Hi-Stor Technologies S.A.
StorSentry®

<u>Testing Template</u>:

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"):

StorSentry® is the innovative software solution that monitors real-time storage device and media performance throughout the backup cycle, providing peace of mind that your data has been successfully saved and is fully recoverable.
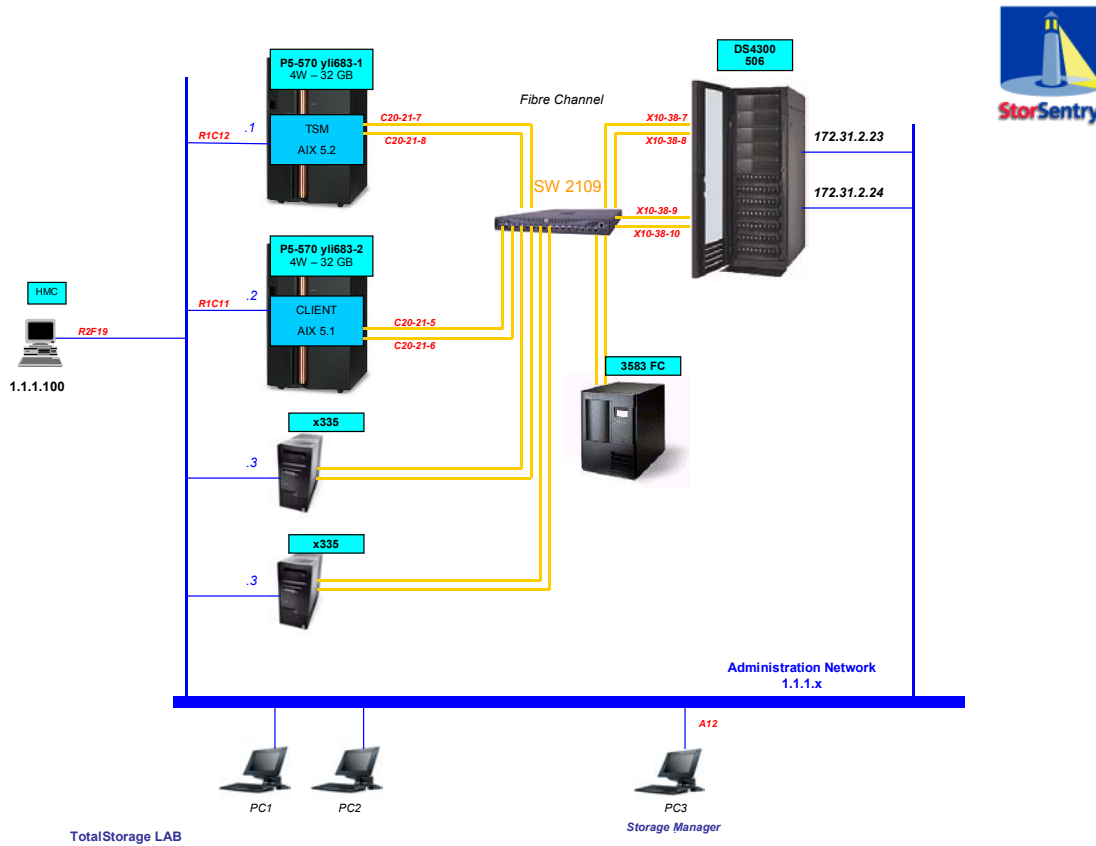
StorSentry® allows you to:
• Analyze and manage your storage environment
• Predict and prevent storage failures
• Increase the ROI of your storage assets

StorSentry® presents information regarding the performance history of all drives and media, as well as a forecast of their future performance, to the system administrator. Triggers can be set up to generate a variety of alerts when various performance thresholds have been exceeded, relieving the administrator of the painstaking and mistake-prone manual analysis of the storage system.

IBM TotalStorage Proven™ program

Configuration Tested:

Testing level achieved: *Standard*

Hardware Configuration:

Server/Host Configuration:

	Hardware Type	OS type	Attachment (HBA)	Function
IBM	p570	AIX 5.2	2*IBM 5716	TSM Server
IBM	p570	AIX 5.1	2*IBM 5716	TSM Client TSM StorageAgent 5.2.2
IBM	x335	Windows 2000	2*IBM 5716	StorSentry
IBM	x335	Windows 2000	2*IBM 5716	TSM 5.2.2 Client TSM StorageAgent 5.2.2

IBM TotalStorage Proven™ program

Storage Product(s) Used:

Vendor	Model	Firmware
IBM	3583	5.22
IBM	LTO 2 (3580)	38D0
IBM	LTO 2 (3580)	38D0

Switch:

Vendor	Model	Firmware
IBM	2109	

Software Details:

Vendor	Type	Name	Version	Comments
IBM	Backup	TSM Server	5.2.2	AIX version
IBM	Backup	TSM Client	5.2.2	AIX and Windows
IBM	Backup	TSM StorageAgent	5.2.2	AIX and Windows
Hi-Stor	Audit	StorSentry	1.5	Windows Version
Hi-Stor	Audit	StorSentry Agent	1.5	AIX Version

Testing Performed:

The test was performed to verify the compatibility and the well functionality between StorSentry, IBM products on a heterogeneous environment: IBM library, LTO 2 drives, TSM, p and x-servers, AIX and Windows operating system in a SAN environment.

An agent StorSentry was installed on an xSeries server (storage server running TSM) to collect drive and tape data quality information. The StorSentry processor was installed on a Windows 2000 platform, it collects and processes data sent by agents. StorSentry clients (gui) was installed on different workstations running on Windows 2000.

Installation and functionalities were tested in a first step. Then stress tests were performed to ensure a good functionality and stability in a client environment.

Testing Results:

StorSentry testing was conducted during May 10&11, 2005. There are no special steps necessary in installing StorSentry. Installation procedures are well documented. It is helpful to have the necessary authorities when performing the installation. StorSentry showed no differences between simple test and high volume tests.

StorSentry was able to monitor quality for each tape drives and media during automation of repetitive save and restore tests. This ability allowed StorSentry to support other platform backup utilities, including but not limited to: Legato NetWorker, Tivoli Storage Manager, Time Navigator, and Veritas NetBackup. StorSentry passed the compatibility

requirements to achieve the "Standard" testing level of the Total Storage Proven program.