open-e

The Future
of the Data Storage Market

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Abstract

This white paper aims to examine the current state of the data storage market as well as assess its challenges and current trends. There will also be an examination of the various ways the industry is reacting to these challenges, the differences between how vendors and users approach the current data storage market, and future trends that might occur. The paper will conclude with our recommendations on how best to prepare organizations to deal with these challenges based on the suggestions, solutions, and trends discussed.

Contents:

Introduction

In 2021, facing a plethora of challenges ranging from the coronavirus to hardware shortages, the data storage market marched on in an ever-growing fashion. The market was buoyed by several trends, such as the switch from on-site storage to the Cloud and a shift away from vendor-exclusive hardware setups to software-defined storage. Other common trends identified were the rising prices of data storage operations, a switch from HDDs and SSDs towards faster solutions like NVMEs, the rise of edge technologies, and the rise of All-Flash data storage.

Themes like ransomware attacks, particularly aimed at hospitals, government, and educational institutions, as well as businesses overwhelmed by the coronavirus and abstraction from hardware, due to the overwhelming shortage of global chip availability, were also explored.

We'd like to see if these trends and themes will continue through 2022 and beyond, or if new trends are expected to take their place. To do this, we created a survey and sent it to our partners and customers. By doing this, we were able to identify whether or not there were gross differences between what our partners perceived to be the market trends and what the customers thought were going on.

The survey was broken up into two separate forms, each made up of three sections.

Having analyzed this data, we've created a list of the current and most pressing trends in the data storage market today. We'll also be considering how the data storage industry and its customers are adjusting to these trends. Furthermore, we've also consulted with industry experts, both at Open-E and outside of Open-E, to see what they had to say. We wanted to know whether the data suggested was common knowledge to market insiders or if it was a surprise to those currently working within the data storage community.

Wishing you a pleasant reading,
Your Open-E

We'd like to see if these trends and themes will continue through 2022 and beyond, or if something new is set to take their place.

The Problem Statement

The main problem raised in this white paper is the lack of a unified vision for further development of the data storage market due to the disruptive influence of the challenges listed.

Goal:
The main goal is to assess data storage market trends in order to predict the development of the said market.

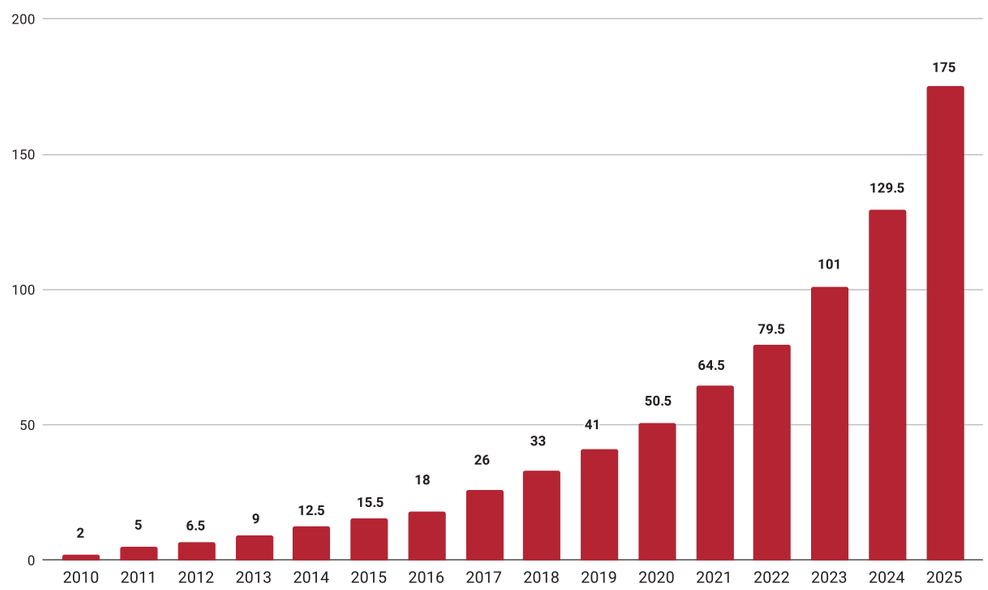
Objectives:

- Analyze the overall data storage market situation.
- Identify the main influences shaping the development of the data storage market.
- Analyze how relevant those influences are in determining the direction and challenges faced in the data storage market.

Trends in Data Storage

All of the data storage trends we've seen in recent years have been driven by a desire for improved technological usability (including data protection) and an increase in stored data capacity.

Volume of Data/Information Created Worldwide from 2010 to 2025



Source: https://bootcamp.pe.gatech.edu/blog/data-analyst-career-path/

TOSHIBA

CASE STUDY: **CONTINUAL OPERATION OF A DATA STORAGE SETUP OVER TIME**

How can you make a long-lasting data storage setup?
The answer is "easy!"

Back in 2017, the Technology Experience Lab at NTT Global Data Centers needed to have a data storage solution with these characteristics:

- **Raw storage of 240 TB,**
- **High Availability, no single point of failure (SPOF), and high flexibility,**
- **Reliable and high-performing supporting hardware.**

2017
Together with Toshiba, Open-E creates a High Availability Failover Cluster solution for the Technology Experience Lab at NTT Global Data Centers.

2021
The data storage solution celebrates the 4th anniversary of being failure-free without unexpected downtime.

2022
The solution is still running without alteration.

Want to learn more about the setup for inspiration?
Check out the case study:
http://www.open-e.com/r/5uxk/

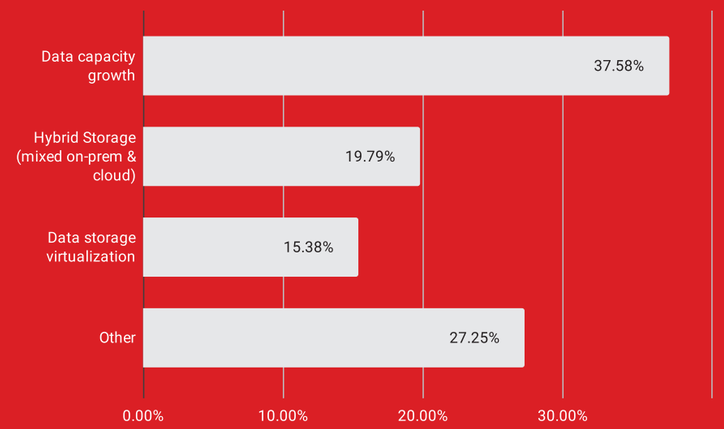
Open-E Global Partner Network

Our certification is a guarantee of compatibility and premium quality, and our logo endorses industry-leading hardware manufacturers. Thus, we are certain that every implementation based on our software will be successful as we stay on top of technology innovations thanks to long-standing partnerships with industry leaders like Intel, Toshiba, WD, and more.

