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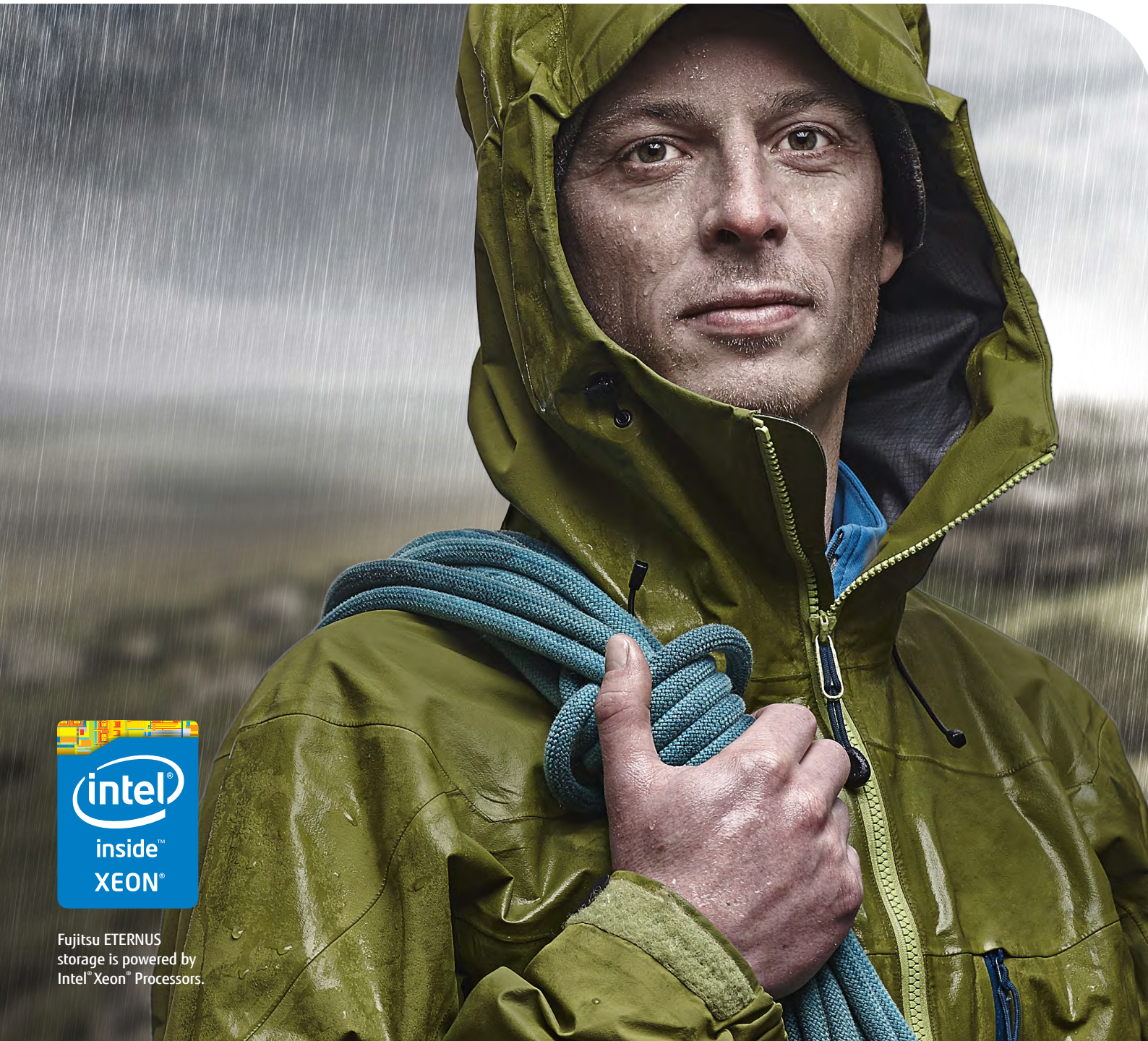
Staying in control: The Fujitsu Interviews



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Corporate common sense

Everybody knows how important information is to organisations. But does that mean everyone in the business also understands how best to keep it and access it – especially if they're not part of the IT department? Fujitsu and Computerworld UK recently commissioned a survey from the leading technology research group IDG. We asked over 100 IT decision makers about their own attitudes to data storage – and about the attitude of their own internal users.

John Woolley, Data Protection Specialist at Fujitsu, assessed the findings of the report.

We asked him what he thought.

"The survey shows only 41% of respondents saw improved backup and recovery as a high priority for future storage investments. But at the same time, over half of them said they were looking for improved storage efficiency. Do you think these two are linked – and is backup not being given enough attention?

Yes they are absolutely linked. When you talk about improved backup you need fast backup times, you need fast restore times. But data volumes are growing, and so the need for storage is growing with it.

