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## Computer Storage Market Research Report for XXX Company, 2H – 2004

### Preamble

Asia is a vastly fragmented region, with over 30 countries and 60 major languages. It represents nearly 30% of the world's market.

According to major MNC manufacturing computers and IT products, the market in Asia is one of few key frontiers of today where growth can be quite significant.

On this assignment, we have interviewed major storage vendors in this region, we used these figures to form the basis of our future projections. We have also surveyed major resellers, before we finalized our report.

Due to the complexity and limitation of the surveys, many shipment numbers from small vendors are not reflected. Therefore the very low-end market figures may be larger than what the surveys have revealed.

### 2003 Summary

- SARS affected the AP economy during 1H and the market recovered during 2H. Singapore, Hong Kong, and Southern China were hit badly.
- Many companies were putting storage projects on hold during 1H and will begin their implementation during 2H.
- Storage is still the most important IT infrastructure-buying criteria.
- Disaster recovery plan and business continuity plans, and information security were the major concern and issues.
- Some companies were starting to evaluate high end storage solution such as SAN.

## Direct Attached Storage (DAS)

DAS refers to a storage system directly attached to a server or workstation, without a storage network in between. DAS has been referred to as "Islands of Information".

Disadvantages of DAS include inability to share data or unused resources with other servers. This technology is still pretty common in developing countries.

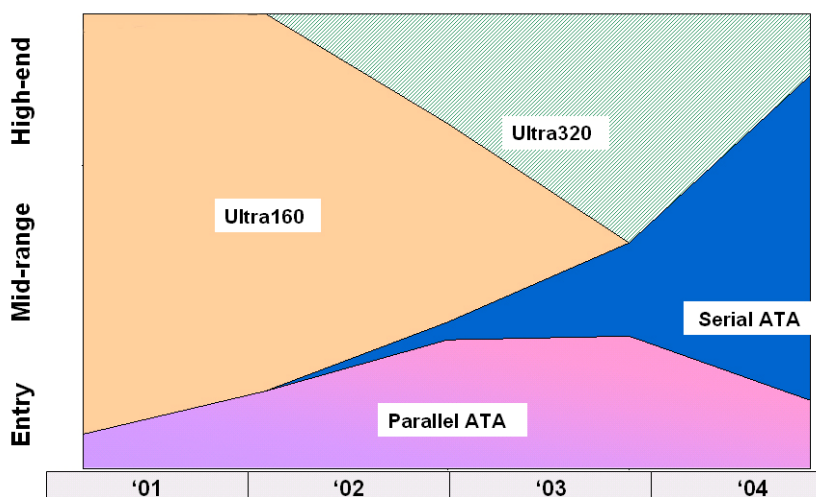
Essentially, most servers will have two or more disk drives, one will house the operating system the other data. Due to the performance requirement need by the servers, the disk systems are mainly using Small Computer System Interface (SCSI) or Redundant Array of Inexpensive Disks (RAID) technology.

With the invent of Serial ATAPI (SATA) technology, vendors and resellers are keen to explore the new technology. Resellers surveyed by us told us the reasons for doing so:

- 1) SATA is capable to out-perform present Parallel ATA technology.
- 2) SATA is a point to point technology, what it means is that each disk is driven independently, no performance degradation like the Parallel ATA master-slave configuration.
- 3) There is a roadmap to improve SATA performance from 1.5Gbps SATA 1.0 to 3.0Gbps and 6Gbps SATA.
- 4) Major vendors like, Intel, Fujitsu, Seagate, LSI Logic, Sony, Adaptec, Maxtor, NEC, AMD etc are supporting this new technology.

Below is the "% World side shipment share by disk drive technology" chart, projected by the disk drive technology company consortium.

**% World Wide Shipment Share by Drive Technology**



In essence, present DAS shipment is by and large related to the shipment of SCSI and RAID cards, or systems built with such technologies.

There used to be 10 or more SCSI vendors, but recent market consolidation has reduced the number to four.

## **Market Perspective for DAS**

### **SCSI Technology**

From 2003 onwards, SCSI 160 market should be making a steady come back. This is fueled by higher price of the U320 cards. Other resellers cited the following reasons:

- 1) SCSI 320 does not appear to enhance server performance when attaching only 1 to 3 hard drives.
- 2) Single channel SCSI 160 products are good cheaper alternative, reducing TCO.

SCSI market during that period was over US\$10 million per annum.

### **RAID Technology**

RAID market had not seen the decline as SCSI market during the same period 2002 - 2003. Since Adaptec/Seagate/Quantun/StoreCase working parties did the rounds of RAID technology launches in Asia in 1999, RAID technology's penetration in server is seen to be a must. Now, the buyers are seeing RAID technology as a standard feature for servers.

The market share for ATA RAID was around 15%, 1-ch SCSI RAID 70% and 2/3-ch SCSI RAID 15%. The market was worth US\$9+ million per annum in 2002.

2002 – 2003 saw China as the regional dominating power with around 45% of total sales revenue, this was followed closely by Australia/NZ at 30%. Since SARS, Australian economy has risen sharply, and market has improved by at least 30%.

In New Zealand, Indonesia, Thailand and Philippines, customers are seeing Promise brand as a viable proposition, they are not willing to consider other brands like Adaptec, 3Ware and LSI. Besides quality, price in the low-end RAID market is key to successful market penetration. Promise also sells directly to some of these countries.

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## Analysis of XXX Company

### STRENGTH

- Present market situation points to XXX's business as less than 10% of leading SCSI and RAID vendors. Given the right circumstances and right strategies, there is opportunity for revenue upside if specific focus and strategies can be established.
- SCSI vendors reduced from 10 (Adaptec, LSI, ACARD, Promise, Tekram, Advansys, DPT, AMI, Symbios and Initio) to 4.
- Market buys XXX's products for the follow criteria:
  - 1) DAS market, SCSI product at substantially cheaper cost than other leading brands.
  - 2) RAID market, ATA and SCSI products are substantially cheaper, offering potential to bundle with local OEM markets.
  - 3) Niche market not served by other vendors, for products such as ... *(Data deleted to protect the identity of the company mentioned here)*
  - 4) NAS, with unique hot-swap trays and ability to span up to three boxes/ 640GB storage capacity. (Presently this product is not known in the market, due to limited exposure)

### WEEKNESS

- XXX is not a brand the market associates with, due to lack of marketing efforts and publicity.
- Presently, XXX's product fallout rate of about X% exists in Asia Pacific region is not doing good for the company image. Leading companies have better technical support and customer care programs to compensate for their 1% fall out rate.
- Although XXX's product looks very well made with high standard of finishing, due to its poor packaging etc, market sees XXXX's products as poorer quality, lower performance and less reliable as compared to leading brands.
- XXXX's absence in the high end RAID market lowers its market penetration potential substantially.