BLOCKS & FILES.

WHITEPAPER

ORGANIZATIONS ARE MANAGING AND STORING EVER MORE DATA. HERE'S HOW THEY'RE DOING IT

COMPANIES AND PUBLIC SECTOR ORGANIZATIONS ARE UNDER IMMENSE PRESSURE WHEN IT COMES TO STORING AND MANAGING THEIR EXPANDING POOLS OF DATA.

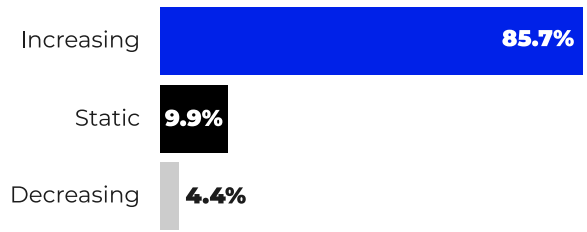
Data underpins digital transformation efforts, fuels the rise of machine learning and AI, and feeds the advanced analytics platforms that underpin lightning-fast decisions and seamless customer experiences in ecommerce and financial services.

So we asked over 600 organizations worldwide, from a range of industries, to give us an insight into how much data they were actually managing, and what technologies they were using to accommodate it.

It's not a surprise that storage demand was on the rise at the vast majority of respondents. Almost 86 per cent of respondents are increasing their digital storage, with just 4.4 per cent reporting a decrease.

FIGURE 1:

IS YOUR DIGITAL STORAGE INCREASING OR DECREASING?



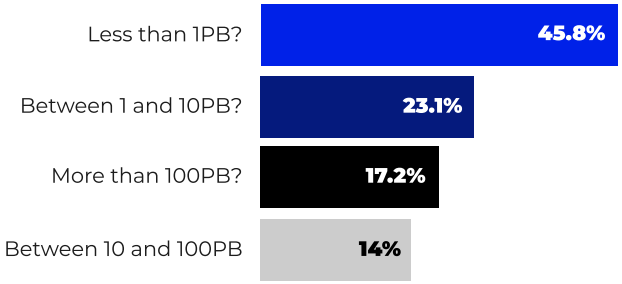
Just under half of respondents – 45.8 per cent – say they are storing less than 1PB, with just under a quarter managing between 1PB and 10PB, while 14 per cent are storing 10PB to 100PB. However, 17.2 per cent have 100PB or more to take care of.

THE BIG GET BIGGER

When it comes to the largest organizations, those with 10,000 employees or more, which made up 20 per cent of our sample, the proportion managing 100PB or more of data increased to 33 per cent. It's worth noting that our raw data suggested EMEA-based entities were slightly underrepresented in the 100PB plus bracket, with LatAm and Asia Pacific overrepresented.

FIGURE 2:

HOW MUCH DATA DO YOU STORE DIGITALLY?

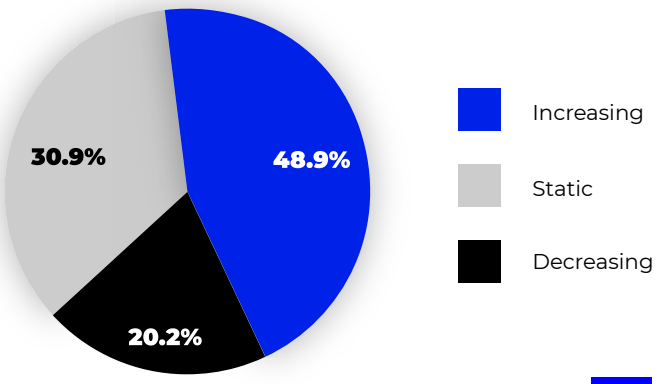


So how is all this data being stored, managed, and served up to applications and users?

Just under half of our respondents said they were increasing their use of on-prem SANs, with 20.2 per cent reporting a decrease. However, just looking at the biggest companies, 60 per cent said they were increasing their use of such SANS.

FIGURE 3:

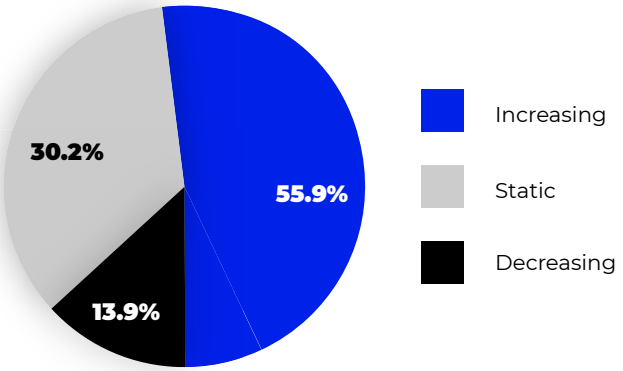
ARE YOUR USE OF ON-PREMISES EXTERNAL SHARED BLOCK ARRAYS (SANS) INCREASING OR DECREASING?



