Challenging the Agility Confidence Crisis

Three experts come together to offer their thoughts on the best ways to break down the barriers to delivering agility across the organisation.



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Introduction

Earlier this year, Pure commissioned extensive research to explore how IT leaders managed through the pandemic and to identify the pain points and priorities as they move from survival to revival. The research showed that 77% of IT leaders believe that COVID-19 has accelerated the need for organisations to overhaul data infrastructure as part of a drive towards being more agile.

However, the survey also identified a series of issues in delivering agility. Most notably that only 1 in 4 IT leaders is very confident they will be able to embed and accelerate agility into 2021 and beyond. The biggest barrier is the lack of business alignment, followed by the perennial problems of data silos, inflexible processes and, of course, legacy infrastructure.

We've brought together three of our experts to explore the issues and discuss how organisations can work together to move beyond this agility confidence crisis.

Perspective 1

How Do We Heal The Business IT Rift?

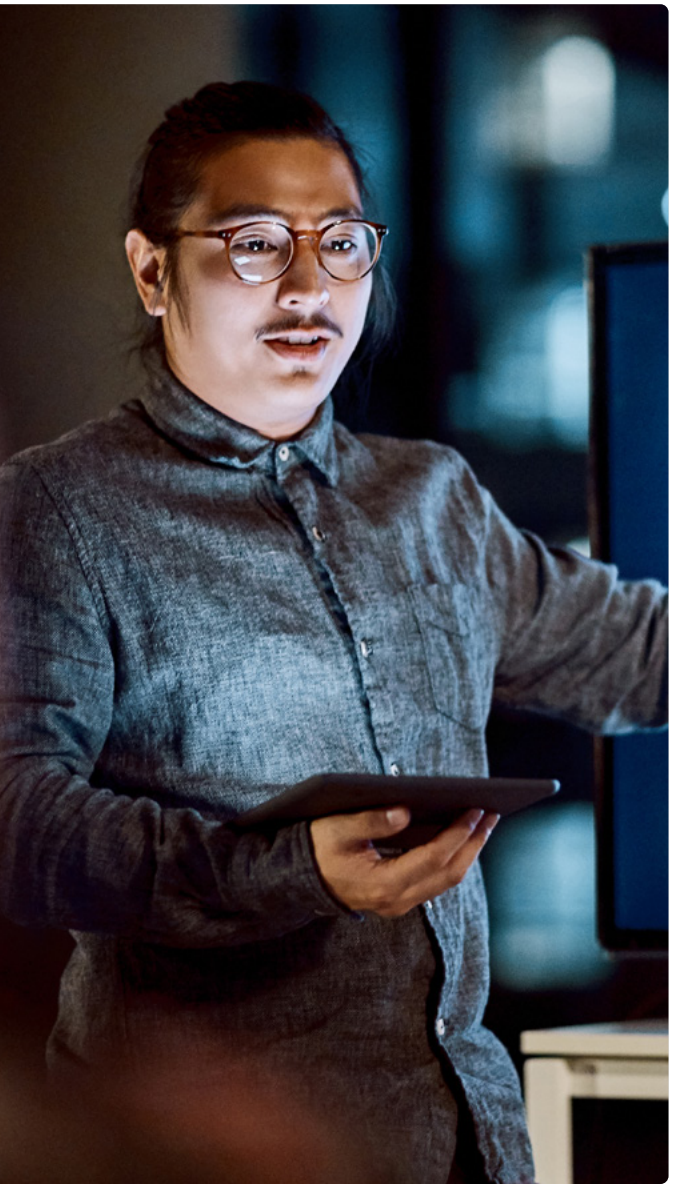
By John St. Germain, VP Head of Technology Operations and Interim CIO, Pure Storage



According to our survey of 504 leaders across Europe, business IT alignment remains an issue. Two years ago, less than half of IT leaders felt their function was well aligned to the business. While that figure has improved, it remains an issue for over a third of businesses. Bringing his own personal experiences to the table, John looks at the importance of critical conversations and why it's cross functional leadership's job to ensure priorities and deliverables come together.

There are many different areas where business and IT departments are required to align in relation to overall company strategy. The specific business initiatives that have the greatest impact on revenue and bottom-line profitability, are often the areas of greatest alignment between business and IT.

