

Storage: limitations, frustrations and coping with future needs

Red Hat Storage
Research results

June 2016

Demographics

500 IT decision makers who have responsibility for IT storage, or an interest/understanding of it, were interviewed in April and May 2016, split in the following ways...

...country

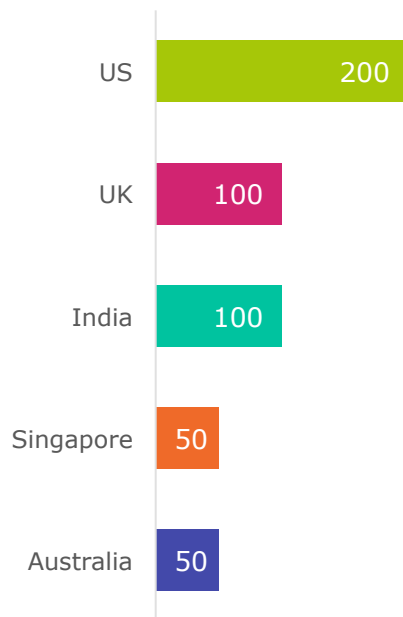


Figure D1: Analysis of respondent country (500 respondents)

...organization size

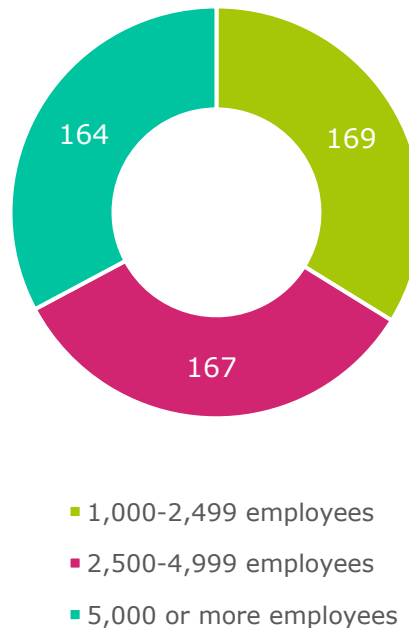


Figure D2: "How many employees are there within your organization globally?", asked to all respondents (500 respondents)

...sector

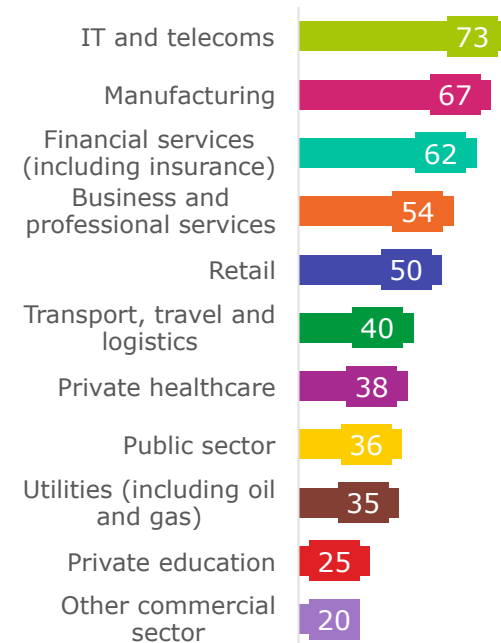


Figure D3: "In which of these sectors would your organization be categorized?", asked to all respondents (500 respondents)

Three areas of interest:

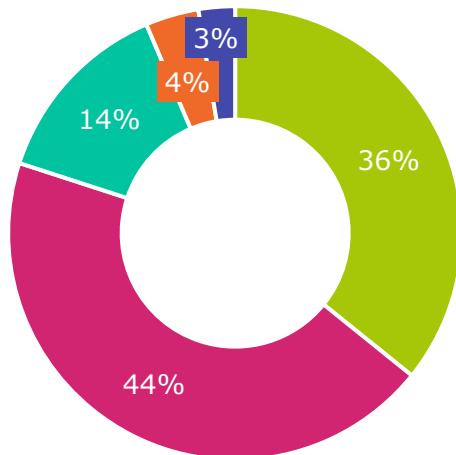
- 1: The current environment
- 2: Coping with storage
- 3: The future of storage

1: The current environment

Ownership of servers and working with vendors

The vast majority (94%) of respondents' organizations own at least half of their servers. Only 3% outsource all of them

There is clear 'server-hugging' for most organizations, but that does not mean that they will not work with vendors when they need to...

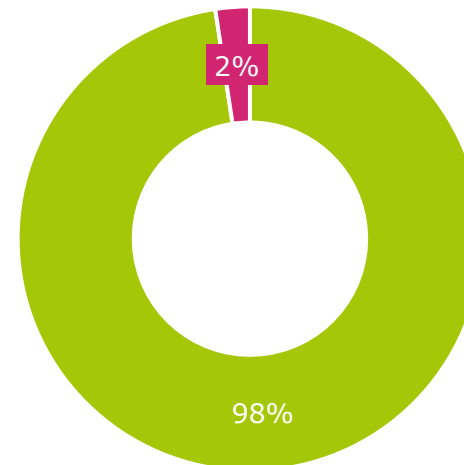


- Owns all of its servers
- Owns the majority of its servers and rents a minority
- Owns around half of its servers and rents the other half
- Owns a minority of its servers and rents the majority
- Only uses servers that are outsourced to third party data center

Figure 1: "Does your organization primarily own its own servers, or rent them?", asked to all respondents (500 respondents)

Almost all (98%) respondents report that their organization is using products/services from vendors when it comes to data storage

Despite 'server-hugging', third parties are needed to manage the data needs for many



- We are using any vendors' products/services
- We are not using any vendors' products/services

Figure 2: Analysis of whether respondents' organizations are using vendors' products/services when it comes to data storage (500 respondents)

IT budget allocation to storage

Respondents' organizations are allocating 13% of their IT budget to storage, on average

In an ideal world, this would increase to 14%, according to those surveyed

Although many would like to increase their current allocation of budget, surveyed decision makers believe that an average of 15% of IT budget will be spent on data storage in the next two years, if current strategies remain the same

Unless strategies are amended, organizations are likely to be spending more budget than they want to (or possibly can afford)

Is the volume of organization's data set to change in the near future?

