



## Block Storage AutoScaler to Reduce Cost and Save Time

Zesty Disk breaks new ground with its ability to automatically shrink and expand block storage volumes according to real-time application needs. The AI-driven auto-scaler right-sizes disk volumes in real-time, saving engineers from overprovisioning volumes or manually adjusting storage capacity. This ensures applications always run at optimum performance and stability while saving up to 70% on cloud storage costs.

### The Problem

#### Cost Always Loses

Whether you want to minimize the impact of spikey traffic peaks, get better IOPS and throughput performance, or increase storage capacity, the sacrifice is always cost.

Cost always loses because application failure is not a risk that anyone is going to tolerate.

According to a [report from Gartner](#), cloud waste due to over-provisioning costs businesses approximately \$26.6 billion in 2021.

This insatiable need for capacity has caused organizations to pay two to three times extra in overprovisioned disk resources, which most of the time remains idle and wasted, but paid for.

### Zesty's Solution

#### Autoscaling that cuts costs and improves performance

With Zesty Disk's unique auto-scaling technology, you'll never need to choose between stability, performance, and cost again. Its powerful AI algorithm responds to changing application demand by automatically adding or removing capacity to the volume.

Not only does Zesty Disk expand disk space to address increases, it is the only solution in the market that can also shrink disk space to address decreases in demand. It eliminates the need to make manual adjustments, either over time or in response to unexpected peaks in capacity, ensuring the ongoing stability and performance of applications.



***Zesty Disk ticks two vital boxes; efficiently right-sizing EBS volumes and maintaining stability and performance. It totally knocked out our requirement for an internal disk alert system and put an end to unwelcome 3am wake-up calls.***

**Ofir Nir** • VP R&D at Singular





## So, Why Zesty's AutoScaler?



**Automatic Right-Sizing:** Block volumes shrink and expand in line with dynamic and fluctuating application needs, without requiring any downtime to extend or release space. Your engineers no longer have to babysit the cloud.



**Dramatically Reduce Block Storage Costs:** Zesty Disk saves users on average 50% on cloud storage costs without any human input.



**Efficient Block-Storage Utilization:** Relieve engineers from approximating how much data will be needed to run applications. As Zesty Disk scales synchronously with your application, the necessity to guess capacity needs becomes obsolete.



**Improved IOPS Performance:** Get an IOPS and throughput performance boost by leveraging multiple smaller-sized storage volumes that each have their own burst capacity, instead of using one large storage volume, get an IOPS and throughput performance boost by leveraging multiple smaller-sized storage volumes that each have their own burst capacity.



**Prevent Block Storage Failure:** No more "out of disk" failures or downtime to extend disk space for jobs that create sporadic loads of data or when there is unexpected fluctuation. Zesty Disk issues an alert when the disk size has dramatically increased.



**Real-Time Monitoring and Visibility:** With granular visibility into cloud infrastructure, remove idle or rarely used object storage and monitor block storage for volume fluctuations.



**No Impact on Application Performance:** The process of extending and shrinking the disk requires minimal CPU and doesn't cause any discernable impact on application performance.

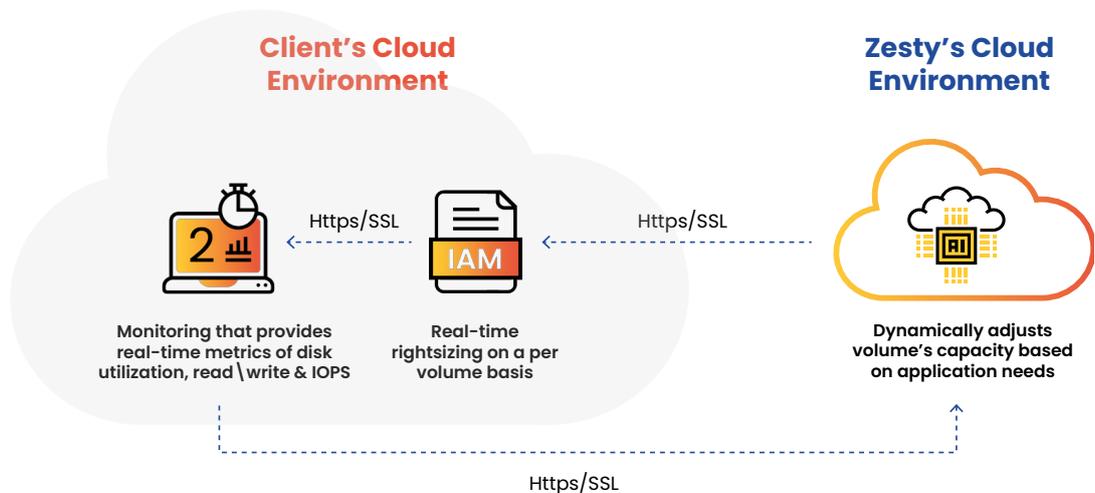


**Security Guaranteed:** Firstly, Zesty Disk is never exposed to data in storage, only meta-data and usage metrics are collected, which is sent unidirectionally to Zesty's back-end. Secondly, when action needs to be taken, the command is sent to the appropriate IAM role on the Instance. Zesty is GDPR and CCPA compliant.