It is at these points that business needs IT's help to integrate and implement new enhancements and new technologies. When the business wants something—it is IT they go to for help. The challenge is making sure you have the availability and deployment of key resources.



Successful delivery is rarely a straightforward matter of funding. People think they can hand over a pile of money to hire instant skills and resources. But it is never quite that easy, because for many organisations, IT is a complex integrated ecosystem of applications, services and technologies, not a tap that can be turned on and off.

It is short-sighted to call in (expensive) contractors and expect them to add something to this ecosystem. They don't understand it, they haven't worked on it, they haven't helped build it and they certainly haven't studied it, architected it or worked within it in any way. What you will end up with is a solution that doesn't always take into account a very uniquely developed organisation of systems, functions, technologies, and corporate culture.

I believe it is really important for business and IT to partner on these initiatives right from the get-go. IT should be included upfront in the discussions with the business to debate priorities and provide transparency to the resource limitations that IT may have. This will help to set proper expectations within the business.

Who Is The Cornerstone?

It is easy to assume that to ensure greater alignment between the business and IT, you need someone at a very senior level to be the point person, or cornerstone, that integrates and holds the two sides together. Many people think this should be the CIO, but that doesn't have to be the case.

While the CIO needs to have relationships with the business to help create the processes that IT will follow, they are sitting at many tables and have many hats. They don't always have the in-depth knowledge within the individual teams they oversee on how many projects each one can push through at any given time. They simply don't have the time, and managing individual teams is not their responsibility. The kind of insight needed, to see who can do what, requires drilling down deeper into the organisation and resides with people who have more hands-on visibility into the day-to-day availability of their resources. The CIO simply doesn't (and shouldn't) be that deep in the weeds.

The role of the CIO is to grease the wheels and make sure the business is properly represented at the table. They should be there to discuss the demand and to look at the priorities, so that what IT will work on is aligned to the highest-level strategy. The CIO should be making sure that what is being specified and delivered matches the strategic initiatives set by the board. If they don't, the CIO should be able to question it, but to do this there needs to be a feedback loop between IT and the business to make these discussions possible.

People at the mid-management or director level in both the business operations and IT departments have a much clearer handle on the day-to-day requirements of the business and the capabilities and capacity of the IT department. These are the people that should also be at the PRB (Project Review Board) meetings to ensure proper representation (and alignment) and meaningful discussion (and input) takes place between the business and IT.

Aligning for Agility

Achieving alignment between the business and IT requires transparency and open communication. In my experience, this is easy to say and one of the hardest things for organisations to get right.

Transparency issues invariably occur because there is a lack of understanding of what the business needs from IT and a lack of what IT is capable of from the business perspective. The business may well know what they want – but they don't know how to create it or implement it, they only know the end result. Oh yes, and they also want it now.

This doesn't really help IT because they are left trying to pick up various non-connected pieces and putting them into a solution. The chances of getting this right in the required timeframe are very slim.

To ensure things are done well means having processes that are designed to help the company to be more agile. Having more accurate forecasts on timelines and on costs for all aspects of a project would be a huge help and is only possible if there is transparency on resource availability and limitations.

Timely communication, open transparency, and the willingness of everyone to come together in Business Intelligence Councils and Project Review Boards are critical to an effective, well aligned, and agile business/IT operation.

At any one time there might be dozens of different projects coming into a company's pipeline and IT might have the resources to handle maybe 10 or 20 of them at most. So priorities need to be set. But as soon as you start talking about priorities, there will be immediate conflicts within the business. Sales wants what sales wants; ops wants what ops wants; and so on. As for finance, they want it done well, fast and cheaply.

IT will do the best it can but there needs to be open, hard and direct critical conversation at the business level to work out what the priorities are to meet the company's strategic initiatives.

Alignment helps everyone to understand that the reasoning behind the chosen priorities is what is best for the company. Not just for one department, or sales or even finance – but for the company as a whole.

It should also be said that in many cases, people think that if there are issues in IT then IT needs to fix it. In reality, these issues in IT are a symptom of a problem that isn't necessarily created within IT, but actually comes from somewhere else across the company. This is because poor work upfront is almost always going to result in poor results.

