STORJ

The CTO's guide to leveraging the distributed cloud.

As a CTO, you lead data-driven initiatives that address some of the world's most pressing challenges, drive innovation with AI, and fuel economic growth. Your data storage solutions must provide durability, security and high-performance accessibility at the edge for immense datasets. And you need to manage this affordably and with confidence.

The distributed cloud is a disruptive approach to cloud computing and storage that is better suited to handle the business needs of today, while setting the CTO up for success by lowering costs and significantly lowering carbon emissions.

This paper illustrates why distributed cloud storage is a critical disruption to the cloud storage market, its benefits, and how to reduce costs while taking advantage of this disruptive technology.

"Decentralization of data storage will disrupt centralized object storage providers as computing shifts to the edge."

**Forrester Object Storage Landscape, Q3 2023**

The new challenges of cloud storage.

The demand for data storage is growing at an unprecedented rate. About 329 million terabytes of data are created daily according to Statista. IDC forecasted new data creation to grow at a compound annual growth rate (CAGR) of 23%, resulting in approximately 175ZB of data creation by 2025.

As your organization works to leverage the power of growing data, you are likely facing the challenges of keeping pace with the explosive demand.

The distributed cloud approach better supports the data storage needs of today and the future while overcoming the shortcomings of traditional cloud storage solutions.
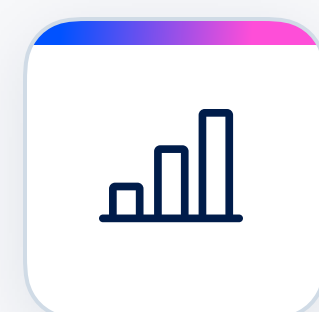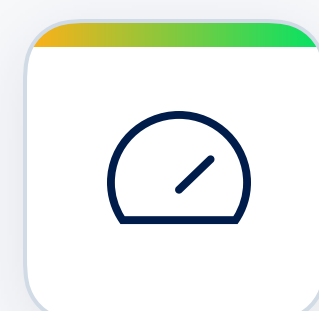
Rising costs
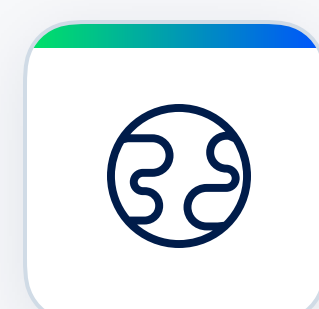Bigger file sizes, more data, and increased need for multi-region.
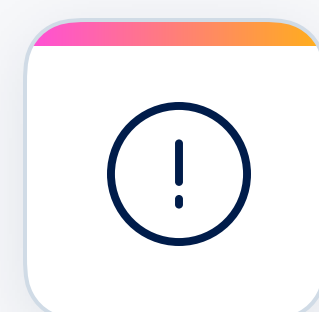
Increasing risks
Pressure to mitigate damage from more frequent outages and ransomware attacks.

Need for speed
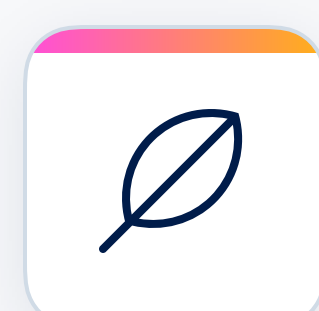Large datasets and expanded access lowering productivity or user satisfaction.

Global access
More global collaboration and regional business expansion necessitating multi-region replication.

Leveraging AI
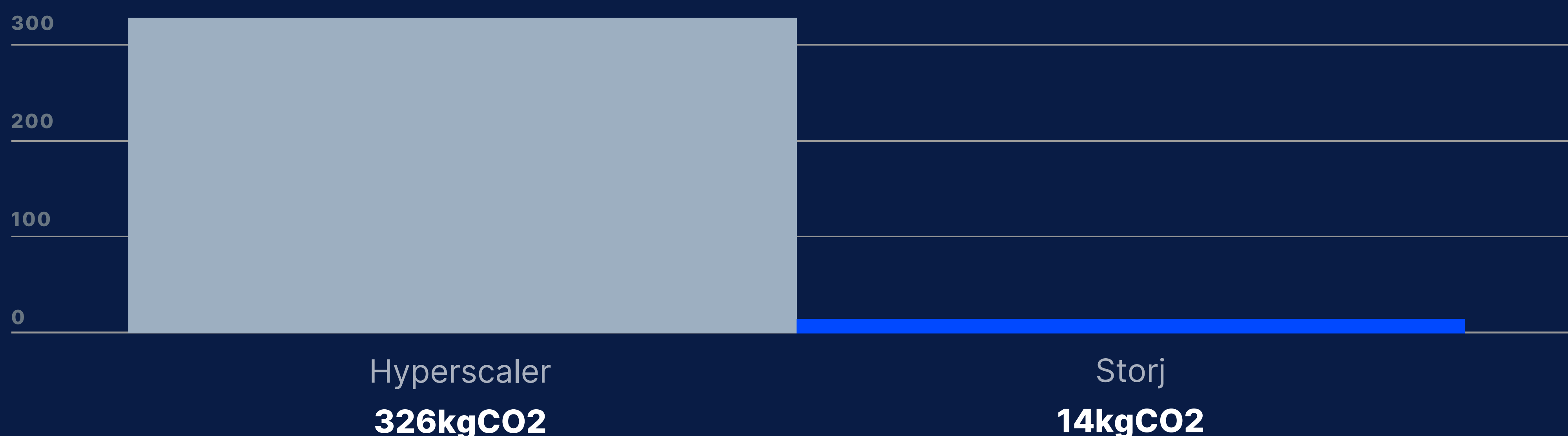AI and ML initiatives requiring access to archived data to build models.

