CreekPath Systems CreekPath Suite



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"):

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CreekPath Suite Architecture

The following picture shows an overview of the CreekPath Suite architecture.

Out of Band Managed Hosts / Applications CPS Console CIP Portal Fibre Channel Fabric Directors / Switches Schemas CPS Platform CPS PAM IP Network Storage Subsystems & Arrays

CreekPath Suite Architecture

The CreekPath Suite (CPS) software includes components that talk to all of the elements in the supply chain of SAN storage. This includes the SAN arrays, the Fibre Channel switches, the hosts consuming the SAN storage, the HBAs on those hosts, and software on those hosts such as multipath I/O and volume management tools. The CPS components (Agents and PAMs) send all of this information back to the CPS Server. CPS Consoles connect to the CPS Server (part of the CPS Platform) and display complete end-to-end information about the SAN storage supply chain.

IBM Products Tested

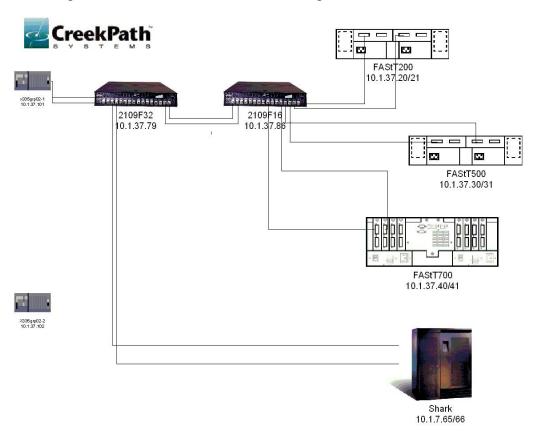
FAStT 200 FAStT 500 FAStT 700 ESS Shark 2105, model 800

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IBM TotalStorage Proven™ program

Testing Scenario

The diagram below shows the actual testing scenario.



Testing Level

The testing level achieved with the CreekPath Suite was "Standard". The tests consisted of installation, discovery, visualization, monitoring, reporting, and provisioning.

After the CreekPath Suite was installed, it discovered all of the arrays, switches, hosts, and HBAs. These elements were then displayed in the CPS Console, and verified against the expected configuration as provided by the IBM software tools (SANtricity, ESS Specialist).

The CPS Console was then used to provision the arrays. This included creating and deleting devices on the arrays, and creating and deleting LUN Mappings on the arrays. These operations were verified using the IBM software tools.

The CPS Console was also used to monitor the health of the various elements for the duration of the test cycle. Various reports were then run and verified for accuracy against the expected results.

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Testing Details

Host and HBA Details

1. Server type(s) and quantity: IBM eServer xSeries 335 (2)

2. Operating System: Windows 2000 AS

3. Host Bus Adapter (HBA) vendor model(s): QL2312

Firmware level: 3.01.02 Driver level: 8.1.5.10

Bios: 1.34

Fibre Channel Switches

1. IBM 2109F16 and 2109F32

2. Version:

c. 2109F16 - V3.1

d. 2109F32 - V4.1

Storage Products

1. Vendor: IBM TotalStorage

a. FAStT200

b. FAStT500

c. FAStT700

d. ESS

2. Number of Drives:

e. FAStT200 - 20

f. FAStT500 - 40

g. FAStT700 - 28

h. ESS – 128

Microcode Level:

i. FAStT200 – 5.30.12.00

j. FAStT500 – 5.30.12.00

k. FAStT700 – 5.30.12.00

I. ESS - 2.1.0.368

Testing Details

Test Dates:

- August 4 15, 2003 at the IBM San Mateo Innovation Center for Business Partners facility.
- Ongoing tests at CreekPath, with an ESS 2105 array.

<u>Installation</u>: Standard CreekPath Suite (CPS) installation. All CPS components were installed on a single x335 host, and the Oracle database was installed on a second x335 host. All components in the SAN fabric were registered in CPS.

<u>Execution</u>: Discovered the hosts, HBAs, and FC switches. (This wasn't, strictly speaking, needed for the testing of the arrays. But it makes the rest of the

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testing much easier.) The arrays were registered and discovered. The results were verified using visualization component of the CPS Console. Service requests were issued that tested all of the API provisioning commands used in CPS: create LUN, delete LUN, map LUN, unmap LUN. All of these provisioning commands worked, as verified via the IBM software tools.

<u>Note</u>: These tests were designed to verify that the CPS product properly discovers and manages the various elements in the SAN environment. No hardware tests were performed, that involved stress testing, error recovery, throughput rates, etc.

Technical Contacts

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End Notes

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