Supermicro All-in-One
Zero-Channel RAID (ZCR)
Controller Family

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Supermicro *All-in-One* ZCR Cards

❖ All-in-One Zero-Channel RAID Cards second generation:

    ❖ AOC-LPZCR2

❖ Take advantage of onboard SAS/SATA/SCSI onboard controllers to achieve hardware RAID.

❖ All-In-One: Support SAS/SATA/SCSI modes by jumper settings. Save cost without buying separate ZCR cards.

❖ Replace the old Adaptec SCSI DAC-0007(2000S), DAC-0008(2010S) and SATA AOC-2020SA.

❖ Better performance, cost-effective and complete solution.

❖ Support SAS mode SES-2 enclosure management functionalities.

❖ Available now.

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Supermicro AOC-LPZCR2

❖ **Highlight:**

✔ Support SAS, SATA and SCSI operating modes.

✔ Intel 600MHz I/O processor w/ 256MB onboard memory.

✔ Running up to PCI-X 100 MHz.

❖ **AOC-LPZCR2:**

✔ Support all X6/X7/H8 SATA/SCSI/SAS boards with Green Slots.

✔ X6DH3-G2, X6DHP-3G2 (SAS).

✔ X6DH8-G, X6DH8-G2, H8DA8 (SCSI).

✔ X6DHT-G, X6DHP-TG, X6DAT-G, X6DAL-TB2, H8DAR-T (SATA).

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Software Features

Operating Systems:

- Windows: 2000/XP/2003.

- Linux: SuSE 9.0/9.1/9.2, Red Hat 3.0/4.0 .

❖ **Key features:**

- RAID detection, buildup, delete, error indication.

- RAID Levels 0, 1, 5, 10 and JBOD. (Additional RAID 50 for SAS)

- Disk initialization, verification and fix.

- Hot-spare disk drive support with automatic rebuild.

❖ **Management Software:**

- Adaptec Storage Manager (ASM), Adaptec Configuration Utility (ACU), Adaptec Flash Utility (AFU).

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SCSI SAF-TE Enclosure Management
and
SES-2: SCSI Enclosure Service 2

❖ SCSI Accessed Fault Tolerant Enclosures Industry standard to interface with enclosed components

❖ Indicate disk drives failure with alarm and LED.

❖ Indicate disk drives rebuild through LED.

❖ Avoid human error, such as pulling out wrong disk drives.

❖ Temperature monitoring.

❖ SAF-TE chips:

- SCSI controlled by GEM318 firmware and I2C interface
- SAS controlled by AMI MG9071/9072 firmware and I2C interface. Downward compatible to support SATA disk drives.

Adaptec Storage Manager (ASM)

