PURESTORAGE®

TAKING THE NEXT STEPS

HOW TO BUILD A RESILIENT AND AGILE
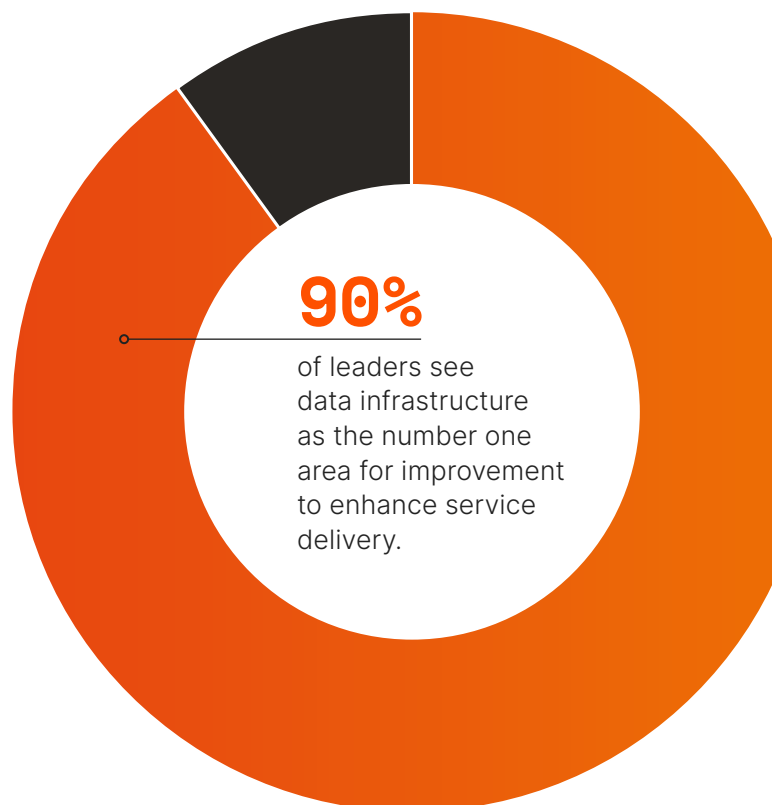### STRESS-TESTED PUBLIC SECTOR ORGANISATION

Delivering citizen-centric digital services can be a challenge in normal times. Today, the public sector has faced the ultimate stress test. It has had to transform operating models rapidly and learn to do more with less. All this has been against a backdrop of increased demand, disruption to services and entirely new ways of working.

In order to adapt to the 'new normal' and prepare for whatever the next major challenge may be, it is time to reflect on how the public sector has coped during this current stress test. Pure Storage polled over 500 IT leaders in Central Government departments across Europe and found continued structural weaknesses in the technological fabric and IT leaders struggling to accelerate digital transformation quickly enough. They are dealing with security and regulatory concerns while trying to fortify data infrastructures and deliver customer-centric services, fast.

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The research found that the vast majority of leaders (90%) see data infrastructure as the number one area for improvement to enhance service delivery, and 62% say that legacy infrastructure is holding up their digital transformation progress. It also showed that increased remote working – as a response to the COVID-19 pandemic – has amplified the challenges of legacy infrastructure. Some of the biggest challenges for IT departments in Central Government were the demands on remote access infrastructure (83%) followed by the delivery of new systems (81%), disruption to on-premise applications and workloads (79%) and finally performance issues or a degraded IT experience (77%). While small issues are to be expected when undergoing any kind of sudden upheaval, these percentages are much higher than they should be.

Luckily, departments are thinking about how they can continue to forge ahead with digital transformation strategies in order to tackle these challenges. The research found that priorities for the next 12 months included managing security threats (93%), improving agility (92%), efficiency and delivery (90%) and empowering employees with digital skills and technologies (90%).