ESG initiatives
Increasing executive and regulatory interest in the reporting and reduction of carbon emissions.

1TB of Storage
Stored for 3 yrs and replicated as needed for durability and multi-region performance

300	
200	
100	
0	

Hyperscaler
326kgCO2

Storj
14kgCO2

What you need to know about distributed cloud storage.

Distributed cloud storage offers a compelling alternative to traditional cloud object storage solutions like AWS S3, Microsoft Azure or "low-cost" cloud storage providers like Wasabi. At its core, distributed storage involves spreading data across many locations, rather than in a single, dual region, or multi-region set of data centers.

When traditional cloud storage providers like AWS talk about 'distributed storage', they are often referring to multi-region storage – duplicating data and storing it in multiple data centers across one geographic region to minimize the risk of data loss and improve performance. While this approach can enhance data resilience and accessibility, it consumes excessive resources, and comes with significant costs and complexities. Managing multiple copies across various data centers not only incurs much higher storage and egress fees but also introduces additional layers of operational overhead.

True distributed cloud storage solutions are a new approach to cloud storage that leverages a network of tens of thousands of storage nodes with underutilized capacity to store data securely and efficiently. This not only enhances data security and privacy but also ensures high availability and durability without the need to pay extra for multi-region replication. The elegant architecture that makes this approach efficient, secure, and fast also makes it much better for the environment.

Globally distributed cloud storage is the **biggest innovation in cloud storage** since AWS S3.

You can confidently adopt proven, enterprise-grade distributed cloud storage solutions today to meet your needs. Backed by reliable and innovative technology and supported by enterprise-level SLAs, these solutions provide proven, robust, scalable, and cost-effective storage that you can trust with your data.

5 strategic advantages you gain from the distributed cloud.

Distributed cloud storage solutions redefine the cloud to support the future of data - sustainably and economically, and provide many compelling advantages over traditional cloud object storage.

1

Reallocate a majority of your cloud storage budget.

The most significant and obvious benefit of distributed cloud storage is cost. By leveraging unused storage space around the world, solution providers avoid costly data centers, as well as the procurement of expensive hardware. As a result, distributed cloud storage providers have much lower operating costs and can offer exceptional pricing.

That is only part of the story when it comes to the financial benefits. Enterprise-grade distributed solutions are global and provide high durability by default. You don't have to pay extra to store multiple copies of data for durability or multi-region performance like you do with legacy cloud storage providers. This makes the ROI even more compelling.