To truly benefit from the alignment of business and IT, you need to have transparency from the very beginning at a cross-functional business level. This will mean that as information is provided to IT, it has been properly vetted and clarified and offers the greatest chance of success. Critical conversations at the business level will invariably lead to an agreed set of prioritised deliverables that help create the required capacity, resources, and design of an agile IT infrastructure that is fully aligned with business needs and delivers operational excellence throughout the organisation.

> Open conversations between IT and business around what can be done and how it can be done will enable the creation of a formalised method for **getting it done**.

Perspective 2

Repaying Technology Debt

By Patrick Smith, Field CTO for EMEA, Pure Storage

Walk into the data centre of most big brand organisations with a large technology footprint, and most would think they'd stumbled into a museum. There will be a broad range of legacy technology, with some machines dating back to the last century. Here, Patrick discusses the need to lose the legacy mindset.



Technology Debt

I believe the great quandary for our industry is that it is far, far easier to deploy a new technology into an enterprise than it is to take one out. This can result in the creation of huge amounts of technical debt. After the initial investment in new technology, there needs to be a further commitment to maintain it, keep it current through patches and life-cycle management. As soon as this maintenance starts to slip and you don't fully stand behind this commitment, the debt spirals and becomes the problem we now call legacy IT.

And rather perversely, it is often the most important business functions that are most dependent on legacy IT—simply because they are the most important. If they are absolutely critical to the business, no-one wants to touch them in case they break!

The longer these legacy systems remain critical, of course, the fewer people there will be in the organisation with the knowledge to support them. They will have become too big and expensive to transform, so new technology is 'bolted' on, further adding to the trail of legacy infrastructure that organisations struggle to move away from. That original, business critical legacy system has an impact far beyond its own footprint.



The Implications of Legacy

The longer the legacy IT stays in place, the more expensive the support contract will be and the more vulnerable you will be to security threats. Legacy systems are a clear point of weakness and these will be targeted by malicious cyber-villains, particularly in these times where ransomware is a very real and regular threat.

Availability may not seem such a big issue because as systems age, they change less, so there is less downtime. However, should something bad happen, such as hardware failure, your organisation may find it much harder to identify the application or server that has caused the issue and the downtime will end up being much longer. If it is a programme that has been happily running in the corner for many years, the downtime could be permanent as there might be no fix for it any more, with further long term implications on your data and your business.

There is another hidden implication around staff motivation. People want to work with cool new stuff and it can be quite dispiriting when your processes are slow and clunky.

Why Are We Not Migrating More Legacy Systems?

There is, and always has been, a lot of conversation around legacy migration in all organisations, but there is also a lot of fear causing people to step away from actually doing it. As mentioned above, the 'if it's not broken, don't fix it' message is the easy path when it comes down to a system that is business-critical. The trouble is, legacy migration is increasingly becoming an imperative that must be faced up to for all the reasons we have discussed.

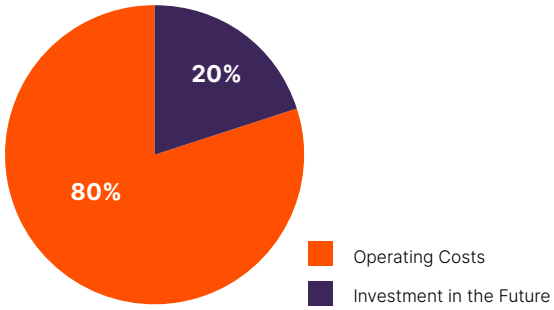
Security concerns are paramount and go right to the very top level of an organisation. For those in regulated industries, there is a legal requirement to demonstrate a position to auditors and regulators that you are protecting your data, customers, suppliers and staff at all times and this is becoming all but impossible with legacy IT systems in place.

There is also the competitive nature of businesses to consider. So much of a company's ability to compete is dependent on technology, trying to compete with legacy IT is clearly going to make this harder and leave you vulnerable to more agile competitors.

Inverting The 80/20 Rule

Cost of IT is always a huge limiting factor for a business. Most organisations would love to spend more on changing their systems than they do on running them—but they don't. Currently they are spending 20% on change and 80% on running. I am saying they need to invert that in order to meet modern day business demands.

Breakdown of a typical organisations IT spend



Influences from the outside world happen fast and they happen hard. Cyber attacks, pandemics, new competitors on new technology platforms and many more factors that you may not even be aware of, can hit your business at any time. Being agile means being able to respond to these influences in a positive way as quickly as you possibly can. And this can't be done if you are spending 80% of your resources on maintaining the status quo. It really is time to break out of the legacy mindset and start thinking about change.