When it came to on-prem object storage, 55.9 per cent of respondents were increasing their use, with 30.2 per cent reporting a holding pattern. At the largest organizations, 65 per cent reported an increase.

FIGURE 4:

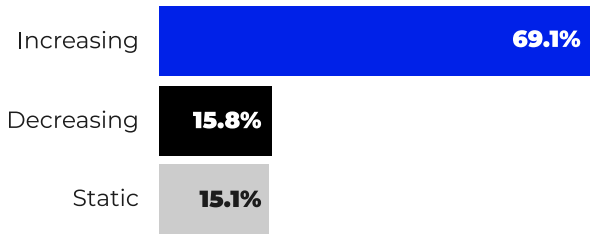
IS YOUR USE OF ON-PREMISES OBJECT STORAGE INCREASING OR DECREASING?



Over two thirds – 69.1 per cent – said they were increasing their use of on-prem file storage, with 15.8 per cent reporting a decrease, and 15.1 per cent static. Again, larger entities were more likely to report an increase, at 73.5 per cent.

FIGURE 5:

IS YOUR USE OF ON-PREMISES FILE STORAGE INCREASING OR DECREASING?



A similar amount, 68 per cent overall, said they increasing their use of on-prem flash storage, with 21.1 per cent static. The proportion reporting an increase in flash use rose to three quarters amongst the largest companies.

Just over half of organizations said they were using both SATA/SAS flash AND NVMe flash, with SATA/SAS just having the edge for the remainder at 24.3 per cent. Perhaps unsurprisingly, large companies were much more likely to be using both.

FIGURE 6:

IS YOUR USE OF ON-PREMISES FLASH STORAGE INCREASING OR DECREASING?

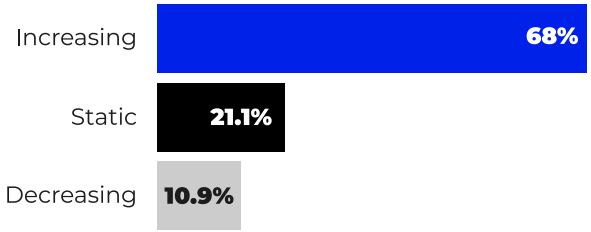
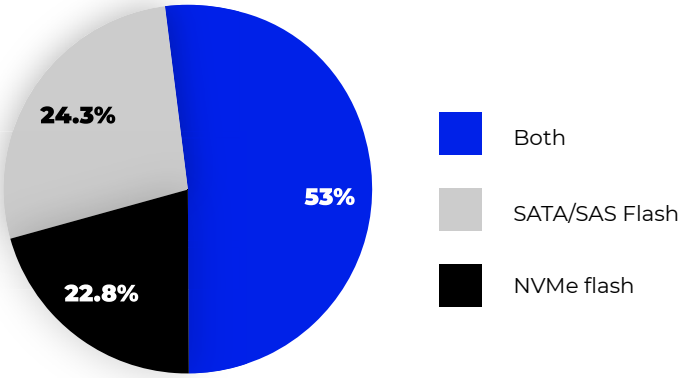


FIGURE 7:

DO YOU USE SATA/SAS OR NVME FLASH, OR BOTH?



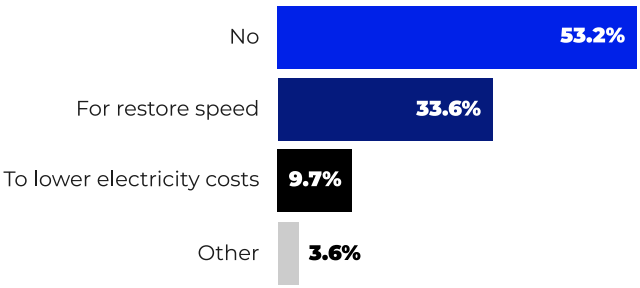
This no doubt reflects their more complex needs and their deeper pockets. We've seen that larger organizations are more likely to have vast pools of data, and it stands to reason they will have the financial resources to pay the NVMe premium to ensure they deliver data to applications as fast as possible. But this state of the art infrastructure still lives alongside legacy infrastructure.