You can save up to 90% on your cloud object storage compared to solutions like AWS S3 and allocate that budget to other critical areas to help lead your industries' innovation and growth.
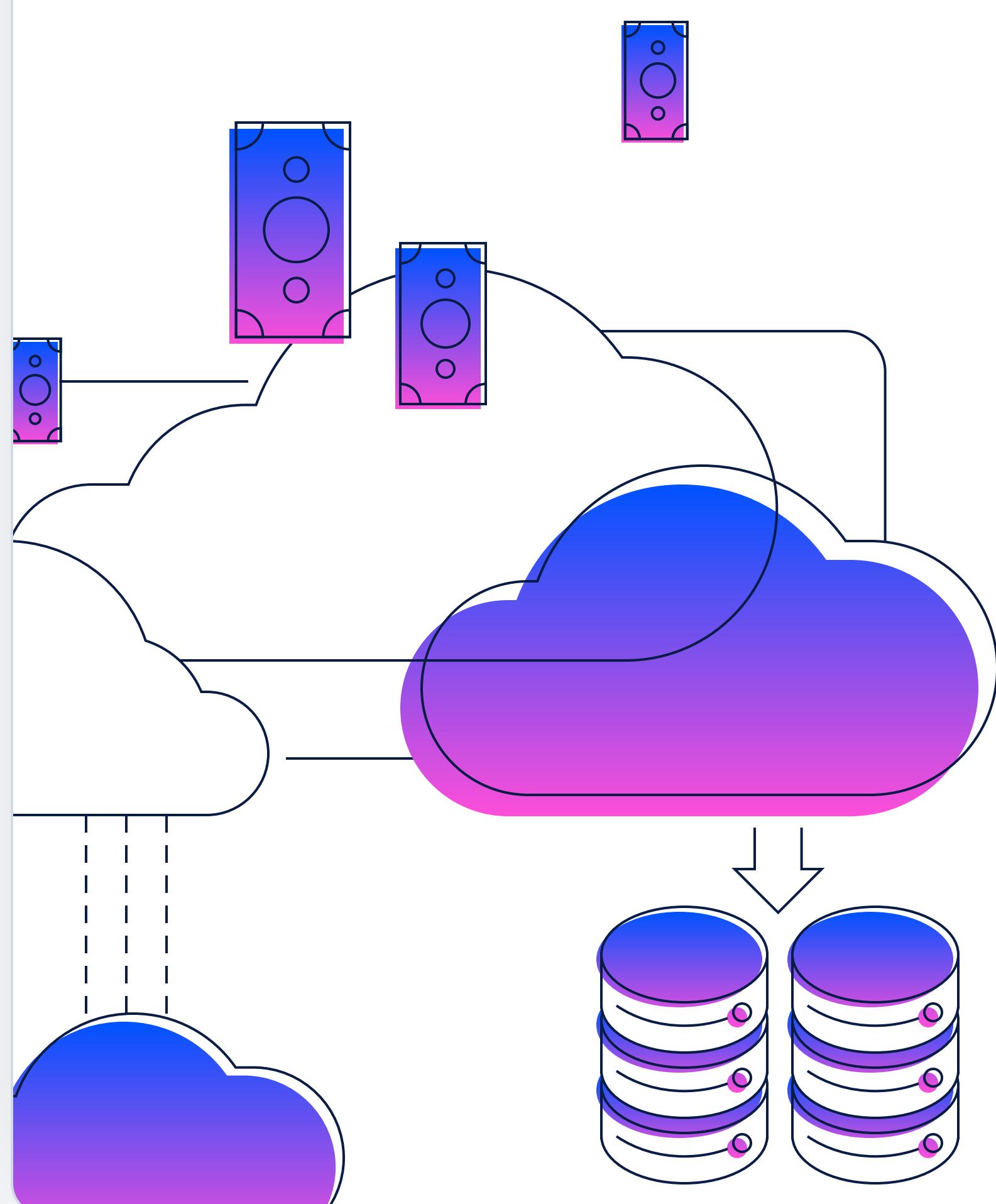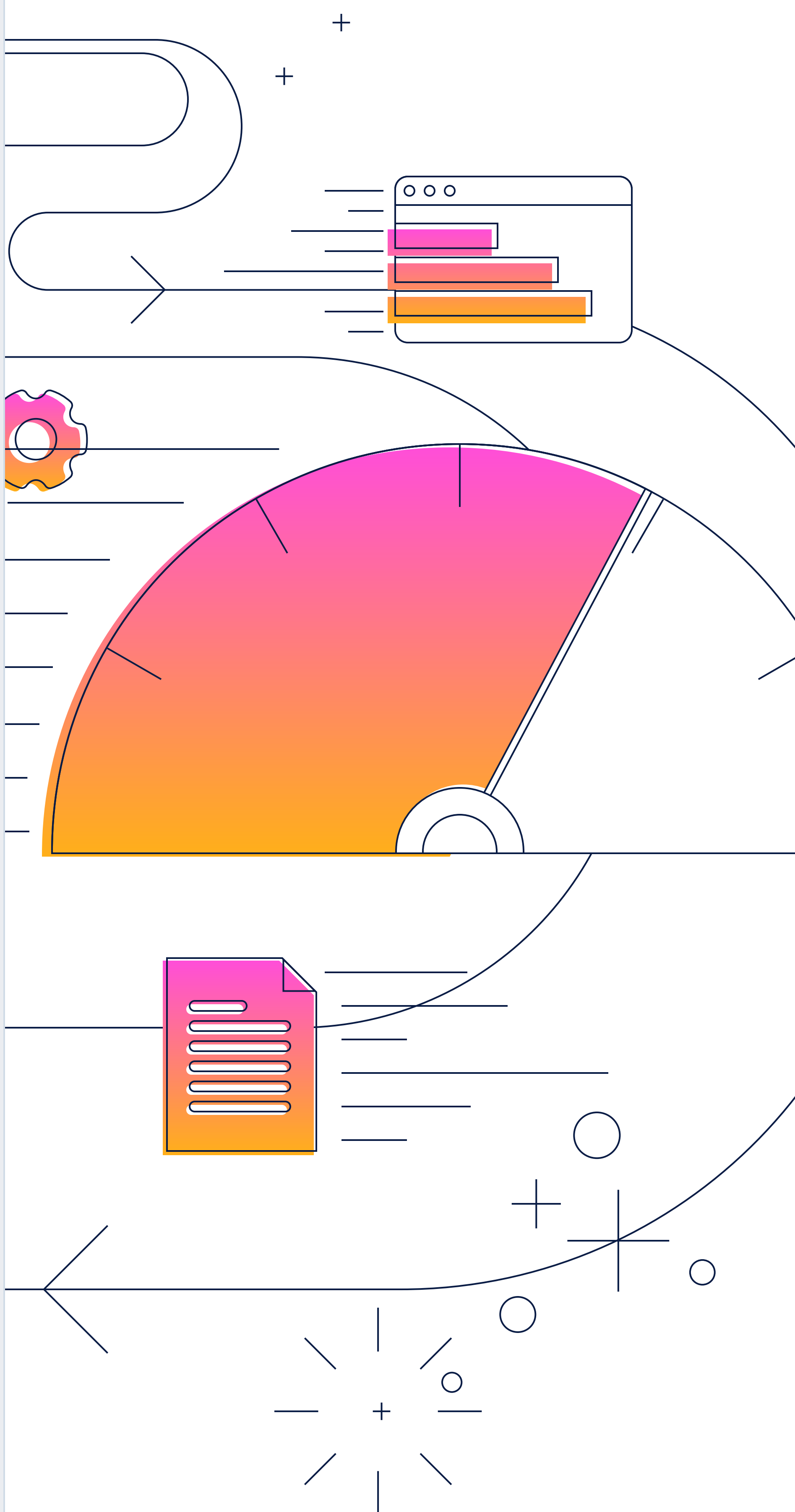
2

