THE BAD NEWS ABOUT TAPE BACKUP

Why tape is not the best solution for large-scale backups, and the cloud now is.

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Tape was a lifesaver at that time. But it also failed in far too many cases. Even modern tape drives are still far too prone to fail. That's why you should replace your unstable tape backup system with a clean, reliable, fast and affordable cloud backup solution.

WHY DOES TAPE BACKUP FAIL?
One of the problems with tape is there are myriad reasons they can fail. For one, tape backup is a manual and intensive process, and prone to human error. Backup schedules must be adhered to and the tapes handled properly. An IT administrator may forget to make the backup or be otherwise indisposed. The tape can be lost or stolen. Furthermore, tape is fragile; it can wear out, become corrupted or break. Software problems can also damage the data on tape, a problem that isn't always easy to spot.

Even worse, because tape is a linear format, if just a small amount of data is destroyed, you may not be able to recover anything from that tape, or a logically related series of tapes. And the tape hardware can fail, leaving IT once again in the lurch.

Most IT shops don’t test tapes, so they don’t know the tape failed to backup properly. This becomes a major problem when the time comes to restore the data – and you find that you can’t do it!

In fact, you can argue that all tapes will eventually fail, just as our VCR and cassette tapes eventually wear out with frequent use. And various reports have put tape restoration failures anywhere from 20% to 74%.

Tapes, even when regularly stored offsite, are vulnerable while they are in the office. If one is lost or stolen, and you need to restore, you have to go back to the previous day’s data. By the time all is said and done, you’ve lost two days’ worth of data.

There is another fundamental problem: Tape backups are, by definition, old even when they are first made. That’s because tape is a very slow backup and restore media. So if your restore is successful, the restored data will never be truly up-to-date, making tape more appropriate for disaster recovery than any kind of business continuity. And even here, the cloud is proving to be a superior disaster-recovery technology to tape.

TAPE TAKES TIME
Time is money, and if you have IT administrators swapping and storing tapes, you are reducing your earning power. The best time to do a backup is when the network isn’t in full use – “off hours” – such as nights and weekends. But that often means paying overtime, or dealing with aggravated admins forced to work during their free time.

Whether backups are done outside of working hours or during the work week, you are dependent on the admin getting the work done – and doing it right.

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When it came out in the early 1950s, tape was revolutionary. And for decades, it was the primary way data on large computers and, eventually, servers was backed up. In the late 1970s, Commodore started using a standard audio cassette as backup for the Commodore 64.
TAPE NO LONGER THE CHEAPEST OPTION

Small to mid-sized businesses stick with tape because it is the option they know, and it seems to be the cheapest. They often have concerns about new approaches such as replacing tape with disk or going to the cloud.

ESG, or Enterprise Systems Group, is one of the preeminent and unbiased storage researchers. A recent ESG analysis spells out just how tape costs add up:

"A typical tape budget includes obvious capital investments such as media to accommodate data growth and extended retention policies, and library replacements as warranties and leases expire. These expenditures can rarely be avoided because they represent the corporate data insurance policy," ESG explained. "The operational expenses associated with tape are less transparent: Staff is needed to manage tape media, rotate tapes, and reclaim unused capacity. Someone needs to monitor tape backups and reset them when, all too often, they fail."

Other costs? You may need to pay for vaulting offsite. And if you have older tapes based on legacy systems, you need to maintain that hardware as well.

And long restores cost as well. With tape, the performance dictates your recovery time objective (RTO), which is the maximum amount of time it should take to restore data and applications function. With tape, your long RTO pretty much guarantees downtime, lost revenue and dissatisfied customers.

Customers are getting the message as tape sales declined markedly in 2012, according to the Santa Clara Consulting Group. The tape market was a bit over $1 billion in 2012, down a whopping 30% from the year before.

DON'T FEAR THE CLOUD

In the early days of the cloud, IT worried that it wasn't secure and they would lose control of their data. Look at it this way: Who makes it their primary business to safeguard data so they can keep customers and attract new ones? And who can afford the best security staff and tools: you or a dedicated service provider?

The answer is now obvious. The cloud can be far more secure than your own company because providers need a security infrastructure to protect many customers, while yours is built to just protect you.

Research is bearing this out. Microsoft® did a survey of small to mid-sized businesses and found that those who don't yet use cloud services still have that old bias – that the cloud isn't secure. The results show that 64% of shops not in the cloud have security fears and 45% still have the fear that they won't have control over company data. And nearly as many (42%) don't think the cloud is reliable. Actual experience is far different. Microsoft also talked to companies that moved to the cloud, and by a large measure these companies find it reliable, secure, and note that their cloud data is protected with a great deal of privacy.

One reason for enhanced security is the cloud often offers state-of-the-art antivirus/anti-malware protection. In fact, a whopping 94% said the cloud was more secure than on-premise solutions. In other findings, 65% of small to mid-sized businesses said the cloud was more reliable, and 62% said it offered greater privacy (see diagram below).

SMB COMPANIES ON CLOUD

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
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<tbody>
<tr>
<td>94%</td>
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</tr>
<tr>
<td>65%</td>
<td>&quot;more reliable&quot;</td>
</tr>
<tr>
<td>62%</td>
<td>&quot;great privacy&quot;</td>
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Adrienne Hall, general manager of Trustworthy Computing for Microsoft, said: "There's a big gap between perception and reality when it comes to the cloud. SMBs that have adopted cloud services found security, privacy and reliability advantages to an extent they didn't expect."

"The real silver lining in cloud computing is that it enables companies not only to invest more time and
money into growing their business, but to better secure their data and to do so with greater degrees of service reliability as well,” she added.

And when it comes to backup, IASO offers an additional benefit: Your data is doubly secure as it is encrypted during transit and while in the cloud. And only you have the key.

**HYBRID: THE HOLY GRAIL OF BACKUP**

The cloud is a real lifesaver and timesaver when it comes to backup. While most consumers and home users will find a single cloud backup to be enough, businesses need to take a different approach. Having a single tier backup in the cloud is not enough.

There is a relatively new architecture known as “hybrid backup” or “disk-to-disk-to-cloud” (D2D2C) that is far superior. With this approach to backup, your first tier is to an on-premise disk/s. There are many advantages. First, this disk is probably already in place, or should at least be. And being local, your restores should be fast, especially if you only need to restore small amounts of data.

The next step is to team the local disk with your cloud backup and this is the beauty of hybrid backup. If the local disk is somehow compromised you can always restore from the cloud, and this is particularly handy for disaster recovery. In some cases, restores make more sense from the cloud, such as when the device that needs the restore is remotely located and the cloud offers an easier and faster approach. Best of all, there is no need for tape!

**CONCLUSION**

The cloud isn’t just good for backup. It is now a superior solution. You no longer have to worry about the infrastructure. Backups are automated. The data is encrypted. Availability is higher than you could achieve on your own.

You maximize your time, and minimize your costs.

None of those scenarios is possible with tape backup. If you’re not making the transition to cloud backup, you’re doing your business a disservice – and making your life far more difficult.