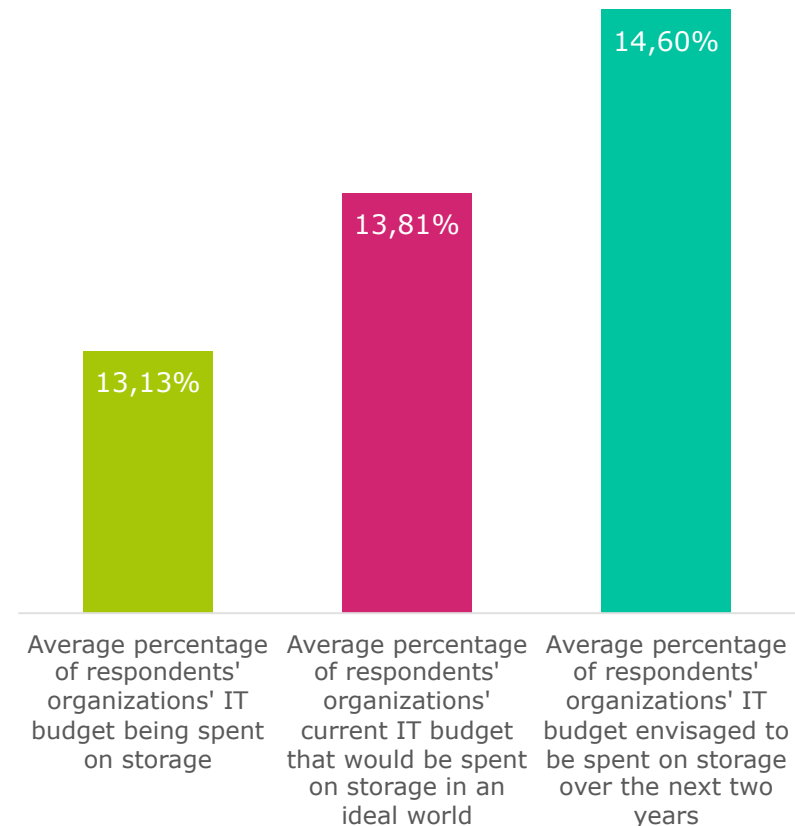


Figure 3: Analysis of the average current IT budget being allocated to storage, ideal allocation and how much will be allocated if the current strategy remains (500 respondents)

The changing volume of data

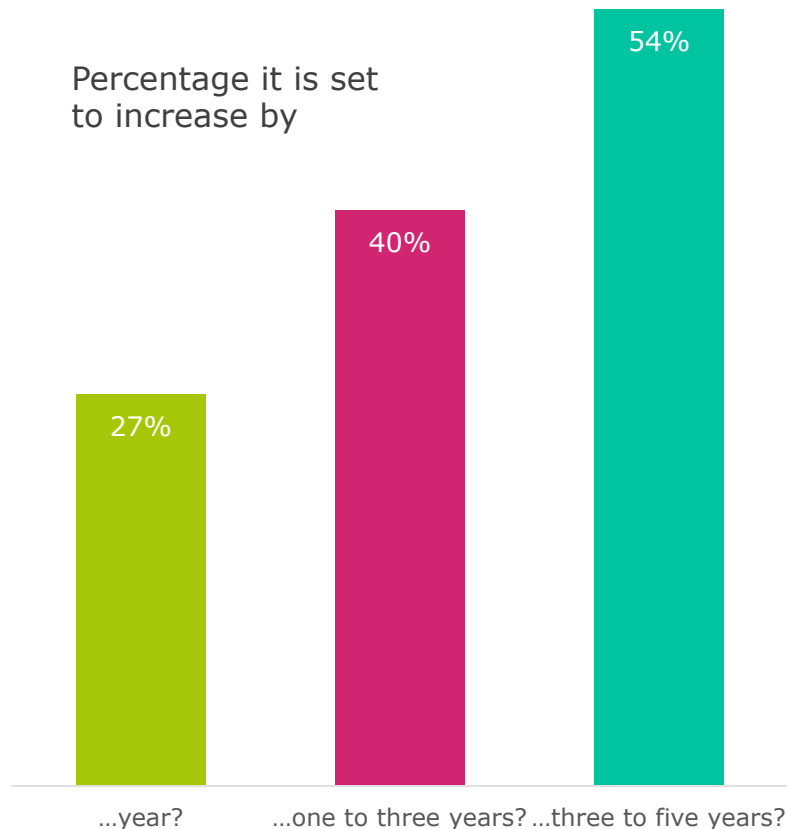


Figure 4: "How do you think that your organization's volume of data will change over the next...", asked to all respondents (500 respondents)

In the next year alone, respondents believe that their organization's volume of data is set to increase by 27%, on average

In three to five years time, the volume is expected to increase by 54%, on average

This may explain why most respondents think that their budget for storage will increase in the near future (figure 3)

Organizations will have to spend huge sums to cope with the significant increase in data, unless they amend their strategy – one way would be to adopt non-traditional storage solutions

Are decision makers worried about fulfilling storage needs?

Budget and volume tensions

Around three quarters (74%) of respondents are worried about their organization's ability to cope with the increasing volume of data

A similar number (76%) admit that they have concerns with what they are required to do in regards to storage needs, and the budget allocated to it

Consequently, most (68%) say that their department will run out of budget allocated to storage

Coping with storage is already a concern for decision makers, and that is set to continue into the near future

I feel there is tension between what I am asked to do, in terms of storage, and what my budget will allow me to do

76%

I am worried about my organization's ability to cope with an increasing volume of data, due to a lack of storage

74%

At some point my department will run out of budget allocated to storage

68%

Figure 5: Analysis of respondents that agree with the following statements (500 respondents)

2: Coping with storage

IT frustrations

Although budget constraints (45%) and complexity of systems (42%) are the most likely frustrations when it comes to IT management, according to respondents, around three in ten (28%) say that inadequate storage infrastructure is a frustration (figure 6)

For almost four in ten (38%), inadequate storage infrastructure is in their organization's top three weekly pain points (figure 7)