We outline how public sector organisations can address key issues that are hampering a customer-centric approach, ensuring delivery models are future-proofed and able to cope with the inevitable increase in citizen demand. Yet, in light of the COVID-19 crisis, it's never been more important for IT leaders to understand how to create a data infrastructure that provides exceptional resilience – whether that be from an availability, security or business continuity perspective, alongside exceptional agility, for immediate scalability and speedy application development, for example.

With a Modern Data Experience from Pure Storage, the European public sector can build robust, dynamic IT infrastructures. Bearing in mind the two key characteristics of the stress-tested organisation are resilience and agility, here is how we recommend you build both into your data infrastructure, so that you can always meet the overarching strategic objective of delivering citizen-centric services.

Challenges and recommendations for achieving a citizen-centric service

#1 BUILDING RESILIENCE

Challenge

Preparing for and mitigating the impact of unexpected events can be a daunting process, considering they are unpredictable and well, unexpected. However, the pandemic has shown the public sector along with many others that resilience needs to be, and remain, a vital priority, which we break down into: performance, security, business continuity and management.

Outcome

Failure to be resilient during a crisis will result in service delays and impact citizen experience. Ensuring that infrastructure and systems are always up to date will help ensure that they perform in a crisis. A solution needs to be robust and reliable.

Performance

Data performance is particularly important when we note the challenges IT leaders have experienced in terms of performance degradation (77%) and disruption to on-premises workloads (79%).

Pure answer

Both FlashArray™ and FlashBlade®, our flagship storage technologies are designed to drive productivity and operational efficiencies, eliminating workload underperformance, costly downtime, slow response times and complexity. You will achieve predictable performance and rapid response from Microsoft, Oracle, SAP and web-scale applications, while saving on operating costs because of our industry-best data reduction techniques. 99.9999% availability[1] helps you to put an end to planned and unplanned downtime.
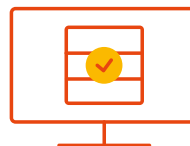
Management

Being resilient also means knowing what's going on with your systems at all times – but in a time of crisis, you might not have the human resource available to keep monitoring and optimising them. Therefore, management must be intelligent, foreseeing challenges before they arise, and able to pre-empt optimisation for you.

Pure answer

Pure1® effectively and seamlessly manages our data platforms, allowing you to work from just one management console. Go beyond simply managing storage, easily identifying infrastructure bottlenecks and minimising time to resolution with full-stack performance analytics. Available as a native mobile app for both iOS and Android, the solution provides complete visibility of your array and any support cases, even when you're on the go and unable to get to a computer.
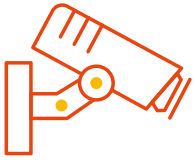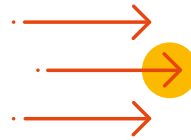
Security

As service models have moved increasingly online, we've also seen a rise in cyber security attacks. In fact, our research found that this is such an important issue that 53% of respondents would sacrifice performance in technology to have enhanced security. With remote working becoming 'the new norm' due to the pandemic, there is a risk that shadow IT and convenient data sharing methods – that aren't necessarily always the most secure – could rise, bringing more risk to the infrastructure that supports the sector. 40% of survey respondents had reported that they had seen an increase in malicious data security threats, while 24% reported an increase in non-malicious data security threats. Due to the important and often sensitive nature of the data the public sector holds and manages, it can become a natural target for threats such as ransomware.

Pure answer

Our public sector clients rely on our enterprise-grade security solutions to keep data and processes safe. Since the EU's General Data Protection Regulation (GDPR) came into effect, this has gone from being a responsible consideration to an issue of compliance. Pure Storage FlashArray 'at rest' encryption provides encryption in the software at the array level. It has the ability to compress, dedupe, and encrypt data without any performance overheads leading to cost efficiencies, the highest level of security, and entirely removing human error from the process.

Business continuity

In future, disruption may strike more suddenly and come in the form of technological outages or physical disruption and therefore it's vital that leaders rethink their approach to business continuity, looking at affordable ways to keep it always on so that there are no delays because there will be no more restoring data to a secondary site.

