

# Horses for courses in today's race for

*As information creep becomes information overload we need to reassess our storage infrastructure and management. Antony Adshead explains*

**W**hile many things in IT seem constantly to shrink, others are ever increasing. One is the proportion of budget you need just to keep on top of data storage. A decade ago storage made up between 10% and 15% of IT budgets. Today that figure is nearer 40%.

The reasons are several. Regulatory compliance means you need to retain ever-growing mountains of manufacturing data and CAD files to provide audit trails right through design to production batches. And with litigation on the increase businesses are wise to ensure that they can produce documents, including emails, at short notice. Hardly surprising that many choose to retain everything just in case.

Then there is disaster recovery and business continuity. Regular back-ups are essential to avoid catastrophe should your IT system fail. And there may well be a need for subsequent analysis of, say, maintenance records or marketing data: accumulated information can have untold and sometimes unpredictable value.

Thus storage requirements grow but the technology itself is also always changing so it's worth regularly reviewing how you deal with it. What types of storage are now available and how should you be formulating a strategy for the most cost effective utilisation?

The most basic and most common form remains direct-attached storage (DAS). Its most familiar form is the hard disk on PCs and servers, and once upon a time all data was kept in such media. But there are several reasons why businesses are moving away from DAS as their sole means of storage.

Poor levels of utilisation are chief among these. Because all drives are attached to servers or PCs it is difficult, often impossible, to deal with them as a whole – so management cannot easily be handled from a single location, and swapping data between them is troublesome. Utilisation levels of around 25% are common across DAS environments, while figures up to 60% are often quoted for other storage methods.

Next in terms of simplicity and procurement is network-attached storage (NAS). NAS boxes are devices containing an array of disks and a means of controlling access to them. They can be bought as stand-alone devices and attached to IP networks fairly easily. As Alex

Young, head of technology and marketing with InforTrend Europe, says: "For smaller-scale business units where no dedicated IT management resource is available, NAS can be an easy and quick solution."

Then storage area networks (SANs) are the next level in terms of complexity and cost. These, as the name suggests, are dedicated networks consisting of arrays of disks usually linked by ultra fast Fibre Channel interconnects. There are many advantages to SANs including: the ability to use virtualisation to achieve higher utilisation levels; being able to perform back-ups without impacting the network; ease of moving data from one storage medium to another; and the ability to provision additional storage to an application automatically via management tools.

## Scaleable solution

David Lloyd, group systems manager with automotive pressings manufacturer Stadco, is moving from a DAS set-up because of his company's growth of data and the inherently poor utilisation problem. His business is midway through a 5.5tbyte NAS implementation that is replacing direct storage on dozens of servers.

"Like all businesses we've had a never ending increase in the amount of data and size of files, and that's caused us to move to a dedicated storage solution," he says. "It's potentially opening us up to putting many eggs in one basket, but we are ensuring multiple routes to the device for failover purposes. We fully expect greater utilisation, easier management and being able to add disk capacity if need be."

Premier Farnell, which manufactures and distributes electronic and industrial products in 21 countries, has also moved from DAS on 200-plus servers,

# storage

but in this case to a Sun Microsystems StorageTek SAN with back-ups to a tape library from the same supplier. Before the implementation users were individually backing up to a tape library using a variety of bought-in and home-grown software. Now users write to the SAN in a standard way using Veritas Netbackup 5. This has cut back-up times by 80% and made for much faster disaster recovery times.

Computer operations controller Anthony Downes says: "If you needed to back up an Exchange server, for example, it would have taken hours but now we can do gigabytes in minutes. We already had a StorageTek L180 tape drive but the amount of data we were generating was growing massively and we needed more speed, volume and availability."

So which way should you go? With such a variety of methods, and storage needs constantly changing it pays to take a strategic approach. Two closely related concepts can

match a business's storage needs to appropriate technology – information life-cycle management and tiered storage.

Information lifecycle management (ILM) centres on the notion of information changing in value as it moves away from regular use. When data is first generated it has most importance to the

illustration: Tim Ashton

business with live transactions, but as time passes it is referred to less frequently. There comes the time when it need only be retained for legal or occasional analysis.

IT and management consultancy Morse's storage guru Andy Holpin says: "ILM can reduce storage costs because it allows manufacturers to identify data stored on expensive types of storage with high levels of performance that could be on cheaper media. With data now needing to be kept longer, it's more important

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*David Lloyd, Stadco*

than ever for manufacturers to investigate ILM to ensure their data is readily accessible, isn't duplicated, and is stored in a way that is appropriate."

Meanwhile, tiered storage considers data usage by type and requirement, building a mixed infrastructure with appropriate storage types. For example, new and frequently used application data needs to be quickly accessed, so may be best held on a departmental NAS. Marketing or maintenance data needing regular analysis may be most efficiently run on a site-wide SAN, where it can be accessed at block level.

## Data audit

Susan Clarke, senior researcher with analyst Butler Group, advises: "Look at the different types of data in the organisation, the frequency with which these are accessed, how data is accessed, whether it is shared and how quickly it needs to be retrieved. Considerations such as disaster recovery should also be taken into account. Files, such as designs that are accessed regularly, are better stored in NAS, for example, whereas data that is rarely required or where instant retrieval is not necessary can be stored off-line."

But beware: compliance issues also need to be considered. If the organisation is subject to regulations that demand information retrieval within a prescribed timeframe you need to ensure the performance of your archive retrieval.

A final extra thought: it pays to find out what data you have on your system and how you should manage it. Further layers of technology are needed here – like storage resource management tools that monitor storage media for data types and levels of utilisation and allow users to audit and plan storage requirements.

And there are storage virtualisation tools that can monitor environments from a central location – allowing blocks of storage to be reassigned. The technology promises visibility into and management of multi-vendor storage arrays from a single screen, but we're a way off that just yet. ■

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