Despite more likely frustrations, storage issues is amongst the most frequent pain points for many

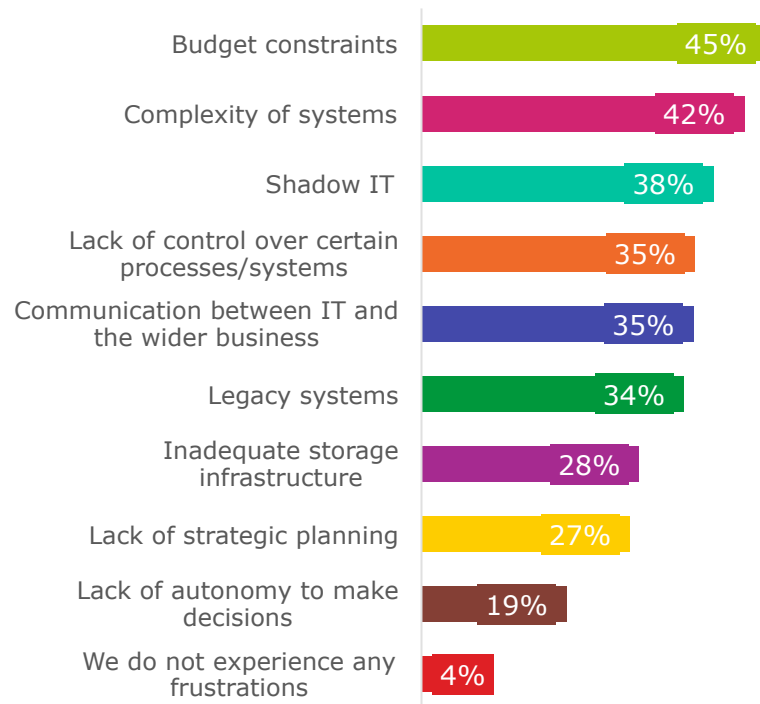


Figure 6: "When it comes to IT management, what are the greatest frustrations that your organization experiences?", asked to all respondents (500 respondents)

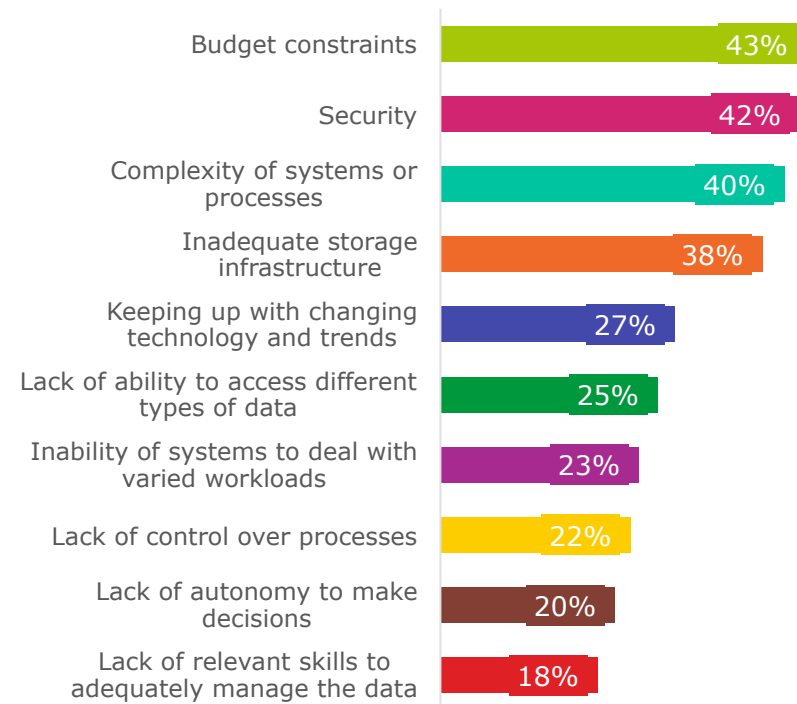


Figure 7: Analysis of the top three pain points for respondents' organizations on a weekly basis (500 respondents)

How many view storage as a weekly pain point?

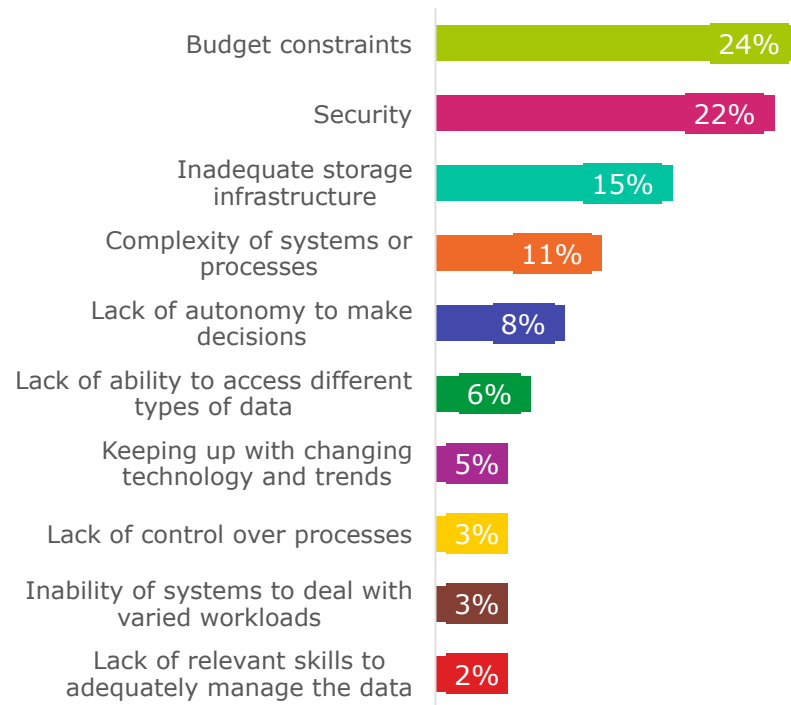


Figure 8: Analysis of what respondents ranked as their organization's biggest pain point on a weekly basis (500 respondents)

