STRONGER TOGETHER

It's well documented that those responsible for data centre operations – and their budgets – are having a torrid time. IT budgets have been under pressure since the recession of 2008 began. Against this backdrop data centre operators are being asked to do more, with less. Most companies' data volumes are growing fast – doubling around every 18 months according to analysts – and yet there often isn't much in the way of budget or physical space to throw more disk arrays at the problem. Meanwhile as the cost of energy continues to rise, power has made itself a much more significant part of total IT spend. Some might say data centre operators are facing something of a 'perfect storm'.

To put some metrics around some of these challenges and what data centre operators have started to do about them, CBR conducted a short online survey of 170 senior IT decision-makers in the UK, between September 1st and October 15th. Where are people really feeling the pinch?

First we asked about IT budgets generally. While the 80-20 rule can be applied to lots of things, it seems that 'keeping the IT lights on' fits the rule rather well. By that, we mean the amount of total IT spend that goes on maintaining the status quo. Analyst firm Gartner has pointed out that around 80% of most organisations' total IT spend goes on this – maintaining existing investments. It has described the waste as 'dead money', and here's why: "We say 'dead money' because, while it is keeping the lights on, it isn't directly contributing to your business growth or enhancing your competitive advantage," according to Daryl Plummer, managing vice president and Gartner Fellow. "In today's environment, any corporate function that doesn't contribute to growth or competitiveness is ultimately expendable. Your placement of resources is more critical than ever to your ability to deliver the growth and competitive advantage that your CEO is expecting."

Garner said that at least two-thirds of all IT spending is just to sustain the business, not to change or transform the business. The investments allocated to do new things, to change the business, are usually low, no more than 20% according to the firm, and the investment in innovations which could transform the business is even less.

The challenge for IT leaders is to get their budget from 80% "keeping the lights on" to 60% or less, so they can use that money in new ways to drive growth.

"It's imperative that IT leaders take the initiative to start spending their IT money differently," said Audrey Apfel, vice president at Gartner. "IT leaders need to think differently about how to make the right investment decisions and to measure their value."

According to our survey, Gartner's findings are about right. Most people we surveyed (34%) said they spend between 80- and 90% of their budgets on 'keeping the lights on'. A few (2 respondents, or 1.2%) said that as much as 80-90% of their total IT spend goes on maintaining the status quo. But interestingly there was also quite a spread. 26% of respondents said their organisation spends slight more on innovative projects, but that's still leaves 70-80% spending on maintenance. 13% said 60-70% is spent keeping the lights on, and there were only 11% who believed that they spend less than 50% of their budget on new innovations.

To summarise the findings then, the vast majority of respondents – 73% of them – spend between 60- and 90% of their IT budgets on maintaining existing systems.

THE VALUE OF DATA

Next we asked, 'How long do you believe your business could continue operations in the event of suffering a major data loss (affecting both primary and backup datasets)?' The intent behind the question was to see just how critical data – and hence the data centre – is to the operation of the company. But first, what have the analysts said on the subject? Here are a selection of 'disastrous' facts and figures:

- 70% of businesses that experience a major data loss are out of business within one year (DTI/ PricewaterhouseCoopers)
- 94% of companies suffering from a catastrophic data loss do not survive (University of Texas)
- 96% of all business workstations are not being backed up. (Contingency Planning and Strategic Research Corporation)
- 30% of small businesses will experience a natural disaster (NFIB)
- 10% of small businesses will experience a major data loss as result of human error (NFIB)

So what did our respondents think? Well the over-riding picture that emerged is that they aren't quite so pessimistic about their companies' chances than some of the above stats. But they were pessimistic nonetheless.

The majority (62%) said the company would survive for one quarter. That may seem extreme, but remember that we are asking an extreme question – a major data loss not only affecting the primary dataset but also backup datasets. Sure, in real life that may be a rare occurrence – certainly if organisations have half-way decent business continuity plans – but we wanted to gauge how critical the data is to the operation.

22% said the company would survive between six and twelve months, 12% said it would last just a month, and only a few believed any different: that it would survive less than a month or more than 12 months. Indeed, only one respondent believed that the business would still be around after more than 12 months after such a data loss incident.

The importance of having a robust infrastructure around the data and having sufficient business continuity plans in place cannot be over-stated. Companies that lose data face an uphill battle trying to recover it using more manual processes, such as reaching out to customers to update lost datasets. According to the National Computer Security Association, without adequate backup it takes:

- 19 days and $17,000 to recreate just 20 MB of lost sales/marketing data
- 21 days and $19,000 to recreate just 20 MB of lost accounting data
- 42 days and $98,000 to recreate just 20 MB of lost engineering data

CONFLICTING VALUES

Next we wanted to find out what the business thinks about the value of data. Do they agree with the IT decision-makers that we surveyed that it is a critical asset – one without which, the company could not continue for more than one quarter? So we asked our respondents, 'Do you think your business managers and users see data as a strategic asset or as a cost centre?' And do you know what? Their perception of how much the business values its data was surprising. While most – 58% – said that they think the business considers its data to be a strategic asset, that leaves a sizeable minority, at 41%, who merely see it as a cost centre.