Improve productivity and accessibility.

Performance is another key advantage. Geographically dispersed storage networks can deliver more consistent, high transfer speeds when compared to traditional cloud storage providers. When download requests are made, segments can be retrieved in parallel and only a small portion of the segments are needed to reconstitute the objects. This makes distributed solutions incredibly fast—and consistently fast—no matter where in the world the data is needed.

The global performance is not surprising when comparing the coverage of distributed storage to a traditional provider.

Traditional Cloud Provider | 100+ Data Centers in 30-70 Regions

Distributed Cloud Provider | 20,000+ Storage Locations All Over the World

Distributed cloud storage provides superior performance that can optimize collaboration and end user experience. You also cut your cloud storage bill even further by removing the cost of duplicating and storing data for multi-region performance. Plus, data management is simplified since you don't have to manage multiple copies.

3

Mitigate business continuity risks.

The ability to reliably access data is critical when it comes to any method of enterprise data storage. Disasters, outages and threats like ransomware cost businesses dearly.

Distributed storage solutions significantly lower the risk of not being able to access your data or experiencing data loss. By segmenting files after applying a replication factor and spreading them across thousands of storage nodes, this removes many risks that arise when data is stored in a traditional, centralized solution.
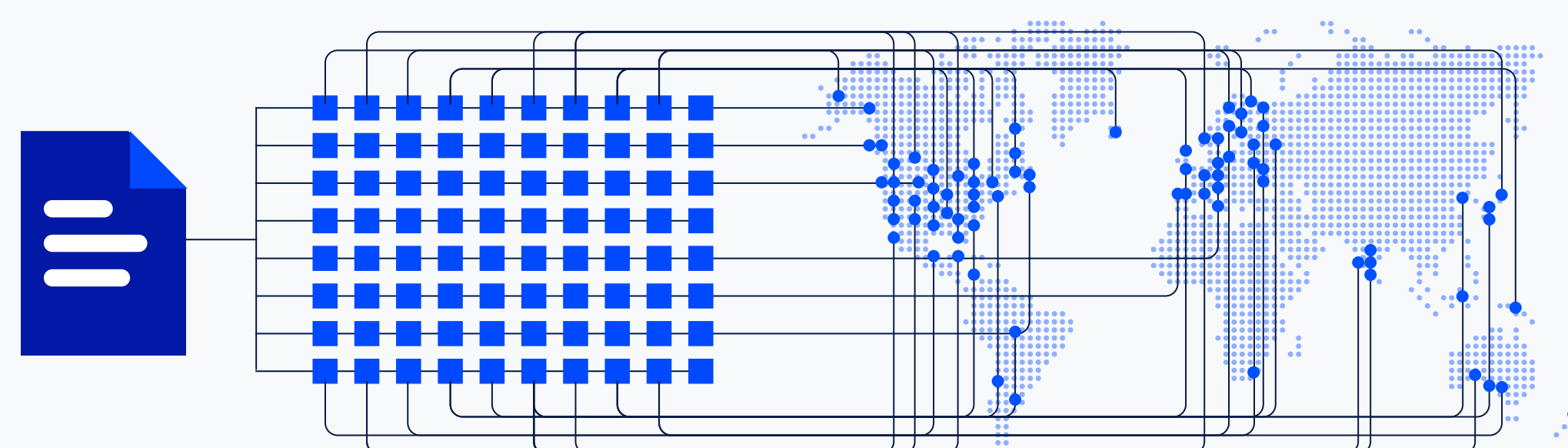
Unlike traditional, centralized cloud storage solutions, no single storage node holds enough information to reconstruct the data with distributed cloud storage, further enhancing security and privacy.

Node monitoring and automated repair mechanisms round out the features that enable distributed solutions to provide what enterprises truly need to mitigate risks.

An entire region could lose power, a data center could be destroyed, and you would still have access to all of your data.

4

Gain agility to expand capacity or region accessibility.

