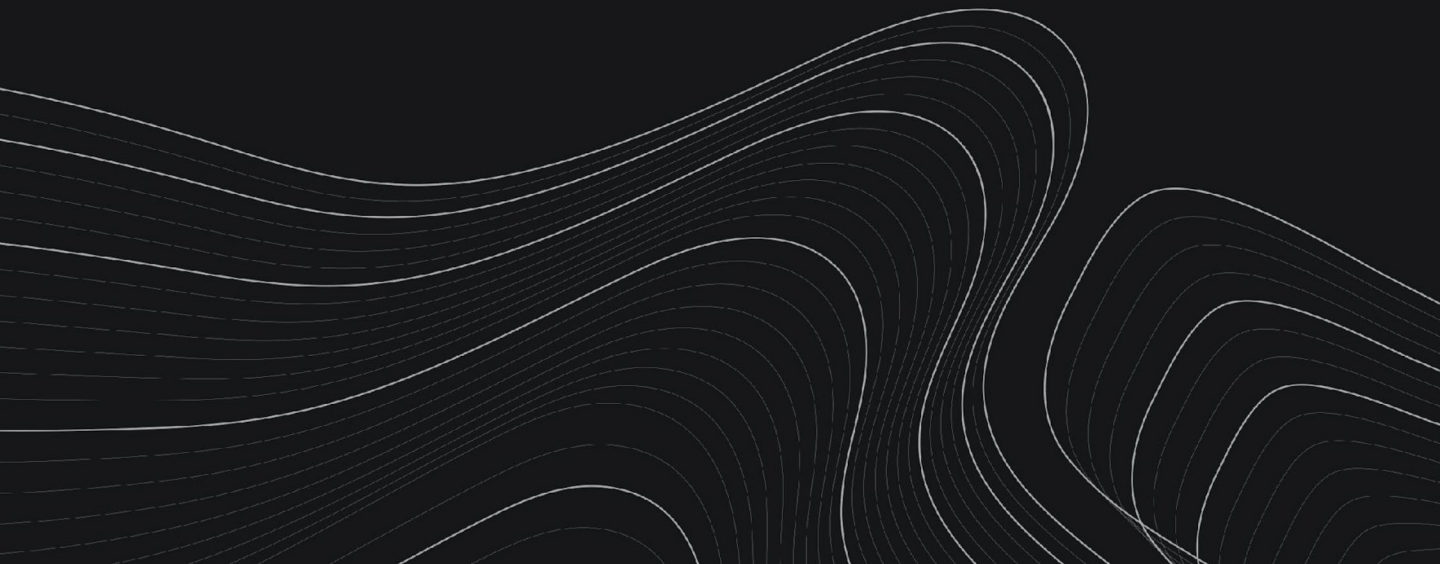
Lucidity

The State of Cloud Block Storage

An Industry Disk Utilization Summary (2023)

This report summarizes key findings around block storage spend and an analysis of participant's disk utilization across their cloud infrastructure.



Overview

This report summarizes the findings of the Lucidity Storage Audit for 2023. It shows key details about the participants of the audit, their block storage spend across sectors, and an analysis of their disk utilization across their cloud infrastructure. The analysis is based on interactions with our customers, and running the audit. It presents a factual representation of our customer's present cloud infrastructure.

Lucidity Storage Audit is an automated and agentless cloud storage metrics collection tool developed by Lucidity. It utilizes the CSP's native capabilities, extensions and log monitoring capabilities for a quick and effortless metrics collection.

Why is this report important:

In this report, we reveal some key findings of the Lucidity Storage Audit, which brings light to block storage spend and disk utilization across the landscape of cloud infrastructure. The audit involved key participants from different sectors, including BFSI, retail, manufacturing and IT. The report delves deep into their storage usage patterns, uncovering the hidden inefficiencies and exposing the secrets to optimizing cloud storage.