According to Krzysztof Franek, CEO of Open-E, *"Based on current projected statistics, we can safely say that the amount of data produced by enterprises worldwide will almost double in 2022 compared to what we saw in 2020. This means that the data storage solutions market will have to be ready for a huge wave of challenges as demand starts outrunning supply. We're currently working on a project for a Japanese client from the public sector, and they've just requested 20PB of storage capacity, which is just one excellent illustration of this trend".*

To collect all the possible opinions regarding the data storage market situation and predict the upcoming challenges that may appear soon, we prepared a survey separated into segments for the partners and end-users. We've recorded 396 answers in total (138 and 258 respectively).

Based on the received surveys, three main trends have had a huge impact on the market situation so far:

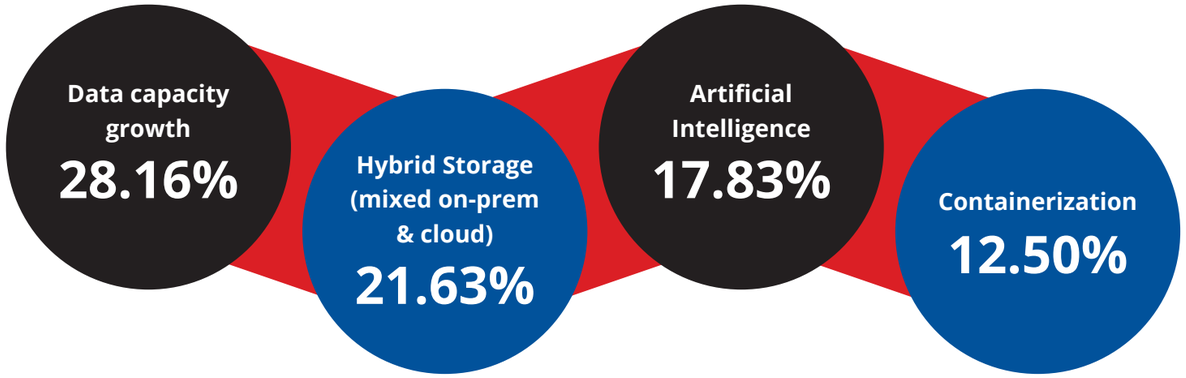


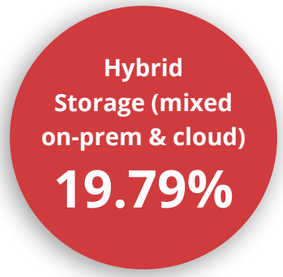
Source: https://bootcamp.pe.gatech.edu/blog/data-analyst-career-path/

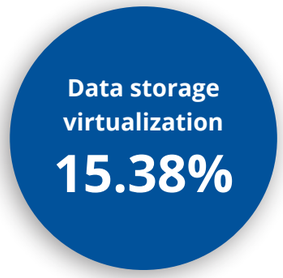
Other listed trends, which include containerization, artificial intelligence, and edge storage, make up 27.25% of the total answers.

On behalf of Open-E's partner AIC, Joseph Kempler shared an insight: *"The general movement toward the Cloud and embracing edge computing is still on and going."* This is also clearly visible in our survey results.

However, according to the respondents, the given answers change considerably when describing the futuristic influence of trends on the data storage market. In this regard, we can highlight four trends with the most significant impact:

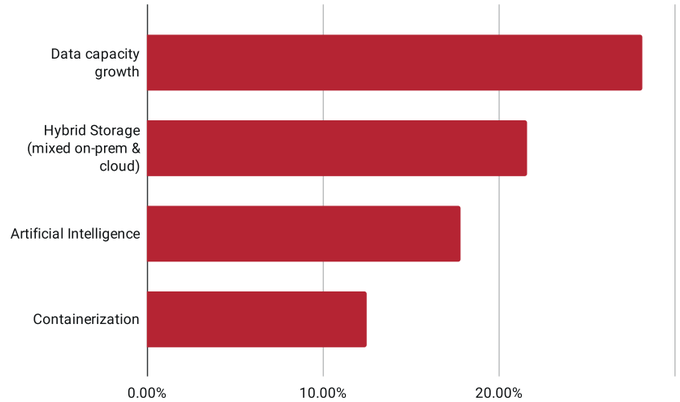






Based on these answers, we can conclude that data capacity growth is having the greatest influence on the development of the data storage market. It promotes technological progress and increases the need for resources to store the data.

As the amount of data that has to be stored drastically increases, the data storage market starts to face multiple challenges to keep up.



The Usability

Western Digital.

"Companies may choose to analyze and process cold data using machine learning and artificial intelligence (AI) to add value—a growing trend in virtually every industry, from health and science to retail and smart cities. It's no longer just about storing data; now it's about reading, processing, and analyzing it too to make it valuable".

Let us have a slight glance at the visible trends in the data storage market to get a complete perspective on the anticipated results of the survey:

Artificial Intelligence

Artificial Intelligence is used in a plethora of ways today. With everything from Alexa to Big Data being dependent on it, it's fair to say that it's one of the ways the 2010s changed life as we know it. So what do you need to take advantage of the capabilities that a good AI solution has on offer?

Well, for one thing, you need a fast and reliable system of storage that lets your algorithms access the data they need to function properly. A quick network to move all that data around is also quite useful.

> As it was stated by Joseph Kimpler from AIC, *"Edge Storage and Artificial Intelligence are requiring exponentially larger and larger compute and storage capacities; they will be among the key drivers in the data storage markets for the next couple of design cycles".*

It is worth highlighting that the artificial intelligence field is quite familiar to Open-E. Not long ago, we implemented a data storage solution for Neurothink, a startup with the vision of creating powerful and secure Artificial Intelligence and Machine Learning tools.

> *"I want to give some thanks to both AIC and Open-E. As we've been working with them, we've discovered some amazing things about our infrastructure—quite remarkable results".* -Brian Rogers, CEO of Neurothink.

Virtualization of Data Storage

Companies like VMware, PloxMox, and Citrix have all sharply risen in value over the last decade or so due to their ability to exploit the virtualization sphere, particularly in the data storage segments of the IT industry. But why? What makes virtualization so special? A multitude of factors, including cost-efficiency, space-saving potential, ease of use, and overall improvement in the way business operations are handled.

Cloud

The 2010s have seen a lot of interesting technological trends emerge and become the prevalent way of doing things in the world of business. From social media becoming the dominant means of interacting with others to smartphones changing the way an average person does everything from shopping to dating, technology has certainly changed the way we function over the last decade.

The data storage industry is no different, and the massive change that occurred in the said industry was the rise of the Cloud. With the rise of the Cloud, companies have started to say goodbye to their own data storage centers and decided to place their trust instead in companies like Amazon, Verizon, and China Unicom.