Pure answer

When it comes to physical disruption, we have always-on, seamless approaches supporting complete business continuity that requires no third site, no extra hardware, licenses, or fees. This allows public sector organisations to move workloads at will – as capacity growth and performance needs require, achieve higher availability within the datacentre, and maintain business services even if one site fails. Rapid Restore provides architecture that is big enough to consolidate data silos, including backup appliances, and also provides data-recovery performance of up to 270 TB/hr, providing peace of mind. As a complement, Purity ActiveCluster™ delivers synchronous data replication for zero RPO and automatic transparent failover that delivers zero RTO. Clustered arrays and hosts in multiple sites within flexible active-active data centre configurations, together with intelligent asynchronous replication for long-distance disaster recovery.

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#2 BUILDING AGILITY

Challenge

The COVID-19 outbreak has taught us all that there is no such thing as 'business as usual'. At a moment's notice unpredictable events could impact the way we conduct business and public services, causing huge upswings in demand, driving wholesale change in 'business models' and working practices and behaviours.

Outcome

Without the ability to be rapidly agile, public sector organisations across Europe could easily fail to provide adequate levels of service to citizens. Knee-jerk reactions within the IT department, such as shipping out to the public cloud, could result in huge and unforeseen cost and compliance issues. Instead, we recommend building data infrastructures that eliminate complexity, yet are fluid in terms of allowing you to provision for hybrid or multi-cloud environments and deployable remotely in hours if not less. Let's look at how we can help you be more flexible and agile around changes to working practices, scalability, and driving innovation.
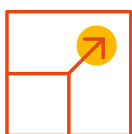
Scalability

Without doubt, demand for existing services spiked across every European economy. Yet that's only the start of the challenge. New services to mitigate the financial impact on citizens and businesses of COVID-19 also had to be developed, quickly. This ability to react rapidly as circumstances change requires scalability – but in ways that assure data performance, security and will not put budgets under unnecessary pressure.

Pure answer

Pure FlashBlade® was the first all-flash storage system purpose-built for modern analytics – architected from the ground up to deliver a robust data platform for the cloud era that is fast, infinitely scalable and easy to manage. Perhaps most importantly, for times like these, it boosts developer productivity, allowing your teams to run projects faster, including coding, building, testing, deploying and monitoring new apps and business services. We built this technology on scale-out metadata architecture, so that it can handle tens of billions of files and objects while delivering maximum performance and rich data services. By investing in these kinds of advanced solutions, public sector organisations can deliver on the belief, held by 69% of IT leaders, that better use of data can transform citizen outcomes, which therefore also has a positive outcome for innovation.

Crucially, as the next step towards driving scalability, Pure-as-a-Service™ offers on-premises and cloud storage as a service and allows you to efficiently operate a hybrid cloud by unifying your environment with one subscription and one set of storage services. You're also billed based on actual consumption, meaning the solution flexibly adapts to current circumstances. Set-up takes mere hours, if that, so it can create a platform for digital transformation and innovation. In addition, Pure Cloud Block Store™ uses industry-leading data compression, thin provisioning, and deduplication so that your data uses less cloud storage. You'll also benefit from snapshots and clones that consume no additional cloud storage.
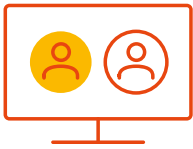
Working practices

The widespread move to remote working by a large proportion of the public sector workforce is another factor that has exacerbated the existing challenges presented by legacy infrastructure. According to our research, 83% of government IT leaders cite demands on remote access infrastructure as their biggest challenge. To ensure continued resilience and security despite the challenges this presents, the industry must implement a modern data architecture that can withstand the rise of remote working, and associated data.

Pure answer

Virtual Desktop Infrastructure (VDI) eliminates many of the common struggles with accommodating remote working by allowing IT administrators to host and administer end-user desktops in a virtual machine running on a server in the data centre – increasing not only the manageability of user desktops/PCs, but also performance and security.