So what's the link between storage efficiency and improved backup? To my mind the answer is classification. Most organisations will not classify their data; they just name a figure and say, "That's how much data I have in my organisation." They don't tend to understand how old the data is, how useful the data is, or how often it's captured. In other words they are effectively copying the same data, day in and day out, onto their backup devices. So from an efficiency perspective, if we could find a way of reducing that data they will have more space for important primary data.

An organisation will typically have a primary data stack, and they'll mirror it to a second data centre, and then they'll snapshot the data for rapid recovery points, and if those snapshots have a daily rate of change of say 10% a day, and they keep the data for 10 days, that's another 100% copy of the data. So you can see why it scales and why anything up to 65% of all storage is backup.

We need to look at that in terms of efficiency. Suppose a business has an outage – an email system or an SAP system goes down – the business will never turn to the IT person and say, "Our system has gone down. Will you please restore the backup from two weeks ago?" Of course they won't. They always want the most recent recovery point they can get, so that's the one you want to keep on the storage array. Anything else needs to go to a much cheaper medium."

So this is where classification comes in?

Yes. Businesses need a tiered backup infrastructure. The really important stuff – the stuff you need to get back in a matter of seconds – you store on your disk systems. But after that you can start looking at other media, and tape is a great deal cheaper than disk. I'll come to that in a moment.

But efficiency isn't only about cost. It's also about minimising risk. If you could store two copies of your data on tape, reducing risk for a fraction of the cost of doing the same on disk, why wouldn't you?

Participants in the survey were also talking about performance. Can backup have any influence on the performance of the whole storage infrastructure?

Well, performance is tied to efficiency, and that can be many different things. Storage needs to be easily manageable: you don't want to spend 36 hours a week overseeing it. It needs to be consolidated too, and this is where classifying and tiering come in again. Compare it to the human body: the more fat the skeleton carries the harder the heart has to work. IT is the same. You fill up the system with, well, not junk exactly, but data for which you have no immediate use, it's going to have to trawl through it all to find something you really do need.

But if you've got an effective archiving strategy you can draw a line in the sand, move that data into an archive, and back up only more recent material. So, in short, efficiency and performance are all about good management.

But isn't tiering a hassle for businesses to manage? They're using different media and have to think about where best to store everything, and on what.

Well, yes and no. It's a mindset thing, really. People have convinced themselves disk is the only way. They think it's the best performance, it's the most secure, it's the most reliable and it doesn't require much management. But the problem is it's expensive.

But good tape systems can be easy to manage, and they're a great deal cheaper. Disk backup is €500 per terabyte, whereas tape backup is €24 per terabyte. In other words, tape is 5% of the cost of disk for a slightly slower performance.

With hierarchical storage management you can develop policies that transparently manage the migration from the disk cache onto a tape backup without any intervention by an administrator and to a set specification. You can also retrieve time-specific information on demand. It completely answers any misgivings people have about tape and management overheads.

And that's exactly what our CS8000 does. It's reduced our customers' costs for backup and recovery by about 40%. In a Tivoli environment it's up to 60%. It runs exports to tape. It manages the media lifecycle. It manages media migrations, say from LT03 to LT06, which can otherwise be a major hassle for administrators. Also, from a speed and performance perspective the technology works in such a way that we know exactly what sector the data is on, so in some instances it can even be faster than disk to do a restore.

So essentially if you've got good tape management you're not losing any of the efficiency that's claimed with disk even though you're using a cheaper medium?

Yes. Tape is the most efficient way of storing data from a cost perspective. It hasn't always been the most efficient in terms of management – but if you take that pain away with smart automation, it can be a really competitive player in enterprise environments.

Large enterprise customers are beginning to realise this. They can see that while disk has massive benefits with fast copies and fast restores, in the long term it's just crazy on cost.

The research looked at factors driving data growth. What's your view?

Over one in four respondents in the survey said, "Business is growing and existing systems generate more data." It's true, and it's a real challenge because IT budgets aren't keeping pace. What's more, we know about 70% of an IT budget is spent on operational areas such as maintenance, power, cooling and people, which doesn't leave much for capital expenditure. So if data is growing out of control, how much money can anyone spend on hard disk drives? It's not just the upfront costs either: those drives have to be powered, spun and cooled too.

Some of the respondents said, "We don't want to discard any of our data." It wasn't a huge proportion, but it's an indication of a common worry. We hoard data because we're afraid to lose something – and the more we hoard, the more pressure we put on storage.

One reason respondents gave for hoarding was "We don't have a proper data retention strategy." Now that's a big issue – one of the biggest issues of all. Because it's not really about how the IT department is running things. It's the challenge of asking internal users exactly how important their data is.

There's a way of gauging that importance. Suppose some users want access to a large data set, and say they want it immediately. You could tell them they can have it right away, but it will cost £2000 out of their budget – or they could have it next morning instead, for nothing. Faced with that decision, most users in most circumstances would wait.