> As for Richard Keats from Cinesys.io, *"capacity and bandwidth are constantly increasing, whereas Cloud-based storage will see mergers and acquisitions due to supply and demand needs. Cloud storage is easy to market, but it's sluggish from a user perspective, and the biggest impact is the true cost of ingress and egress, plus the fact that all of your data can be deleted the moment your account is not in good standing".*

Hyper-convergence

Hyper-convergence: what is it and how has it changed the way data storage companies operate?
Well, it's worth mentioning that hyper-converged infrastructure is a subset of the well-known, software-defined-storage, which we will describe later. Put simply, it is an IT framework that helps you assemble storage, computing, and networking into a unified system. Its architecture is software-centric and requires software-defined storage, network virtualization, and a hypervisor for virtualized computing. By design, almost everything is focused on the software, meaning that the hardware selection isn't quite as complex as it was in the past, but it is, of course, still important to select the right hardware that meets the hyper-convergence requirements in terms of performance.

Alternative Hardware Technologies

There are undoubtedly a lot of hardware technologies out there these days, like HDDs, SSDs, NVMes, and NVRAM disks, that contribute to powering all those things we know and like very strongly.

For instance, when we look at HDDs, we can see that they've been the mainstay of many storage solutions over the last decade and continue to be widely used today. This is due to a combination of factors like ease of accessibility, affordability, and reasonable performance. Although they are no longer generally considered the best option when it comes to choosing your storage setup, they still have a lot to offer in a variety of setups.

That being said, SSDs have largely taken over from HDDs in widespread usability, with a much better performance output while also becoming more accessible every year. These are now the go-to options for a lot of businesses and enterprises that don't need extreme performance and value cost-effectiveness.

Yet, such ZFS-based software solutions as Open-E JovianDSS can greatly improve the work of a simple HDD by adding simple and cost-effective caching devices. These include NVMes or Intel Optane, which, combined with Open-E JovianDSS, create an impressive performance for HDDs.

As for those that are looking for extreme performance, they often turn to NVMes these days, as those are the fastest types of disks that are somewhat widely available, albeit at a price point that makes sure to emphasize that they are the highest performing disks around.

> For example, Wolfgang Bauer from EUROstor highlights *the increasing importance of performance, which is why the potential shift to NVMe will drive the market.*
> Just as it was also mentioned by Thomas Muggendobler from Thomas-Krenn.AG, *we can expect more flash/NVMe devices and a growing number of distributed storage solutions because of scalability requirements in the near future.*

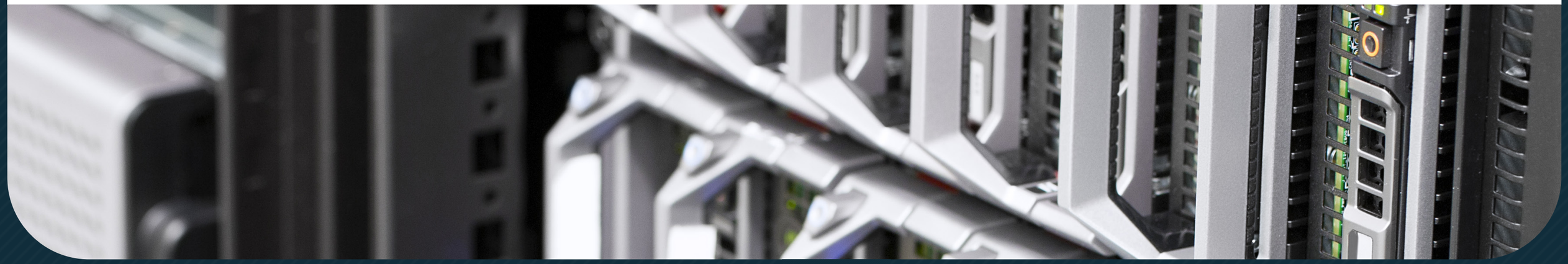
As for NVRAM disks, they are simply non-volatile RAM. These disks behave the same way as regular RAM disks, but they can retain the information that's on the disk even after losing power. That's why they are termed „non-volatile".

Software-defined storage

So, what is software-defined storage? In short, software-defined storage is having a storage solution that uses software as the critical component that ties together all of the hardware. Why does this matter? A combination of reasons ranges from the lack of hardware options currently on the market to being able to avoid vendor lock-ins to ease of use and functionality.

In regards to the first of these, the global chip shortage is not exactly what anyone would consider news, and as such, companies have taken to trying to solve the lack of available hardware through a myriad of new and unique alternatives. Software-defined storage is at the forefront of that endeavor.

Tied to that, vendor lock-ins these days can often be a kiss of death for a company, given that hardware is hard enough to come by without being locked into very unique vendor specifications. Now imagine what'd happen should an organization be required to scale up or replace a part that was very limited in supply and the vendor knew this to be the case. As a result, most businesses nowadays try to avoid vendor lock-ins.



We have asked our partner Western Digital about their perspective on data storage trends and the way the data storage market is going to develop in the next few years. We would like to share some of them:

OE **What do you think about open, agnostic, software-defined trends in the data storage market?**

WD *With many industries accelerating their digital transformation journeys, SDS solutions are being adopted across sectors. The SDS market was valued at USD 9.4 billion in 2020 and is expected to reach USD 37.24 billion by 2026 at a CAGR of 25.8% over the forecast period between 2021 and 2026. The surge in digital transformation initiatives has pushed many IT leaders to migrate their applications and data to the Cloud. This can be efficiently accomplished by incorporating a software solution like Open-E JovianDSS onto a proven storage platform such as our Western Digital Ultrastar® Data60 Hybrid Storage Platform. An SDS combination such as this offers incredible flexibility of choice for IT managers while avoiding vendor lock-in and can offer numerous other benefits as well, like reduced CapEx, faster scalability, and better efficiency.*

OE **Do you think scalable SDS solutions should be more of a priority for companies?**

