

The iViper X4 is a highly integrated and cost effective iSCSI RAID storage solution designed to provide high performance with feature rich tools. At the heart of the X4 is a highly integrated, high performance, iSCSI / TCP/IP offload ASIC with embedded processors running a fully featured, integrated storage virtualization firmware stack. The iViper X4 offers features such as Media Protection, Caching, Redundancy, End-to-End data protection and RAID.

Serial ATA disk Channels enable compelling block based networked storage solutions such as near line storage, disk-to-disk backup, DAS replacement along with high capacity, cost effective primary storage. Each iViper X4 storage system can support up to 15 Serial ATA disk drive assuring data integrity with Diskline and Micro Rebuilds.

### Volume Virtualization

The iViper X4 has a storage management software that provides volume virtualization features by utilizing the concepts of storage Extents.

Extents are the fundamental building blocks used to enable features such as RAID, Online capacity expansion, and Volume Migration.

#### Extents provides:

- > Volumes can be created from drives of dissimilar capacity and technology
- > Growth can occur without volume migration or reconstruction
- > Single drives can contain multiple and divergent RAID technologies

### VLAN Zoning

The iViper X4 supports IEEE 802.1Q VLAN tagging to provide segregation of traffic into isolated zones for access security.

### IP SAN Device Manager

The comprehensive storage network management capabilities of the iViper X4 come from the IP-SAN Device Manager. These IP Storage management utilities communicating via SMI-S (Storage Management Initiative) with the devices, allowing users to remotely configure and monitor SAN storage subsystems using SMI-S compliant tools. These IP Storage utilities are rich in management features, allowing users to manage their online network storage with uncommon ease and flexibility.



**Supports RAID 0,1,10,5 and JBOD.  
4 x 1GB TCP/IP off load Ethernet ports**

### Scalable Network Availability and Performance

Link Aggregation (IEEE 802.3ad), supported on the iViper X4, provides users the ability to scale host connectivity for performance and availability across any combination of four 1GbE ports. Since the core of the iViper X4 is an advance ASIC which is a 10Gb solution, there exists more than sufficient performance to satisfy the most demanding iSCSI applications in the marketplace.



### Adaptive and Persistent Cache Management

The iViper X4 supports write-back, write-through, write-coalescing, and multi-stream read-ahead on a volume basis. It optimizes cache utilization and performance in an application dependent manner. Cache and its metadata will persist through sudden, unexpected power loss via an on board battery that is designed to backup 4 GB of cache memory for a minimum of 72 hours. This allows for extensive write-coalescing and write-back caching providing the fastest RAID performance offered in the industry.

## GENERAL

- iSCSI ASIC: iSCSI/TCP/IP full offload, SCSI3, cache management, volume virtualization, and Serial ATA
- Management Processor: Motorola PowerPC®
- Cache Memory: ECC, 512 MB - 4 GB (Battery protected)
- System Memory: ECC, 512 MB
- Flash: 64 MB
- Maximum Storage Devices: Up to 16 drives (Serial ATA)

## SUPPORTED CONFIGURATIONS

- Microsoft iSCSI Software Initiator Version 1.05 & above
  - Supported Operating Systems: Windows 2000 SP3, Windows XP, Windows XP Pro, Windows Server 2003, Redhat Linux
- QLogic QLA4010C iSCSI PCI-X Adapter
  - Windows 2000, Windows Server 2003, Linux (32-bit and 64-bit)
- Adaptec 7211C 1 Gb iSCSI Initiator
  - Microsoft Windows 2000, Redhat Linux 7.2, Redhat Linux Advanced Server 2.1
- Intel PRO/1000T IP Storage Adapter
  - Windows Server 2003, Windows 2000, Windows XP PRO
- Alacritech iSCSI Accelerator
  - Any 32-bit system running Windows Server 2003, Windows XP, or Windows 2000
- Linux-iSCSI (future qualification)
  - 2.4 Kernels-Linux-iSCSI-3.4.2, 2.6 Kernels-Linux-iSCSI-4.0.1

## VOLUME VIRTUALIZATION

### FEATURES

- JBOD, Striped sets, Mirrored sets, Striped Mirrored sets, and Parity sets
- 1024 Virtual Volumes (256 accessible per initiator)
- 1024 Target Nodes

- MC/S multiple connections/session
- iSCSI error recovery levels 0
- RAID level migration
- Free space defragmentation
- Online capacity expansion
- Write-through, write-back, write-coalescing, and readahead
- Battery-backed cache
- Automatic detection of failed drives
- Automatic rebuild of spare drive
- Hot-swapping of drives (enclosure dependent)
- Drive roaming during power off
- Micro rebuilds
- Instant volume accessibility
- DiskProtect

## iSCSI NETWORK INTERFACE

- RFC Standard Track (RFC3720, RFC3721, RFC3723, RFC3783 and RFC3347) including features of CHAP Authentication and iSNS for discovery
- iSCSI/TCP/IP full hardware offload
- Network Interfaces: four ports of copper GbE
- Supports standard Ethernet switching fabric
- Jumbo Frames support
- Transfer rate: Up to 220 MB/s full duplex per port
- iSCSI digest (CRC) supported on header and data
- LAG (IEEE 802.3ad Link Aggregation Group) Support for up to eight LAGs
- VLAN (IEEE 802.1Q Tag) Support
  - Up to eight VLANs
  - One to one mapping between IP Subnet and VLAN
  - Multiple VLANs per physical port with VLAN tag
  - All physical ports in an LAG belong to the same VLAN
- QoS Support
  - Egress packet prioritization based on IETF DiffServ and IEEE 802.1P tag
- 1024 Connections
- TCP/IP Support
  - RFC 1122 compliant
  - TCP: Congestion management and flow control based on RFC 2581; Options: Maximum Segment Size (MS); Round Trip Time Measurement (RTTM); Window Scale
  - IP: Path MTU Discovery and IP Reassembly

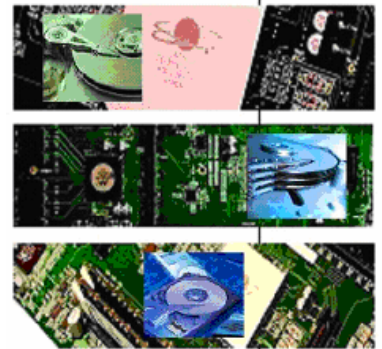
## STORAGE NETWORK MANAGEMENT

- IP-SAN Device Manager
  - Create, manage, expand, and monitor programs
  - Error statistics and performance information
- Embedded HTTPS server supporting CIM/SMS standard
- Event Manager to view and persist events
- Firmware field upgradeable

## ELECTRICAL AND MECHANICAL

- Power: 210 Watts
- Temperature, Operating: 0 to 50° C
- Temperature, Non-Operating: -20 to 70° C
- Operating Humidity: 10% to 90% Non-condensing
- Storage Humidity: 5% to 95% Non-condensing

**Note: Features & Functions may change without notice.**



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