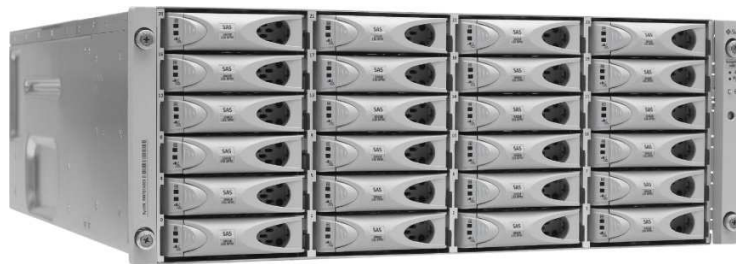




Sun Microsystems Storage J4400 6000 Mailbox Exchange 2007 CCR Storage Solution



Tested with: ESRP – Storage Version 2.1
Tested Date: March 18th, 2009

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Overview

This document provides information on Sun Microsystem's storage solution for Microsoft Exchange Server, based the *Microsoft Exchange Solution Reviewed Program (ESRP) – Storage* program*. For any questions or comments regarding the contents of this document, see [Contact for Additional Information](#).

*The *ESRP – Storage* program was developed by Microsoft Corporation to provide a common storage testing framework for vendors to provide information on its storage solutions for Microsoft Exchange Server software. For more details on the *Microsoft ESRP – Storage* program, please click <http://www.microsoft.com/technet/prodtechnol/exchange/2007/esrp.msp>

Disclaimer

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The information contained in this document represents the current view of Sun Microsystems on the issues discussed as of the date of publication. Due to changing market conditions, it should not be interpreted to be a commitment on the part of Sun Microsystems, and Sun Microsystems cannot guarantee the accuracy of any information presented after the date of publication.

Features

This paper describes a fully tested and validated storage solution for a 6000 mailbox Exchange 2007 implementation using Cluster Continuous Replication (CCR). Cluster continuous replication (CCR) is a high availability feature of Microsoft Exchange Server 2007 that combines the asynchronous log shipping and replay technology built into Exchange 2007.

The Sun Storage J4000 array family is an ideal building block for any Exchange 2007 implementation. A trend towards direct attached storage has been observed in the Exchange 2007 world. The J4400 direct attached arrays with their speed (3Gbs x 6 channels, 15K RPM drives) and ease of use with Sun Storage RAID Manager, simplify the roll-out and expansion of a new or growing Exchange 2007 site.

The Sun Storage J4000 array family offers the flexibility to mix and match drive sizes and types and to hot plug arrays and partitions. If running low on mailbox storage or secondary storage, more disks or arrays can be added. Sun Storage J4400 and J4200 arrays with SAS drives can be utilized to maximize performance and increase capacity. For secondary storage requirements, the same enclosures with SATA drives can be integrated to

create a cost-effective solution for data lifecycle management in a single cascade of arrays. The Sun Storage J4500 array with SATA drives can also be added to the configuration for dense bulk storage, and up to 48TB per 4 rack units.

The Sun Storage J4000 array family is designed for cost effective scalability. Administrators can add drives and enclosures and increase LUN volume size without impacting the availability of email applications. The array family provides modular scalability to support the needs of all email users on the system. For example, with the Sun Storage J4000 array family, it is easy to increase quotas from 1 GB to 5 GB to quickly provide the capacity to store large attachments and comply with policies and regulations.

Solution Description

The Sun Storage J4400 is a modular SAS array that houses up to 24 SAS (serial attached SCSI) or SATA (Serial ATA) drives, connected via SAS expanders.

- Up to 6 3Gb/sec SAS ports per enclosure
- Dual I/O Modules
- 24 drives per 4RU array
- Up to 192 3.5" SAS/SATA II drives per RAID HBA with 8 enclosures, 24TB to 192TB

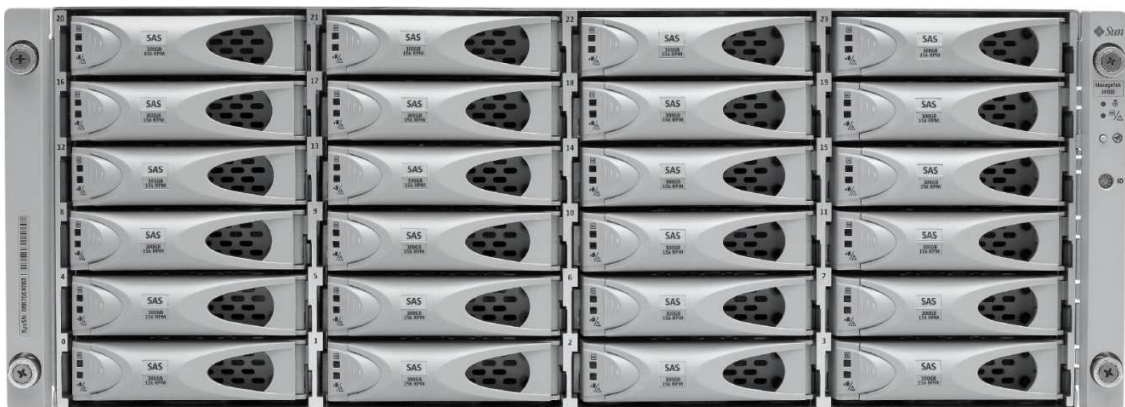


Figure 1: J4400

<http://www.windowservercatalog.com/item.aspx?idItem=0d69c35e-c52b-157f-0a0c-1ead80c1c7c2&bCatID=1282>

Each mailbox server will have (2) Sun StorageTek RAID SGXPCIESAS-R-EXT-Z RAID PCI-e HBA. This card has two 4-port SAS connections for up to 24Gbs. The RAID controller has 256MB of battery backed cache.

<http://www.windowservercatalog.com/item.aspx?idItem=f45251f9-e298-6cd1-16c4-9d2ec64b9339&bCatID=1282>

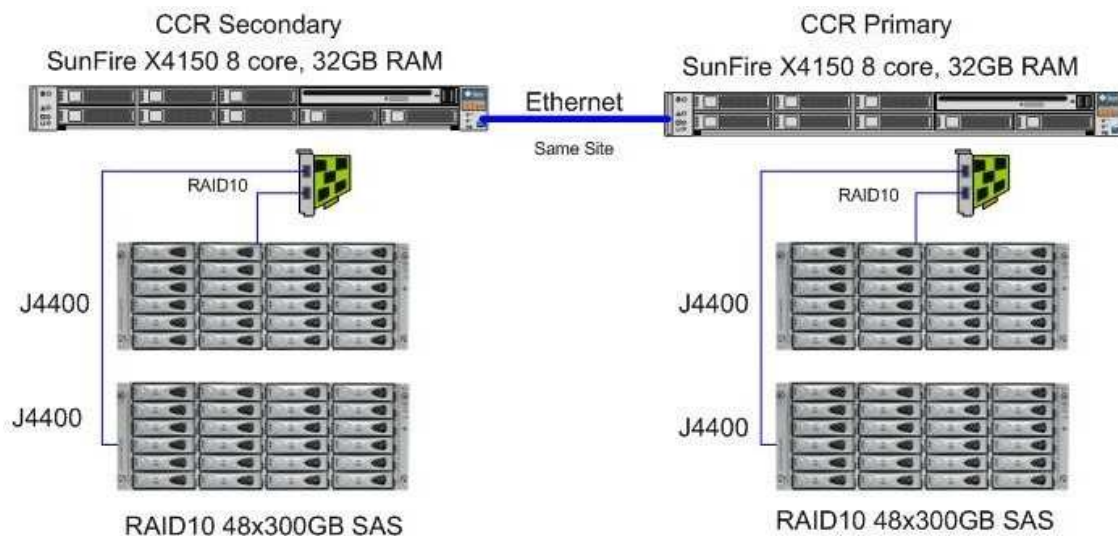


Figure 2 CCR solution

This solution is a very flexible solution that can be expanded or reduced based on needs. The J4400 can also be interchanged with the J4200 and J4500 (SATA only) arrays as well, depending on specific needs.

The primary mailbox server site consists of a [Sun Fire X4150](#) with 8 internal SAS 146G 10k RPM drives. The 8 drives were used to create a 60GB RAID 1 volume for the operating system and a second 400GB RAID 10 volume for the logs each with an 80GB log volume. The stripe size of the log LUN is 64k.

The primary mailbox store was created using a single J4400 enclosure with 48 300GB 15k RPM SAS drives. A total of 8 enclosures can be attached per RAID HBA, giving a total of 192 drives.

The LUNs were created using RAID10 with a 64k stripe size. The drives are striped within each enclosure and then mirrored across enclosures to allow for an entire enclosure failure. Six 8-drive RAID10 devices were created, each to hold 5 storage groups for a total of 30 storage groups. One database instance was placed in each storage group.