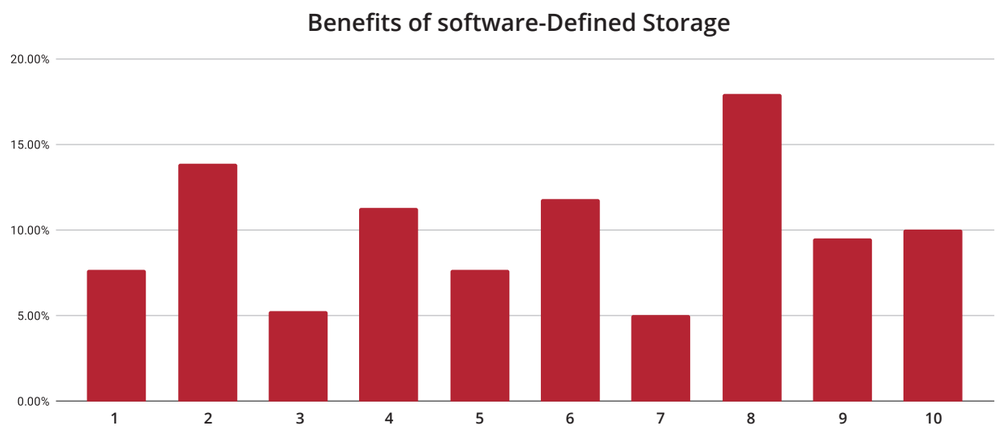
WD *Yes, absolutely. As the world adjusts to the new normal, digital and technology adoption across many industries is taking place overnight, and it's not headline news that the amount of data generated is accelerating at an incredible pace. In this zettabyte age, data centers are the backbone of many enterprise workloads like Cloud-based computing, ERP, data lakes, data warehouses, analytics, and AI. Companies are depending on their data hubs to execute crucial business applications like managing data, ensuring data protection, dealing with compliance issues, optimizing database performance, and improving TCO. To keep up with these new demands, data centers must commit to being open at all levels. This allows them to deliver the desired user experience. A well-chosen SDS solution can help to meet these new challenges and adopt digital transformation projects across verticals, allowing for a true digital transformation to occur within the company.*

OE **How should a company approach SDS?**

WD *Only a few organizations will be able to take a „big bang" approach and deploy site-wide SDS for everything. Instead, the most common approach is to pick one particular project for the first SDS deployment and start there. When it comes to where and why to start, potential triggers for an initial SDS deployment include simplifying storage management, reducing hardware cost, and optimizing efficiency, capacity, and/or performance.*

Lastly, software-defined storage, when well done, can lead to an overall ease in terms of how complicated the solution is and allow for more access in terms of how much skill is required to have the system working appropriately. This easing of the burdens of entry decreases training costs for organizations as the education needed to maintain and use the system is decreased.

In order to develop this trend and get a deeper understanding of what the respondents may value in software-defined storage, we've given them a couple of examples to choose from. The graph below shows the percentage of the values:



1. Extend the life of existing storage assets
2. Minimize disruption with changes in storage
3. Better visibility across storage
4. Future-proof your infrastructure
5. Automate frequent or complex storage operations
6. Simplify management of different types of storage
7. Lower hardware costs by shopping among several vendors
8. Abstraction from hardware, no vendor lock-in
9. Business continuity/disaster recovery
10. Deliver higher performance storage

The visible top answer among our respondents turned out to be **"abstraction from hardware, no vendor lock-in"**.

Here are some thoughts regarding software-defined storage from Krzysztof Franek, CEO of Open-E: *"Thanks to SDS, we can match the unmatchable and create innovative solutions that would otherwise not be possible. Moreover, software-defined storage can be spiced up with virtualization as well, uniting disparate storage resources from different hardware into a single unified functional whole. For example, Open-E JovianDSS can work as a physical data storage backend for virtualization as well as a virtual machine within the hypervisor.*

We also have an entire hardware compatibility list to showcase the numerous types of hardware the storage solution can work with. In an era of hardware shortages, the software in data storage solutions has become essential for enterprises looking to minimize costs and avoid being locked into using one vendor. Software such as Open-E JovianDSS can provide a high level of compatibility across every system".

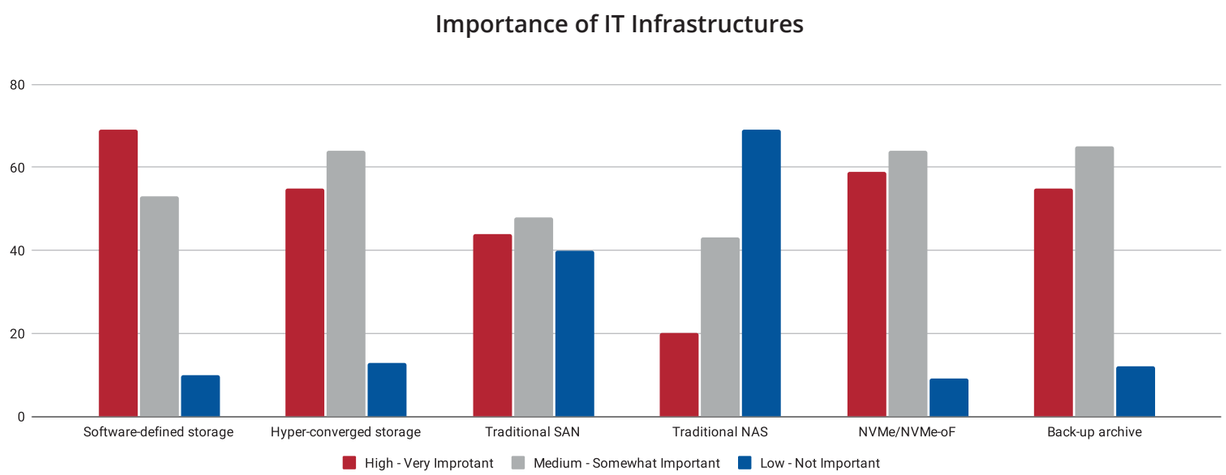
It's true that proper hardware-agnostic software, just like Open-E JovianDSS, may provide you with the ability to choose the supporting hardware yourselves, taking into account your budget and business needs.The second and third most popular answers are „minimized disruption with changes in storage" and „simplified management of different types," which indicate the need for simplified customization and control of the data storage solution.

CineSys.io

"Clients are ignoring data analytics, efficiencies, and future-proofing in general. They're only focused on the available capacity to do what's in front of them now. Plus, there seems to be a trend of „fewer IT resources" (especially fewer staff) than in the past. Online pricing and availability have created more self-sufficient thinking, but this only offers a partial solution for most workflows" - Richard Keats, Cinesys.io.

The Most Preferred IT Infrastructures

So what are the most chosen IT infrastructures for the end-users and our partners' clients?
We've asked you to choose from several options such as „high-very important," „medium-somewhat important," and „low-not important." The results look as follows:



These results indicate that there are four top IT infrastructures that the data storage market can offer: software-defined storage, backup archive, NVMe/NVMe-oF, and hyper-converged storage. The respondents have placed software-defined storage in the first position, with about 52.2% of the votes for its high importance.

STARLINE

According to Thomas Heigl, Starline Computer GmbH, "Customers prefer fast and reliable All-Flash storage, some even NVMe!" which can be seen in the results.

EUROstor

This scenario is also expected to be developed in the future: *"Performance matters, so the shift to NVMe will drive the market",* says Wolfgang Bauer from EUROstor.

