

FlashDisk Speeds Millions of Customer Transactions

*Daily processing time cut 30%
Month end processing slashed 60%*



POTPOURRI
GROUP INC



The Potpourri Group processes 3 million customer transactions per year including online and phone sales for its 12 catalog brands. Half of those transactions flow through the fourth quarter of the year. The company runs the Ecometry e-commerce application with the Oracle RAC database on 64-bit Windows Server 2003 Enterprise servers. The company originally got up and running with an HP/UX environment and it experienced unsatisfactory batch and transactional processing throughput due to heavy I/O traffic.

“We evaluated a number of leading storage vendors and discovered that some were unwilling or unable to understand our application requirements and others promised products that did not really exist,” said Billy Lannan, Technical Services Manager for Potpourri Group. “On the other hand, Winchester Systems quickly grasped our problem and provided a solution that met all our requirements. Their solution increased throughput on the average batch processing job by 30%, enabling us to ship orders several hours faster and provide reports on a much more timely basis to management which is critical in the fast-paced catalog business.”

The Potpourri Group provides a gallery of unique selections to make every day, every occasion, every holiday special.

The company migrated to the Windows version of Ecometry in 2008 running on rack mounted Hewlett-Packard DL580 servers using multiple 4-core Xeon processors. Users all have proprietary client software on their Windows XP & Windows 7 computers. When

Potpourri Catalogs



they open the application to connect via TCP over Gigabit Ethernet they are connection balanced through a BIG-IP application traffic manager from F5 Networks which distributes them to a bank of Windows Server 2003 Standard x32 Oracle Application Servers. The application servers handle all the client requests and poll the database as needed.

“We take orders via fax, postal mail, phone and the Internet,” Lannan said.

“Due to the 24 x 7 x 365 nature of our business we require storage that is reliable, fast and easily expandable. Disk array speed, measured in IOPS (I/O operations per second), is a huge factor when we review storage because of the large number of random data writes we perform to disk. Ecometry is entirely I/O bound so we need to balance superior random I/O performance for online transaction processing with excellent sequential I/O performance to complete daily batch processing on a timely basis. At the present time we are utilizing approximately 5 terabytes of storage. Currently we have production, testing and development environments which are all considered critical in order to keep the business moving forward so the storage solution needs to be easily grown without sacrificing speed or reliability.”

“We asked for quotes from the largest storage vendors as well as several smaller companies with cutting edge technology,” Lannan said. “The two big storage vendors presented their solutions. Both were great products but not right for us and their vendors were not flexible enough to adapt them. A smaller vendor was very impressive over the phone and in-person, however, when it came time to deliver unfortunately their solution was vaporware and never made it here. In the end Winchester Systems won by a mile. They provided

a solution quickly, correctly and reliably. They listened to us while we explained our needs rather than telling us what we needed without really understanding the environment.”

Winchester System’s solution is built around its FlashDisk Fibre Channel Expandable FC-3400 Series platform which provides enterprise class primary storage for performance applications and high capacity secondary storage for backup, snapshot and archive in an expandable architecture. The FC-3400 Series delivers over 1,500 MB per second sustained throughput and over 120,000 disk I/O operations per second while maintaining mirrored cache for controller failover.

“Winchester Systems covered all the bases in configuring the system,” Lannan said. Potpourri requires both random I/O for transaction processing and sequential I/O for batch processing. The best way to deal with random I/O is to have lots of drives. Winchester Systems provided two FC-3494R model disk arrays, with redundant failover RAID controllers, each with an FC-3490R expansion chassis. The two shelves hold a total of 32 disk drives each with 73 GB

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capacity running at 15k rpm. They also provided one FC-3494R without the expansion chassis with 16 disk drives each with 146 GB capacity also running at 15k rpm. The disk

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“. . . [we] no longer need to be staffed through the night.”

Billy Lannan
Technical Services Manager

array without the expansion chassis is provided to address sequential I/O. The entire configuration provides enough RAID controllers to deliver the required batch performance while having enough spindles to deliver the needed online performance.

Potpourri Group’s storage area network consists of three physically separate FC-3400 units. FDISK01 and FDISK02, the units with the expansion chassis, are each configured for RAID1 with the units mirroring each other. These two units are used for Oracle Automatic Storage Management (ASM) storage. The single chassis FDISK03 is half RAID1 for mirroring and the other half RAID5 for Oracle RMAN backups. The controllers, Ethernet connections, SAN connections are all redundant and the system is configured with multiple hot spare disks.

“In the end we dramatically increased throughput which allows us to complete more processes in less time,” Lannan said. “The average gain in throughput has been about 30%. We have seen even greater improvements on our month end processing and reporting which has been reduced from 16 hours to six hours – a 62.5% reduction. This is a huge win because we are always open for business so we don’t have windows to get things done. The improvement in processing

time has allowed us to ship products earlier and do an extra processing job per day. We used to have to have an IT administrator on duty all night so that he could run processing jobs that are needed by the warehouse in the morning and used to take five hours to run. The new RAID systems have reduced the time required to run these jobs to only two hours – again 60% savings - so we now have one person come in early and no longer need to be staffed through the night.”

“We were very happy with the installation, reliability and performance of

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all the units installed,” Lannan concluded. “In addition, the overall cost this implementation was equally impressive given the setup they provided us. To us, those are the benefits or at least the major ones. We had goals and Winchester Systems met them – period. I can honestly say Winchester Systems provided us with a system that matched our needs. In fact, we are currently working with them to expand -- not replace -- our current installation as we look forward and prepare for growth.”