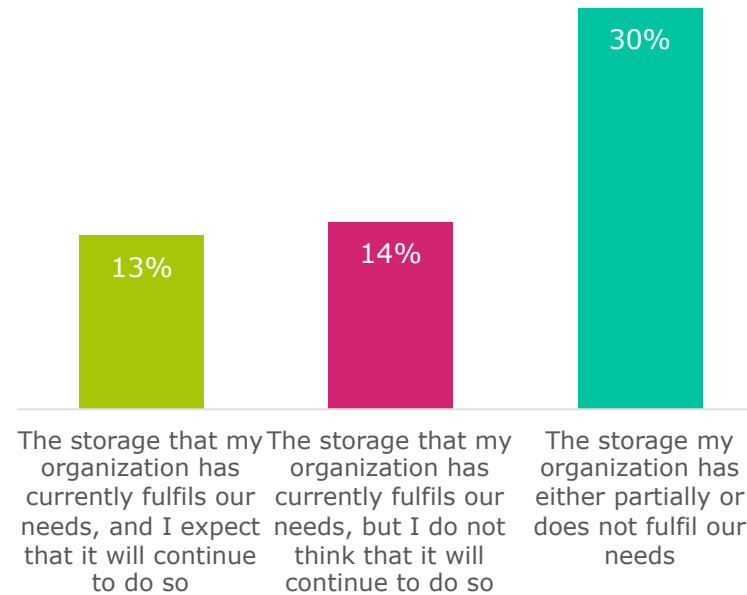


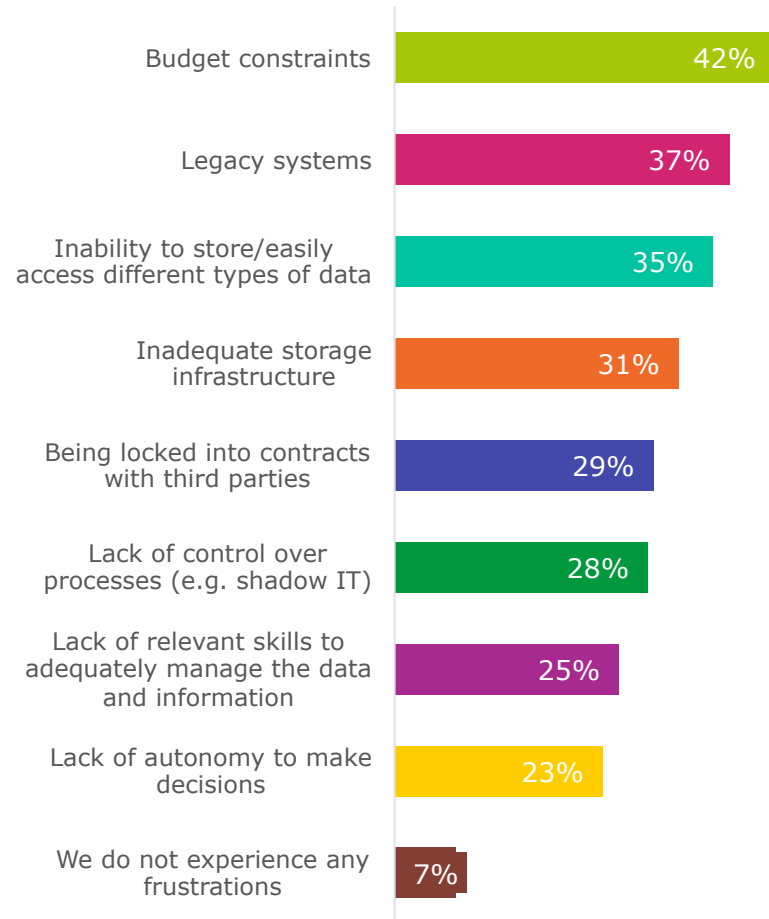
Figure 9: Analysis of respondents who rank storage as their number one weekly pain point, split by whether their organization's storage fulfils their needs or not (500 respondents)

According to around one in six (15%) surveyed decision makers, inadequate storage infrastructure causes the most pain for their organization on a weekly basis (figure 8)

This increases to 30% of those from organizations where their current storage solution is only partially, or not, fulfilling their needs (figure 9)

This suggests that if storage solutions are not good enough for organizations, it is likely to be a significant issue that they will experience regularly (i.e. weekly)

Challenges with managing data and information



93% of respondents' organizations experience frustrations with managing their data and information

The most likely frustrations are budget constraints (42%) and legacy systems (37%)

Around three in ten or more claim that inability to store/easily access different types of data (35%), being locked into contracts with third parties (29%) and a lack of control (28%), are problematic

Most organizations want control and ownership (figure 1) and therefore do not like to be tied into inflexible solutions

Are decision makers happy with their current storage solution?

Figure 10: "When it comes to managing data and information, what are the greatest frustrations that your organization experiences?", asked to all respondents (500 respondents)

Frustrations with current storage solutions

On average, respondents' organizations experience three frustrations with their current storage solution

Increased costs (35%), a lack of flexibility (27%), no freedom to build their own solution (21%) and a lack of scalability (16%) are some of the frustrations reported

No one frustration is highlighted by the majority, which shows that organizations are suffering from a variety of issues - organizations need a storage solution that suits their bespoke needs

What volume of data can organizations' current storage solution cope with?