## How does Zesty Disk Work?

- 1** Zesty creates a virtual disk for the storage file system which consists of several small storage volumes. Since Zesty Disk leverages the native cloud provider block storage devices (AWS EBS/Azure Managed disk), your native tools, procedures, and SLAs are unchanged, while you remain the owner of your data and the only one that has access to it.
- 2** Zesty Disk continuously tracks usage metrics (Capacity, IOPS, and Read/Write Throughput) as well as Instance and disk metadata (such as instance type, disk type, volume names, etc) which are sent unidirectionally to Zesty's backend.
- 3** The usage and metadata metrics are then processed by an AI model which generates a behavioral profile on the instance volume. It uses this profile to predict the usage patterns and fluctuations of the disk to ensure that it has optimal IOPS and throughput for any scenario.



**FOR  
AWS USERS**

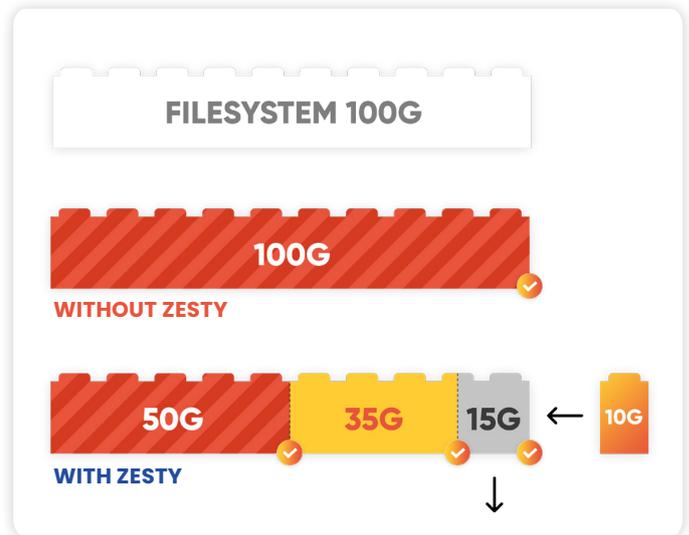
Boosting application performance, Zesty Disk puts block storage into overdrive. The storage optimizer improves IOPS and throughput performance by 300%, providing direct value to the user experience. The solution achieves this by decoupling large filesystem volumes into a series of multiple volumes that each deliver an IOPS boost. Involving auto-scaling technology, Zesty Disk automatically shrinks and expands volumes, achieving storage right-sizing, stability, and dramatically reducing cost.

**Curious? Find out more!**



## How does Zesty Disk Work?

- 4** When the instance dictates that a change in capacity is required, Zesty's backend issues an API command to the cloud provider with the appropriate action. It then sends an update request to the Zesty Disk handler on the instance to adjust capacity.
- 5** As the application needs more storage another small disk can be added or the disk can be extended. When the application requires less storage, the small volume is detached, shrinking the available capacity.
- 6** Zesty Disk continuously balances disk volumes to ensure that the storage capacity is maintained. So for example, a disk volume of 100G is replaced with multiple disks of smaller volumes, say of 50G, 35G, and 15G. Once this is achieved it can then evict a disk, where a smaller volume can be cleared up, and its data moved over to other disks before it's moved out.
- 7** Zesty Disk leaves a buffer of 10-15% above the needed capacity, so there is no concern that storage capacity will ever fall short.
- 8** Every action is logged in the audit log and an alert can be sent to the environment's Slack or Teams channel. **Zesty Disk's algorithm continues to constantly monitor the environment and responds to fluctuations in minutes.**





## Deployment Specifications

OS Type	Version	Processor Type
AMZ	1/2	Intel
CentOS	7.X	Intel
Ubuntu	1/2	Intel/ARM
RedHat	1/2	Intel
Windows Server	2016, 2019, 2022 (Used to increase capacity only)	Intel
Debian	9 & 10 & 11	x86
Suse - Coming Soon	12 & 15	TBA



*Their shrink and expand technology adjusts our EBS volumes according to real-time capacity needs so we no longer need to scale them ourselves. This saves us valuable time on EBS management and money in AWS receipts.*

Matan Maman • VP R&D at Referral.ai