It's All About Data

Data is absolutely critical to competitive advantage. It is the lifeblood of an organisation and is something you have that your competitors don't. There is no use having it locked away in a legacy system that refuses to share it with anything else. You want to leverage it. Make it accessible in a timely manner. But at the same time keep it safe from outside attacks. You might think your data is safe in a legacy system, but in reality, there are likely to be vulnerabilities that mean it's not really that secure at all.

And then there is performance. To gain that all-important competitive advantage you need to be able to extract and access your data as quickly as possible. Regardless of what industry you are in, instant access to data can be the difference between success or failure.

Once upon a time, businesses were happy to run jobs overnight in order to gain an answer in the morning. Organisations simply can't survive like that now—they need answers in real time. Legacy systems used to be good enough. Today though, the dynamic has changed. Your business needs the ability to adapt and change in line with fast evolving markets. Put it another way, being agile depends on getting to grips with your legacy – and doing something about it. It's not always as hard to change as you think and a great place to start – and you'll see in Joshua's article – is by looking at how to unlock your data.



Perspective 3

Breaking Through The Data Silos To Deliver Agility

By Joshua Robinson, Chief Technologist, Pure Storage

69% of IT leaders believe that, when it comes to data, their organisations are only as agile as the slowest department. Joshua investigates the issues of siloed data and what can be done to tackle this top three agility-impacting issue.

There's always been a lot of discussion about the need for business agility - and the need for an agile data infrastructure to enable it. Then the pandemic hit. While everyone suffered to one degree or another, those enterprises that had embraced agile systems and processes typically came out stronger. Those who hadn't were left massively exposed.

Hardly surprising then that embedding agility is now a priority concern for concern IT and business leaders. But it's not always a simple task - particularly when it comes to data.

Access to data - whether to power business analytics, automate processes or speed app development - is the foundation for agility. But most data, with all the different formats and protocols, remains locked up in silos. There's rarely a single repository or one version of the truth, and getting insights out of your workloads - like an ERP system for example, can be incredibly challenging. If you can't get to the data, know where it is or even what you have, it's impossible to use it.

Companies looking to implement agile IT practices into their operations should look very closely at these silos and develop a disciplined approach to how different teams within an organisation make their data accessible.



69%

When it comes to data, 69% of IT leaders believe their organisations are only as agile as the slowest department.



Cloud Aids Agility

We have made many improvements to modern IT infrastructures that are shining a light onto these higher level issues with data. Cloud native architectures remove silos, enable agility and make the construction of IT infrastructures faster and more integrated.

The construction of an agile IT infrastructure is not like building a house, where you have an architect sketch out your blueprint and then you head over and build it exactly as described. Rather, it's a process of continual evolution based on addressing the business need. Operational needs change, data processing requirements change, lots of things change and so the development is not so clearly defined from the start. This, in turn demands flexible foundations - not the traditionally siloed infrastructures of the past.

Bringing data sets together naturally demands that systems are able to adapt. There may be multiple ideas about how to join different data sets and support modern data formats, but these are really the same type of problems faced in software engineering. The difference is, as the data scientists won't tire of telling you, the data is the most important element of the whole solution.

It makes sense then to look at data in terms of what the business wants to do with it. Often that's about automating complex processes or leveraging the cloud as development and/or production environments.