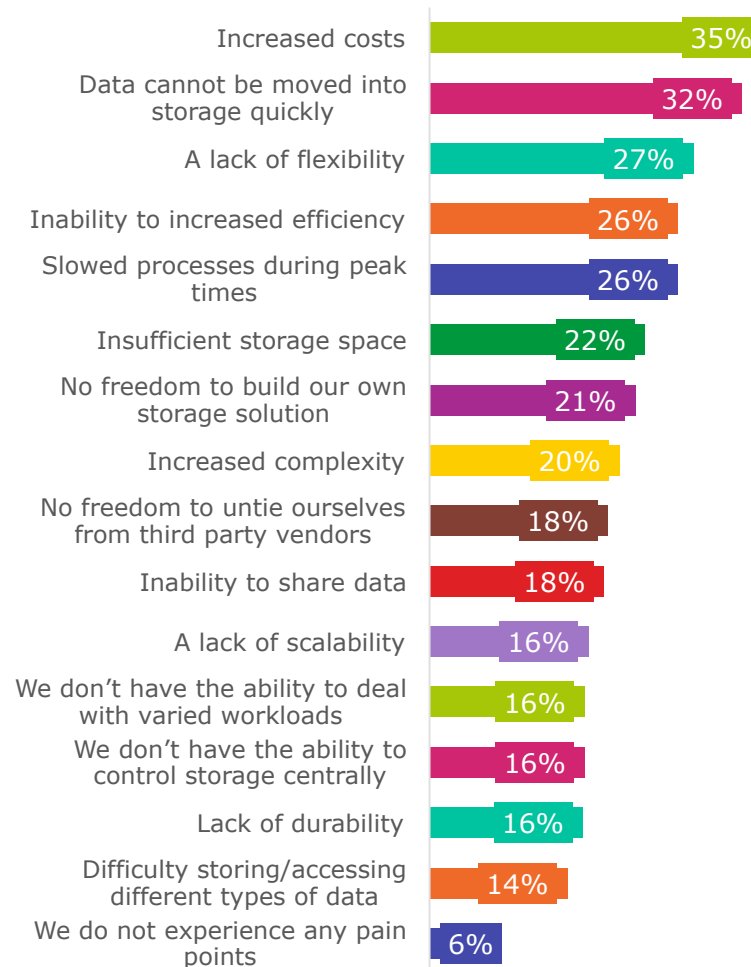


Figure 11: "What frustrations do you experience as a result of your organization's storage solution?", asked to all respondents (500 respondents)

Volume of data organizations are ready for

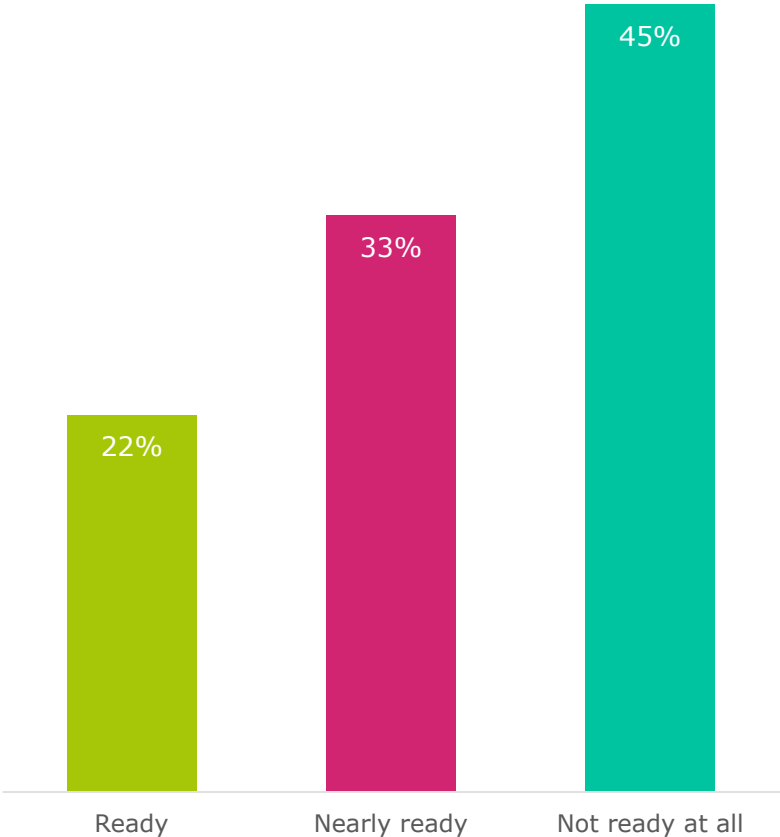


Figure 12: Analysis of the average additional amount of data respondents' organizations are ready, nearly ready and not at all ready to take on (500 respondents)

On average, respondents' organizations are only ready to take on 22% more storage if they needed too...

...which is less than the volume of data that they expect to have to handle in the next year (figure 4)

Although surveyed decision makers believe that their organization is nearly ready to take on 33% more storage, most will struggle to cope with their storage needs in the next twelve months

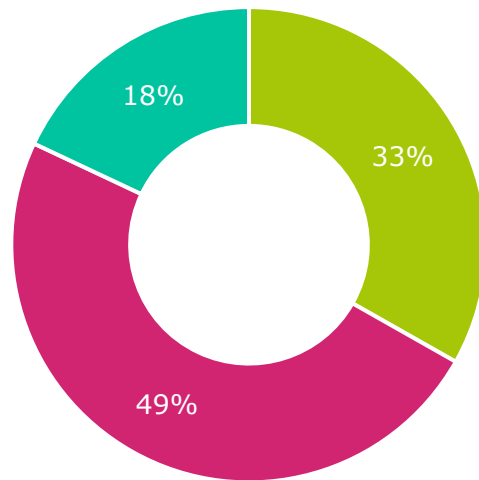
Can organizations work to a petabyte-scale?

Workloads at Petabyte-scale

Only one third (33%) of respondents believe that their organization is versatile enough to cope with workloads bigger than petabyte-scale; most (66%) cannot (figure 13)

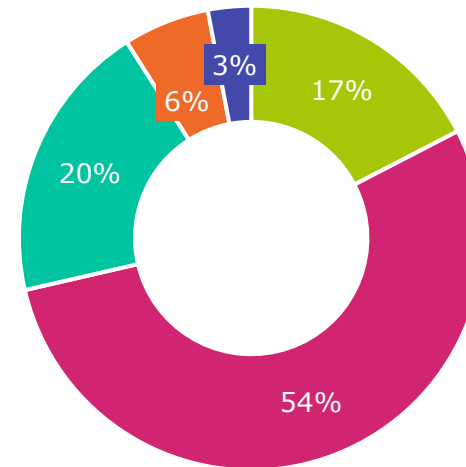
Furthermore, only 17% strongly agree that their organization could support a new application requiring 10PB of storage next month, if they had to (figure 14)

Most organizations are not currently prepared and able to cope with large workloads – as the volume of data increases, many will not have the solutions in place to cope