The problem is that users are generally accustomed to receiving high-end services. They don't understand the complexities or the cost. They certainly don't understand how much corporate hard disk storage systems cost, because personal back-up devices are so cheap. They're a commodity.

So it's really about the whole company's strategy and culture?

Exactly. Most of the company thinks storage is a commodity, but the IT guy knows it's gold – it's an expensive commodity.

The research also highlighted the growing need for analytics and Big Data. To do those things, you need to work with data that might go back years. Are people going to keep it all on hard disks? Of course not. The best approach is to have some sort of tiering strategy and some effective data management.

Why? Because not all data is created equal. Not all data is urgent. Not all data is important either – and there's a distinction between 'urgent' and 'important', too. Urgent is "My email system is down, and I need it back up immediately." Important is when you need to pull out a file from four years ago because of a litigation case. It's litigation, so of course it's important, but it's not as urgent because it's a managed event. You know when the case is being heard, and you can plan ahead. So if the IT manager says you can pay for data access now or wait and have it for nothing in a few hours time, you can afford to wait. You simply have to plan for it.

That's the mindset IT departments need to encourage their users to have. Storage isn't limitless, and it isn't free. Get people used to this idea, and they'll not only get used to tape – they'll grow to appreciate how good it's become and how cost-effective it is too.

And that, in turn, will take the pressure off IT departments. They won't feel obliged to spend time and money keeping everything accessible all the time just in case someone wants it.

The problem with inertia

Four universal truths in enterprise IT are that data is growing rapidly; that budgets aren't keeping pace; that the growing importance of analytics and Big Data are increasing the pressure; and that storage costs are high (especially for disk).

Given these factors, you'd think IT directors would shop around not just on price but for the best technology available. Fujitsu and Computerworld UK recently commissioned a survey from the leading technology research group IDG. We asked over 100 IT decision-makers about their approach to data storage

Chris Bone, Head of Sales Consultancy at Fujitsu, was surprised by some of the findings

We asked him what he thought.

So, Chris – what did you think?

I've never seen a survey like this where so few people were open to change. Two thirds of them – 65% – said they were unlikely to turn to other vendors. This is even more surprising when you see that only around 20% of them rate their storage providers high on transparency, and less than half rated them as good. If data is their life, their business, you'd expect them to be aiming a lot higher than that.

And that's not all. Only 20% of respondents rated the technical support they received from their storage vendors as very good. The survey seems to suggest that over half of the total have had issues with the support they've received.

The survey also asked people where they found most of their information on storage trends.

Yes, that was interesting too. Roughly 55% of people said they rely on analysts' views. But even analysts have to compete for business, because they're funded by the industry. And 45% of respondents said they turn to their current storage vendors. Isn't that a bit 'head in the sand'? Current suppliers are hardly likely to be impartial either.

Surprisingly, only around 45% of people said they get their information from their peers or colleagues. Given they attend user group meetings, go to conferences and so forth, you'd expect them to compare notes, and you'd expect that figure to be higher.

Only 20% of the survey respondents would look to other vendors for information about alternative solutions. This is a missed opportunity. When you look at the server market, every manufacturer is supporting the same standard operating systems, so it's pretty easy to measure functionality and make comparisons of the effectiveness of server management processes.

But when you look at the storage market there aren't the same standards, not really. Manufacturers use different RAID concepts, for instance. These functionality issues impact performance – and yet the survey shows only 20% of respondents were asking the question of anyone else, even though half of them were looking for improved storage performance.

The point here is that innovation is driven by competitive behaviour, by manufacturers' responses to one another's advances – so any enterprise customer not watching market developments is potentially going to miss out on major performance improvements. If you stick with what you have, you stagnate. You'll always be a generation or two behind the top-performing architectures.

Why don't people like to consider new vendors? Often, I think it's because they felt they were fooled the last time they did so. A high proportion of respondents to the survey said they'd had problems. It seems to be a 'better the devil you know' mentality.

One of the questions invited people to choose up to three options from a list of desired business outcomes for their next round of storage investment.

Yes, that was interesting too. The top three drivers were improved performance, improved storage efficiency and improved backup and recovery. Together they made up 76% of the total. So that's three-quarters of responses seeking improvements – but only 20% of people are talking to a different vendor.

You get the impression people have committed to a path and they're not minded to change quickly, even though it might be in their interests to do so.

Yes. It's natural. It's often the case we make major purchasing decisions, even in our own lives, based on emotion rather than anything else. Once the decision's made, our emotion tells us to stick with it and we create a justification for it in our minds.

Wrapping up, then: does this research reflect what you see in the market?

When I think of some recent conversations I've had with customers, yes it does. Some of them have invested in particular manufacturers and particular technological approaches for years, despite problems they've had and advances that have taken place elsewhere.

It's true what they say: "If you always do what you always do, you always get what you've always got."