Distributed cloud object storage excels in providing seamless scalability. Unlike traditional storage, you can scale your storage dynamically, without upfront investments.

Adding storage capacity can easily happen virtually anywhere in the world since there is no need to build or expand data centers. Globally distributed storage supports reliable access to data across regions. You can store as much as you need to and access it from anywhere, effortlessly. That means as your business moves into new markets, you can rapidly provide data accessibility without increasing costs.

Adding distributed cloud storage to your hybrid cloud mix makes it much easier to address your storage needs and removes concerns about procurement, supply chains and a myriad of other issues that can impact business operations or delay growth.
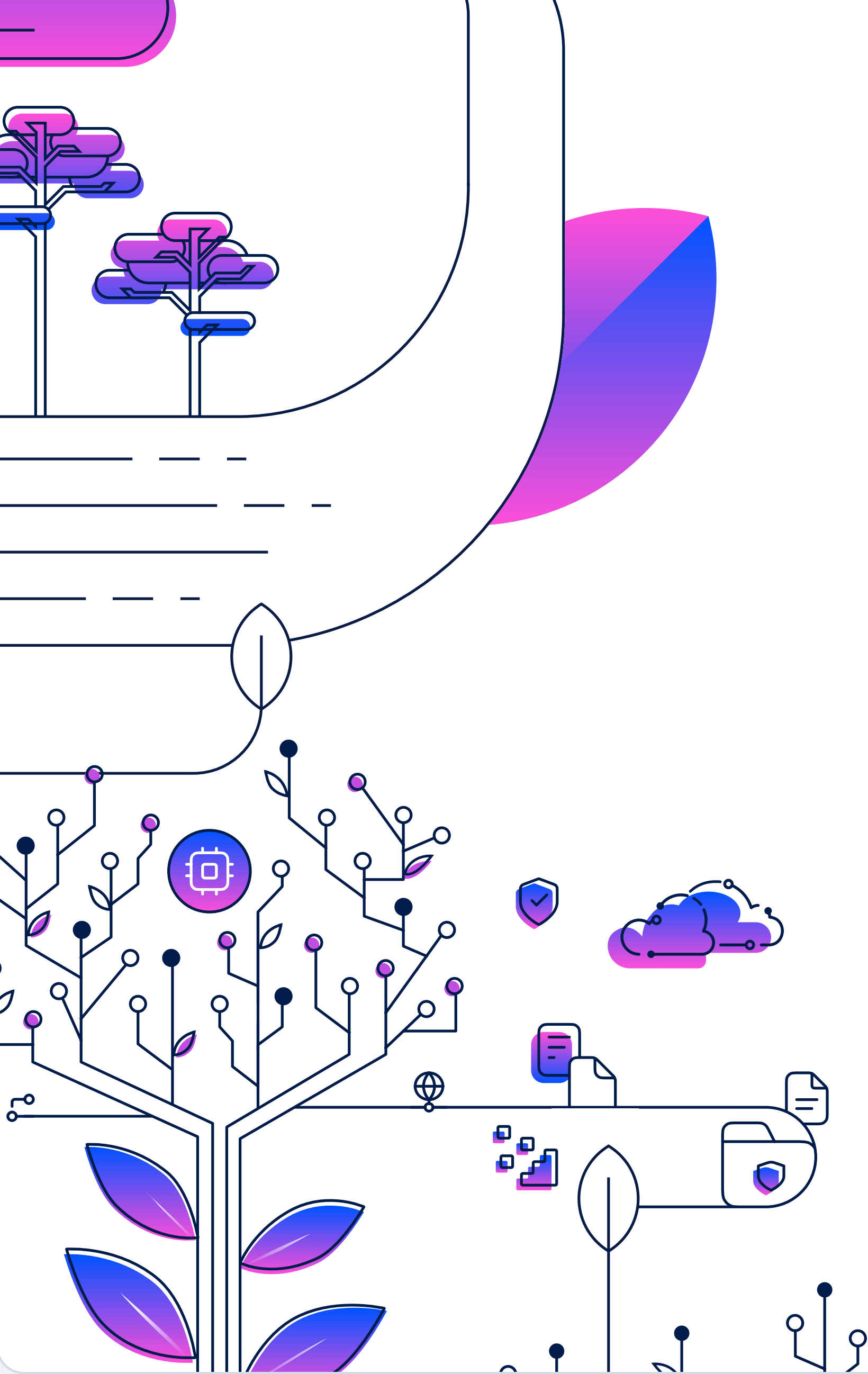
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Get ahead of ESG initiatives.

Sustainability is an area where distributed storage really shines. Many organizations are working to reduce their carbon intensity. The IT department is often a focus of this effort and distributed cloud object storage can help reduce your attributed carbon emissions dramatically.

The manufacturing of storage hardware is one of the most environmentally detrimental aspects of data storage and the distributed cloud extends the life of existing hard drives, uses them more efficiently, and does not add any energy consumption as the drives are already spinning.

Distributed storage also reduces the number of data copies typically needed for global performance and durability. Reducing the amount of data that needs to be stored is much better for the environment. Distributed cloud storage does not require the construction, maintenance, cooling, or powering of new data centers either.