- Yes, it is versatile enough to cope with workloads at a bigger scale than this
- Yes, it is versatile enough to cope with workloads this big
- No, it is not currently versatile enough

Figure 13: "Is your organization versatile enough to cope with modern workloads at petabyte-scale (for example, increasing storage in one area and taking it away from another where it is not needed)?", asked to all respondents (500 respondents)



- Strongly agree
- Agree
- Disagree
- Strongly disagree
- I don't know

Figure 14: "To what extent do you agree or disagree with the following statement? My organization would be able to support a new application requiring 10PB of storage next month, if we had to", asked to all respondents (500 respondents)

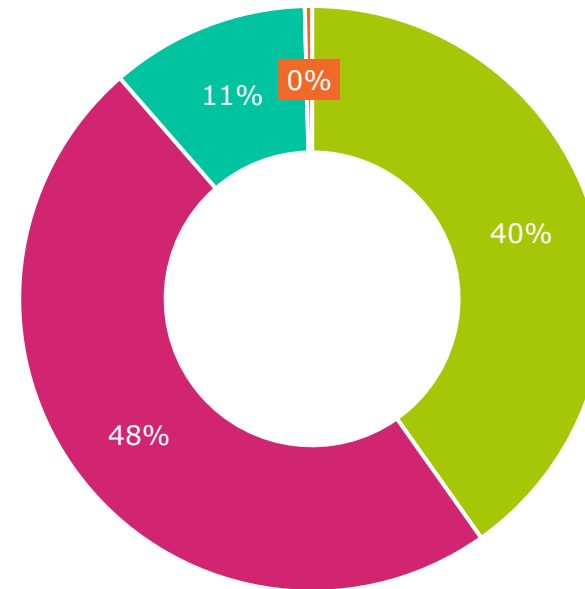
Fulfilling storage needs now and in the future

Around half (48%) of surveyed decision makers say that their organization's storage currently fulfils their needs, but will not continue to do so

For 11%, their current solution only partially fulfils their needs

As most organizations are not able to handle workloads at bigger than petabyte-scale (figure 13) and will not be ready to cope with the increasing volume of data (figure 12), it is no surprise that the minority think that they have futureproof solutions

Organizations will need to act fast to amend their strategies if they which to have a fit-for-purpose storage solution



- The storage that my organization has currently fulfils our needs, and I expect that it will continue to do so
- The storage that my organization has currently fulfils our needs, but I do not think that it will continue to do so
- The storage that my organization has partially fulfils our needs
- The storage that my organization has does not fulfil our needs

Figure 15: "Please indicate the statement that best describes the role of storage in your organization", asked to all respondents (500 respondents)

3: The future of storage

Disruptive trends and storage

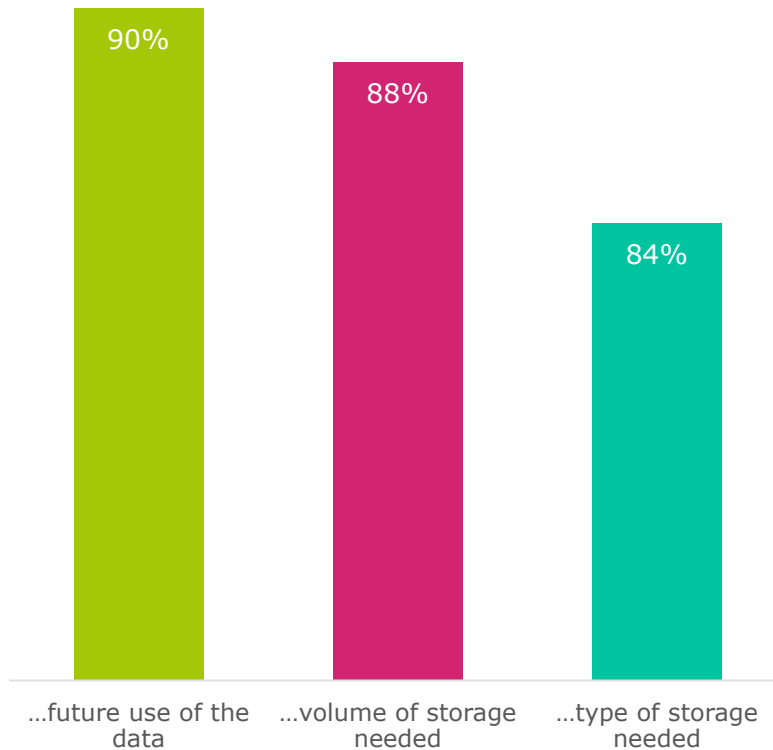


Figure 16: "Please indicate to what extent you agree with the following statements: Disruptive trends mean that it is hard to plan for the...", asked to all respondents (500 respondents)

The majority of respondents say that disruptive trends impact data and storage...

...from the future use of data (90%), the volume of storage needed (88%), to the type of storage needed (84%)

As storage needs become increasingly uncertain, organizations will need a solution that can adapt to disruption quickly

How do decision makers view storage?

Storage and innovation

Although 29% of surveyed decision makers view storage in their organization as a burden, most see it as an opportunity to make efficiencies (62%) and to be innovative (54%)

What is holding organizations back from using storage for innovation...?

Over eight in ten respondents claim that being locked into contracts prevents innovation when it comes to storage (89%), and legacy systems also make it hard (82%)

For decision makers to see storage as an opportunity rather than a burden, the solution needs to be as owned by organizations as possible – allowing it to be built around current systems

