



## Imation's StorSentry — Taking the Complexity Out of Tape Management

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### Management Summary

Tapes have been the mainstay for storing backups for over half a century. Tape media and drives today are not at all like the original tape drive that was first introduced into market by IBM in 1952. Today's tape drives are faster, write data in a very dense format, and offer features such as compression and encryption. Unlike the early days, there are many different tape drive manufacturers and tape formats today. For example, there are tape drives designed specifically for the z/OS mainframe environment. There are open systems drives that write LTO half-inch tapes and others that write SDLT or DLT cartridges. Data centers that have different vendor's tape drives installed find that managing tape drives can be complex. Each vendor may have their own tape management software, but none offer a product that manages all different tapes drives and media.

A multi-vendor tape environment increases in complexity when more than one backup application is in production. A remote office may be running a version of Symantec's *Veritas Backup-Exec*, while the main data center is running CommVault software, for example. Or a local bank running Legato software is acquired by a regional bank, running IBM Tivoli software. Now, when asked, *How did the backups run last night?*, the poor storage administrator has to query several different backup applications and look at the reports produced by the different tape vendors to get the answer to that question.

When a backup does not complete successfully, it is important to know why to prevent future problems. At times, it may be easy to figure out why a backup or archive process did not complete. It may be easy to discover that the operator cancelled the backup when it did not complete in its available time. But diagnosing other causes can be difficult. Backup applications may return an error code that suggests a hardware problem has occurred. But it does little to define exactly what went wrong. Did the tape drive have a problem or was the media the problem? The storage administrator's job would be much easier if a product could interpret the error code and point to the actual cause of the problem.

**What has been missing is a storage management tool that can manage different vendors tape drives and media, and interface with different backup applications.** *Imation* is now providing that tool, called *StorSentry*, to data centers. *StorSentry* has been installed in large data centers in Europe for several years. *StorSentry* was developed by Hi-Stor Technologies, headquartered in France. *Imation* has signed a global marketing agreement with Hi-Stor to market and support this product worldwide. Now when asked how the backups ran last night, the storage administrator has one tool to get the answers. And that is good news for data centers that have been looking for a solution to manage their complex tape environments.

Read on to find out more about *StorSentry*.

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## StorSentry

The best way to manage the tape environment is to monitor - continually - the environment in real time and that is the approach used by StorSentry. Agents are installed on the backup servers to monitor the communications between the backup application and the tape drives. The current backup environments that are supported include:

- *BakBone NetVault*
- *Atempo Time Navigator*
- *HP Data Protector*
- *IBM Tivoli Storage Manager*
- *Legato Networker* and
- *Symantec Veritas NetBackup* and *BackupExec*.

An agent is also available for *ACSL Manager* software, which is a software product developed by SUN/StorageTek that manages distributed SUN automated tape libraries.

StorSentry also gathers performance and reliability information about tape drives and media. StorSentry stores and analyzes this information in a database running on Microsoft *Windows* or *Linux*. Reports can be generated that show today's performance, as well as forecast future performance based on historical information.

When the backup application uses a generic error code that does not really explain the backup failure, StorSentry can figure out the real cause of the problem. StorSentry keeps information about manufacturers diagnostic codes and can compare the backup code to the SCSI information that it receives from the tape drive. Now, the data center can take action to fix this problem and prevent future problems. For example, a cartridge that is responsible for a failed backup can be removed from service. A tape drive that is having difficulty reading cartridges can be scheduled for maintenance.

StorSentry does more than determine why a problem happened; it can prevent them from happening in the future. Thresholds are defined which trigger alerts when, for example, a certain number of retries has occurred. The media that is beginning to fail is identified and its contents can be written to a newer cartridge. Drives that are reporting numerous "soft" errors can be scheduled for maintenance before they cause a backup to fail.

Since StorSentry monitors the performance of the tape drives under its domain, it can easily determine which tape drives are over utilized and which are under utilized. Balancing workloads across drives can improve backup performance and can, potentially, defer the acquisition of new tape drives. And that can save money.

### *What's Supported*

The current version of StorSentry supports *AIX*, *HP-UX*, *IRIX*, *Linux*, *Windows 2000*, *2003*, and *NT*. Support for *z/OS* mainframes will be available in a few months. The following tape drives are currently supported:

- *LTO/Ultrium LTO1, LTO2, LTO3*
- *SDLT 220, 320, 600*
- *SUN/STK 9X40 family, T10000*
- *IBM 3590, 3592*

### Conclusion

StorSentry is a product that has been available for several years, but has not been well known beyond Hi-Stor's European presence. Imation, with its global presence, plans to change that. And that is good news for data centers in the rest of the world that have been looking for a solution to make managing tapes easy.



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