Regulatory changes are increasingly requiring companies to report on carbon emissions and develop corporate plans to reduce them. You can get ahead of this by adopting technologies that reduce your carbon footprint and simplify emissions reporting.

Any way you analyze it,

distributed cloud object storage is a smart addition to your hybrid cloud mix.

STORJ

Distributed cloud spotlight.

Storj is the largest enterprise-grade distributed cloud storage solution. Organizations like CloudWave, Gabb Wireless, Uninterrupted, the University of Edinburgh, and GBLabs are leveraging distributed cloud storage to set new standards in data collaboration and business continuity.

Realized cost savings.

Storj provides S3-compatible distributed cloud object storage that is incredibly fast and durable with global accessibility. Pay-as-you-go pricing is only $4/TB per month for storage and $7/TB of egress. You can also lock in savings with tailored discounts with reserved capacity plans. Storj customers report cutting their cloud storage and egress costs by up to 90%.

Storj has an innovative infrastructure that's extremely efficient, which gives our clients 90% cost-savings on storage.

Bruce Van Nyl
Cofounder at Inovo

Annual Storage Costs Estimate — 100 TB Storage | 100 TB Egress

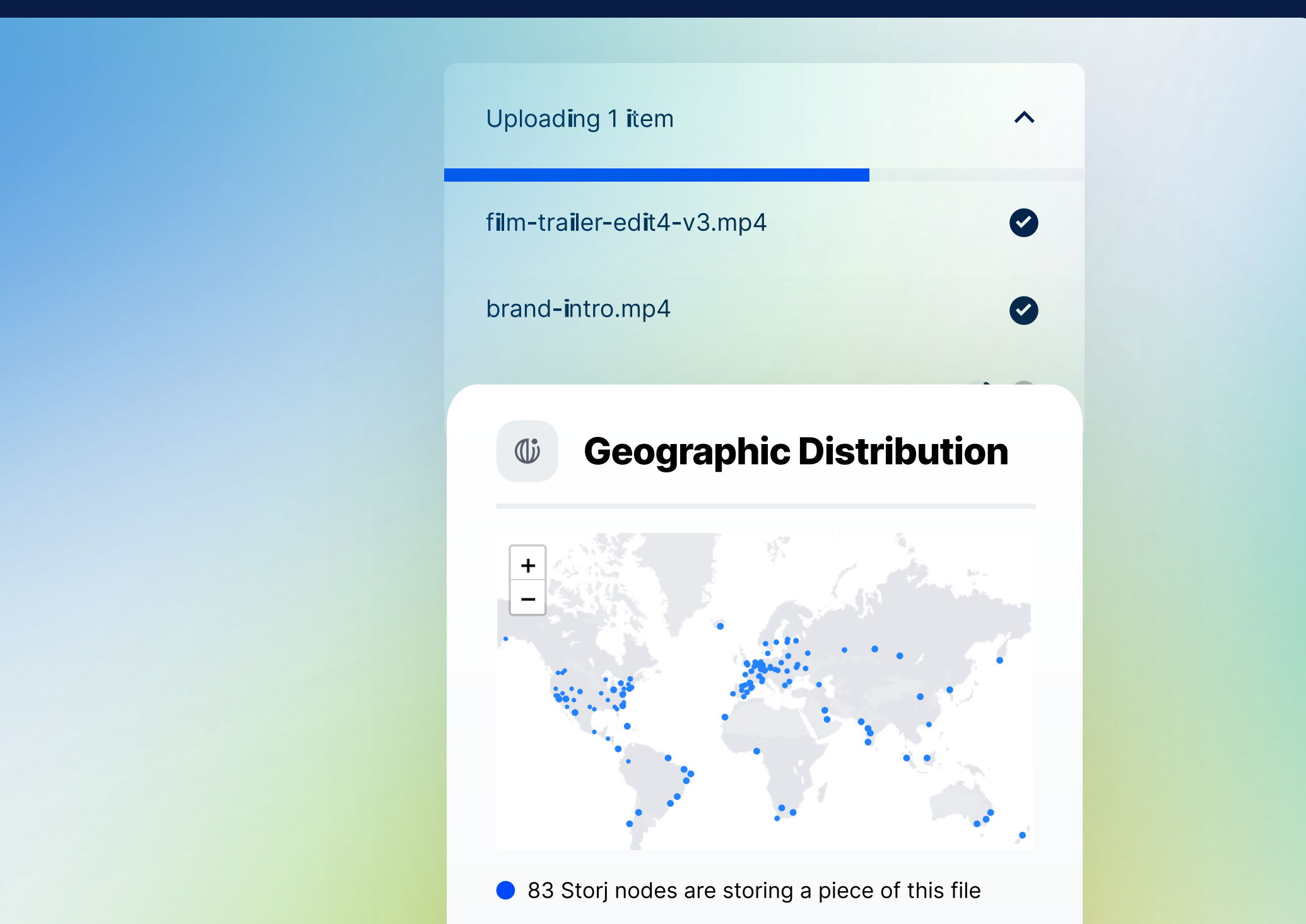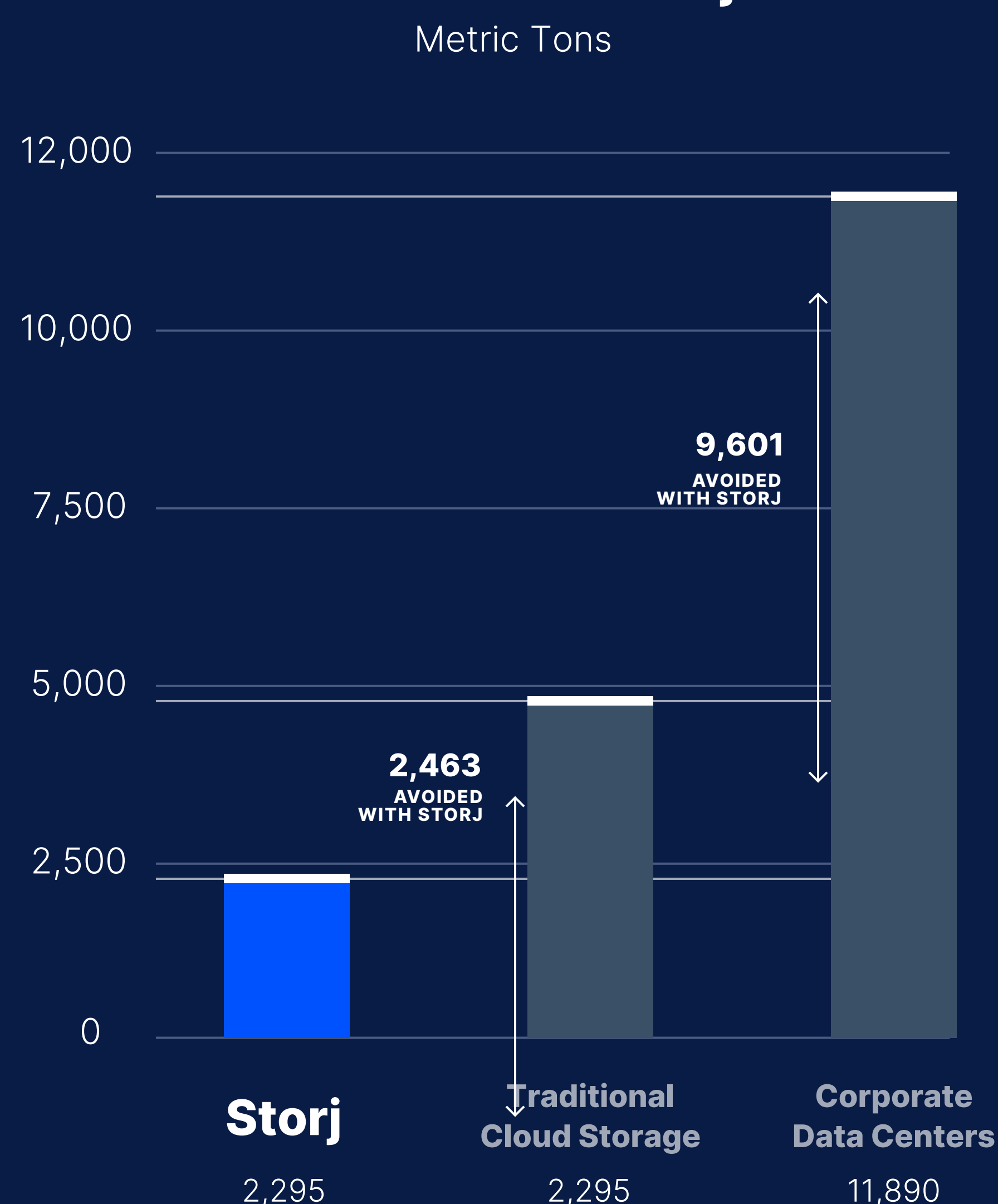|	
STORJ	**$13,000**
aws	$111,600
Azure	$106,050
Google	$123,600

Significant carbon avoidance.

Companies using Storj have also cut their carbon intensity by up to 83%, contributing to a more sustainable IT infrastructure. Storj includes CO2 reporting data through its interface and invoices so CTOs can understand carbon emitted as well as carbon avoided by using Storj.

If all Storj customers were previously using corporate data centers to store their data, to date, those customers have avoided 9,601 metric tons of carbon by switching to Storj. That is about the same as avoiding the use of 1 million gallons of gasoline[1].

Carbon avoided with Storj to date
Metric Tons

	Storj	Traditional Cloud Storage	Corporate Data Centers
	2,463 AVOIDED WITH STORJ		9,601 AVOIDED WITH STORJ
	2,295	2,295	11,890

Leading in performance.