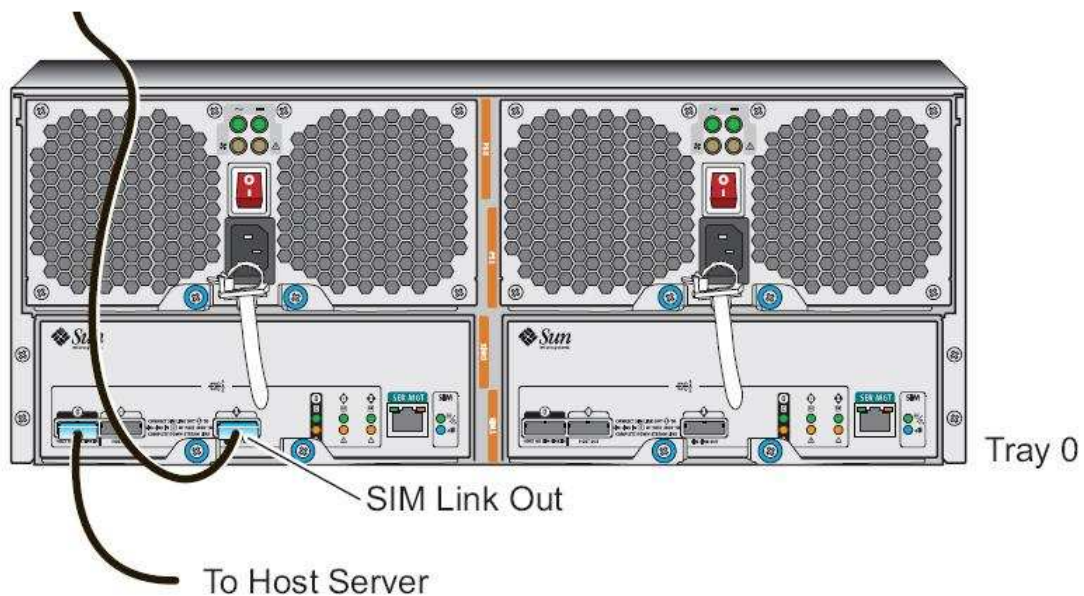


Figure 3 Rear view of primary J4400

This solution has plenty of room for growth in the future. Additional enclosures or RAID HBAs can be added providing more storage for larger quotas, disk backups or free space. Drive size, capacity and even protocols can be mixed as well giving a solution even more freedom in designing an Exchange 2007 infrastructure.

In testing this particular solution, a great deal of room for growth was recognized in regards to IOPS. A similar test with 48 storage groups and 288 total threads from the same mailbox server achieved 6900 IOPS at 20ms response times. Although the mailbox quota would need to be adjusted, the performance and scale of the J4400 is very evident. In order to utilize these IO numbers and stay within recommendations, additional servers may be connected to these arrays with zoning on the enclosures enabled. Multiple host connections are supported on the J4000 line.

The J4400 is a perfect building block for Exchange 2007 architectures. These "storage islands" can be used to scale out horizontally or quickly recover from a server crash.

Diskpart was used to partition the drives, aligned the sectors to 64k. A 64k allocation unit was used to format the volumes (NTFS).

The ESRP-Storage program focuses on storage solution testing to address performance and reliability issues with storage design. However, storage is not the only factor to take into consideration when designing a scale up Exchange solution. Other factors which affect the server scalability are: server processor utilization, server physical and virtual memory limitations,

resource requirements for other applications, directory and network service latencies, network infrastructure limitations, replication and recovery requirements, and client usage profiles. All these factors are beyond the scope for ESRP-Storage. Therefore, the number of mailboxes hosted per server as part of the tested configuration may not necessarily be viable for some customer deployment.

For more information on identifying and addressing performance bottlenecks in an Exchange system, please refer to Microsoft's Troubleshooting Microsoft Exchange Server Performance, available at <http://go.microsoft.com/fwlink/?LinkId=23454>.

Targeted Customer Profile

This solution is representative of a 6,000 mailbox CCR environment

- Small to medium organizations.
- Number of hosts that can be attached to the storage: 6
- User IO profile: 0.42 IOPS with 20% headroom (Tested 0.5 IOPS, very heavy user profile)
- Backup strategy: Streaming backup
- Local Continuous Replication
- 1024MB Mailbox Quota

Tested Deployment

The following tables summarize the testing environment:

Simulated Exchange Configuration:

Number of Exchange mailboxes simulated	6000
Number of hosts	1
Number of mailboxes/host	6000
Number of storage groups/host	30
Number of mailbox stores/storage group	1
Number of mailboxes/mailbox store	200
Number of mailbox store LUNs/storage group	6 Storage Groups per LUN
Simulated profile: I/O's per second per mailbox (IOPS, include 20% headroom)	0.42 IOPS/user (Tested 0.5)
Database LUN size	5.4TB
Log LUN size	400GB
Total database size for performance testing	4936GB
% storage capacity used by	91%

Exchange database**	
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**Storage performance characteristics change based on the percentage utilization of the individual disks. Tests that use a small percentage of the storage (~25%) may exhibit reduced throughput if the storage capacity utilization is significantly increased beyond what is tested in this paper.

Primary Storage Hardware

Storage Connectivity	SAS
Storage model and OS/firmware revision	Sun Storage J4400 http://www.windowsservercatalog.com/item.aspx?idItem=0d69c35e-c52b-157f-0a0c-1ead80c1c7c2&bCatID=1282
Storage cache	256MB
Number of storage controllers	2
Number of storage ports	4
Maximum bandwidth of storage connectivity to host	6 x 3Gbs = 18Gbs
HBA model and firmware	SG-PCIESAS-R-EXT-Z, 5.2-0 (15816)
Number of HBA's/nost	2
Host server type	Sun Microsystems Sun Fire X4150 (8) Intel Xeon X5355 2.66GHz Cores (2x4MB L2, 2.0 GHz, 1333 MHz FSB, 50W) 32768MB RAM
Total number of disks tested in solution	48 for database, 8 for logs
Maximum number of spindles can be hosted in the storage	24 per enclosure, 192 per chain, up to 2 chains for 384 total spindles with 2 RAID HBAs

Primary Storage Software

HBA driver	SCSI Storport 5.2.0.15816
HBA QueueDepth Setting	16
Host OS	Microsoft Windows Server 2003 x64
ESE.dll file version	08.01.0112.00

Primary Storage Disk Configuration (Mailbox Store Disks)

Disk type, speed and firmware revision	SAS, 15k, 0892
Raw capacity per disk (GB)	300GB
Number of physical disks in test	48
total raw storage capacity (GB)	14400GB
Number of disks per LUN	8
Raid level	RAID 10

Total formatted capacity	6705GB
<u>Storage capacity utilization</u>	47%
<u>Database capacity utilization</u>	34%

Primary Storage Disk Configuration (Transactional Log Disks)

Disk type, speed and firmware revision	SAS, 10k, 0603
Raw capacity per disk (GB)	146GB
Number of Spindles in test	8
total raw storage capacity (GB)	1168GB
Number of disks per LUN	8
Raid level	RAID 10
Total formatted capacity	400GB

Replication Configuration

Replication mechanism	CCR
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Replicated Storage Hardware

Storage Connectivity (Fiber Channel, SAS, SATA, iSCSI)	SAS
Storage model and OS/firmware revision	Sun Storage J4400 http://www.windowsservercatalog.com/item.aspx?idItem=0d69c35e-c52b-157f-0a0c-1ead80c1c7c2&bCatID=1282
Storage cache	256 MB
Number of storage controllers	1
Number of storage ports	2
Maximum bandwidth of storage connectivity to host	6 x 3Gbs = 18Gbs
HBA model and firmware	SG-PCIESAS-R-EXT-Z, 5.2-0 (15816)
Number of HBA's/nost	1
Host server type	Sun Microsystems Sun Fire X4150 (8) Intel Xeon X5355 2.66GHz Cores (2x4MB L2, 2.0 GHz, 1333 MHz FSB, 50W) 18432MB RAM
Total number of disks tested in solution	24 for database, 8 for logs
Maximum number of spindles can be hosted in the storage	24 per enclosure, 192 per chain, up to 2 chains for 384 total spindles with 2 RAID HBAs

Replicated Storage Software

HBA driver	SCSI Storport 5.2.0.15816
HBA QueueDepth Setting	16
Host OS	Microsoft Windows Server 2003 x64 SP2
ESE.dll file version	08.01.0112.00

Replicated Storage Disk Configuration (Mailbox Store Disks)

Disk type, speed and firmware revision	SAS, 15k, 0892
Raw capacity per disk (GB)	300GB
Number of physical disks in test	48
total raw storage capacity (GB)	14400GB
Number of disks per LUN	8
Raid level	RAID 10
Total formatted capacity	6705GB
Storage capacity utilization	47%
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Raw capacity per disk (GB)	146GB
Number of Spindles in test	8
total raw storage capacity (GB)	1168GB
Number of disks per LUN	8
Raid level	RAID 10
Total formatted capacity	400GB

Best Practices

Exchange server is a disk-intensive application. Based on the testing run using the ESRP framework, we would recommend the following to improve the storage performance.

For Exchange 2007 best practices on storage design, please visit <http://technet.microsoft.com/en-us/library/bb124518.aspx>

Core Storage/Replication

1. Use Microsoft Diskpart utility to align the sectors of all Exchange 2007 storage volumes before formatting. The Diskpart value should be set to 64.
2. Do not share Exchange 2007 disks with any other applications that are I/O intensive. This will have a negative effect on your disk subsystem performance.

3. When possible, separate the sequential writes of logs from the random access of database volumes.
4. Primary focus should be on the speed of the disks and not the size.
5. RAID 5 can be used in certain situations where less performance is required but larger utilization of the disks is needed.

Contact for Additional Information

<http://www.sun.com/exchange>

Test Result Summary

This section provides a high level summary of the test data from ESRP and the link to the detailed html reports which are generated by ESRP testing framework. Please click on the underlined headings below to view the html report for each test.

Reliability

A number of tests in the framework are Reliability tests to check test runs for 24 hours. The goal is to verify the storage can handle high IO load for a long period of time. Both log and database files will be analyzed for integrity after the stress test to ensure no database/log corruption.

The following list provides an overview:

- No errors were reported in the saved event log file.
- No errors were reported during the database and log checksum process.

Primary Storage Performance Results

The Primary Storage performance testing is designed to exercise the storage with maximum sustainable Exchange type of IO for 2 hours. The test is designed to show how long it takes for the storage to respond to an IO under load. The data below is the sum of all of the logical disk I/O's and average of all the logical disks I/O latency in the 2 hours test duration.

Individual Server Metrics:

The sum of I/O's across Storage Groups and the average latency across all Storage Groups on a per server basis.

Database I/O	
Average Database Disk Transfers/sec	3510.318
Average Database Disk Reads/sec	1554.603
Average Database Disk Writes/sec	1955.716
Average Database Disk Read Latency (ms)	8
Average Database Disk Write Latency (ms)	1

Transaction Log I/O	
Average Log Disk Writes/sec	570.745
Average Log Disk Write Latency (ms)	1

Replicated Storage Performance Results

The Replicated Storage (e.g. Storage utilized for the second database copy for CCR or for a storage based replication target). These performance tests measure the performance of the Secondary Storage. The performance tests are identical to that of the Primary Storage and verify that the Secondary Storage is capable of being transitioned to become the Primary Storage.

