Smart Network Storage Solutions

Xiranet Communications
- iSCSI & Native InfiniBand
Storage Solutions for OEM Customers

Agenda

- Overview iSCSI & InfiniBand Storage

- Xiranet Storage Solutions for OEM Customers

- Evaluation Platform

- Storage Management

- Web based Administration

- OEM Customisation Options

- Pricing & Availability

iSCSI Overview

- Supports block level storage like Fibre Channel

- Uses Ethernet/IP infrastructure   c an be used everywhere

- Can be implemented in software   a costly Host Bus Adapter (HBA) is not required

- Performance comparable with 2 Gb Fibre Channel   b ut higher CPU utilisation

- iSCSI Host Bus Adapters can be used   enables boot from SAN

- Can be run over Wide Area Networks (e.g. Internet)

- Can use IP Security (IPSEC) for data encryption

- Driver support for all major operating systems

- Very easy to use

InfiniBand Storage Overview

- InfiniBand (IB) advantages

    - Enables I/O convergence of IPC, networking and storage within one infrastructure

    - Only industry standard interconnect for HPC

    - Very high performance, low latency, 10/20 Gb/s available now

    - Linux Kernel integration via openib.org

    - Common Windows driver architecture in progress

    - Lower total cost of ownership (TCO)

- Increasing application performance requirements

- Gateways to Fibre Channel (FC) storage are not optimal

- Single networking infrastructure preferred, IB can replace multiple FC links

- Native InfiniBand storage: higher performance, lower management efforts and reduced costs

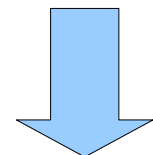# Xiranet Storage Solutions for OEM Customers

- Xiranet develops high performance iSCSI & Native InfiniBand storage solutions

- Targets standard off-the-shelf x86-64 server hardware

- Supports 1/10 Gb Ethernet and Mellanox InfiniBand HCAs

- System personality is defined by firmware

- Firmware resides on Flash based Disk-on-Module (DOM)

- Supermicro based evaluation platform available

- Modifications according to OEM hardware can be made

- Management Look & Feel (logos, colors etc.) can be changed

XIRANET X

+

OEM Hardware

Storage Solution

Evaluation Platform (1)

- Storage protocol support:

    - iSCSI over GbE

    - Native InfiniBand storage via SCSI RDMA (SRP) protocol

- Features:

    - RAID Level 0, 1, 5, 6, 10, 50, 60 (depending on controller)

    - Snapshots

    - iSNS

    - IPSEC

    - Support for volumes > 2 TB, Dynamic volume resize

    - S.M.A.R.T drive monitoring

    - E-mail notification

Evaluation Platform (2)

- Two hardware configurations supported

- Common components:

  - INTEL XEON 51xx CPU

  - 2 GB RAM

  - Supermicro mainboard X7DBE

  - enclosure SC-933E1-R760 (3U, 15 bays) or SC-836TQ/E1/E2 (3U, 16 bays)

  - Support for SAS / SATA disk drives

- Software RAID version:

  - LSI SAS controller SAS3080X-R (PCI-X) or SAS3081E-R (PCI-E)

- Hardware RAID version:

  - LSI MegaRAID SAS 8408E, LSI MegaRAID SAS8888ELP

Storage Management

- Allows Management of disks, RAID arrays, volumes, exports via IB and iSCSI

- Integrated Systems Management

- Access via Comand Line Interface (CLI) or Web Browser

- Separate Management Port (Console, Ethernet)

- Secured Communication (https, SSH)

- Monitor / Administrator roles

- Extensive Statistics for Usage and Utilisation

Web based Administration

OEM Customisation Options

- Can be sold as is with supported hardware platform

- Modifications in the following areas can be done:

  - Support for different hardware - e.g.:

    - CPU

    - mainboard

    - storage controller

    - network interfaces

    - enclosure

  - Web based management: Logo replacement etc.

  - User documentation

Pricing & Availability

- Xiranet/Supermicro evaluation platform (iSCSI & SRP support) available now:

    - Software RAID version: $8500

    - Hardware RAID version: $9500

- Disk drive options:

    - 15 x Seagate Barracuda ES 250 GB: $1500

    - 15 x Seagate Cheetah 15K.5 73 GB SAS: $4500

- Firmware image available for download free of charge for qualified partners if hardware is not required.

- Licensing: iSCSI   10 Gb iSCSI   iSCSI & SRP InfiniBand

    - Single quantity $400 $1500 $1500

    - Includes updates for three years, Ask for volume discounts

Smart Network Storage Solutions **www.xiranet.com**

For more information please contact:

Mirko Benz, CEO

Email: mirko.benz@xiranet.com

Phone: +49-351-312269-200

Fax: +49-351-312269-100

XIRANET X