The Space

Here are some thoughts regarding software-defined storage influences on the data storage market trends from Western Digital:

Western Digital.

"The world is generating and storing more data than ever before. Industry experts estimate that generated data is growing at approximately 30% annually and could grow to as much as 175 ZB by 2025. Most of this information is transitioning quickly into archival data, or „cold storage," which is the fastest-growing data storage segment in the industry".

It is true that, with all the new data being created, demand for space is now at a premium.

According to MWPVL International, Amazon announced in 2020 that it would add an additional 176 million square feet, the equivalent of 3,696 American football fields, to its current total of 402 million. 517 facilities will be added over the next several years.

(Source: https://www.nasdaq.com/articles/amazon-is-running-out-of-storage-space...and-manpower-2021-08-02)

176 million

402 million square feet

1,5 million square feet

Facebook has recently announced its expansion, with the first phase set to come online in 2021, totaling 1 million square feet, before kicking off another phase that will add another 1.5 million square feet. These three buildings are being added to Facebook's campus in Newton, Georgia.

(Source: https://www.datacenterknowledge.com/facebook/facebook-plans-huge-expansion-already-massive-georgia-data-center)

The lack of space can also be affected by the complexity of the data that is being collected. The number of things connected to the internet that now produce data has exponentially increased over the last twenty years and is only set to increase. With all the new devices producing data, companies need to figure out how to deal with the complexity, how to connect all of their various apps, and how to organize the data in a way that makes sense so that it can be usable. This has led to a wide variety of setups and even more demand for computing power.

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The additional benefit of being an Open-E Partner is access to the Open-E Certified Sales Professional (OECSP) training sessions! Improve your sales skills and build the foundation for your career success in the data storage market.

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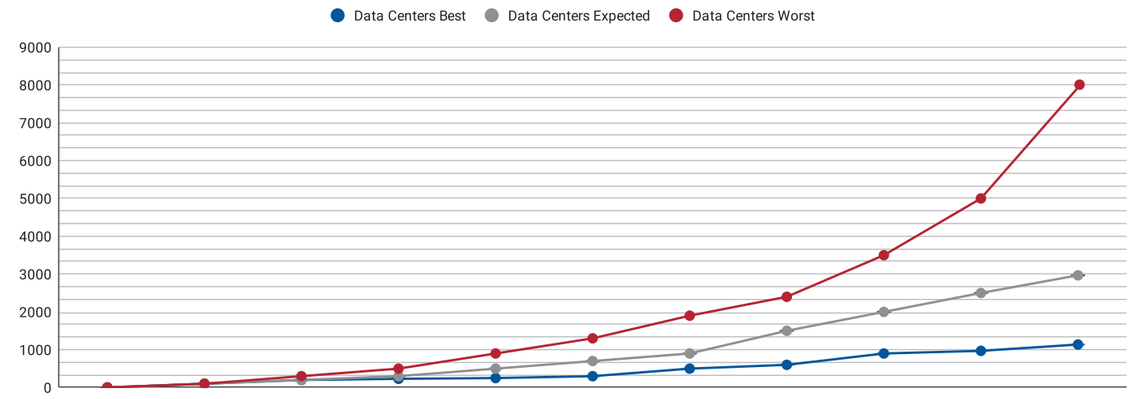
www.open-e.com

Power and Cooling

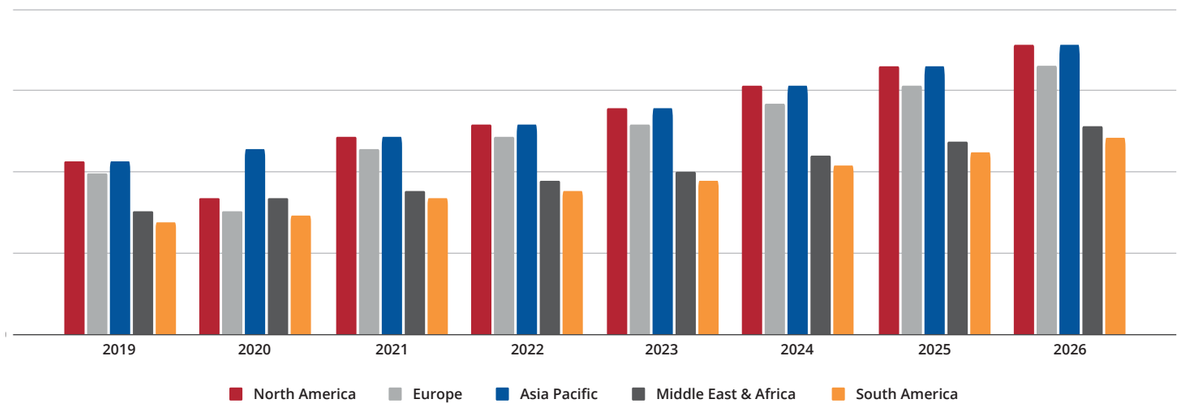
The undeniably most critical issue that the data storage industry and most companies face today as it relates to data storage is how to keep the cost of powering and cooling the servers affordable. Electricity consumption in data centers is expected to rise by 1,000 to 8,000 percent between 2010 and 2030, as shown in the graph below.This exponential rise is very problematic for anyone reliant on big data and the centers that store the information. These costs are being affected by multiple factors, including the updated European eco-policy, changes in Russia's oil and gas prices and shipments' strategy, and all the possible disruptions after the pandemic.



Source: https://www.researchgate.net/figure/Global-electricity-demand-of-data-centers-2010-2030_fig2_275653947

The cooling situation for the market currently isn't much better, with prices predicted to steadily rise in every region from 2020 to 2026, as can be seen from the graph below, entitled „Global Data Center Cooling Market by Geography". This increase in price stems from both more cooling required to keep the servers cool as they become more powerful and a larger demand for server space, meaning more servers have to be cooled. That being said, without proper cooling, the servers could become damaged and result in data loss. As such, companies will be forced to keep paying the cooling costs in order to ensure that their data is in good condition for the foreseeable future.

Global Data Center Cooling Market by Geography: 2020-2026



Source: https://www.maximizemarketresearch.com/market-report/global-data-center-cooling-market/23969/

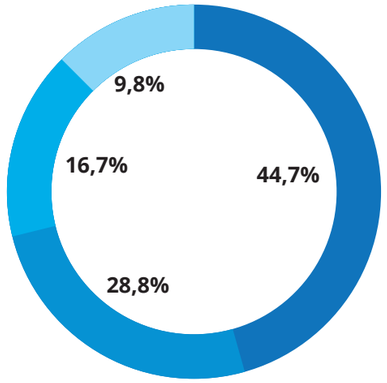
To address the potential influence of the increase in the amount of data stored, we have highlighted the main issues that can be faced. Those include power and cooling, the complexity of data, and hardware shortages.