Individual Server Metrics:

The sum of I/O's across Storage Groups and the average latency across all Storage Groups on a per server basis.

Database I/O	
Database Disks Transfers/sec	3555.028
Database Disks Reads/sec	1544.69
Database Disks Writes/sec	2010.34
Average Database Disk Read Latency (ms)	8
Average Database Disk Write Latency (ms)	3
Transaction Log I/O	
Log Disks Writes/sec	589.02
Average Log Disk Write Latency (ms)	1

Streaming Backup/Recovery Performance

For the Version 1.0 release, only streaming backup type is supported for testing in the framework. There are two tests in this section. First one is to measure the read IO performance metrics by running checksum on all the databases and log files. The second test is to measure the end to end performance when the databases are backed up to disks.

Database Read-only Performance

The test is to measure the maximum rate at which databases could be streaming backed up. The following table shows the average rate for a single database file.

MB read/sec per storage group	22.94
MB read/sec total	688.3

Log Read-only Performance

The test is to measure the maximum rate at which the log files can be played against the databases. The following table shows the average rate for 500 log files played in a single storage group. Each log file is 1 MB in size.

Average time to play one Log file (sec)	.847
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Conclusion

This document is developed by storage solution providers, and reviewed by Microsoft Exchange Product team. The test results/data presented in this document is based on the tests introduced in the ESRP test framework. Customer should not quote the data directly for his/her pre-deployment verification. It is still necessary to go through the exercises to validate the storage design for a specific customer environment.

ESRP program is not designed to be a benchmarking program; tests are not designed to get the maximum throughput for a giving solution. Rather, it is focused on producing recommendations from vendors for Exchange application. So the data presented in this document should not be used for direct comparisons among the solutions.

Appendix

Microsoft Exchange Server **Jetstress**

Performance Test Result Report – CCR Primary Copy

Test Summary

Overall Test Result **Pass**

Machine Name ISV-4150A

Test Description

Test Start Time 2/25/2009 4:43:03 PM

Test End Time 2/25/2009 7:02:42 PM

Jetstress Version 08.02.0060.000

Ese Version 08.01.0274.000

Operating System Microsoft Windows Server 2003 Service Pack 2 (5.2.3790.131072)

Performance Log C:\6k_mailboxes_Final\Performance_2009_2_25_16_44_5.blg
C:\6k_mailboxes_Final\DBChecksum_2009_2_25_19_2_42.blg

Database Sizing and Throughput

Achieved I/O per Second 3510.318

Target I/O per Second 3000

Initial database size 6570961764352

Final database size 6581906800640

Database files (count) 30

Jetstress System Parameters

Thread count 2 (per-storage group)

Log buffers 9000

Minimum database cache 960.0 MB

Maximum database cache 7680.0 MB

Insert operations 25%

Delete operations 10%

Replace operations 50%

Read operations 15%

Lazy commits 80%

Disk Subsystem Performance

LogicalDisk	Avg. Disk sec/Read	Avg. Disk sec/Write	Disk Reads/sec	Disk Writes/sec	Avg. Disk Bytes/Write
Database (F:)	0.008	0.001	260.600	327.485	(n/a)
Database (G:)	0.008	0.001	258.914	326.320	(n/a)
Database (H:)	0.008	0.001	259.074	325.645	(n/a)
Database (I:)	0.008	0.001	258.832	326.637	(n/a)
Database (J:)	0.008	0.001	258.901	324.882	(n/a)
Database (K:)	0.008	0.001	258.282	324.747	(n/a)
Log (Q:)	0.000	0.000	0.000	114.621	17441.216
Log (R:)	0.000	0.000	0.000	114.898	17431.255
Log (S:)	0.000	0.000	0.000	114.047	17479.213
Log (T:)	0.000	0.000	0.000	113.731	17623.419
Log (U:)	0.000	0.000	0.000	113.448	17556.427

Host System Performance

Counter	Average	Minimum	Maximum
% Processor Time	4.461	1.483	5.801
Available MBytes	23139.065	23126.000	23897.000
Free System Page Table Entries	16754762.646	16754696.000	16754766.000
Transition Pages RePurposed/sec	0.000	0.000	0.000
Pool Nonpaged Bytes	77831509.333	77598720.000	78204928.000
Pool Paged Bytes	44176870.400	44158976.000	44204032.000
Database Page Fault Stalls/sec	0.000	0.000	0.000

Test Log2/24/2009 1:24:46 PM -- Jetstress testing begins ...
 2/24/2009 1:24:46 PM -- Prepare testing begins ...
 2/24/2009 1:25:16 PM -- Attaching databases ...
 2/24/2009 1:25:16 PM -- Prepare testing ends.
 2/24/2009 1:25:16 PM -- Dispatching transactions begins ...
 2/24/2009 1:25:17 PM -- Database cache settings: (minimum: 960.0 MB, maximum: 7.5 GB)
 2/24/2009 1:25:17 PM -- Database flush thresholds: (start: 76.8 MB, stop: 153.6 MB)
 2/24/2009 1:25:50 PM -- Database read latency thresholds: (average: 0.02 seconds/read, maximum: 0.1 seconds/read).
 2/24/2009 1:25:50 PM -- Log write latency thresholds: (average: 0.01 seconds/write, maximum: 0.1 seconds/write).
 2/24/2009 1:25:51 PM -- Operation mix: Sessions 2, Inserts 25%, Deletes 10%, Replaces 50%, Reads 15%, Lazy Commits 80%.
 2/24/2009 1:25:51 PM -- Performance logging begins (interval: 15000 ms).
 2/24/2009 1:25:51 PM -- Attaining prerequisites:
 2/24/2009 1:44:46 PM -- \MSEExchange Database(JetstressWin)\Database Cache Size, Last: 7249248000.0 (lower bound: 7247757000.0, upper bound: none)
 2/25/2009 1:44:48 PM -- Performance logging ends.
 2/25/2009 1:44:48 PM -- JetInterop batch transaction stats: 91279, 90968, 91127, 90833, 91142, 90617, 90740, 91075, 91720, 90746, 91054, 90975, 91144, 90428, 91028, 91345, 90984, 90751, 91051, 90318, 91462, 91019, 91087, 91756, 91206, 91321, 91148, 91110, 91058, and 91031.
 2/25/2009 1:44:48 PM -- Dispatching transactions ends.
 2/25/2009 1:44:48 PM -- Shutting down databases ...
 2/25/2009 1:44:54 PM -- Instance2320.1 (complete), Instance2320.2 (complete), Instance2320.3 (complete), Instance2320.4 (complete), Instance2320.5 (complete), Instance2320.6 (complete), Instance2320.7 (complete), Instance2320.8 (complete), Instance2320.9 (complete), Instance2320.10 (complete), Instance2320.11 (complete), Instance2320.12 (complete), Instance2320.13 (complete), Instance2320.14 (complete), Instance2320.15 (complete), Instance2320.16 (complete), Instance2320.17 (complete), Instance2320.18 (complete), Instance2320.19 (complete), Instance2320.20 (complete), Instance2320.21 (complete), Instance2320.22 (complete), Instance2320.23 (complete), Instance2320.24 (complete), Instance2320.25 (complete), Instance2320.26 (complete), Instance2320.27 (complete), Instance2320.28 (complete), Instance2320.29 (complete), and Instance2320.30 (complete)
 2/25/2009 1:44:54 PM -- Performance logging begins (interval: 30000 ms).
 2/25/2009 1:44:54 PM -- Verifying database checksums ...
 2/25/2009 4:16:37 PM -- F: (100% processed), G: (100% processed), H: (100% processed), I: (100% processed), J: (100% processed), and K: (100% processed)
 2/25/2009 4:16:38 PM -- Performance logging ends.
 2/25/2009 4:16:38 PM -- [C:\6k mailboxes Final\DBChecksum 2009 2 25 13 44 54.blg](#) has 303 samples.
 2/25/2009 4:16:50 PM -- [C:\6k mailboxes Final\DBChecksum 2009 2 25 13 44 54.html](#) is saved.
 2/25/2009 4:16:50 PM -- Verifying log checksums ...
 2/25/2009 4:17:02 PM -- Q:\sg1 (2 logs passed), Q:\sg2 (2 logs passed), Q:\sg3 (2 logs passed), Q:\sg4 (2 logs passed), Q:\sg5 (2 logs passed), R:\sg1 (2 logs passed), R:\sg2 (2 logs passed), R:\sg3 (2 logs passed), R:\sg4 (2 logs passed), R:\sg5 (2 logs passed), S:\sg1 (2 logs passed), S:\sg2 (2 logs passed), S:\sg3 (2 logs passed), S:\sg4 (2 logs passed), S:\sg5 (2 logs passed), T:\sg1 (2 logs passed), T:\sg2 (2 logs passed), T:\sg3 (2 logs passed), T:\sg4 (2 logs passed), T:\sg5 (2 logs passed), U:\sg1 (2 logs passed), U:\sg2 (2 logs passed), U:\sg3 (2 logs passed), U:\sg4 (2 logs passed), U:\sg5 (2 logs passed), V:\sg1 (2 logs passed), V:\sg2 (3 logs passed), V:\sg3 (2 logs passed), V:\sg4 (3 logs passed), and V:\sg5 (2 logs passed)
 2/25/2009 4:17:02 PM -- [C:\6k mailboxes Final\Stress 2009 2 24 13 25 50.blg](#) has 5829 samples.
 2/25/2009 4:17:02 PM -- Creating test report ...