# Adaptec Configuration Utility (ACU)

RAID configuration utility initiated from BIOS system boot up <CTL> A
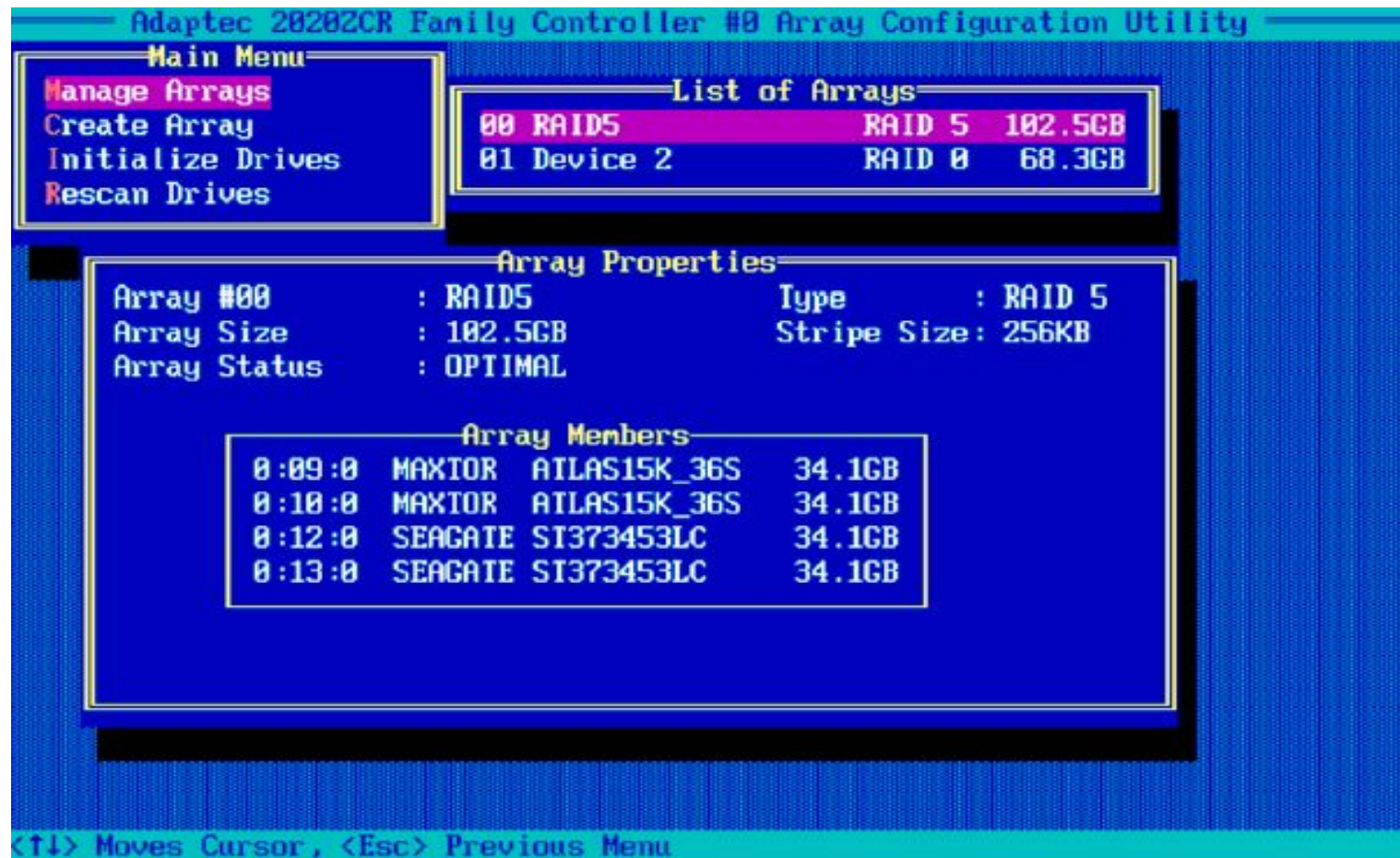
Performance comparison: Sequence Read 400MHz vs. 600MHz

Sequential Reads: Total IOs per Second By Queue Depth

Host: SuperMicro X6DA3-G2(2 x 3.6GHz Xeons(1MB), 1GB DDR2-400, 800MHz FSB). Windows Server 2003 EE w/ SP1
Controller: AOC-LPZCR1-400 + AOC-LPZCR2-600. Fixed Firmware. Read tests W30 R30. Write tests W120 R30.
Drive Configuration: 4 x 36GB Hitachi HUS151436VLS300 in R5 4 dr array (WB, RA)
Request Size = 512B