In order to eliminate neutral responses, we've used a scale from most to least problematic, featuring four answer types: types: "the most problematic", "rather the most problematic", "rather the least problematic", and "the least problematic".

Following the answers provided by our respondents, the hierarchy of these issues looks as follows:

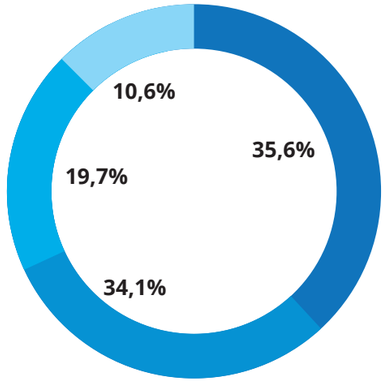
Hardware shortages

Most problematic - **177**
Rather most problematic - **114**
Rather least problematic - **66**
Least problematic - **39**



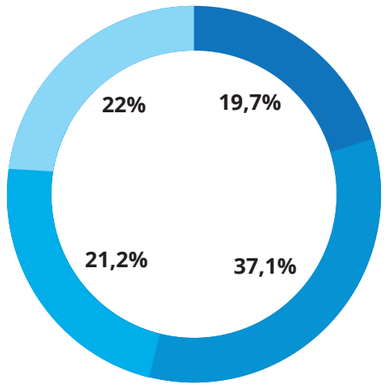
Complexity of the data

Most problematic - **141**
Rather most problematic - **135**
Rather least problematic - **78**
Least problematic - **42**



Power and Cooling

Most problematic - **78**
Rather most problematic - **147**
Rather least problematic - **84**
Least problematic - **87**



Based on the following statistics, we can state that hardware shortages and the complexity of data create the whole general concern. The hardware shortages may be influenced by the complexity of data stored by businesses, which, furthermore, may impact the increase in power and cooling costs.

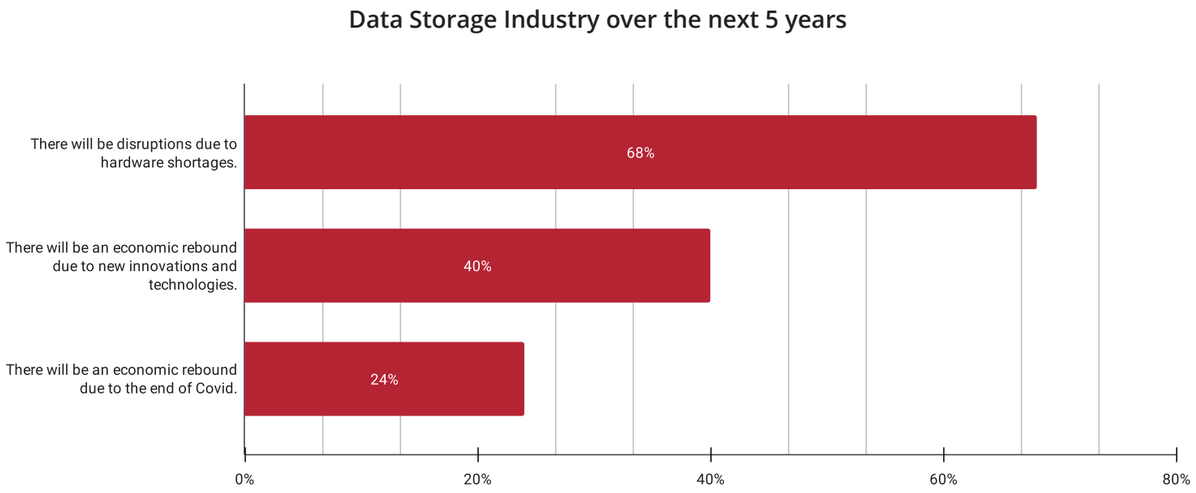
However, the question addressed to the end-users/our partners' customers regarding their concerns about the potential rise in the cost of power and cooling servers has shown that 213 respondents are bothered by this issue, and 126 more are likely bothered.

> *"According to Michele Verdone's from RNT Rauch statement, „there is a significant trend for optimization of energy consumption in the data storage market. It may be caused by the fact that the end-users are motivated to utilize the data storage solution with minimal expense".*

That is why it has become an essential challenge for data storage providers to improve the energy-saving aspect of their solutions to make their offers more competitive. For example, the case study of Open-E JovianDSS implementation for a German data center operator, IT-Beratung HALBE, describes the reduction of pieces of hardware in the server rack by one-third.

> *"The main reason we chose the redundant, fail-proof storage solution based on Open-E JovianDSS presented by Boston Server & Storage Solutions was the perfect harmonization of stability, performance, scalability, and flexibility (which is becoming more and more important these days). It allows us to react perfectly to the market's needs. Another noteworthy aspect is the amount of electricity saved, about 4 kWh per day, which, thanks to the modern hardware, also benefits the environment and has a positive impact on our electricity costs",* -Thomas Halbe, Managing Director.

By analyzing the respondents' answers, we could also identify the potential scenario expected for the data storage industry over the next five years. Predictions were divided as follows:



> As we can see, the expectations of respondents are not so pleasant. Just as it was stated by Krzysztof Franek, CEO of Open-E, *"We can see all the issues that the shortages have already created and if, as suggested by Deloitte, 2022 is to be the year of the global semiconductor shortage, then there will definitely be another massive upheaval in the data storage market".*

However, it is worth stating that the respondents' mindsets have improved significantly during the survey's time period. Most of the „new innovations and technologies" answers came at the end of the survey's term, indicating a potential improvement in the data storage market.

