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Disk I/O Performance

INTRODUCTION

FlashDisk RAID disk arrays have been speeding up disk intensive applications for the past 15 years. FlashDisk works equally well in random access environments including database and transaction-oriented applications as well as sequential access environments including backup, copying, video streaming, web serving.

Now in its 7th generation, FlashDisk RAID disk arrays deliver up to 160,000 I/O operations per second - perfect for all disk intensive applications. Often, after laboriously tuning an Oracle database or similar application for days, week or months, just installing the application on FlashDisk RAID disk array will cause the applications to immediately run 2 to 10 *times* faster.

Winchester Systems has specialized in providing the highest performance disk arrays since 1988. Performance has improved exponentially at an incredible 70% per year annual compounded growth rate for 15 straight years - a 3,200 *times* increase in performance. Today's performance of 160,000 I/O operations per second is over about 6 *times* faster than the industry leading 26,000 I/O operations per second FlashDisk delivered as recently as 2000.

WHY HIGH RANDOM I/O PERFORMANCE

- Database and transaction oriented applications
- Sequential applications: copying, backup, video
- Faster response time
- Faster reports, sorts and queries

REQUIREMENTS

- High-speed disk array
- Random access applications

TYPICAL ENVIRONMENTS

- Database
- Financial
- Manufacturing
- Large number of users
- Long reports, sorts, and queries
- Web servers
- Video Streaming

BENEFITS

- High productivity
- Avoid expensive tuning
- Low cost
- High return on investment

HOW IT WORKS

FlashDisk high performance RAID disk arrays are architected start to finish for high performance. All FlashDisk RAID disk arrays are full 64-bit architecture end-to-end. No compromises.Up to 1 GB high-speed data cache per controller speeds data access for both reads and writes. For added speed, the disk arrays are designed with up to 12 channels that can be used for disk or host access. The result is massively parallel data access via full 64-bit data paths - yielding unsurpassed performance. All internal chips including SCSI and Fibre Channel ASICS are designed for speed. Unlike very popular competitors, FlashDisk has not tossed out the RAID 5 parity chips to save a few dollars at the customer's expense. Finally, multiple FlashDisk RAID arrays are very scalable to extremely high I/O demands since they are inexpensive enough to use as many as needed for the specific demands of the environment.

15 Years of Industry Leading Performance

FlashDisk Generation	Year	Disk I/Os Per Second
1	1988	50
2	1990	200
3	1992	800
4	1994	4,000
5	1996	7,700
6	2000	26,000
7	2004	160,000

The chart indicates how FlashDisk has advanced the state of the art in performance for the past 15 years. FlashDisk has always provided industry leading I/O performance and the current version with 160,000 I/O operations per second is no exception.

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