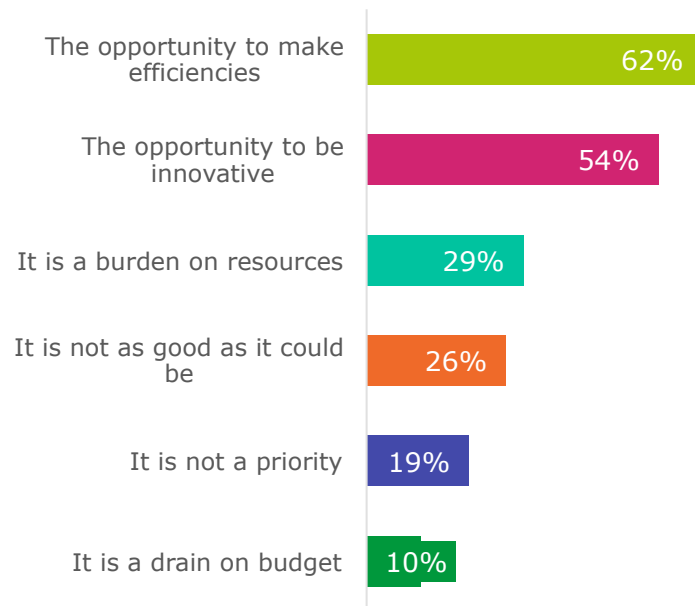


Figure 17: "What best describes your view of storage within your organization?", asked to all respondents (500 respondents)

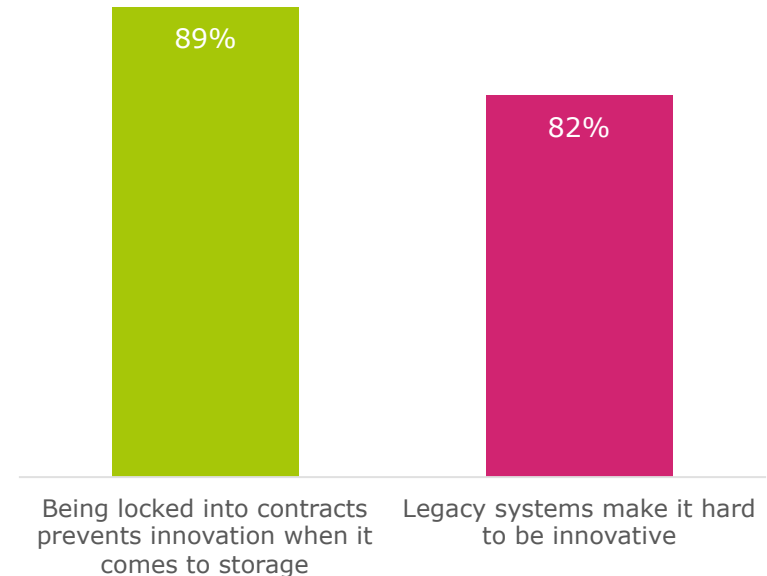


Figure 18: Analysis of respondents that agree with the following statements (500 respondents)

Obstacles preventing a shift to an agile solution

A lack of budget (43%) is the most likely reason holding respondents' organizations back from implementing an agile storage solution

For 23%, being tied into a third party vendor relationship is holding them back. This is also preventing many respondents' organizations from viewing storage as an opportunity for innovation (figure 18)

There are a range of challenges preventing organizations from adopting an agile storage solution – many of these challenges align with their current frustrations with storage (figure 10)

What are the benefits of an agile storage solution?

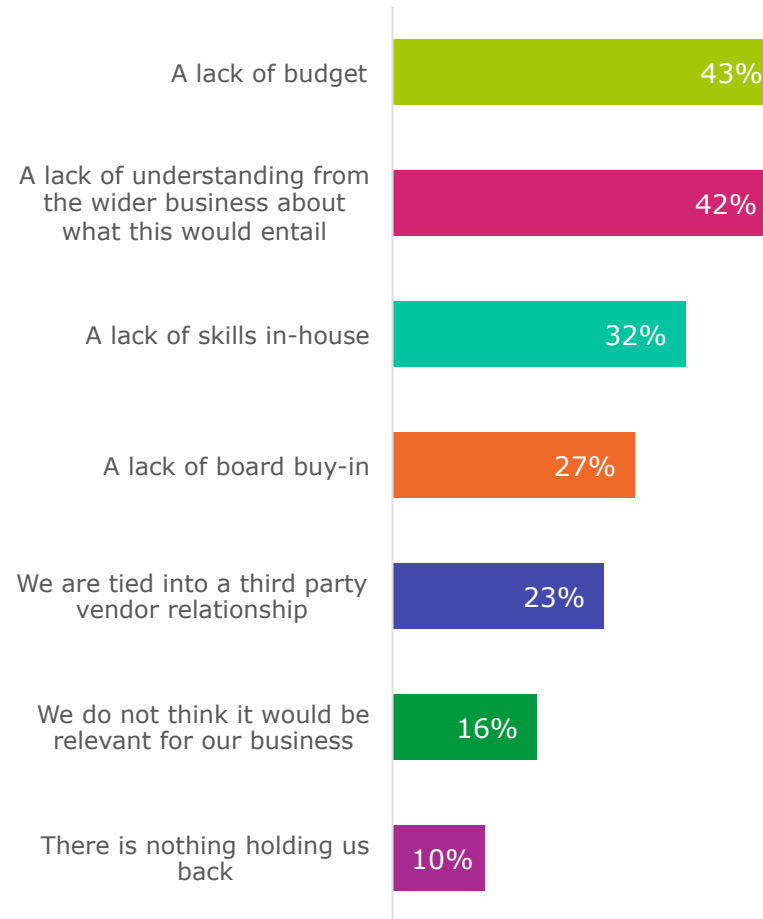
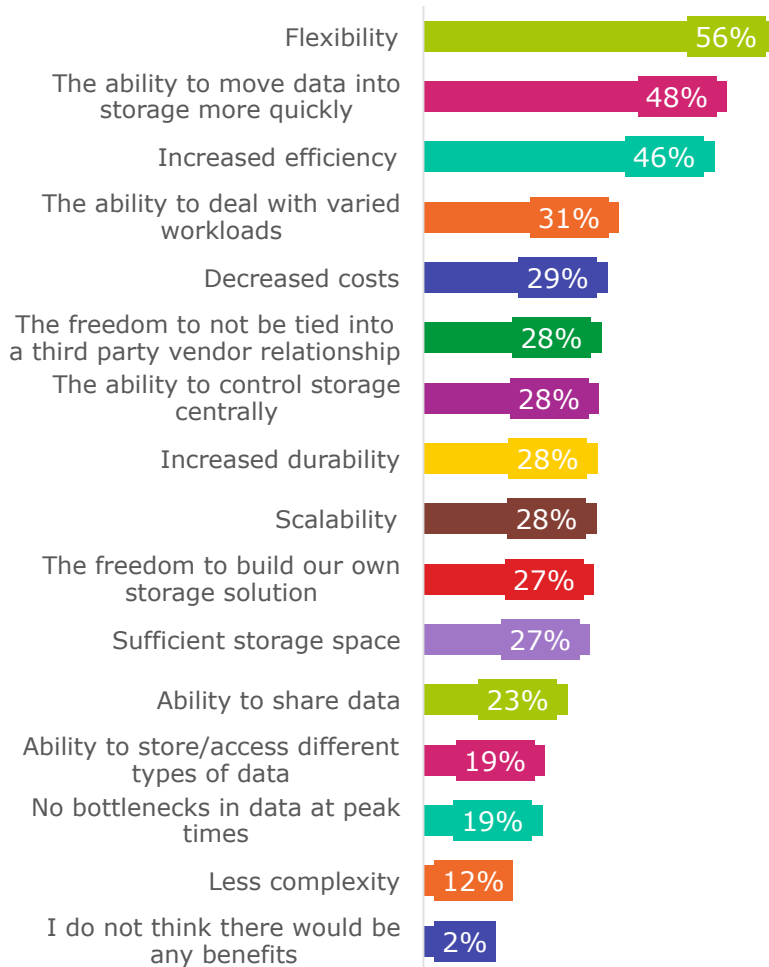