2/25/2009 4:20:22 PM -- Volume F: has 0.0074 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume G: has 0.0076 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume H: has 0.0076 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume I: has 0.0076 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume J: has 0.0076 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume K: has 0.0077 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume Q: has 0.0002 for Avg. Disk sec/Write.
 2/25/2009 4:20:22 PM -- Volume Q: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume R: has 0.0001 for Avg. Disk sec/Write.
 2/25/2009 4:20:22 PM -- Volume R: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume S: has 0.0001 for Avg. Disk sec/Write.
 2/25/2009 4:20:22 PM -- Volume S: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume T: has 0.0002 for Avg. Disk sec/Write.
 2/25/2009 4:20:22 PM -- Volume T: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume U: has 0.0001 for Avg. Disk sec/Write.
 2/25/2009 4:20:22 PM -- Volume U: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Volume V: has 0.0068 for Avg. Disk sec/Write.
 2/25/2009 4:20:22 PM -- Volume V: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 4:20:22 PM -- Test has 0 Maximum Database Page Fault Stalls/sec.
 2/25/2009 4:20:22 PM -- Test has 0 Database Page Fault Stalls/sec samples higher than 0.
 2/25/2009 4:20:22 PM -- [C:\6k_mailboxes_Final\Stress_2009_2_24_13_25_50.xml](#) has 5753 samples queried.
 2/25/2009 4:20:22 PM -- [C:\6k_mailboxes_Final\Stress_2009_2_24_13_25_50.html](#) is saved.
 2/25/2009 4:20:22 PM -- Jetstress testing ends.
 2/25/2009 4:43:03 PM -- Jetstress testing begins ...
 2/25/2009 4:43:03 PM -- Prepare testing begins ...
 2/25/2009 4:43:34 PM -- Attaching databases ...
 2/25/2009 4:43:34 PM -- Prepare testing ends.
 2/25/2009 4:43:34 PM -- Dispatching transactions begins ...
 2/25/2009 4:43:34 PM -- Database cache settings: (minimum: 960.0 MB, maximum: 7.5 GB)
 2/25/2009 4:43:34 PM -- Database flush thresholds: (start: 76.8 MB, stop: 153.6 MB)
 2/25/2009 4:44:05 PM -- Database read latency thresholds: (average: 0.02 seconds/read, maximum: 0.05 seconds/read).
 2/25/2009 4:44:05 PM -- Log write latency thresholds: (average: 0.01 seconds/write, maximum: 0.05 seconds/write).
 2/25/2009 4:44:06 PM -- Operation mix: Sessions 2, Inserts 25%, Deletes 10%, Replaces 50%, Reads 15%, Lazy Commits 80%.
 2/25/2009 4:44:06 PM -- Performance logging begins (interval: 15000 ms).
 2/25/2009 4:44:06 PM -- Attaining prerequisites:
 2/25/2009 5:02:34 PM -- \MSEExchange Database(JetstressWin)\Database Cache Size, Last: 7251509000.0 (lower bound: 7247757000.0, upper bound: none)
 2/25/2009 7:02:36 PM -- Performance logging ends.
 2/25/2009 7:02:36 PM -- JetInterop batch transaction stats: 8633, 8745, 8792, 8538, 8798, 8710, 8636, 8812, 8654, 8702, 8614, 8737, 8759, 8702, 8646, 8737, 8649, 8882, 8673, 8745, 8738, 8642, 8645, 8734, 8816, 8729, 8688, 8779, 8742, and 8721.
 2/25/2009 7:02:36 PM -- Dispatching transactions ends.
 2/25/2009 7:02:36 PM -- Shutting down databases ...
 2/25/2009 7:02:42 PM -- Instance2320.1 (complete), Instance2320.2 (complete), Instance2320.3 (complete), Instance2320.4 (complete), Instance2320.5 (complete), Instance2320.6 (complete), Instance2320.7 (complete), Instance2320.8 (complete), Instance2320.9 (complete), Instance2320.10 (complete), Instance2320.11 (complete), Instance2320.12 (complete), Instance2320.13 (complete), Instance2320.14 (complete), Instance2320.15 (complete), Instance2320.16 (complete), Instance2320.17 (complete), Instance2320.18 (complete), Instance2320.19 (complete), Instance2320.20 (complete), Instance2320.21 (complete), Instance2320.22 (complete), Instance2320.23 (complete), Instance2320.24 (complete), Instance2320.25 (complete), Instance2320.26 (complete), Instance2320.27 (complete), Instance2320.28 (complete), Instance2320.29 (complete), and Instance2320.30 (complete)
 2/25/2009 7:02:43 PM -- Performance logging begins (interval: 30000 ms).

2/25/2009 7:02:43 PM -- Verifying database checksums ...
 2/25/2009 9:33:27 PM -- F: (100% processed), G: (100% processed), H: (100% processed),
 I: (100% processed), J: (100% processed), and K: (100% processed)
 2/25/2009 9:33:28 PM -- Performance logging ends.
 2/25/2009 9:33:28 PM -- [C:\6k_mailboxes_Final\DBChecksum_2009_2_25_19_2_42.blg](#) has
 301 samples.
 2/25/2009 9:33:40 PM -- [C:\6k_mailboxes_Final\DBChecksum_2009_2_25_19_2_42.html](#) is
 saved.
 2/25/2009 9:33:40 PM -- Verifying log checksums ...
 2/25/2009 9:33:50 PM -- Q:\sg1 (2 logs passed), Q:\sg2 (2 logs passed), Q:\sg3 (2 logs
 passed), Q:\sg4 (2 logs passed), Q:\sg5 (2 logs passed), R:\sg1 (2 logs passed), R:\sg2 (2
 logs passed), R:\sg3 (2 logs passed), R:\sg4 (2 logs passed), R:\sg5 (2 logs passed), S:\sg1
 (2 logs passed), S:\sg2 (2 logs passed), S:\sg3 (2 logs passed), S:\sg4 (2 logs passed),
 S:\sg5 (2 logs passed), T:\sg1 (2 logs passed), T:\sg2 (2 logs passed), T:\sg3 (2 logs passed),
 T:\sg4 (2 logs passed), T:\sg5 (2 logs passed), U:\sg1 (2 logs passed), U:\sg2 (2 logs
 passed), U:\sg3 (2 logs passed), U:\sg4 (2 logs passed), U:\sg5 (2 logs passed), U:\sg6 (2
 logs passed), Q:\sg6 (2 logs passed), R:\sg6 (2 logs passed), S:\sg6 (2 logs passed), and
 T:\sg6 (2 logs passed)
 2/25/2009 9:33:50 PM -- [C:\6k_mailboxes_Final\Performance_2009_2_25_16_44_5.blg](#) has
 553 samples.
 2/25/2009 9:33:50 PM -- Creating test report ...
 2/25/2009 9:34:08 PM -- Volume F: has 0.0079 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume G: has 0.0078 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume H: has 0.0079 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume I: has 0.0075 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume J: has 0.0077 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume K: has 0.0079 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume Q: has 0.0002 for Avg. Disk sec/Write.
 2/25/2009 9:34:08 PM -- Volume Q: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume R: has 0.0001 for Avg. Disk sec/Write.
 2/25/2009 9:34:08 PM -- Volume R: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume S: has 0.0001 for Avg. Disk sec/Write.
 2/25/2009 9:34:08 PM -- Volume S: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume T: has 0.0002 for Avg. Disk sec/Write.
 2/25/2009 9:34:08 PM -- Volume T: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Volume U: has 0.0001 for Avg. Disk sec/Write.
 2/25/2009 9:34:08 PM -- Volume U: has 0.0000 for Avg. Disk sec/Read.
 2/25/2009 9:34:08 PM -- Test has 0 Maximum Database Page Fault Stalls/sec.
 2/25/2009 9:34:08 PM -- Test has 0 Database Page Fault Stalls/sec samples higher than 0.
 2/25/2009 9:34:08 PM -- [C:\6k_mailboxes_Final\Performance_2009_2_25_16_44_5.xml](#) has
 479 samples queried.

Microsoft Exchange Server **Jetstress**

Performance Test Result Report – CCR Secondary Copy

Test Summary

Overall Test Result **Pass**

Machine Name ISV-4150A

Test Description

Test Start Time 4/7/2009 9:02:02 AM

Test End Time 4/8/2009 9:21:25 AM

Jetstress Version 08.02.0060.000
Ese Version 08.01.0274.000
Operating System Microsoft Windows Server 2003 Service Pack 2 (5.2.3790.131072)
Performance Log C:\EXCHANGE\300R10\Stress_2009_4_7_9_3_4.blg
C:\EXCHANGE\300R10\DBChecksum_2009_4_8_9_21_25.blg

Database Sizing and Throughput

Achieved I/O per Second 3555.028
Target I/O per Second 3000
Initial database size 6459567341568
Final database size 6578419236864
Database files (count) 30

Jetstress System Parameters

Thread count 2 (per-storage group)
Log buffers 9000
Minimum database cache 960.0 MB
Maximum database cache 7680.0 MB
Insert operations 25%
Delete operations 10%
Replace operations 50%
Read operations 15%
Lazy commits 80%

Disk Subsystem Performance

LogicalDisk	Avg. Disk sec/Read	Avg. Disk sec/Write	Disk Reads/sec	Disk Writes/sec	Avg. Disk Bytes/Write
Database (F:)	0.008	0.003	256.884	336.291	(n/a)
Database (G:)	0.008	0.003	256.897	334.966	(n/a)
Database (H:)	0.008	0.003	257.558	335.678	(n/a)
Database (I:)	0.008	0.003	258.210	335.314	(n/a)
Database (J:)	0.008	0.003	257.287	333.835	(n/a)
Database (K:)	0.008	0.003	257.849	334.259	(n/a)
Log (Q:)	0.000	0.000	0.000	118.281	17414.007
Log (R:)	0.000	0.000	0.000	117.962	17451.572
Log (S:)	0.000	0.000	0.000	117.961	17489.382
Log (T:)	0.000	0.000	0.000	117.553	17527.130
Log (U:)	0.000	0.000	0.000	117.263	17596.663

Host System Performance

Counter	Average	Minimum	Maximum
% Processor Time	4.366	2.728	5.863
Available MBytes	23038.523	23005.000	23840.000
Free System Page Table Entries	16756902.000	16756902.000	16756902.000
Transition Pages RePurposed/sec	0.000	0.000	0.000
Pool Nonpaged Bytes	77158154.411	76992512.000	78516224.000
Pool Paged Bytes	48351542.368	47644672.000	49184768.000
Database Page Fault Stalls/sec	0.000	0.000	0.000

Test Log4/7/2009 9:02:02 AM -- Jetstress testing begins ...

