IBM storage achieves record-breaking results on FIS benchmark

IBM FlashSystem and IBM DS8800 smash prior performance results for FIS' IST/Switch software

Overview

The need

FIS IST/Switch software, used for electronic funds transfer (EFT) processing, must be incredibly fast and deployable across multiple devices, such as mobile phones, ATMs and more.

The solution

FIS conducted performance tests of their IST/Switch transactional software, using two IBM® System Storage® solutions—the IBM FlashSystem® storage array and the IBM DS8800 storage platform.

The benefit

In tests, IBM FlashSystem and DS8800 both achieved more than 10,000 transactions per second, a 3.6 times improvement over prior tests of the FIS IST/Switch benchmark.

FIS™ is the world's largest provider of banking and payments technology. FIS' IST/Switch open platform software provides a robust, high-volume, high-availability, highly scalable online EFT processing environment enabling financial institutions to reduce ongoing IT costs and protect future investments.

The challenge

Leading financial institutions, networks, retailers and third-party processors throughout the world rely on IST/Switch software to power tens of billions of transactions every year. FIS and IBM have partnered for decades to bring leading-edge technologies and solutions to clients worldwide. Because enhancing EFT offerings can improve their clients' competitive posture, lower IT costs and increase revenues, FIS turned to IBM to develop and test server and storage architectures to accelerate its industry-leading IST/Switch software solutions.

IBM solutions obliterated the benchmark. "Using IBM Storage and Power Systems servers, we are able to scale our FIS IST/Switch application far beyond previous limits and meet the demanding requirements of our financial services clients. These results take payment processing to a new level of performance for our clients," says Andy Roe, Director, Strategic Development, FIS.

Solution components

Software

- FIS IST/Switch application

Hardware

- IBM FlashSystem® storage array or DS8800 storage platform with SSDs
- IBM Power Systems™ servers
- Oracle database

The solution

FIS conducted performance tests of their IST/Switch transactional software, using two System Storage solutions—the IBM FlashSystem storage array, which is an all-flash storage array, and the DS8800 storage platform, which uses a combination of disk drives and solid-state drives (SSDs). The following configurations were used:

IBM FlashSystem

Component	Details
Benchmark	FIS IST/Switch 7.7
Database	Oracle 11R2 (version 11.2.0.4)
Server	IBM Power® 780 (with IBM POWER7+™, 48 cores, 1 TB memory, IBM AIX® 7.1 TL3, SP3)
Storage	IBM FlashSystem 840 (eight 2 TB flash modules, 12 TB RAID 5)

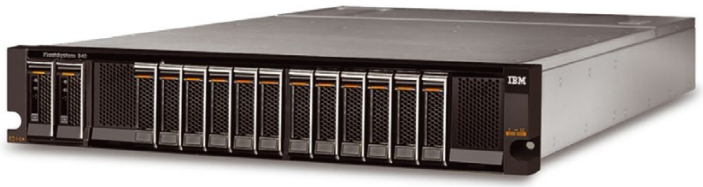

Figure 1. The IBM FlashSystem storage array

IBM FlashSystem storage delivers breakthrough performance compared to other SSD arrays on the market today, including achieving super-low response time through the use of IBM MicroLatency® technology and over 500,000 inputs and outputs per second (IOPS) per rack unit.

The IBM FlashSystem design excels in real-world mixed workloads at high-demand rates, at high-capacity utilization and with long-term sustainable rates, well beyond just the initial burst performance that most systems can achieve.

IBM DS8800

Component	Details
Benchmark	FIS IST/Switch 7.7
Database	Oracle 11R2 (version 11.2.0.4)
Server	IBM Power 780 (with POWER7+, 48 cores, 1 TB memory, AIX 7.1 TL3, SP3)
Storage	IBM DS8800 (96 146 GB 15K SAS and 16 300 GB SSD)

Quick and reliable data access is the driving force behind important data initiatives, such as business analytics, cloud and mobile computing. The DS8800 is designed to manage a broad scope of storage workloads that exist in today's complex data infrastructure, and do it effectively and efficiently. The DS8800 can help organizations spend less time managing storage and more time exploring ways to exploit data to grow their businesses.

As noted by FIS' Roe, "Two benchmarks were performed: one using the IBM FlashSystem and a second using the DS8800 with SSDs. During both tests, we processed over 10,000 transactions per second for over 30 minutes with zero errors." This represented an improvement of 3.6 times over previous tests of the FIS IST/Switch benchmark.

A new generation of IBM products delivers another level of extraordinary performance for the most time-sensitive analytics. IBM recently announced its next generation of all-flash storage arrays (IBM FlashSystem 900), hybrid and all-flash storage arrays (DS8870), and server technology (IBM POWER8™).

The benefit

The testing conducted by FIS demonstrates that IBM Power Systems, the DS8800 storage platform with SSDs or the IBM FlashSystem all-flash storage array can drive IST/Switch application environments to dramatically higher performance levels over those achieved in previous benchmarks. The testing confirms that mature, proven technologies from IBM can be effectively integrated to drive high-performance IST/Switch infrastructure solutions that benefit FIS clients. In addition, it enables FIS to confidently offer its clients a wide range of well-tested IBM-based IST/Switch hosting and storage alternatives.

For more information

To learn more about the IBM FlashSystem or IBM DS8800 storage solutions, please contact your IBM representative or IBM Business Partner, or visit the following websites:

- **ibm.com**/systems/storage/flash
- **ibm.com**/systems/storage/disk/ds8000
- www.fisglogal.com/products-card-eftdebit-eftpaymentssoftware-istswitch

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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

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