Who would find this report useful

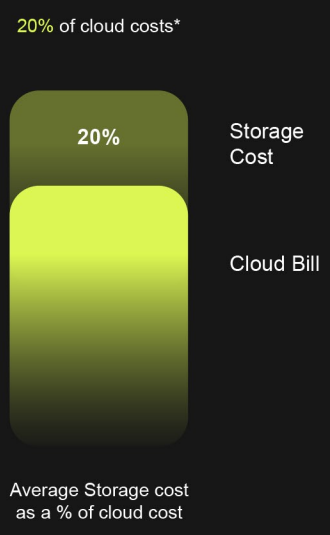
- ✔ FinOps Practitioners
- ✔ VP, Director - Infrastructure
- ✔ VP, Director - DevOps
- ✔ Cloud optimization enthusiasts

Block Storage Spend (AWS EBS & Azure Disk)

Legacy enterprises reported 13% of their overall cloud spend to be constituted purely of block storage spend.

Block Storage Spend (AWS EBS & Azure Disk):

Industry reports today, present the total cloud storage spend to constitute anywhere between 20%-25% of your cloud bill. This comes next after your compute bill, which constitutes around 50% of your cloud bill. The cloud storage costs generally include your spend across three storage options - Block, Object & File storage. In this report, we primarily focused on understanding the block storage spend of participants.



Info:

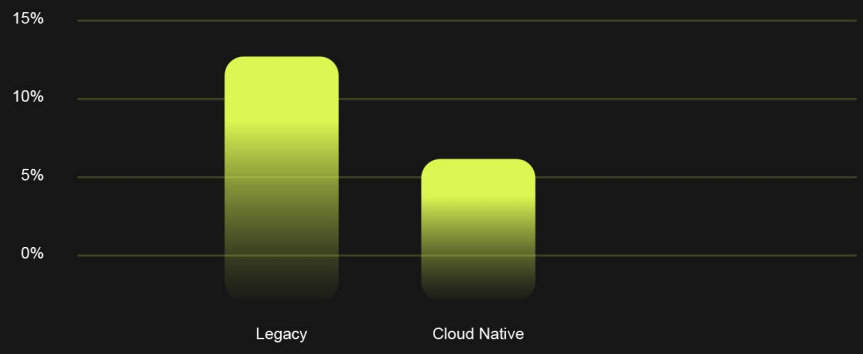
aws

Amazon Elastic Block Store (Amazon EBS) is a block-level storage service designed for use with Amazon Elastic Compute Cloud (Amazon EC2). It provides highly available, scalable, and reliable storage for Amazon EC2 instances.

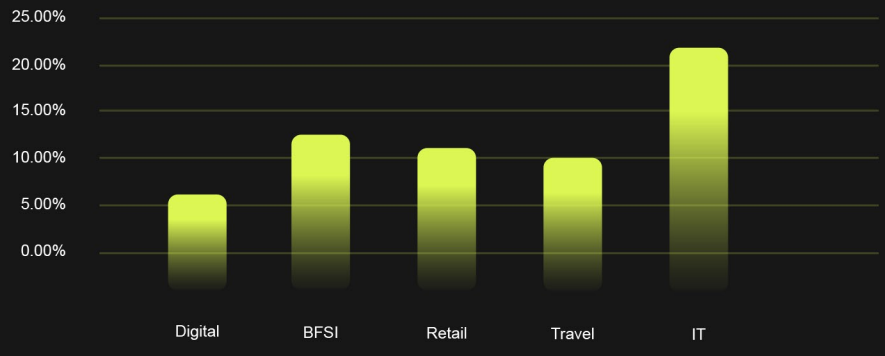
Azure

Azure Managed Disks are block-level storage volumes that are managed by Azure and used with Azure Virtual Machines (VMs).

Findings: The participants reported 12% of their overall cloud spend to be constituted to their block storage spend. Amongst them, legacy users constituted 13% of their spend to block storage, while cloud-native users accounted for 6% of their cloud spend.



The IT sector constituted the highest storage spend at 22% of their overall cloud spend, followed by BFSI.

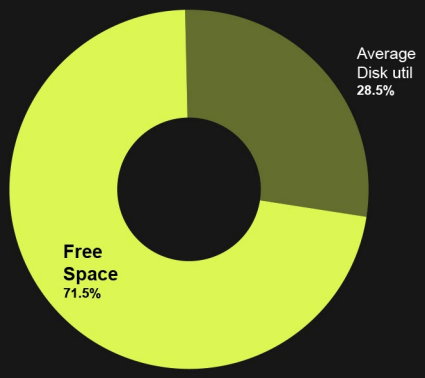


One of the trends we saw was a lot of lift and shift migration among enterprises, especially cloud transient companies. Organizations usually created before 2006 have a significant footprint on on-prem infrastructure. To become cloud-ready, these enterprises resort to migrating their entire workloads straight to the cloud. This was further evident with a significantly higher block storage spend attributed to our legacy customers.