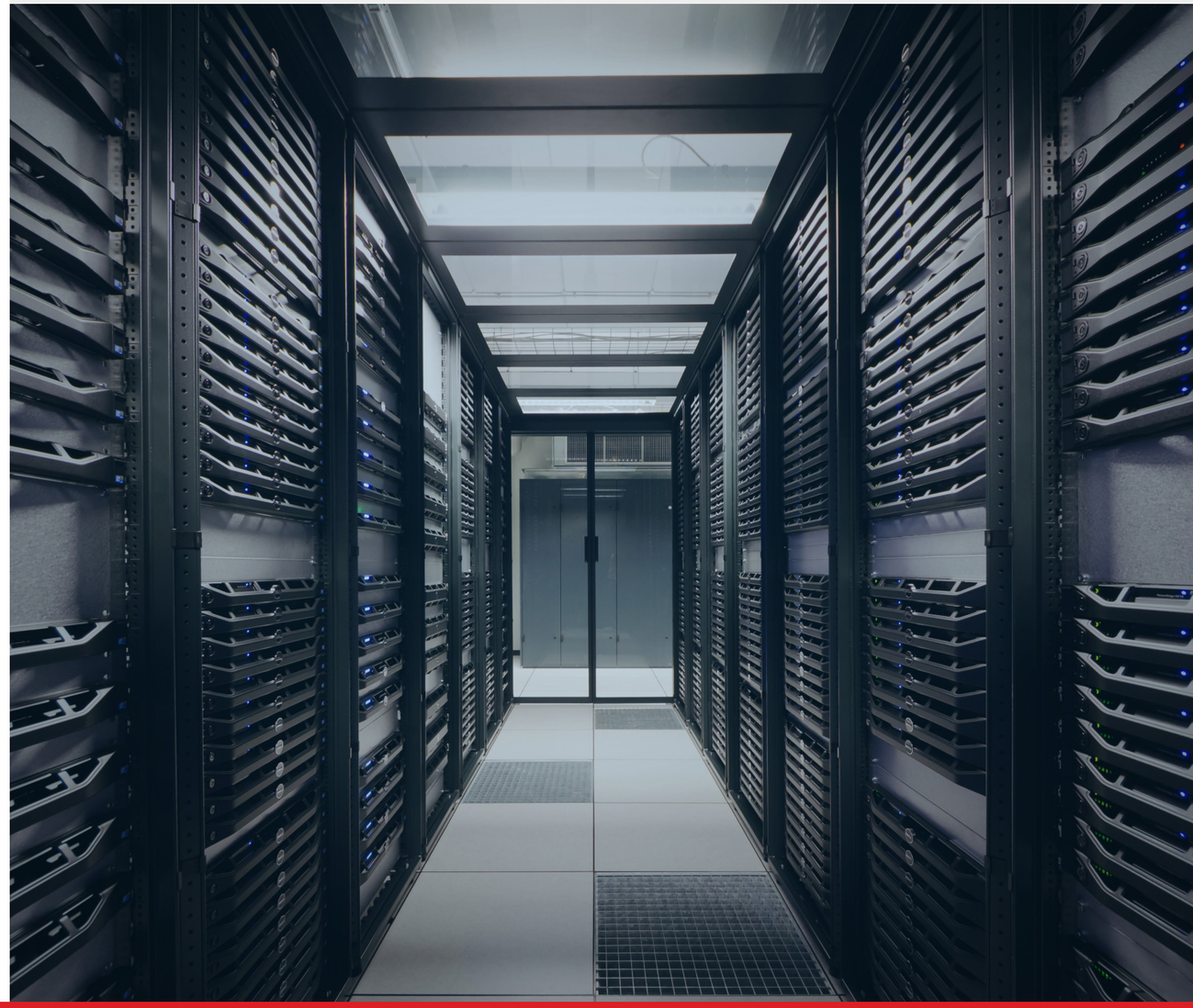
However, there is an alternative issue that harmfully affects the data storage market that is definitely worth mentioning: Ransomware. The complexity of the data storage solutions is considered the security aspect as well.

> As for Eberhard Faust from INS Systems GmbH, *"Increasing volume, higher performance, and security constrains because of Ransomware problems."* Granular security concepts are key to running storage in the near future. Also, G. Lemaire from d-factors SA states that *"with cybercrime always becoming more professional, we will encounter more challenges in Blue Teaming".*

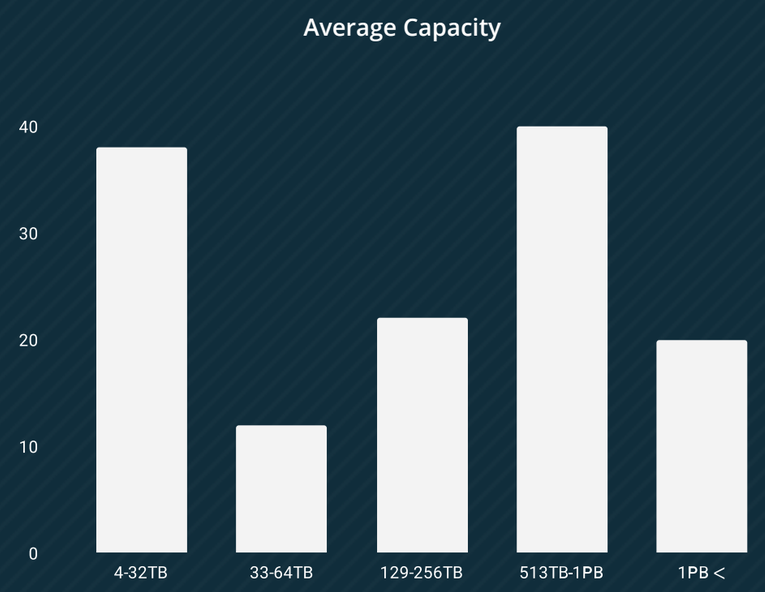
Data Centers

As data exponentially grows, so also does the need to capture, examine, and store it. Or at least, that's the common perception in today's world. Data centers are an excellent way to do that, applying it to the tech world because everyone knows that something is cheaper if you can get it wholesale. This now includes data storage.

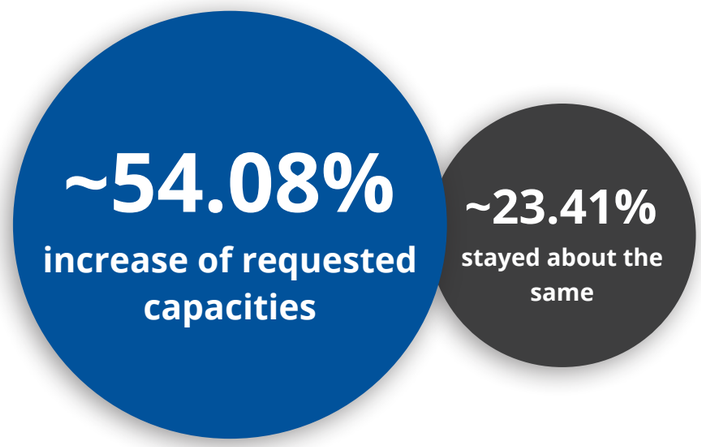
With this uptick in data center growth, we've seen whole industries boom and overtake traditional means of storing data. These days, technologies like Edge Computing and Cloud Computing have risen and quickly overtaken on-premise storage as the main means of data storage for most companies in certain sectors. This growth has only been further exacerbated by the work-from-home environments that the coronavirus pandemic has brought about. In addition, much like with the invention of gunpowder or steam power, it seems there's no going back once the proverbial cat is out of the bag.



During our research, we also identified that most of our end-users and customers of our partners often request data storage majorly within these capacities:



Based on the graph, we can see that the amount of capacity does not actually represent the capacity growth trend. The options 4-32TB and 513TB-1PB are peaking (28.79% and 30.3% simultaneously), with only two responses' difference. Yet, about 54.08% of respondents have mentioned the increase in requested capacities from the year prior, and 23.41% said that it has stayed about the same. It implies that we should consider the market's digitalization impact as well as the fact that businesses that invest in smaller capacity may never have used a data storage solution at all.



