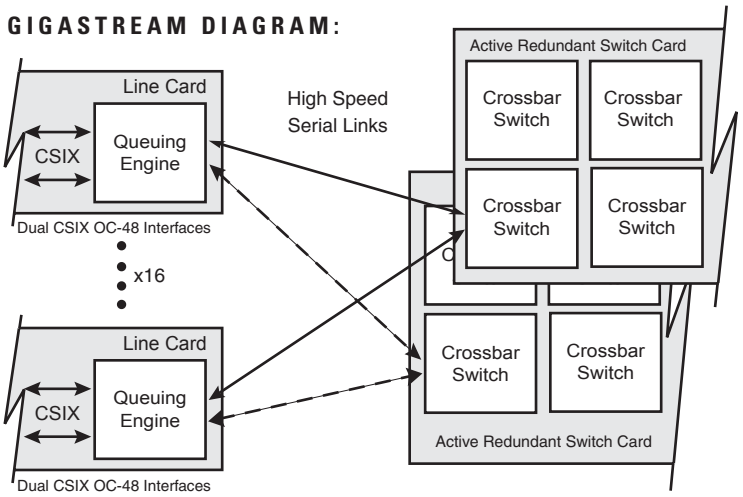
APPLICATIONS:

- GigaStream can be used in many applications, including:
  - Access and Edge Routers
  - Enterprise Backbone Switch
  - 3G Wireless Gateway
  - Storage Area Networking
  - Remote Access Boxes
  - Core Routers
  - Multi-Service Platforms

HIGHLIGHTS:

- Highly-Integrated, Two-Chip Set
- Aggregate User Bandwidth of up to 80 Gb/s
- Single-Stage Aggregate Backplane Bandwidth of up to 320 Gb/s
- Maximum Port Configurations of up to 32x32 OC-48 or 64x64 Gigabit Ethernet
- Flexible N+1 and N+N “Active Redundancy" Schemes
- Integrated Queuing, Central Scheduling and Crossbar Switching
- Sophisticated QoS with Eight Priorities
- Advanced Unicast and Multi/Broadcast Support
- Field Proven, High-Speed 2.644 Gb/s Serial Link Technology

GIGASTREAM DIAGRAM:



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GENERAL DESCRIPTION:

The GigaStream® chip set is a high performance synchronous switch fabric consisting of two integrated circuits: the GigaStream Queuing Engine (VSC872) and the GigaStream Crossbar Switch (VSC882). Targeted at the access, edge, and metropolitan markets, GigaStream enables networking equipment manufacturers to build routing and switching systems capable of providing a maximum of 80Gb/s of aggregate user bandwidth with up to 320Gb/s of highly available backplane bandwidth. GigaStream provides support for sophisticated Quality of Service (QoS) algorithms, distinct handling for both Unicast and Multi/Broadcast traffic, as well as multi-service support for IP, ATM, and Ethernet

High Performance and Scalability
GigaStream's flexible architecture allows designers to increase aggregate switching capacity by adding GigaStream Crossbar Switches, scaling fabric backplane bandwidth in increments of 40Gb/s up to a maximum 320Gb/s. Each GigaStream Queuing Engine increases system port count by providing two additional OC-48 CSIX interfaces up to a maximum 32x32 OC-48 system configuration. GigaStream's scalable architecture, in conjunction with its self-synchronous serial link technology, provide the framework for next generation high-speed networking systems.

High Availability
With the special requirements of highly-reliable networking equipment in mind, the GigaStream switch fabric offers several features designed to simplify in-situ replacement or upgrades. These features include both N+1 and N+N redundant switch core protection schemes, hardware and software switchover for field maintenance and link failure conditions, fail-safe hot-swappable buffers, as well as self-synchronizing link circuitry and link health monitoring, ensuring zero loss of traffic and continuous operation under failure.

Efficient Bandwidth Utilization
The GigaStream solution is a self-routing switch fabric featuring virtual output queuing (VOQ) to eliminate head of line blocking, sophisticated QoS mechanisms to facilitate class-based traffic management, and logical backplane link rates of up to four times aggregate user port bandwidths. The fabric includes an integrated scheduler and dedicated on-chip queuing for both Unicast and Multi/Broadcast traffic, featuring eight priority classes supporting both strict priority and weighted bandwidth allocation.

High Integration Reduces Overall Cost
The GigaStream switch fabric integrates advanced queuing and scheduling, a synchronous serial crossbar, and multiple channels of Vitesse's proven high-speed serial link technology; all in a two-component fabric chip set. GigaStream is a low-power solution that consumes only 1.4W per Gb/s of user bandwidth with the additional capability of powering-down unused serial links. This results in a high-performance, cost-effective switch fabric with low overall chip count that minimizes power, design complexity and board space requirements.

Specifications:

Description	VSC872 Queuing Engine	VSC882 Packet Exchange Matrix
Process Technology	0.18 µm CMOS	0.18µm CMOS
Package Information	440 TBGA	304 TBGA
Maximum Power Dissipation	5W	8W
Core Supply Voltage	1.8V	1.8V
I/O Supply Voltage	2.5V or 3.3V	2.5V or 3.3V
Serial Link Speed	2.125 - 2.644Gb/s	2.125 - 2.644Gb/s
High-Speed Serial Channels	8	16

Your Partner for Success.

For more information on Vitesse Products visit the Vitesse web site at www.vitesse.com or contact Vitesse Sales at (800) VITESSE or sales@vitesse.com

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