

IBM TotalStorage Proven™ program

Computer Sciences Corporation Exceed - (P&C Enterprise Policy Administration System)



Testing Template:

This document will be used to describe, from a technical perspective, the elements that were included as part of the IBM TotalStorage Proven testing. It is intended to give an overall picture of the technical elements of the configuration, with a brief description of the results of the testing including any specific highlights of the interoperability results.

High-level architecture/description, include a list of products that meet the compatibility requirements (“Approved Product(s)”) as well as a list of the IBM storage products with which the Approved Products meet the compatibility requirements (“Qualified IBM Storage Products”):

Approved Product:

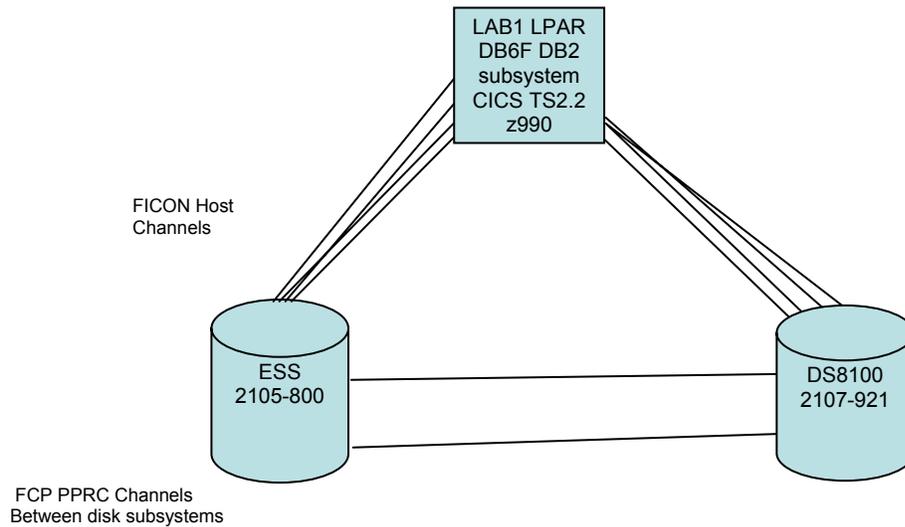
- Exceed version 2.0.1

Qualified IBM Storage Products:

- IBM TotalStorage DS8100 (2107-921)
- IBM TotalStorage Enterprise Storage Server (2105-800)
- IBM TotalStorage Tape Subsystem (3592)
- IBM TotalStorage Tape Subsystem (3590)

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Testing scenario:



A performance benchmark of the application running on the z990 attached to a 2105-800 disk subsystem was executed. The data was then migrated to a DS8100 using remote copy advanced functions. A performance benchmark was also executed after the completion of the migration. RMF performance data was collected for both performance test runs. Monitoring of the system during migration and fail-over testing for performance impact and data integrity was performed with DB2 logs and the Exceed application logs.

Additionally, tape backup and restore processes were tested using IBM 3590 and 3592 tape subsystems.

Testing level achieved: Standard

Testing Overview:

The primary focus in testing the Exceed application was to see how well it performed with IBM server, storage and software products (i.e. DS8100, z990 server and DB2 7.1). In conjunction with the basic operational testing for each of the subsystems, CSC and IBM technical subject matter experts focused on testing the equipment in a disaster recovery environment. Testing was done on an IBM 2105-800 (ESS) as well as a 2107-921 (DS8100). The scenario included using the remote copy (PPRC) and local copy (Flashcopy) advanced functions to migrate data from the ESS to the DS8100 and effectively and quickly establish a working replica on the DS8100. Backups and restores from both 3590 and 3592 were also tested.

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The result: Exceed performs extremely well in this environment.

Test Configuration:

Hardware:

- IBM 2084-A08 (z990)
- IBM TotalStorage Disk Subsystem DS8100 (2107-921)
- IBM TotalStorage Disk Subsystem ESS (2105-800)
- PAV (Parrell Access Volume)
- Flashcopy v2
- PPRC v2 (Remote Mirror – both Synchronous and Asynchronous tested)
- Four FICON connections from the z990 to the ESS (2105-800)
- Four FICON connections from the z990 to the DS8100 (2107-921)
- One IBM 3592 Tape drive
- One IBM 3590 Tape drive

Software:

- z/OS 1.4
- IBM DS Storage Manager
- DB2 Version 7.1

Description of the testing results obtained:

Validation and performance testing was conducted for Exceed version 2.0.1 using the IBM TotalStorage Disk Subsystem 2105 on July 8, 2005 and using the IBM TotalStorage Disk subsystem DS8100 on July 21, 2005; data migration was conducted on July 20, 2005. Performance exceeded expectations. Testing was also conducted on the IBM TotalStorage Enterprise Tape units 3590 and 3592.

During the benchmarks on the ESS (2105-800) compared to the DS8100 (2107-921) the I/O loads were not very high.

During the testing CSC looked into the DASD volumes that were running 25 I/O's or more and found the average response time. For the ESS (2105-800) it was 1.03 MS and for the DS8100 (2107-921) it was .617. CSC also compared the time frame where the ESS was being dumped to tape to run dumps to tape with the DS8100 (2107-921). The average response time during this time frame for the old was 11.18 MS compared to the new DASD at 3.8 MS.

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Below is a summary of the DASD performance:

Test #	2105 Avg SIO/s	2105 Avg RT	2107 Avg SIO/s	2107 Avg RT	2107 %RT Improve ment
1	181	2.13	213	1.20	44%
2	204	1.96	218	1.47	25%* (* 1 data point)
3	222	2.10	212	1.30	38%
4	3680	.59	3981	.37	37%

Support contacts:

Vic Johnson
Computer Sciences Corporation
803-333-4828
vjohnson9@csc.com

Exceed's 24x7 technical support Help Desk for its customers is 800-420-6007.

CSC's web site address is <http://www.csc.com>

More information on Exceed can be found at
<http://www.csc.com/industries/insurance/mds/mds221/400.shtml>

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