While flash usage is clearly increasing, less than half of organizations said they were using flash for data protection, with a third overall citing its advantages when it comes to restore speed over legacy media. One in ten organizations said there were using flash for data protection to lower electricity costs.

Again, larger orgs were more likely to use flash for data protection and to cite restore speed. This might reflect the financial resources they can bring to bear, as well as the importance they attach to getting systems back up and running as fast as possible to avoid disruption to business and reputational damage.

FIGURE 8:

DO YOU USE FLASH STORAGE FOR DATA PROTECTION AND IF SO WHY?



External block storage SANS were used by 41.2 per cent of respondents, giving them the edge over HCI-based kit, which was used by just over a quarter of respondents. Larger organizations were even more likely to be using external block storage SANS.

While the use of containers has become commonplace as organizations modernize their software stacks, the technology still presents a challenge when it comes to providing persistent storage. Just shy of 60 per cent of organizations said they supplied storage for containerized applications, with three quarters of the largest organizations saying so.

Of those that are providing storage for containerized apps, just 44 per cent overall said they were using CSI-connected storage or cloud native storage technology. Again, a larger proportion of the largest organizations, 56 per cent, confidently said they were supporting their containerized applications with CSI or cloud native technologies.

FIGURE 9:

DO YOU USE EXTERNAL BLOCK STORAGE (SAN) OR HYPER-CONVERGED INFRASTRUCTURE (SERVER SAN)?

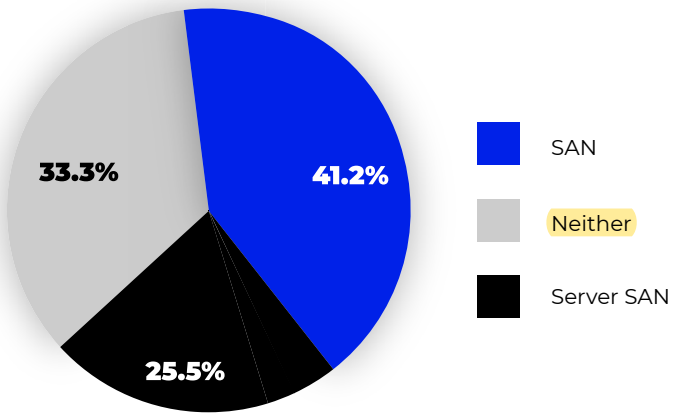


FIGURE 10:

DO YOU SUPPLY STORAGE TO CONTAINERIZED APPLICATIONS?

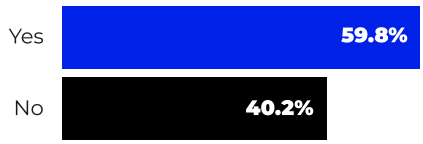
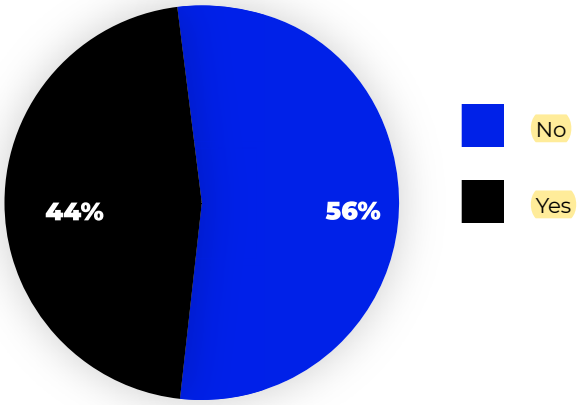


FIGURE 11:

DO YOU USE CSI-CONNECTED EXTERNAL STORAGE OR A CLOUD-NATIVE STORAGE FACILITY (LIKE PORTWORX)



A COMPLEX LEGACY, A COMPLEX FUTURE

It seems clear that, for our readers, data begets data. Those companies with the most data were also more likely to be seeing their data mountain increase, with 90 per cent of respondents managing 100PB or more also showing an increase in their digital storage. By contrast, just 79 per cent of those with less than 1PB reported an increase.

And our figures suggest that the organizations with the most data are also the ones who are adopting newer technologies – CSI, NVMe – more enthusiastically.

This leaves them with the challenge of balancing legacy architectures with newer infrastructure, supporting new software architectures, and ensuring resiliency as customers demand seamless service, 24 hours a day. Get this balancing act right, and they'll produce even more data. Getting it wrong simply isn't an option.

Blocks & Files is a storage news, information and analysis site covering storage media, devices from drives through arrays to server-based storage, cloud storage, networking and protocols, data management, suppliers and standards.

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