It has been said that data is the lifeblood of any business. IT practitioners certainly seem to agree. But it seems for many, the business doesn't see it that way. True, we were asking IT decision-makers what the business thinks. In another survey we should ask what the business users themselves think – and also what they think of IT! But whether those IT decision-makers are right about the business people or not, it's clear there is at the very least a perception that the business pays lip service to the actual value that data, and the data centre, is constantly creating. If the business users don't really believe this, there is still a problem here: it means that even if they value their data they're not giving the IT department the necessary resources to store it, process it and secure it. As far as IT is concerned, the business must just not care.

We next wanted to drill a little deeper into the data infrastructure itself – namely how the data is stored and managed. We asked, 'Which of the following are challenges in your storage infrastructure today? People could select more than one challenge of course, and perhaps unsurprisingly the challenge that came out top was cost (94% agreeing it was a challenge). More of a surprise – to us at least – was that total storage volumes were only cited as a challenge by 34%. Bigger challenges, after cost, were complexity (68%); lack of agility (55%) and finally legacy modernisation (22%). What to take away from the findings?

It's not so much that companies are running out of storage capacity. It's that dealing with the storage growth, with limited budgets, means they often end up with a 'hairball' of legacy and new equipment that creates complexity and hampers agility. That's the way we interpret them, anyway.

TECHNOLOGY ELIXIRS?

Next up, we asked which storage-related technologies organisations are already using. Again, respondents could choose multiple answers. Despite all of the hype around flash memory right now, with a number of start-ups jostling for attention with the big storage players such as IBM, HP, EMC and Oracle, flash memory hasn't caught on in a big way – at least not yet. Only 16% of respondents said they had flash in their storage infrastructure.
Flash is still more expensive than disk, of course, and is said by some to wear out quicker too. But for the most latency-sensitive types of application, it can be way faster than disk.
So if flash was the least-adopted, what was the most? Storage tiering came in top, with 88% of respondents saying it was in use. Of course, there are many different kinds, from older hierarchical storage management (HSM) type systems to modern information lifecycle management (ILM) solutions. To be fair, you could even call simply archiving older data to tape a kind of tiering, but we guess people were sensible enough to only include *automated* tiering of some kind.
De-duplication was quite common, at 44%, and this can be handled at the storage layer by some vendors' products, or it can be done higher up the stack by third party data quality vendors. Storage virtualisation was in use at 28% of organisations, while thin provisioning was in use at just 18%. Interestingly, while thin provisioning was once a big selling point of various vendors' products, today there is less hype around it as it is perhaps seen as 'table stakes'. But it's an important tool in helping to make storage more efficient: by fooling the application into thinking you have given it plenty of allocated storage – which you haven't – thin provisioning helps get more from an array just by being 'clever' about resource allocation.
To compare storage virtualisation adoption to the adoption of virtualisation across other realms – mainly servers – we also asked, 'What percentage of your applications workload is currently virtualised?' Most people said 25-50%, followed by a big chunk in the 50-75% range. There were only a handful of outliers in the 0-25% or 75-100% brackets. But it still shows that there's much more virtualisation going on across all workloads than there is at the storage layer (28% according to our survey). Yet the vendors and analysts will tell you that in virtualised server environments, storage can easily become a bottleneck if it is not of the latest generation.

CONVERGENCE

And so having got a feel for the challenges in the data centre generally and in storage more specifically, we ended the short survey by asking people to stare into their crystal balls. We asked, 'Do you believe that in the future, more aspects of IT - such as server, storage, middleware or networking - will become converged in order to reduce IT complexity?'
After all, more and more vendors – Cisco, IBM, HP, Oracle to name a few – are talking about converged systems. Systems that combine servers, storage, networking and even software and middleware. The big idea, of course, is to reduce complexity in the data centre. To save organisations the hassle of buying disparate systems and getting them to work together – let alone maintain them and cope with change management.
So what did our respondents think? Are they convinced by the argument, or at least do they think the argument will win the day? Well remember how 68% cited complexity in the storage space as being a significant challenge? Well it was just a handful more – 73% – who agreed with the statement that in the future more aspects of IT will become converged.

CONCLUSION

To sum up then. Challenges abound in the data centre, and with the data itself. It's not felt that the business takes those challenges seriously enough, or offers sufficient budget to enable IT to overcome them. Cost, complexity and legacy systems are a problem. Many organisations are already using the likes automated tiering, virtualisation and de-duplication to try and solve the problems, or at least ease them. And most people see more converged systems in their crystal balls. Are they right? Don't forget to take a look at our special report, 'In search of flexibility', which looks in more detail at one of those converged infrastructure solutions, by clicking here: http://viewer.zmags.com/publication/b025d42e.

THE SURVEY

CBR surveyed 170 senior IT decision-makers online between September 1ˢᵗ and October 15ᵗʰ 2012. Here were the questions:

Approximately what percentage of your total IT budget is spent on maintaining existing/legacy systems as opposed to being spent on new strategic projects?

How long do you believe your business could continue operations in the event of suffering a major data loss (affecting both primary and backup datasets)?

Do you think your business managers and users see data as a strategic asset or as a cost centre?

Which of the following are challenges in your storage infrastructure today? (Cost, complexity, legacy modernisation, lack of capacity, lack of agility)

Which of the following storage technologies does your organisation use? (Storage virtualisation, storage tiering, de-duplication, thin provisioning, flash memory.)

What percentage of your applications workload is currently virtualised?

Do you believe that in the future, more aspects of IT - such as server, storage, middleware or networking - will become converged in order to reduce IT complexity?