4/7/2009 9:02:02 AM -- Prepare testing begins ...
 4/7/2009 9:02:32 AM -- Attaching databases ...
 4/7/2009 9:02:32 AM -- Prepare testing ends.
 4/7/2009 9:02:32 AM -- Dispatching transactions begins ...
 4/7/2009 9:02:32 AM -- Database cache settings: (minimum: 960.0 MB, maximum: 7.5 GB)
 4/7/2009 9:02:32 AM -- Database flush thresholds: (start: 76.8 MB, stop: 153.6 MB)
 4/7/2009 9:03:04 AM -- Database read latency thresholds: (average: 0.02 seconds/read, maximum: 0.1 seconds/read).
 4/7/2009 9:03:04 AM -- Log write latency thresholds: (average: 0.01 seconds/write, maximum: 0.1 seconds/write).
 4/7/2009 9:03:05 AM -- Operation mix: Sessions 2, Inserts 25%, Deletes 10%, Replaces 50%, Reads 15%, Lazy Commits 80%.
 4/7/2009 9:03:05 AM -- Performance logging begins (interval: 15000 ms).
 4/7/2009 9:03:05 AM -- Attaining prerequisites:
 4/7/2009 9:21:18 AM -- \MSExchange Database(JetstressWin)\Database Cache Size, Last: 7249011000.0 (lower bound: 7247757000.0, upper bound: none)
 4/8/2009 9:21:19 AM -- Performance logging ends.
 4/8/2009 9:21:19 AM -- JetInterop batch transaction stats: 94962, 94682, 94626, 94492, 94865, 94727, 94506, 94680, 94878, 94567, 94812, 94982, 95003, 95038, 95038, 95142, 95210, 94532, 95242, 94407, 94937, 94608, 94623, 94944, 94612, 94323, 94835, 95313, 95684, and 94793.
 4/8/2009 9:21:19 AM -- Dispatching transactions ends.
 4/8/2009 9:21:19 AM -- Shutting down databases ...
 4/8/2009 9:21:25 AM -- Instance2420.1 (complete), Instance2420.2 (complete), Instance2420.3 (complete), Instance2420.4 (complete), Instance2420.5 (complete), Instance2420.6 (complete), Instance2420.7 (complete), Instance2420.8 (complete), Instance2420.9 (complete), Instance2420.10 (complete), Instance2420.11 (complete), Instance2420.12 (complete), Instance2420.13 (complete), Instance2420.14 (complete), Instance2420.15 (complete), Instance2420.16 (complete), Instance2420.17 (complete), Instance2420.18 (complete), Instance2420.19 (complete), Instance2420.20 (complete), Instance2420.21 (complete), Instance2420.22 (complete), Instance2420.23 (complete), Instance2420.24 (complete), Instance2420.25 (complete), Instance2420.26 (complete), Instance2420.27 (complete), Instance2420.28 (complete), Instance2420.29 (complete), and Instance2420.30 (complete)
 4/8/2009 9:21:26 AM -- Performance logging begins (interval: 30000 ms).
 4/8/2009 9:21:26 AM -- Verifying database checksums ...
 4/8/2009 11:30:57 AM -- F: (100% processed), G: (100% processed), H: (100% processed), I: (100% processed), J: (100% processed), and K: (100% processed)
 4/8/2009 11:30:58 AM -- Performance logging ends.
 4/8/2009 11:30:58 AM -- <C:\EXCHANGE\300R10\DBChecksum 2009 4 8 9 21 25.blg> has 259 samples.
 4/8/2009 11:31:08 AM -- <C:\EXCHANGE\300R10\DBChecksum 2009 4 8 9 21 25.html> is saved.

4/8/2009 11:31:08 AM -- Verifying log checksums ...
4/8/2009 11:31:20 AM -- Q:\sg1 (2 logs passed), Q:\sg2 (2 logs passed), Q:\sg3 (2 logs passed), Q:\sg4 (2 logs passed), Q:\sg5 (2 logs passed), Q:\sg6 (2 logs passed), R:\sg1 (2 logs passed), R:\sg2 (2 logs passed), R:\sg3 (2 logs passed), R:\sg4 (2 logs passed), R:\sg5 (3 logs passed), R:\sg6 (2 logs passed), S:\sg1 (2 logs passed), S:\sg2 (2 logs passed), S:\sg3 (2 logs passed), S:\sg4 (2 logs passed), S:\sg5 (2 logs passed), S:\sg6 (2 logs passed), T:\sg1 (2 logs passed), T:\sg2 (2 logs passed), T:\sg3 (3 logs passed), T:\sg4 (2 logs passed), T:\sg5 (2 logs passed), T:\sg6 (3 logs passed), U:\sg1 (2 logs passed), U:\sg2 (2 logs passed), U:\sg3 (2 logs passed), U:\sg4 (2 logs passed), U:\sg5 (2 logs passed), and U:\sg6 (2 logs passed)
4/8/2009 11:31:20 AM -- C:\EXCHANGE\300R10\Stress_2009_4_7_9_3_4.blg has 5826 samples.
4/8/2009 11:31:20 AM -- Creating test report ...
4/8/2009 11:34:30 AM -- Volume F: has 0.0081 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume G: has 0.0078 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume H: has 0.0079 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume I: has 0.0079 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume J: has 0.0080 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume K: has 0.0079 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume Q: has 0.0001 for Avg. Disk sec/Write.
4/8/2009 11:34:30 AM -- Volume Q: has 0.0000 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume R: has 0.0001 for Avg. Disk sec/Write.
4/8/2009 11:34:30 AM -- Volume R: has 0.0000 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume S: has 0.0001 for Avg. Disk sec/Write.
4/8/2009 11:34:30 AM -- Volume S: has 0.0000 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume T: has 0.0001 for Avg. Disk sec/Write.
4/8/2009 11:34:30 AM -- Volume T: has 0.0000 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Volume U: has 0.0002 for Avg. Disk sec/Write.
4/8/2009 11:34:30 AM -- Volume U: has 0.0000 for Avg. Disk sec/Read.
4/8/2009 11:34:30 AM -- Test has 0 Maximum Database Page Fault Stalls/sec.
4/8/2009 11:34:30 AM -- Test has 0 Database Page Fault Stalls/sec samples higher than 0.
4/8/2009 11:34:30 AM -- C:\EXCHANGE\300R10\Stress_2009_4_7_9_3_4.xml has 5753 samples queried.

Microsoft Exchange Server **Jetstress**

SoftRecovery Test Result Report

Soft-Recovery Statistics - All

Database Instance	Log files replayed	Elapsed seconds
Instance2420.1	526	443.235816
Instance2420.2	530	470.984928
Instance2420.3	518	458.985312
Instance2420.4	526	443.235816
Instance2420.5	509	444.735768
Instance2420.6	515	447.985664
Instance2420.7	526	449.235624
Instance2420.8	525	466.23508
Instance2420.9	525	466.485072
Instance2420.10	522	466.485072

Instance2420.11	526	424.9864
Instance2420.12	519	425.736376
Instance2420.13	539	478.234696
Instance2420.14	519	477.984704
Instance2420.15	541	495.484144
Instance2420.16	535	472.734872
Instance2420.17	531	477.234728
Instance2420.18	500	472.234888
Instance2420.19	533	435.486064
Instance2420.20	522	472.734872
Instance2420.21	522	429.98624
Instance2420.22	530	472.734872
Instance2420.23	522	444.735768
Instance2420.24	526	428.986272
Instance2420.25	517	376.23796
Instance2420.26	544	378.487888
Instance2420.27	514	375.737976
Instance2420.28	533	375.737976
Instance2420.29	512	377.237928
Instance2420.30	536	484.484496

Disk Subsystem Performance

LogicalDisk	Avg. Disk sec/Read	Avg. Disk sec/Write	Disk Reads/sec	Disk Writes/sec	Avg. Disk Bytes/Write
Database (F:)	0.060	0.003	1164.600	49.184	(n/a)
Database (G:)	0.056	0.002	1168.487	49.211	(n/a)
Database (H:)	0.057	0.002	1183.704	49.721	(n/a)
Database (I:)	0.057	0.002	1180.028	49.356	(n/a)
Database (J:)	0.056	0.002	1152.095	49.282	(n/a)
Database (K:)	0.055	0.002	1152.926	49.642	(n/a)
Log (Q:)	0.014	0.000	209.639	8.164	5174.482
Log (R:)	0.013	0.000	210.530	8.250	5352.825
Log (S:)	0.017	0.001	212.136	7.945	5157.684
Log (T:)	0.013	0.001	210.922	8.512	5375.524
Log (U:)	0.012	0.000	211.159	8.027	4965.721

Host System Performance

Counter	Average	Minimum	Maximum
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% Processor Time	11.193	1.310	28.597
Available MBytes	24651.707	23082.000	30764.000
Free System Page Table Entries	16756902.000	16756902.000	16756902.000
Transition Pages RePurposed/sec	0.000	0.000	0.000
Pool Nonpaged Bytes	79902736.650	77758464.000	80367616.000
Pool Paged Bytes	48568769.561	48033792.000	48992256.000
Database Page Fault Stalls/sec	0.000	0.000	0.000