Figure 19: "What would hold your organization back from making the shift from a traditional storage solution to an agile storage solution?", asked to all respondents (500 respondents)

Benefits of an agile storage solution



Almost all (98%) surveyed decision makers believe that an agile storage solution could bring benefits to their organization

Respondents say that there would be five benefits on average

Flexibility (56%), the ability to move data into storage more quickly (48%), the ability to deal with varied workloads (31%) and the freedom not to be tied into third party vendor relationships (28%), are some of the benefits reported

For most organizations, an agile storage solution would alleviate most frustrations with their current storage solution (figure 11)

When it comes to storage, are decision makers worried about the future?

Figure 20: "What do you think would be the benefits for your organization of moving to an agile storage solution or a more agile storage solution?", asked to all respondents (500 respondents)

Are current solutions future-proof?

70% of respondents believe that as it stands, their organization's storage needs will not be able to handle next generation workloads

Most also agree (73%) that their organization is not always aware of storage needs in advance – this is likely to be partly due to disruptive trends (figure 16)

Storage needs to be a higher priority in organizations, according to 83% of respondents. If it is not, coping with the large volumes of data over the next few years (figure 4) will be very problematic and will become a weekly pain point for even more (figure 8)

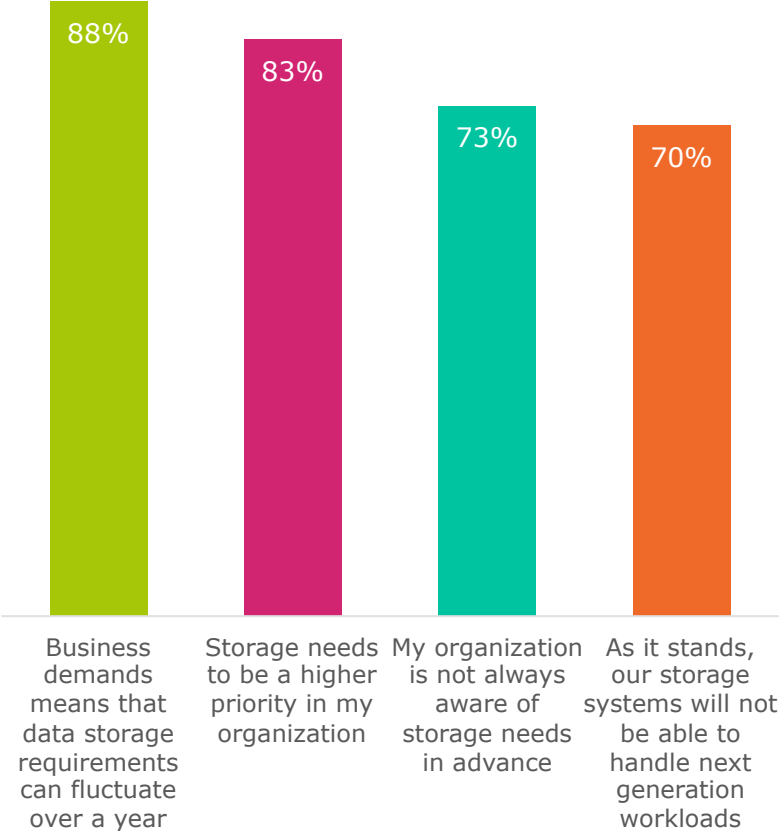


Figure 21: Analysis of respondents that agree with the following statements (500 respondents)

In summary...

- When it comes to data storage, 98% of respondents' organizations are using products/services from vendors
- At present, respondents' organizations are allocating 13% of their IT budget to storage
 - In an ideal world this would be 14%
 - If the current strategy continues, respondents believe that the allocation will increase to 15%
- Almost seven in ten (68%) respondents claim that their department will run out of budget allocated to storage
- In the next year, surveyed decision makers believe that their organization's volume of data will increase by 27%
- For over a third (38%) of respondents' organizations, inadequate storage infrastructure is one of their top three weekly pain points
 - For around one in six (15%), it is the biggest weekly pain point
- The vast majority (93%) of respondents' organizations suffer frustrations with managing their data and information
 - For 29%, being locked into contracts with a third party is a frustration

In summary continued...

- Respondents' organizations are only ready to take on 22% more storage if they needed to
- 66% of respondents admit that their organization is not versatile enough cope with workloads bigger than petabyte-scale
- The minority (40%) believe that their organization's storage currently fulfils their needs and will continue to do so
- Around nine in ten (89%) of surveyed decision makers say that being locked into contracts prevents innovation when it comes to storage
 - A similar number (82%) say the same for legacy systems
- 98% of surveyed decision makers believe that an agile storage solution could bring benefits to their organization
 - Five benefits are reported, on average

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