Disk Utilization

The overall average disk utilization across all participants was 28.5%.

Disk utilization is a measure of how much of the available storage space is being used in a particular disk or volume. It is an important metric to keep track of because it allows users to optimize their storage resources and avoid unnecessary costs. By monitoring disk utilization, users can identify trends and patterns in their storage usage and make informed decisions about when to add or remove storage capacity. It also helps users avoid over-provisioning, which can result in wasted resources and increased costs.

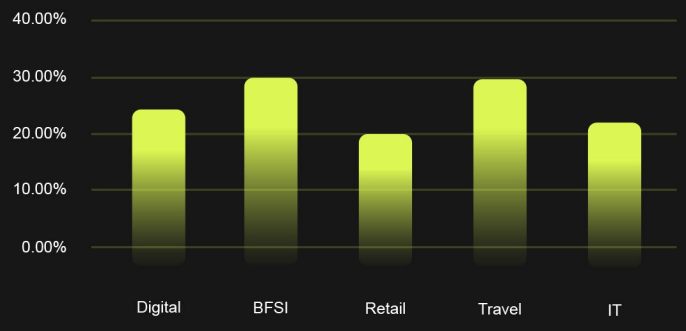


Findings: The overall average disk utilization across all participants was 28.5%. In other words, participants were keeping 3X more provision than required leading to inflated costs.

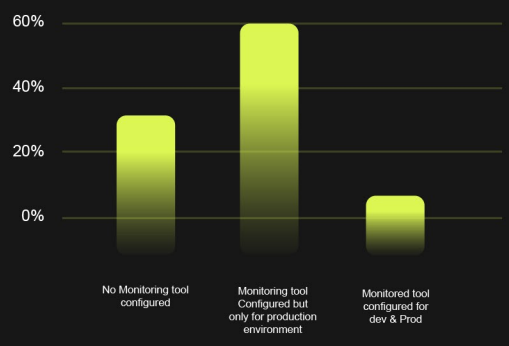
Info: *Overprovisioning is opted for when your infrastructure team chooses resources larger than what you actually need to run your workloads. There is a serious and valid mindset of safety behind this. Capacity management and right-sizing of your cloud storage is a tedious and resource-intensive task. And no one wants downtimes in the operations, specially when attributing to the financial and reputational risks associated with it..*

Across many of our audited participants, we observed teams are used to getting more resources than their workloads need 'just in case'. And this can add a toll on your cloud waste and costs. Based on our data, 71.5% of the costs remained under-utilized to purely ensure low maintenance times and downtime risks.

Across sectors, the disk utilization was more or less consistent with the findings, with BFSI leading with a high of 30.17%, and retail clocking in the sector low of 20.5%.



Fact: Did you know that 9 out of 10 Infrastructure heads don't track their disk utilization actively.



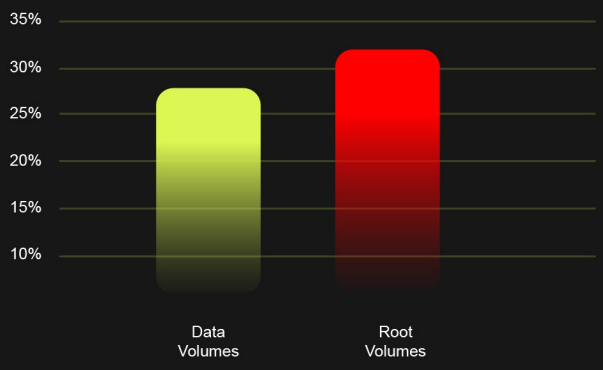
Based on our discussions, we found out that almost 90% of the participants did not have complete visibility of their disk utilization across their entire infrastructure.