Test Log4/1/2009 10:18:15 PM -- Jetstress testing begins ...
4/1/2009 10:18:15 PM -- Prepare testing begins ...
4/1/2009 10:18:15 PM -- Creating F:\sg1\Jetstress1.edb.
4/1/2009 10:18:15 PM -- Database cache settings: (minimum: 32.0 MB, maximum: 256.0 MB)
4/1/2009 10:18:15 PM -- Database flush thresholds: (start: 2.6 MB, stop: 5.1 MB)
4/1/2009 10:35:04 PM -- 60.0% of 200.0 GB complete (7324410 records inserted).
4/1/2009 10:58:51 PM -- 100.0% of 200.0 GB complete (11745475 records inserted).
4/1/2009 10:58:54 PM -- Duplicating 29 databases:
4/2/2009 9:58:29 AM -- 100.0% of 5.7 TB complete (5.7 TB duplicated).
4/2/2009 9:58:59 AM -- Attaching databases ...
4/2/2009 9:58:59 AM -- Prepare testing ends.
4/2/2009 9:58:59 AM -- Dispatching transactions begins ...
4/2/2009 9:58:59 AM -- Database cache settings: (minimum: 960.0 MB, maximum: 7.5 GB)
4/2/2009 9:58:59 AM -- Database flush thresholds: (start: 76.8 MB, stop: 153.6 MB)
4/2/2009 9:59:30 AM -- Database read latency thresholds: (average: 0.02 seconds/read, maximum: 0.05 seconds/read).
4/2/2009 9:59:30 AM -- Log write latency thresholds: (average: 0.01 seconds/write, maximum: 0.05 seconds/write).
4/2/2009 9:59:31 AM -- Operation mix: Sessions 2, Inserts 25%, Deletes 10%, Replaces 50%, Reads 15%, Lazy Commits 80%.
4/2/2009 9:59:32 AM -- Performance logging begins (interval: 15000 ms).
4/2/2009 9:59:32 AM -- Attaining prerequisites:
4/2/2009 10:18:47 AM -- \MSExchange Database(JetstressWin)\Database Cache Size, Last: 7248577000.0 (lower bound: 7247757000.0, upper bound: none)
4/2/2009 12:18:49 PM -- Performance logging ends.
4/2/2009 12:18:49 PM -- JetInterop batch transaction stats: 10034, 9856, 10205, 10046, 9927, 10001, 10026, 10008, 10246, 9988, 10168, 10077, 10077, 9802, 9889, 10078, 9962, 9912, 9961, 9818, 9976, 10089, 10161, 9929, 10049, 9983, 10067, 10014, 10059, and 10087.
4/2/2009 12:18:50 PM -- Dispatching transactions ends.
4/2/2009 12:18:50 PM -- Shutting down databases ...
4/2/2009 12:18:55 PM -- Instance2420.1 (complete), Instance2420.2 (complete), Instance2420.3 (complete), Instance2420.4 (complete), Instance2420.5 (complete), Instance2420.6 (complete), Instance2420.7 (complete), Instance2420.8 (complete), Instance2420.9 (complete), Instance2420.10 (complete), Instance2420.11 (complete), Instance2420.12 (complete), Instance2420.13 (complete), Instance2420.14 (complete), Instance2420.15 (complete), Instance2420.16 (complete), Instance2420.17 (complete), Instance2420.18 (complete), Instance2420.19 (complete), Instance2420.20 (complete), Instance2420.21 (complete), Instance2420.22 (complete), Instance2420.23 (complete), Instance2420.24 (complete), Instance2420.25 (complete), Instance2420.26 (complete), Instance2420.27 (complete), Instance2420.28 (complete), Instance2420.29 (complete), and Instance2420.30 (complete)
4/2/2009 12:18:56 PM -- Performance logging begins (interval: 30000 ms).
4/2/2009 12:18:56 PM -- Verifying database checksums ...
4/2/2009 2:25:30 PM -- F: (100% processed), G: (100% processed), H: (100% processed), I: (100% processed), J: (100% processed), and K: (100% processed)
4/2/2009 2:25:31 PM -- Performance logging ends.
4/2/2009 2:25:31 PM -- [C:\EXCHANGE\300R10\DBCchecksum 2009 4 2 12 18 55.blg](#) has

253 samples.
4/2/2009 2:25:40 PM -- C:\EXCHANGE\300R10\DBChecksum_2009_4_2_12_18_55.html is saved.
4/2/2009 2:25:40 PM -- Verifying log checksums ...
4/2/2009 2:25:51 PM -- Q:\sg1 (2 logs passed), Q:\sg2 (2 logs passed), Q:\sg3 (2 logs passed), Q:\sg4 (2 logs passed), Q:\sg5 (2 logs passed), Q:\sg6 (2 logs passed), R:\sg1 (2 logs passed), R:\sg2 (2 logs passed), R:\sg3 (2 logs passed), R:\sg4 (2 logs passed), R:\sg5 (2 logs passed), R:\sg6 (2 logs passed), S:\sg1 (2 logs passed), S:\sg2 (2 logs passed), S:\sg3 (2 logs passed), S:\sg4 (2 logs passed), S:\sg5 (2 logs passed), S:\sg6 (2 logs passed), T:\sg1 (2 logs passed), T:\sg2 (2 logs passed), T:\sg3 (2 logs passed), T:\sg4 (2 logs passed), T:\sg5 (2 logs passed), T:\sg6 (2 logs passed), U:\sg1 (2 logs passed), U:\sg2 (2 logs passed), U:\sg3 (2 logs passed), U:\sg4 (2 logs passed), U:\sg5 (2 logs passed), and U:\sg6 (2 logs passed)
4/2/2009 2:25:51 PM -- C:\EXCHANGE\300R10\Performance_2009_4_2_9_59_30.blg has 556 samples.
4/2/2009 2:25:51 PM -- Creating test report ...
4/2/2009 2:26:11 PM -- Volume F: has 0.0082 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume G: has 0.0080 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume H: has 0.0081 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume I: has 0.0079 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume J: has 0.0080 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume K: has 0.0079 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume Q: has 0.0001 for Avg. Disk sec/Write.
4/2/2009 2:26:11 PM -- Volume Q: has 0.0000 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume R: has 0.0001 for Avg. Disk sec/Write.
4/2/2009 2:26:11 PM -- Volume R: has 0.0000 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume S: has 0.0001 for Avg. Disk sec/Write.
4/2/2009 2:26:11 PM -- Volume S: has 0.0000 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume T: has 0.0001 for Avg. Disk sec/Write.
4/2/2009 2:26:11 PM -- Volume T: has 0.0000 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Volume U: has 0.0001 for Avg. Disk sec/Write.
4/2/2009 2:26:11 PM -- Volume U: has 0.0000 for Avg. Disk sec/Read.
4/2/2009 2:26:11 PM -- Test has 0 Maximum Database Page Fault Stalls/sec.
4/2/2009 2:26:11 PM -- Test has 0 Database Page Fault Stalls/sec samples higher than 0.
4/2/2009 2:26:11 PM -- C:\EXCHANGE\300R10\Performance_2009_4_2_9_59_30.xml has 479 samples queried.
4/2/2009 2:26:11 PM -- C:\EXCHANGE\300R10\Performance_2009_4_2_9_59_30.html is saved.
4/2/2009 2:26:11 PM -- Jetstress testing ends.
4/6/2009 12:08:08 PM -- Jetstress testing begins ...
4/6/2009 12:08:08 PM -- Prepare testing begins ...
4/6/2009 12:08:38 PM -- Attaching databases ...
4/6/2009 12:08:38 PM -- Prepare testing ends.
4/6/2009 12:09:09 PM -- Performance logging begins (interval: 30000 ms).
4/6/2009 12:09:09 PM -- Streaming backup databases ...
4/6/2009 2:40:27 PM -- Performance logging ends.
4/6/2009 2:40:27 PM -- Instance2420.1 (100% processed), Instance2420.2 (100% processed), Instance2420.3 (100% processed), Instance2420.4 (100% processed), Instance2420.5 (100% processed), Instance2420.6 (100% processed), Instance2420.7 (100% processed), Instance2420.8 (100% processed), Instance2420.9 (100% processed), Instance2420.10 (100% processed), Instance2420.11 (100% processed), Instance2420.12 (100% processed), Instance2420.13 (100% processed), Instance2420.14 (100% processed), Instance2420.15 (100% processed), Instance2420.16 (100% processed), Instance2420.17 (100% processed), Instance2420.18 (100% processed), Instance2420.19 (100% processed), Instance2420.20 (100% processed), Instance2420.21 (100% processed), Instance2420.22 (100% processed), Instance2420.23 (100% processed), Instance2420.24 (100% processed), Instance2420.25 (100% processed), Instance2420.26 (100% processed), Instance2420.27 (100% processed), Instance2420.28 (100% processed), Instance2420.29 (100% processed), and Instance2420.30 (100% processed)

4/6/2009 2:40:27 PM -- C:\EXCHANGE\300R10\StreamingBackup_2009_4_6_12_8_38.blg has 302 samples.

4/6/2009 2:40:27 PM -- Creating test report ...

4/6/2009 2:40:33 PM -- C:\EXCHANGE\300R10\StreamingBackup_2009_4_6_12_8_38.html is saved.

4/6/2009 2:40:33 PM -- Jetstress testing ends.

4/6/2009 3:10:31 PM -- Jetstress testing begins ...

4/6/2009 3:10:31 PM -- Prepare testing begins ...

4/6/2009 3:11:01 PM -- Attaching databases ...

4/6/2009 3:11:01 PM -- Prepare testing ends.

4/6/2009 3:11:01 PM -- Dispatching transactions begins ...

4/6/2009 3:11:01 PM -- Database cache settings: (minimum: 960.0 MB, maximum: 7.5 GB)

4/6/2009 3:11:01 PM -- Database flush thresholds: (start: 76.8 MB, stop: 153.6 MB)

4/6/2009 3:11:33 PM -- Database read latency thresholds: (average: 0.02 seconds/read, maximum: 0.05 seconds/read).

4/6/2009 3:11:33 PM -- Log write latency thresholds: (average: 0.01 seconds/write, maximum: 0.05 seconds/write).