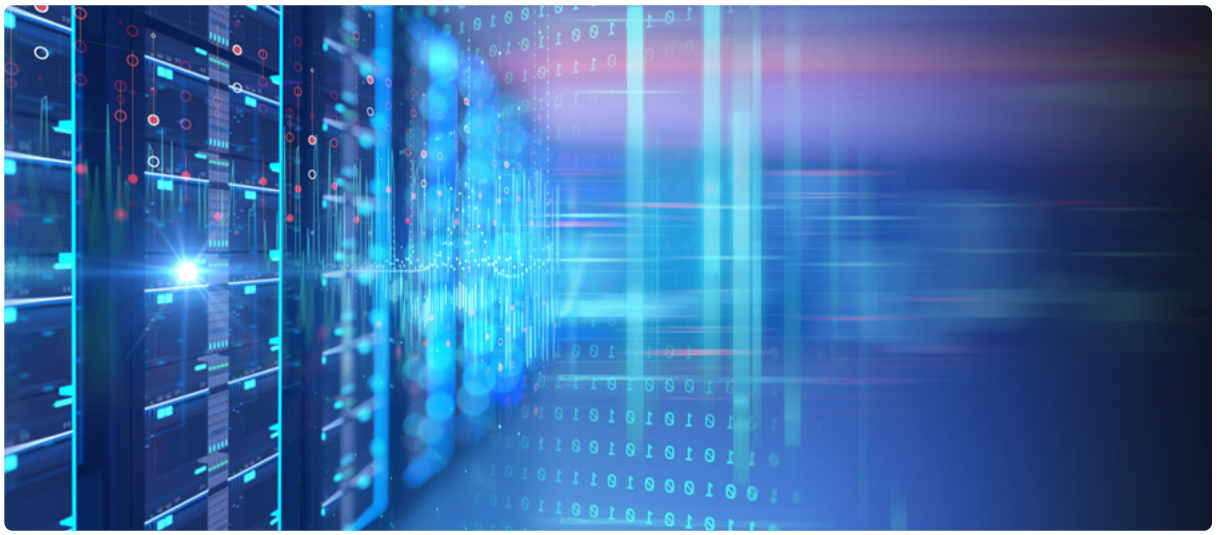
Right now, we're seeing tremendous interest in adopting open source tools to radically speed apps development. It makes sense then to leverage modern, open standard data sources to enable this.

Here, Parquet is a great example of an open, highly optimised and widely supported data format.

By adopting Parquet (or similar) developers can use a huge array of tools – without having to make multiple copies of data in multiple languages. Naturally, this accelerates DevOps and reduces time to value for the app or service.

Does this move to modern data formats solve the issue of legacy data silos? Not really. However, it does highlight why agility everywhere is critical. And moving to more standardised formats certainly helps to reduce the issue of today's modern data sets becoming tomorrow's silos.

Risks Of Data Silos



One of the biggest challenges when doing software upgrades comes from having multiple versions of the same data set. Multiple people wanting to work with a single data set is a very common scenario, but this can result in them making their own copy and working with that. This duplication creates multiple places where permissions can be compromised and security and authentication are all but impossible. If you ask them how often they can do security patches for their software, you are often told they don't ever do that—it's simply too hard to do. It's a major security risk that can be generated by having data silos.

Data silos are also responsible for an alarming amount of trapped resources. Spare CPUs here, spare drives there and there is no way in the world you can get them to talk to each other because they are completely different systems. This is a clearly visible inefficiency, but you need to couple this with the potential amount of sensitive, private data held in these machines, which is a lot of financial and security risk that is often not fully acknowledged when looking at repurposing technology.

Each time a new silo is created, a new attack point is also made. It's yet another place that cannot be integrated with other systems and another place where mistakes, security risks and data loss can occur. The real value of data is in its availability and this is hugely restricted by data silos and is why there is a significant benefit to be gained by breaking them down.

Data scientists and analysts want to look at data holistically—covering data from all over the organisation. They get the best and most valuable insights this way, not from just looking at small, isolated data pockets within the overall system. They can start to build projects that might successfully integrate multiple data sets to improve a backend process that makes the organisation more efficient and positively impacts the bottom line.

For a truly agile IT system, you need to view the best performance metrics not as throughput or bytes per second, but on how many experiments can you do every day. How many iterations of a development process can you achieve in order to drive real and measurable benefit to your business.

It is best to start with a simple dashboard that allows you to simply collect and organise your data. This in itself can be a really hard problem to overcome. But once this is done and you have your data, you are in a much better position to use it effectively.

Data locked in silos causes a rigidity in your IT and your business that prevents experimentation and innovation. Once you break into them you will have more data quality and you can really start to push key developments higher up the technology stack, which is where you want to be heading.

Perspective 4

Smoothing the Process of Change for Greater IT Agility

By Patrick Smith, Field CTO for EMEA



As we've seen in this paper, Business IT alignment, data silos and legacy infrastructure are all critical issues to be addressed to ensure rapid agility. And while it may not be the most interesting of topics, process is at the heart of change. Here, Patrick explores how inflexible operational and IT processes can hold back the business and how IT departments are implementing a new self-service style model to combat it.

