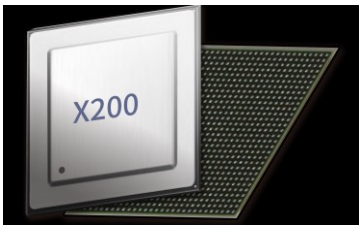
Mitsunami

X200 Network Interface Controller Product Brief



- Low and fixed latency
- Advanced NetFlow capability
- SmartPort technology to provide a multitude of port speed
- Support In band telemetry, support IFA protocol
- ECN, PFC, DCQCN for Lossless Ethernet
- Interface

Host Interface	Compliance with PCIe 5.0 specification. Concurrency for 256 non-posted requests. PCIe Gen5x16 lanes
Network Interface	Speeds at 2x100 GbE, 4x50 GbE, 4x25 GbE, 4 x10 GbE.
Performance	200 Gb/s throughput (for each Tx and Rx). Up to 140 Mpps for b oth Tx and Rx.

Application

X200	
√	Network Interface Card

Physical facts

X200	8x56G Ethernet
	8xPCIe Gen5

OVERVIEW

The key features supported in the X200 include two 100 Gigabit Ethernet ports, 200 Gigabit throughput performance， enhanced packet processing pipeline, virtualization (enhanced SR-IOV support with up to 256 VFs and backward compatibility VF driver support), new features for the communications market (fine grained scheduler, transmit head drop support, adjustment of credits according to different headers, enhanced QoS, and enhanced burst control) and RDMA (RoCEv2).

FEATURES

- Software Interface
  - ✧ Base mode VF compatibility
  - ✧ Multiple interrupt moderation schemes
  - ✧ Large interrupt vectors, allocated in a flexible manner to queues and other causes
- Packet Processing
  - ✧ Stages of parsing, switching, ACLs, classification, and packet modification
  - ✧ Programmable packet processing pipeline
  - ✧ Multiple control domains
  - ✧ Profile-based
  - ✧ Programmable actions
  - ✧ Propagation of priorities between stages
- Virtualization
  - ✧ Host virtualization via VMQ and SR-IOV
  - ✧ Stateless offloads for tunneled packets (network virtualization support)
  - ✧ Malicious VF protection
- RDMA
  - ✧ RoCE v2
  - ✧ Send Queue Push Mode
- Power Management
  - ✧ Supports PCI power management states D0, D3hot, and D3cold.
  - ✧ APM WoL support in D0, D3hot, and D3cold.
- QoS
  - ✧ WFQ Transmit scheduler with nine programmable layers
  - ✧ Pipeline sharing and starvation avoidance
  - ✧ QoS via 802.1p PCP or Differentiated services DSCP value
- Communication
  - ✧ Packet shaping.
  - ✧ Packet drops/aging + reporting.
  - ✧ Reduced burstiness - jitter control.
  - ✧ Concurrent Quanta Descriptors/Legacy Scheduling.
- Time
  - ✧ Timestamp with each Rx packet.
  - ✧ Selective timestamps for Tx packets.
  - ✧ IEEE 1588 support.
  - ✧ SyncE support

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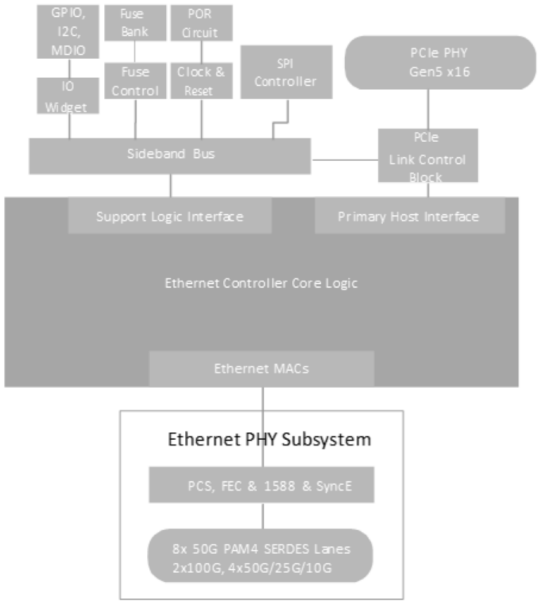
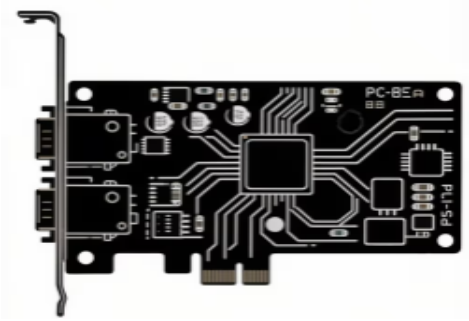
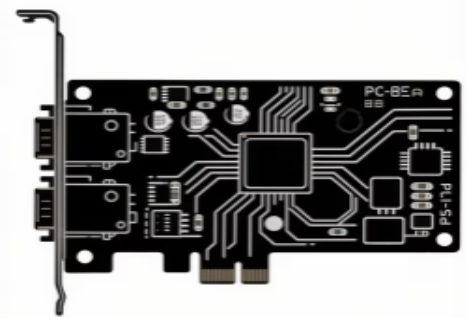
✧ X200 Architecture Diagram



✧ 2x100G-R2(R4) + PCIe 5.0x8 (x16 for multi-host) Application



✧ 2(4)x25G + PCIe 4.0x8 (x16 for multi-host)



Typical Scenario	Form Factor
Ethernet Network Interface Card	2x100G-R2(R4) + PCIe 5.0x8 (x16 for multihost)
	2(4)x25G + PCIe 4.0x8 (x16 for multihost)