4/6/2009 3:11:34 PM -- Operation mix: Sessions 2, Inserts 25%, Deletes 10%, Replaces 50%, Reads 15%, Lazy Commits 80%.

4/6/2009 3:11:34 PM -- Performance logging begins (interval: 15000 ms).

4/6/2009 3:11:34 PM -- Generating log files ...

4/6/2009 4:03:45 PM -- Q:\sg1 (105.4% generated), Q:\sg2 (106.2% generated), Q:\sg3 (103.6% generated), Q:\sg4 (105.4% generated), Q:\sg5 (102.0% generated), Q:\sg6 (103.0% generated), R:\sg1 (105.4% generated), R:\sg2 (105.2% generated), R:\sg3 (105.2% generated), R:\sg4 (104.4% generated), R:\sg5 (105.4% generated), R:\sg6 (104.0% generated), S:\sg1 (108.0% generated), S:\sg2 (104.0% generated), S:\sg3 (108.4% generated), S:\sg4 (107.0% generated), S:\sg5 (106.4% generated), S:\sg6 (100.2% generated), T:\sg1 (106.8% generated), T:\sg2 (104.4% generated), T:\sg3 (104.4% generated), T:\sg4 (106.2% generated), T:\sg5 (104.6% generated), T:\sg6 (105.4% generated), U:\sg1 (103.6% generated), U:\sg2 (108.8% generated), U:\sg3 (103.0% generated), U:\sg4 (106.8% generated), U:\sg5 (102.6% generated), and U:\sg6 (107.4% generated)

4/6/2009 4:03:46 PM -- Performance logging ends.

4/6/2009 4:03:46 PM -- JetInterop batch transaction stats: 3654, 3631, 3607, 3646, 3603, 3622, 3626, 3660, 3644, 3637, 3672, 3561, 3717, 3626, 3701, 3661, 3702, 3467, 3742, 3631, 3610, 3621, 3665, 3642, 3580, 3773, 3558, 3618, 3542, and 3702.

4/6/2009 4:03:47 PM -- Dispatching transactions ends.

4/6/2009 4:03:47 PM -- Shutting down databases ...

4/6/2009 4:03:52 PM -- Instance2420.1 (complete), Instance2420.2 (complete), Instance2420.3 (complete), Instance2420.4 (complete), Instance2420.5 (complete), Instance2420.6 (complete), Instance2420.7 (complete), Instance2420.8 (complete), Instance2420.9 (complete), Instance2420.10 (complete), Instance2420.11 (complete), Instance2420.12 (complete), Instance2420.13 (complete), Instance2420.14 (complete), Instance2420.15 (complete), Instance2420.16 (complete), Instance2420.17 (complete), Instance2420.18 (complete), Instance2420.19 (complete), Instance2420.20 (complete), Instance2420.21 (complete), Instance2420.22 (complete), Instance2420.23 (complete), Instance2420.24 (complete), Instance2420.25 (complete), Instance2420.26 (complete), Instance2420.27 (complete), Instance2420.28 (complete), Instance2420.29 (complete), and Instance2420.30 (complete)

4/6/2009 4:03:52 PM -- C:\EXCHANGE\300R10\Performance_2009_4_6_15_11_33.blg has 208 samples.

4/6/2009 4:03:52 PM -- Creating test report ...

4/6/2009 4:03:58 PM -- Volume F: has 0.0079 for Avg. Disk sec/Read.

4/6/2009 4:03:58 PM -- Volume G: has 0.0072 for Avg. Disk sec/Read.

4/6/2009 4:03:58 PM -- Volume H: has 0.0079 for Avg. Disk sec/Read.

4/6/2009 4:03:58 PM -- Volume I: has 0.0077 for Avg. Disk sec/Read.

4/6/2009 4:03:58 PM -- Volume J: has 0.0081 for Avg. Disk sec/Read.

4/6/2009 4:03:58 PM -- Volume K: has 0.0079 for Avg. Disk sec/Read.

4/6/2009 4:03:58 PM -- Volume Q: has 0.0001 for Avg. Disk sec/Write.

4/6/2009 4:03:58 PM -- Volume Q: has 0.0028 for Avg. Disk sec/Read.
4/6/2009 4:03:58 PM -- Volume R: has 0.0001 for Avg. Disk sec/Write.
4/6/2009 4:03:58 PM -- Volume R: has 0.0038 for Avg. Disk sec/Read.
4/6/2009 4:03:58 PM -- Volume S: has 0.0001 for Avg. Disk sec/Write.
4/6/2009 4:03:58 PM -- Volume S: has 0.0021 for Avg. Disk sec/Read.
4/6/2009 4:03:58 PM -- Volume T: has 0.0001 for Avg. Disk sec/Write.
4/6/2009 4:03:58 PM -- Volume T: has 0.0033 for Avg. Disk sec/Read.
4/6/2009 4:03:58 PM -- Volume U: has 0.0001 for Avg. Disk sec/Write.
4/6/2009 4:03:58 PM -- Volume U: has 0.0012 for Avg. Disk sec/Read.
4/6/2009 4:03:58 PM -- Test has 0 Maximum Database Page Fault Stalls/sec.
4/6/2009 4:03:58 PM -- Test has 0 Database Page Fault Stalls/sec samples higher than 0.
4/6/2009 4:03:58 PM -- <C:\EXCHANGE\300R10\Performance 2009 4 6 15 11 33.xml> has 207 samples queried.
4/6/2009 4:03:58 PM -- <C:\EXCHANGE\300R10\Performance 2009 4 6 15 11 33.html> is saved.
4/6/2009 4:04:12 PM -- Performance logging begins (interval: 4000 ms).
4/6/2009 4:04:12 PM -- Recovering databases ...
4/6/2009 4:12:29 PM -- Performance logging ends.
4/6/2009 4:12:29 PM -- Instance2420.1 (443.235816), Instance2420.2 (470.984928), Instance2420.3 (458.985312), Instance2420.4 (443.235816), Instance2420.5 (444.735768), Instance2420.6 (447.985664), Instance2420.7 (449.235624), Instance2420.8 (466.23508), Instance2420.9 (466.485072), Instance2420.10 (466.485072), Instance2420.11 (424.9864), Instance2420.12 (425.736376), Instance2420.13 (478.234696), Instance2420.14 (477.984704), Instance2420.15 (495.484144), Instance2420.16 (472.734872), Instance2420.17 (477.234728), Instance2420.18 (472.234888), Instance2420.19 (435.486064), Instance2420.20 (472.734872), Instance2420.21 (429.98624), Instance2420.22 (472.734872), Instance2420.23 (444.735768), Instance2420.24 (428.986272), Instance2420.25 (376.23796), Instance2420.26 (378.487888), Instance2420.27 (375.737976), Instance2420.28 (375.737976), Instance2420.29 (377.237928), and Instance2420.30 (484.484496)
4/6/2009 4:12:29 PM -- <C:\EXCHANGE\300R10\SoftRecovery 2009 4 6 16 3 58.blg> has 123 samples.
4/6/2009 4:12:29 PM -- Creating test report ...

Microsoft Exchange Server **Jetstress**

Streaming backup Test Result Report

Streaming Backup Statistics - All

Database Instance	Database Size (MBytes)	Elapsed Backup Time	MBytes Transferred/sec
Instance2420.1	205201.52	02:28:59	22.95
Instance2420.2	205191.52	02:27:37	23.17
Instance2420.3	205211.52	02:29:29	22.88
Instance2420.4	205215.52	02:29:37	22.86
Instance2420.5	205225.52	02:30:16	22.76
Instance2420.6	205213.52	02:29:09	22.93
Instance2420.7	205199.52	02:24:42	23.63
Instance2420.8	205189.52	02:28:07	23.09
Instance2420.9	205185.52	02:29:48	22.83
Instance2420.10	205197.52	02:30:33	22.72
Instance2420.11	205197.52	02:27:39	23.16

Instance2420.12	205203.52	02:25:44	23.47
Instance2420.13	205209.52	02:27:38	23.17
Instance2420.14	205173.52	02:29:11	22.92
Instance2420.15	205205.52	02:30:17	22.76
Instance2420.16	205211.52	02:28:35	23.02
Instance2420.17	205217.52	02:30:37	22.71
Instance2420.18	205189.52	02:27:50	23.13
Instance2420.19	205173.52	02:30:05	22.78
Instance2420.20	205185.52	02:31:16	22.61
Instance2420.21	205199.52	02:28:18	23.06
Instance2420.22	205205.52	02:27:19	23.22
Instance2420.23	205207.52	02:29:00	22.95
Instance2420.24	205181.52	02:29:24	22.89
Instance2420.25	205171.52	02:30:31	22.72
Instance2420.26	205211.52	02:30:44	22.69
Instance2420.27	205181.52	02:28:31	23.02
Instance2420.28	205185.52	02:29:01	22.95
Instance2420.29	205205.52	02:30:58	22.65
Instance2420.30	205199.52	02:31:16	22.61

Jetstress System Parameters

Thread count	2 (per-storage group)
Log buffers	9000
Minimum database cache	960.0 MB
Maximum database cache	7680.0 MB
Insert operations	25%
Delete operations	10%
Replace operations	50%
Read operations	15%
Lazy commits	80%

Disk Subsystem Performance

LogicalDisk	Avg. Disk sec/Read	Avg. Disk sec/Write	Disk Reads/sec	Disk Writes/sec	Avg. Disk Bytes/Write
Database (F:)	0.005	0.000	905.613	0.019	(n/a)
Database (G:)	0.005	0.000	905.512	0.020	(n/a)
Database (H:)	0.005	0.000	905.520	0.018	(n/a)
Database (I:)	0.005	0.000	904.688	0.015	(n/a)
Database (J:)	0.005	0.000	905.471	0.018	(n/a)

Database (K:)	0.005	0.000	904.362	0.012	(n/a)
Log (Q:)	0.000	0.000	0.000	0.015	58.396
Log (R:)	0.000	0.000	0.000	0.018	83.465
Log (S:)	0.000	0.000	0.000	0.015	72.684
Log (T:)	0.000	0.000	0.000	0.014	72.278
Log (U:)	0.000	0.000	0.000	0.011	47.288

Host System Performance

Counter	Average	Minimum	Maximum
% Processor Time	9.556	5.944	10.656
Available MBytes	31053.328	31039.000	31057.000
Free System Page Table Entries	16757322.000	16757322.000	16757322.000
Transition Pages RePurposed/sec	0.000	0.000	0.000
Pool Nonpaged Bytes	76102269.457	76099584.000	76115968.000
Pool Paged Bytes	47232142.411	47071232.000	48246784.000
Database Page Fault Stalls/sec	0.000	0.000	0.000

Test Log4/1/2009 10:18:15 PM -- Jetstress testing begins ...