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Innovation

In times of extreme crisis, it might seem counter intuitive to drive innovation rather than to batten down the hatches and shore up existing infrastructure. Yet crises can, by their very nature, fuel innovation due to an organisation's need to problem solve their way out of the crisis and to a 'new normal'. Citizens are increasingly willing to participate in the value exchange that drives innovation in service delivery if they can feel a material change in the customer experience. Therefore, public sector organisations must make that data more available in the development of new, digitalised application-driven services.

Pure answer

Pure FlashBlade serves as a data hub eliminating silos and allowing enterprises to consolidate and share data. With storage built to serve data concurrently and eliminate infrastructure complexities, the solution integrates data warehouse, data lake, streaming analytics and AI clusters into a single, unified platform. This allows data to be used both for existing applications and services, and also in the pursuit of innovation and digital transformation projects.

The Pure Storage Evergreen™ subscription model within Pure-as-a-Service, delivers continuous innovation and performance improvements, and supports long-term performance improvement. Evergreen enables you to expand storage for 10 or more years, upgrade components whenever needed, and it also enables seamless regular refresh cycles, to ensure systems are up to date, without migrating data or causing downtime. Pure1 also enables predictive intelligence so you can forecast capacity and performance needs over time. Upgrades can also be managed and scheduled from Pure1.
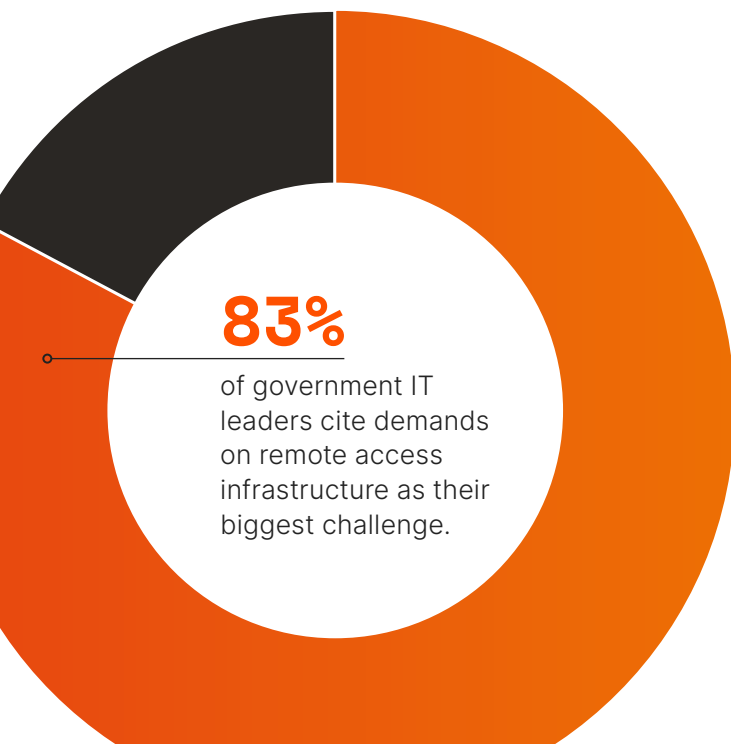
What next?

Faced with the conundrum of needing to accelerate digital transformation and enhance citizen outcomes, all whilst needing to do more with less, the task ahead can seem daunting. However, it needn't be. Use this best practice approach to building a stress-tested organisation, that combines powerful resilience and rapid agility. It's now vital that you have a robust plan of action to build both of these capabilities into your data infrastructures and eliminate the performance and availability risks that legacy technologies present.

By working with Pure Storage, public sector organisations can reduce their storage footprint while driving data availability and application performance. They can meet citizen expectations for quality and speed of service, by deploying a robust, stress-tested infrastructure. This will also optimise budgets, management overhead and resolve important security and compliance issues that are particularly important to citizens. Follow this blueprint and take back control of operational performance and innovation, today.

If you would like to learn more about how our vision, our technology and our experience is so perfectly aligned to help you further your digital transformation goals, please contact your Pure Storage team on

0203 870 2633 or email us.

Alternatively download
'Building a Stress-Tested Public Sector – EMEA Report 2020'