When IT leaders talk about inflexible processes, they are often referring to the conflict that exists between the demands of the business and the limitations of the technology. They are usually a result of IT not being able to keep up with the speed of change within the business.

When the business wants something, they tend to want it fast and they expect an immediate reaction to their demands. The IT department then looks at these demands from two perspectives—the side that wants to innovate and drive change, and the side that is responsible for maintaining operations and stability. This creates conflict within IT itself because change is the natural enemy of stability—and the business wants both!



In my experience, the most common scenario is that a business wants something new and the IT department says we need to be really careful about that because we don't want to break anything. This type of response will drive rigour in the process, but it is almost certainly going to lead to delay.

The IT leaders I talk to often say that their ideal situation is to be able to get out of the way of what the business wants to do and not hinder their plans and initiatives in any way. They want to have the foundations in place that mean they are not holding back the business, but at the same time they are not simply handing over control to the business.

If they hand over too much control there is some incremental risk, which may result in significant problems further down the road. For example, that great new bit of technology that the business put in is now getting a bit old and needs to be replaced, but nobody in central IT knows who bought it, where from or how to run and maintain it.

IT Services as a Mini-Cloud Provider

The longer the legacy IT stays in place, the more expensive the support contract will be and the more vulnerable you will be to security threats. Legacy systems are a clear point of weakness and these will be targeted by malicious cyber-villains, particularly in these times where ransomware is a very real and regular threat.

Availability may not seem such a big issue because as systems age, they change less, so there is less downtime. However, should something bad happen, such as hardware failure, your organisation may find it much harder to identify the application or server that has caused the issue and the downtime will end up being much longer. If it is a programme that has been happily running in the corner for many years, the downtime could be permanent as there might be no fix for it any more, with further long term implications on your data and your business.

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Empowering Developers

One challenge to the service model is ensuring that businesspeople can identify what does and doesn't need to be bespoke and how they can make the most of the available menu of options. IT departments are dealing with this by having a Service Manager for each service or family of services and they are responsible making sure they have the right portfolio to meet demand and they are offered at the right price. They need to work proactively with their customer base and alongside the application architects to achieve the real ambition of being one step ahead of the real demands of their customers and not placing bets on things that nobody ends up wanting. It's a fine balancing act, but this is fundamental and crucial to the success of the service model.

The ideal outcome is to empower developers to have control over their own destiny. They want to take as many humans out of the process as possible making services available to developers in a self-service manner. As long as they have the right approvals in their self-service catalogue, they can build whatever applications they need from all the constituent parts and building blocks without actually have to raise a ticket or talk to another human. This is true agility in IT.

The reason this works so well is that it looks remarkably like the public cloud—which is something most of us are very much used to. The public cloud is known for its versatility and agility—but it is also relatively costly. Nobody goes to public cloud services because they're cheaper. So developers need to have a consistent cloud-like experience wherever they develop or deploy their applications driving agility, cost efficiency and enabling them to be more productive.





Driving More Change

I think it is frustrating for IT leaders that CIOs and CFOs tend to spend most of their budget on running the IT environment, rather than introducing change that moves the environment and business forward. It all gets spent on operating IT and maintaining the status quo rather than driving change and improvement. We want to invert that and encourage businesses to spend the majority of their budget on driving change and improving things and the minority on maintaining the status quo.

This move to a service model is in response to that. IT departments that have spent time building the service model properly and making sure that it's fully automated are seeing the real benefits come through. The budget isn't any less, but the overall service is dramatically improved. They also increase customer satisfaction without having to increase the cost of the IT department. You will also have happier and more efficient developers and the business will have the ability to respond far more effectively to changing demands and needs.

The most inevitable thing about technology is change. By replacing old-fashioned, inflexible processes with new, responsive, more automated service models, companies can embrace this change and use it to become the most agile and successful organisation that it can be.

Conclusion

Further Reading

Read the EMEA Research

See how C-level executives and IT leaders gave used data agility to survive in challenging times.

- Download the Report

Contact Us

To learn more about how working closely with Pure can help you overcome the barriers to embedding rapid agility into your organisation, please reach out to sales@purestorage.com or call on 02038 702633.

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