Uploading 1 item

film-trailer-edit4-v3.mp4 ✓

brand-intro.mp4 ✓

Geographic Distribution

+ −

● 83 Storj nodes are storing a piece of this file

Signiant, a leading provider of intelligent file transfer software, integrated Storj with their product, Media Shuttle, which is designed to be an easy, reliable way to send any size file, anywhere, fast. Using Storj, Signiant consistently achieved speeds of about 2.5Gbps per transfer, ranking in the top 1% of all-time Media Shuttle transfers.

> We were initially skeptical about the performance of Storj because it is so affordable. However, we confirmed that customers can achieve multiple multi-gigabit transfers with Media Shuttle and Storj so they can save on cloud storage without compromising on performance.
>
> **Robert Browne**
> Founder, VP Global Technology Alliances and Partnerships at Signiant

[1] https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

Predicting the distributed cloud future.

The distributed cloud is at an exciting inflection point. Market understanding and receptivity are growing exponentially, driven by high-profile use cases proving its value. This surge in adoption only sharpens the contrast between traditional storage providers' high-cost, low-performance offerings and the increasingly well-understood, cost- and resource-efficient distributed technologies. As to how the distributed cloud will be adopted and the impact on the cloud market, predictions were sourced from distributed cloud experts.

Prediction #1
Distributed cloud adoption will grow rapidly.

"Every day I hear from enterprise companies how their cloud storage and egress bills are growing faster than their budgets. Everyone wants to do more with data, but their providers can't help them scale affordably. That's why the distributed cloud is so appealing."

Colby Winegar
CRO at Storj

"New environmental stewardship initiatives are pushing organizations toward more sustainable solutions. When companies see the carbon emissions of traditional cloud providers compared to the distributed cloud, it's an obvious catalyst to switch."

Ben Golub
CEO at Storj

Prediction #2
Distributed cloud will speed up business expansion into underserved markets.

"Many companies want to expand their businesses in underserved markets where there is a distinct lack of traditional cloud presence. Hyperscaler prices are outrageous, and low cost providers can't get the loans to build data centers due to high interest rates. The distributed cloud is global, and immediately available, so it's the clear choice for expanding affordably into new markets."

John Gleeson
COO at Storj

"Companies want to test the market appetite for their offering in places like South America or Australia where low cost cloud providers don't have a presence. With global distribution in over 100 countries, many companies are looking to the distributed cloud to start expanding now with minimal investment."

Colby Winegar
CRO at Storj

Prediction #3
Distributed cloud will add high demand services.

"20 years ago, AWS revolutionized cloud, starting with cloud object storage, then adding services according to need. The distributed cloud will do the same. Distributed cloud will augment object storage with the highest demand services like GPUs, block and file storage, and many others. Fundamentally, distributed architecture provides a solution that better meets the needs of today's companies."

Ben Golub
CEO at Storj

"The distributed cloud has so much potential. There is incredible innovation happening inside Storj and other distributed technology startups. We are excited to build on the solid foundation of cloud object storage with a cloud that supports AI and data research affordably and responsibly."

Jacob Willoughby
CTO at Storj

Prediction #4
Distributed cloud will enable faster innovation.

"We're already working with partners to meet our customer's needs for AI. GPU demand is at an all time high and there are smart ways to source on-demand GPU hours from H100's within the distributed cloud. That means AI startups and researchers can start testing models without investing in hardware."

Colby Winegar
CRO at Storj

"The distributed cloud is extremely scalable. Since it uses capacity that already exists, expansion is as simple as contacting existing providers to add more capacity in any needed region. This means the distributed cloud can better serve data innovation happening at the edge anywhere its needed."

Jacob Willoughby
CTO at Storj

Prediction #5
Hyperscalers will join the distributed cloud.

"We don't expect hyperscalers will ever go away, but we expect they will get smarter about ensuring their excess capacity is being fully utilized. And that means connecting to the distributed cloud to ensure that hard drives they have are efficiently used and older drives are used for longer."

Jacob Willoughby
CTO at Storj

"It is great how many data centers are striving to use more renewable energy and less energy for cooling. Extending the life of hard drives and using them efficiently is the logical next step for the traditional cloud providers to take. This will happen slowly over time, but eventually they will all be connected to the distributed cloud."

John Gleeson
COO at Storj

3 steps to get started with the distributed cloud.

Embracing distributed cloud storage is not just a strategic decision; it's a necessary step toward a more efficient, secure and sustainable digital future. You can get started in three easy steps.

1 Consider your use case.

Distributed cloud object storage is particularly well suited for backup and disaster recovery, media workflows including camera-to-cloud, asset management, collaborative editing, and large file transfers as well as active data archival and generative AI.

2 Calculate the savings.

Calculate how much you can save on your cloud storage costs. You will probably find that you can save up to 90% compared to AWS S3. ROI calculators, like this one, make it easy. Distributed cloud storage vendors can also run a customized analysis to get you a clear ROI.

3 Try it yourself.

See how distributed cloud storage performs and how familiar and easy it is to use for your use case. You can evaluate Storj with a free 30-day trial. Or, you can contact sales to run a test in your environment.

For CTOs looking to stay ahead of the curve, now is the time to explore the potential of distributed cloud storage