4/1/2009 10:18:15 PM -- Prepare testing begins ...

4/1/2009 10:18:15 PM -- Creating F:\sg1\Jetstress1.edb.

4/1/2009 10:18:15 PM -- Database cache settings: (minimum: 32.0 MB, maximum: 256.0 MB)

4/1/2009 10:18:15 PM -- Database flush thresholds: (start: 2.6 MB, stop: 5.1 MB)

4/1/2009 10:35:04 PM -- 60.0% of 200.0 GB complete (7324410 records inserted).

4/1/2009 10:58:51 PM -- 100.0% of 200.0 GB complete (11745475 records inserted).

4/1/2009 10:58:54 PM -- Duplicating 29 databases:

4/2/2009 9:58:29 AM -- 100.0% of 5.7 TB complete (5.7 TB duplicated).

4/2/2009 9:58:59 AM -- Attaching databases ...

4/2/2009 9:58:59 AM -- Prepare testing ends.

4/2/2009 9:58:59 AM -- Dispatching transactions begins ...

4/2/2009 9:58:59 AM -- Database cache settings: (minimum: 960.0 MB, maximum: 7.5 GB)

4/2/2009 9:58:59 AM -- Database flush thresholds: (start: 76.8 MB, stop: 153.6 MB)

4/2/2009 9:59:30 AM -- Database read latency thresholds: (average: 0.02 seconds/read, maximum: 0.05 seconds/read).

4/2/2009 9:59:30 AM -- Log write latency thresholds: (average: 0.01 seconds/write, maximum: 0.05 seconds/write).

4/2/2009 9:59:31 AM -- Operation mix: Sessions 2, Inserts 25%, Deletes 10%, Replaces 50%, Reads 15%, Lazy Commits 80%.

4/2/2009 9:59:32 AM -- Performance logging begins (interval: 15000 ms).

4/2/2009 9:59:32 AM -- Attaining prerequisites:

4/2/2009 10:18:47 AM -- \MSExchange Database(JetstressWin)\Database Cache Size, Last: 7248577000.0 (lower bound: 7247757000.0, upper bound: none)

4/2/2009 12:18:49 PM -- Performance logging ends.

4/2/2009 12:18:49 PM -- JetInterop batch transaction stats: 10034, 9856, 10205, 10046, 9927, 10001, 10026, 10008, 10246, 9988, 10168, 10077, 10077, 9802, 9889, 10078, 9962, 9912, 9961, 9818, 9976, 10089, 10161, 9929, 10049, 9983, 10067, 10014, 10059, and 10087.

4/2/2009 12:18:50 PM -- Dispatching transactions ends.

4/2/2009 12:18:50 PM -- Shutting down databases ...

4/2/2009 12:18:55 PM -- Instance2420.1 (complete), Instance2420.2 (complete), Instance2420.3 (complete), Instance2420.4 (complete), Instance2420.5 (complete), Instance2420.6 (complete), Instance2420.7 (complete), Instance2420.8 (complete),

Instance2420.9 (complete), Instance2420.10 (complete), Instance2420.11 (complete),
 Instance2420.12 (complete), Instance2420.13 (complete), Instance2420.14 (complete),
 Instance2420.15 (complete), Instance2420.16 (complete), Instance2420.17 (complete),
 Instance2420.18 (complete), Instance2420.19 (complete), Instance2420.20 (complete),
 Instance2420.21 (complete), Instance2420.22 (complete), Instance2420.23 (complete),
 Instance2420.24 (complete), Instance2420.25 (complete), Instance2420.26 (complete),
 Instance2420.27 (complete), Instance2420.28 (complete), Instance2420.29 (complete), and
 Instance2420.30 (complete)
 4/2/2009 12:18:56 PM -- Performance logging begins (interval: 30000 ms).
 4/2/2009 12:18:56 PM -- Verifying database checksums ...
 4/2/2009 2:25:30 PM -- F: (100% processed), G: (100% processed), H: (100% processed), I:
 (100% processed), J: (100% processed), and K: (100% processed)
 4/2/2009 2:25:31 PM -- Performance logging ends.
 4/2/2009 2:25:31 PM -- C:\EXCHANGE\300R10\DBCchecksum_2009_4_2_12_18_55.blg has
 253 samples.
 4/2/2009 2:25:40 PM -- C:\EXCHANGE\300R10\DBCchecksum_2009_4_2_12_18_55.html is
 saved.
 4/2/2009 2:25:40 PM -- Verifying log checksums ...
 4/2/2009 2:25:51 PM -- Q:\sg1 (2 logs passed), Q:\sg2 (2 logs passed), Q:\sg3 (2 logs
 passed), Q:\sg4 (2 logs passed), Q:\sg5 (2 logs passed), Q:\sg6 (2 logs passed), R:\sg1 (2
 logs passed), R:\sg2 (2 logs passed), R:\sg3 (2 logs passed), R:\sg4 (2 logs passed), R:\sg5
 (2 logs passed), R:\sg6 (2 logs passed), S:\sg1 (2 logs passed), S:\sg2 (2 logs passed),
 S:\sg3 (2 logs passed), S:\sg4 (2 logs passed), S:\sg5 (2 logs passed), S:\sg6 (2 logs
 passed), T:\sg1 (2 logs passed), T:\sg2 (2 logs passed), T:\sg3 (2 logs passed), T:\sg4 (2
 logs passed), T:\sg5 (2 logs passed), T:\sg6 (2 logs passed), U:\sg1 (2 logs passed), U:\sg2
 (2 logs passed), U:\sg3 (2 logs passed), U:\sg4 (2 logs passed), U:\sg5 (2 logs passed), and
 U:\sg6 (2 logs passed)
 4/2/2009 2:25:51 PM -- C:\EXCHANGE\300R10\Performance_2009_4_2_9_59_30.blg has 556
 samples.
 4/2/2009 2:25:51 PM -- Creating test report ...
 4/2/2009 2:26:11 PM -- Volume F: has 0.0082 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume G: has 0.0080 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume H: has 0.0081 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume I: has 0.0079 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume J: has 0.0080 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume K: has 0.0079 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume Q: has 0.0001 for Avg. Disk sec/Write.
 4/2/2009 2:26:11 PM -- Volume Q: has 0.0000 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume R: has 0.0001 for Avg. Disk sec/Write.
 4/2/2009 2:26:11 PM -- Volume R: has 0.0000 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume S: has 0.0001 for Avg. Disk sec/Write.
 4/2/2009 2:26:11 PM -- Volume S: has 0.0000 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume T: has 0.0001 for Avg. Disk sec/Write.
 4/2/2009 2:26:11 PM -- Volume T: has 0.0000 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Volume U: has 0.0001 for Avg. Disk sec/Write.
 4/2/2009 2:26:11 PM -- Volume U: has 0.0000 for Avg. Disk sec/Read.
 4/2/2009 2:26:11 PM -- Test has 0 Maximum Database Page Fault Stalls/sec.
 4/2/2009 2:26:11 PM -- Test has 0 Database Page Fault Stalls/sec samples higher than 0.
 4/2/2009 2:26:11 PM -- C:\EXCHANGE\300R10\Performance_2009_4_2_9_59_30.xml has
 479 samples queried.
 4/2/2009 2:26:11 PM -- C:\EXCHANGE\300R10\Performance_2009_4_2_9_59_30.html is
 saved.
 4/2/2009 2:26:11 PM -- Jetstress testing ends.
 4/6/2009 12:08:08 PM -- Jetstress testing begins ...
 4/6/2009 12:08:08 PM -- Prepare testing begins ...
 4/6/2009 12:08:38 PM -- Attaching databases ...
 4/6/2009 12:08:38 PM -- Prepare testing ends.
 4/6/2009 12:09:09 PM -- Performance logging begins (interval: 30000 ms).
 4/6/2009 12:09:09 PM -- Streaming backup databases ...

4/6/2009 2:40:27 PM -- Performance logging ends.
4/6/2009 2:40:27 PM -- Instance2420.1 (100% processed), Instance2420.2 (100% processed), Instance2420.3 (100% processed), Instance2420.4 (100% processed), Instance2420.5 (100% processed), Instance2420.6 (100% processed), Instance2420.7 (100% processed), Instance2420.8 (100% processed), Instance2420.9 (100% processed), Instance2420.10 (100% processed), Instance2420.11 (100% processed), Instance2420.12 (100% processed), Instance2420.13 (100% processed), Instance2420.14 (100% processed), Instance2420.15 (100% processed), Instance2420.16 (100% processed), Instance2420.17 (100% processed), Instance2420.18 (100% processed), Instance2420.19 (100% processed), Instance2420.20 (100% processed), Instance2420.21 (100% processed), Instance2420.22 (100% processed), Instance2420.23 (100% processed), Instance2420.24 (100% processed), Instance2420.25 (100% processed), Instance2420.26 (100% processed), Instance2420.27 (100% processed), Instance2420.28 (100% processed), Instance2420.29 (100% processed), and Instance2420.30 (100% processed)
4/6/2009 2:40:27 PM -- C:\EXCHANGE\300R10\StreamingBackup_2009_4_6_12_8_38.blg has 302 samples.
4/6/2009 2:40:27 PM -- Creating test report ...