One of the primary reasons was pure lack of visibility as the cost of monitoring tools or the complexity of their infrastructure meant the disk utilization was only tracked for critical instances. Only 10% of the participants had a monitoring tool deployed across their dev and production environments completely.

Disk utilization (Based on load type):

Intro: When it comes to block storage use, it is utilized for root volumes and data volumes. Root volumes basically have their root device or the virtual device holding the OS as a partition in eg. an EBS volume. As they contain the Operating system, root volumes are kept highly available and redundant.

Findings: The disk utilization across data volumes averaged at 28.43%, while for root volumes, it was marginally higher at 31.71%.



Our findings showcase a slightly higher utilization for root volumes, as evidenced by the report. The root volume size is typically chosen to be kept smaller than data volumes as it only contains the operating system and other software packages. Over time the root volume space decreases as more software packages are installed.

This makes it extremely vital to proactively monitor root volume disk utilization. And a failure to do so could lead to a drop in system performance, suboptimal resource allocation, and inflated costs.

Conclusion

Cloud Storage Optimization: The low-hanging fruit

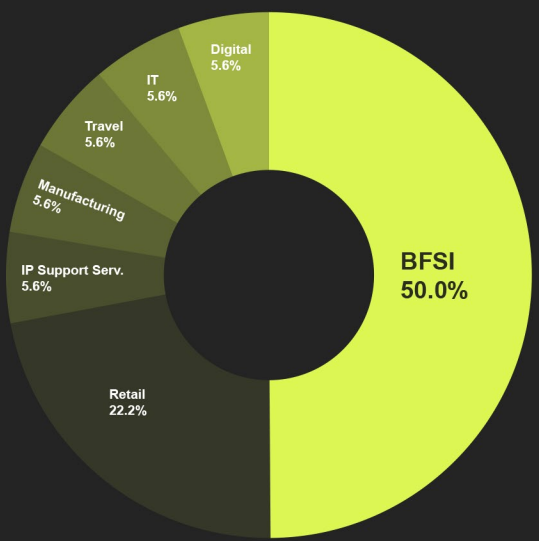
In the last few years, economic uncertainty and disruptions have marked the beginning of a new era in the cloud. As cloud technology progresses to weather these storms, organizations everywhere are scrutinizing every dollar spent.

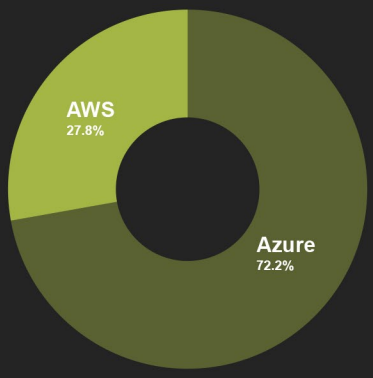
And as such, Cloud storage is quickly becoming the next forefront for cloud optimization. With over-provisioning woes, it's critical for organizations to embrace new opportunities and strategic initiatives to become cost-conscious.

And Cloud storage is just the right low-hanging fruit you may need.

Participant mix: Among the participants, 50% belonged to the BFSI Sector, followed by retail and the rest equally divided amongst IT, Manufacturing, travel and digital services.

Sector breakup:



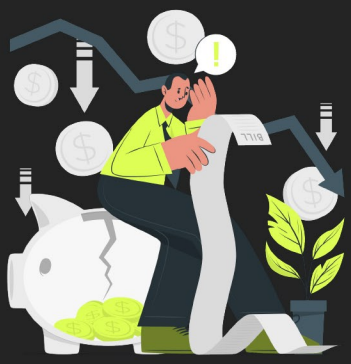


72.2% of the participants had Azure as their primary CSP, followed by AWS for the rest.

So, what do you think?

Would you like to know how much you can save from your block storage bills? Click here to know more

Book a Demo



About Lucidity

Lucidity is a cloud-first software-defined storage NoOps orchestrator. It unlocks cloud block storage capabilities making cloud storage reliable, performant, and economical with zero effort. Lucidity enables cloud optimization even for your legacy applications, as infra ops teams can now unlock cloud-native functionalities for block storage apps without any code changes.

Leading Infra, Devops, FinOps and CIOs alike have all trusted Lucidity in becoming cloud-ready and have adopted the NoOps cloud experience.