Based on the answers regarding the most requested configurations of these data storage capacities, there are several key characteristics that can be traced. For example, all the capacities listed include High Availability and high-performance All-Flash data storage setups.

> *The latter, according to Minodor Stanciu of Maguay, the Open-E Partner, has become a trend in data storage habits. Furthermore, he provides insight into how this trend will be developed using blockchain technology and IPFS.*

The 513TB-1PB option includes single-node configurations, and the 129-256TB option usually goes with stretched metro clusters and archive data storage setups. It is also worth stating that the amount of capacity requested does not depend on the end user's market segmentation. The 513TB-1PB option has been chosen by the partners who mostly focus on end-users working in the Government and Public, Hospitals and Healthcare, and Media and Entertainment sectors.

The data center sector has shown various needs by choosing capacities in the spectrum from 17TB up to 1PB and more. Thanks to these statistics, we can claim that the digitalization process has globally affected businesses from all industries as they start to invest in greater capacities for their data storage solutions.

Conclusion

Summing up all the described results, we can conclude that the data storage market is particularly heading towards maximized hardware abstraction. Such trends as utilizing the Cloud, software-defined storage, and hyper-convergence indicate the fast development of simplification in the utilization of data storage solutions. Additionally, we can admit that the hardware shortage issue might be resolved soon thanks to the improvement of the global mindset and the desire to invest more in hardware-agnostic software solutions.

White paper partners

Country: **Germany**
Website: **https://www.thomas-krenn.com/en/index.html**
Thomas-Krenn AG is a leading provider of individual server and storage systems and data center solutions. The company serves more than 15,000 customers across Europe. These include large corporations, public services, government authorities, IT service providers, and educational institutions, as well as many small and medium-sized enterprises.

Country: **Switzerland**
Website: **https://www.d-factos.ch/**
d-factos SA has over 15 years of experience in the fields of IT, development, and telephony. Always listening to customers and innovative in the solutions offered, they strive to find the best result for your projects.

Country: **Germany**
Website: **https://rnt.de/gb/about-us/**
RNT Technology is a pioneer in the high-tech server and storage industry, with 20+ years of experience. They're on a mission to always be ahead of technology trends and rethink future-proof server and storage solution designs that go hybrid and tackle business challenges.

Country: **Germany**
Website: **http://www.starline.de**
Starline Computer has over 30 years of professional experience with data storage systems, having been in the storage and server business since 1982. They are one of the first companies to completely dedicate themselves to storage and server solutions. This guarantees their partners a maximum of competence.

Country: **Switzerland, Germany**
Website: **https://www.ins-online.net/en/**
INS is one of the leading medium-sized IT service providers with three data centers in Frankfurt, Hanover, and Lucerne. Their service is focused on planning, implementation, and operation of IT infrastructure. INS develops and implements complete solutions—from comprehensive status analysis to individual conception, as well as delivery and installation of all required hardware and software.

Country: **The USA**
Website: **http://www.helix-int.com**
HELIX International is a software and consulting organization that focuses on document and data solutions. Helix sells its MARS Software Platform, which allows you to extract data, view document formats, transform and migrate documents in real-time. The software platform permits you to do almost anything that allows data and documents to be synonymous, unlocking your content and data for a cognitive reality.

Country: **Germany**
Website: **http://www.EUROstor.com**
EUROstor has been a manufacturer of storage systems since 2004. In the beginning, the company produced RAID systems. Today, server-based systems operating as flexible storage servers are the main constituents of their product portfolio—perfectly custom-tailored in accordance with the respective requirements. The solutions range from small file servers and CCTV storage to highly-available storage clusters, scale-out clusters, and Cloud solutions. EUROstor's head office is located in Filderstadt, near Stuttgart, Germany, and the company markets its products to end customers throughout Europe, medium-sized companies, universities, research institutes, and data centers.

Country: **The USA**
Website: **https://cinesys.io/**
CineSys is a broadcast and media systems integrator providing solutions, integration, and support for digital content creators across North America. With decades of IT experience and a foundation in M & E, they serve a range of industries, from broadcast and post-production to government, corporate, agency, houses of worship, and sports. Their goal is to help companies get the most from their technology investments, accelerate workflows with cutting-edge technology, and strengthen infrastructures.

Country: **Taiwan**
Website: **https://www.aicipc.com/en**
AIC is a leading provider of both standard OTS, off-the-shelf, and OEM/ODM server and storage solutions. With expert, in-house design capabilities, validation, manufacturing, and production, their broad selection of products is highly flexible and configurable to any form factor or custom configuration. AIC leads the industry with over 20 years of experience in mechanical, electronic, and system-level engineering, as well as a dedication to product innovation and customer support. Headquartered in Taiwan, AIC has offices and operations throughout the United States, Asia, and Europe.

Country: **Romania**
Website: **http://www.maguay.ro/**
The primary objective of Maguay is to strengthen the company's position as the main Romanian system builder of servers and storage solutions, as well as an IT systems integrator and various IT solutions. Maguay develops its own IT products, software platforms, and complete integrated solutions for its customers, with a TCO report (total cost of ownership) and competitive quality. The expertise gained over time is based on the integration of the most current and viable technologies into the most complex and varied projects. The company has built a strong reputation among customers and partners, having satisfied numerous customers with whom it has long-term partnerships.

Methodology

Based on the listed objectives, our methodology includes quantitative and qualitative research:

- Survey our partners and end-users to gather public opinion on the data storage market situation.
- Interview specialists in the data storage field to identify their key trends.

Doing this allowed us to analyze and interpret any differences in the responses to gain key insights into what was happening in the data storage market from both sellers' and buyers' points of view.

About Open-E

Open-E is a well-established developer of IP-based storage management software. Its flagship product, Open-E JovianDSS, is a robust, award-winning storage application that offers excellent compatibility with industry standards and is the easiest to use and manage. Moreso, it is one of the most stable solutions on the market and an undisputed price performance leader.

+38000 software implementations

+100 countries worldwide

+20 years of experience

+800 certified engineering and sales professionals

Building Better Bespoke Business Solutions. Together.

For details regarding Open-E's Partner Program, partner levels, benefits, and requirements, visit our website at www.open-e.com

Decided you'd like to become our partner and successfully expand your business? Start here
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Already an Open-E Partner? Let's get back in touch!

If you're an Open-E Partner already but haven't contacted us in a while, there's no better time to reconnect! We're always eager to support you. To get in touch, just log in to your Partner Portal or send us a quick message via email. We're also on social media.

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