20% more performance in average
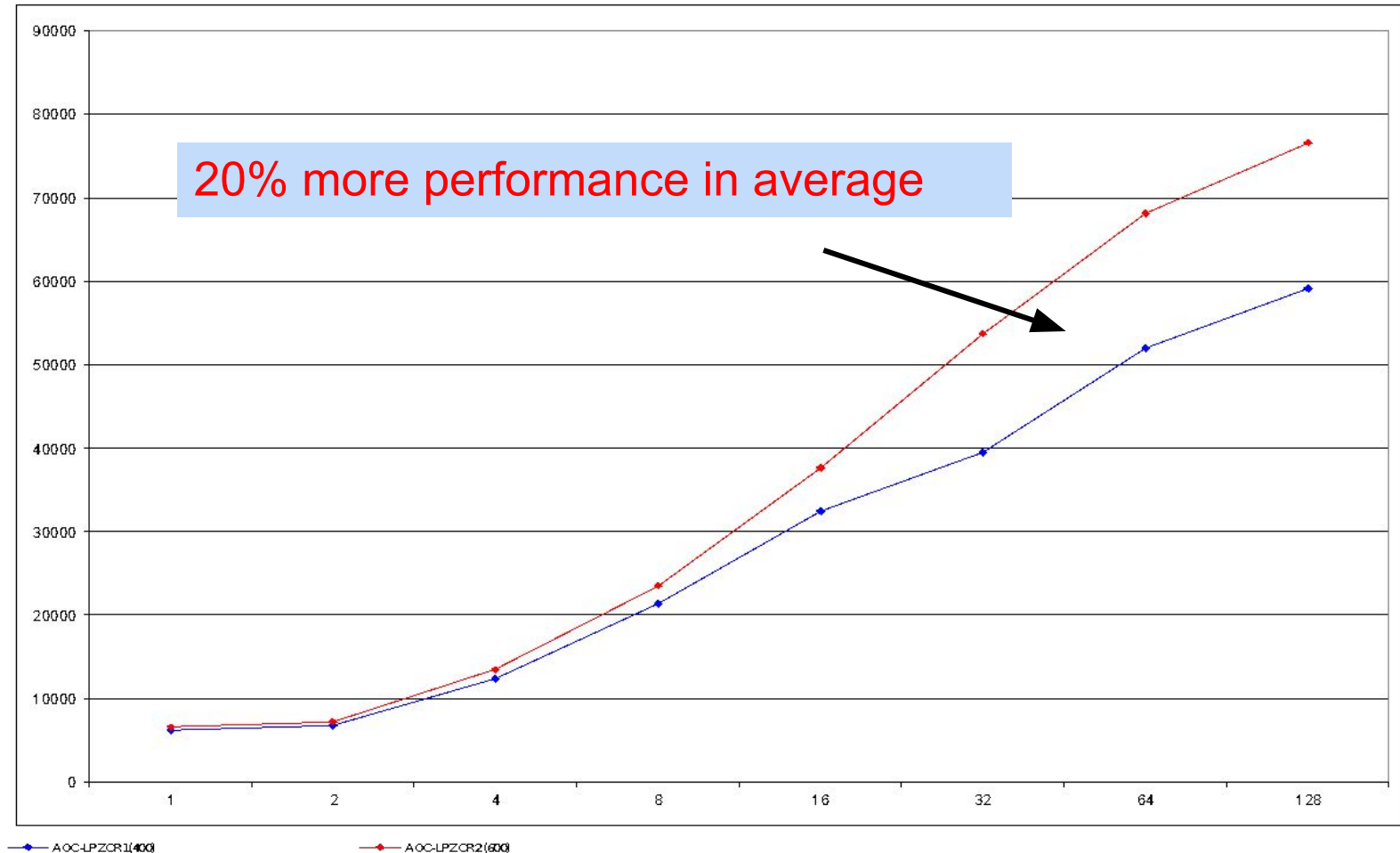
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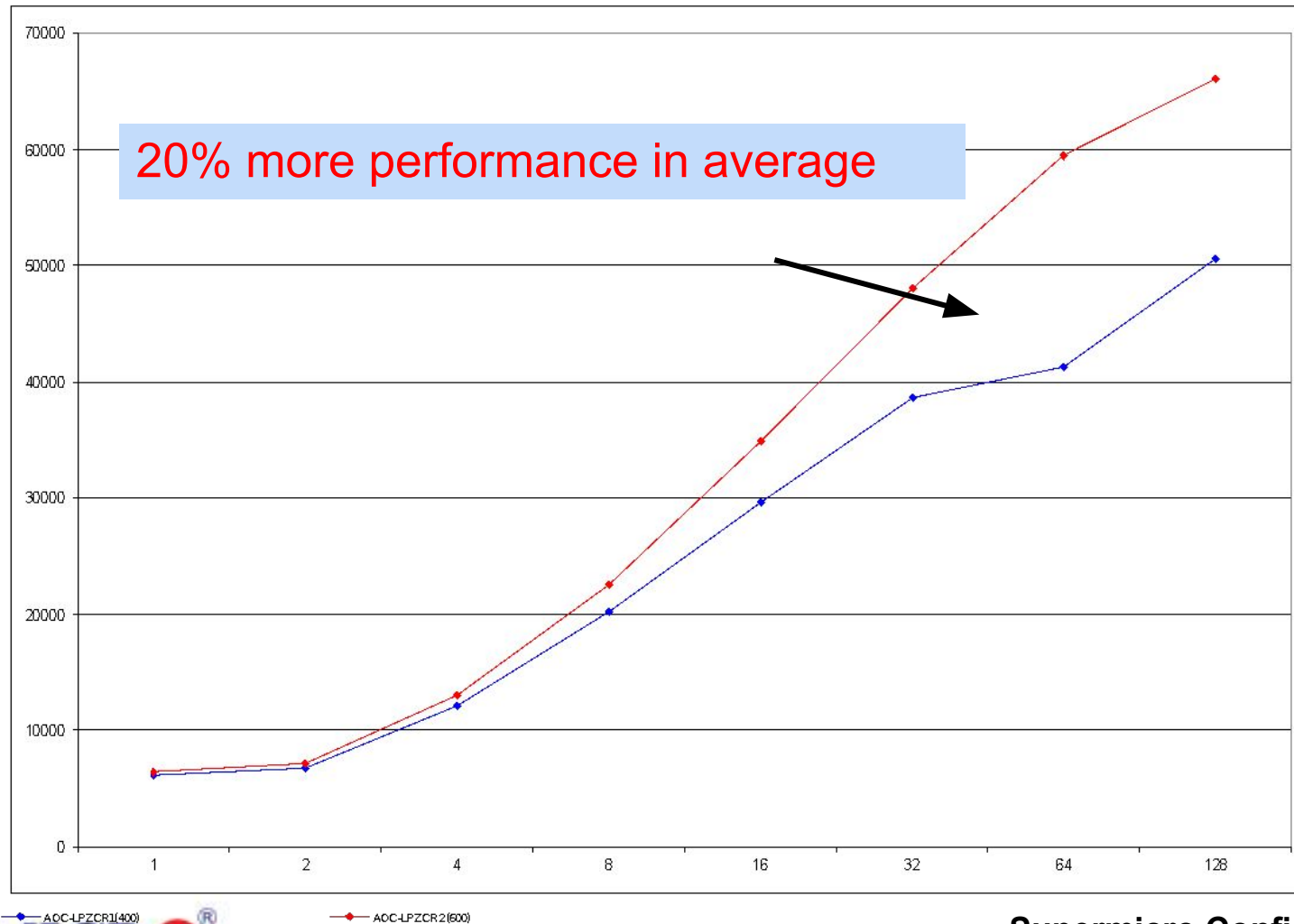
Key Points

❖ Supermicro offers the first All-in-One ZCR solution to the market

❖ Supermicro offers the first SAS with SES2 complete solutions

❖ ZCR provides high data protection hardware RAID functionalities with very cost-effective solutions

❖ Supermicro second generation ZCR provides high performance (600MHz processor with 256MB cache buffer) – outperform the first generation 20% more

❖ Supermicro offers the ZCR solutions for many years – proven technology, mature products – zero risk of adoption