



How to choose the right storage solution for your business

Data center solutions by CTGlobal



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How to choose the right storage solution for your business



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To improve your data center's scalability, capacity, stability and cost-effectiveness here's what you should consider. And a possible solution...

Cloud is the next generation in storage, and what everyone is talking about. And there is no question that cloud is great for a number of things: The flexibility and agility inherent in the cloud solutions is a perfect match to modern organizations who understand that the only thing they can be sure of, is that:

- a) change is the only constant, and
- b) shifting workloads and distribution requirements necessitate a degree of adaptability and responsiveness that a hardware-only storage solution will struggle to meet.

"By 2022, cloud shift across key enterprise IT markets will increase to 28%, up from 19% in 2018. Organizations without a cloud-first strategy — where the cloud is primary, prioritized and promoted — will likely fall behind competitors."⁽¹⁾

Santhosh Rao, Senior Director Analyst, Gartner. March 2019.

"North American businesses are targeting a hybrid IT environment consisting of around 52 percent legacy, 26 percent public cloud, 18 percent private cloud and the remainder being made up of Internet of Things (IoT)."⁽³⁾

CRN, September 2019

Why the hybrid data center is (probably) the best solution for your organization

While cloud has a number of advantages, for most businesses it can't stand alone – you will probably need a physical storage solution to complement it. Fortunately, it's not a question of either/or: Best practice for the vast majority of organizations, particularly organizations who base their business on processing large amounts of digitized data, is the hybrid data center. The hybrid data center has all the advantages: The flexibility, scalability and cost efficiency of cloud, combined with the security and control of on-prem storage space.

But as with any other solution, the hybrid data center is only as good as the foundation it is built on.

Deciding the right solution mix for your data center



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Deciding that a hybrid data center is the right solution for your business is the easy part – unless your organization is different to most, it will be the best choice. Once you've made the decision to go hybrid, the real fun begins: Choosing the right mix of cloud and physical storage, and the right mix products and vendors.

To get off to a good start, these are the most important phases you will need to go through:

Assessment phase

To address your organizations storage requirements you must first analyze your organizations storage needs: What are those needs today, and how might they evolve in the future - best case, worst case, and somewhere-in-between case. The assessment phase is critical, because it is the foundation for the choices you make, when you plan your storage solution.

Exploratory phase

Once you have assessed your requirements, you can start exploring your options to meet those needs. Since you can't go to the counter in your local shop and ask for "One hybrid data center, medium size, please", you need to thoroughly investigate and understand what is possible and desirable in selecting hardware and software for the data center: Which vendors are out there, what do they deliver, how do their solutions interact, and what is the ideal fit for you and your current infrastructure – always keeping your future needs in mind.

Decision phase

With your assessment and your exploration done, you know your needs and you have mapped your

options. Now it's time to make decisions. As with all other business decisions, the right choice balances cost, risk and effect. And when you combine software and hardware there are a trillion-ish things to consider, but they fall into two primary categories: Your hardware components: Servers, routers, switches, application delivery controllers all need to be up to the continuously growing processing tasks. Your software choices: Which products you choose, of course, but particularly how you handle configuration, implementation and policies, to avoid security and software cost spinning out of control when and after you migrate.

Implementation phase

You've laid your plans, and decided on the best-suited products. Now, it's time to unbox and start connecting all of the bits, bytes and pieces, ensuring everything is migrated and deployed without negative impact on the business and your users: Downtime, data loss, access problems, security risks, compliance issues – all the stuff you work hard to avoid every day, and that you know is far more likely to occur when you start to make fundamental changes to the infrastructure.

Is Do-It-Yourself an option?

Going from on-premises to hybrid is not a recurring task in the average IT organization. It is, however, a highly complex and business critical project, and if you are not confident that you have a complete and comprehensive set of skills onstaff to ensure smooth deployment, you should always consider enlisting outside expertise from experienced data center specialists.

Azure Stack HCI and Lenovo ThinkAgile MX - the right choice for your organization?



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At CTGlobal, we have worked with data center solutions for many years – on-prem, cloud and hybrid. Our consultants have extensive experience in helping to define requirements and developing migration plans with organizations across industries, of different shapes and sizes, and with each their own in-house IT set-up.

Some of our customers are huge organizations with large IT departments full of specialists in all the disciplines relevant to the business; others are smaller companies with small, generalist IT teams who rely on external experts for specialized tasks.

"CTGlobal installed our solution with configuration based on both the vendor's and the community best practices in a highly automated and controlled process. This gives us 100% insight in what was configured and it creates trust both for the solution and for CTGlobal as a partner."

Hampus Nordanfjäll, IT Operations, Aller

The sum of our experience is that, for most of the companies we come into contact with, it is possible to build a really good data center combining hardware from Lenovo with software from Microsoft:

What is Microsoft's Azure Stack HCI?

Microsoft's Azure Stack HCI is the evolution of Windows Server Software-Defined (WSSD) solutions and was brought into the Azure Stack family in March 2019 as an option to connect seamlessly with Azure for infrastructure management services. Microsoft did so to bring their existing hyperconverged infrastructure technology into the Azure Stack family for customers to run virtualized applications on-premises with direct access to Azure management services such as backup and disaster recovery.²

What is Lenovo's ThinkAgile MX?

Lenovo's ThinkAgile MX hardware is designed to facilitate quick deployment of a robust high-performance hyperconverged infrastructure solution, and it works well for the majority of organizations as the backbone of Azure Stack HCI. A Lenovo ThinkAgile MX/Azure Stack HCI solution makes for a very flexible solution that allows the organization to add storage space incrementally and on demand. On top of that, it's well-designed, well-built, and reasonably priced.

Combining these two, you have done everything you can do today, to future-proof your data center. You will not be limited by hardware choices you made years ago, which are now outdated: instead, you can add nodes and clusters effortlessly and quickly as you go. Consequently, you avoid committing to spending money on storage capacity and technology until you know you actually need it, without compromising on agility, because the set-up allows you to act with supersonic speed to increase storage space the minute the organization realize it requires it.



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How can we help?

The collective expertise and experience our team has with setting up data centers in all kinds of organizations makes up a set of best practice guidelines that can help you along the way – from assessing your options to making your choices, and of course doing the actual implementation.

We step in to help you deliver and maintain solutions that ensure your organization's requirements are met, optimized and future-proofed.

"Hybrid IT will be the standard in 2019. Hybrid architectures will become the footprints that enable organizations to extend beyond their data centers and into cloud services across multiple platforms." ⁽¹⁾

Santhosh Rao, Senior Director Analyst, Gartner. March 2019.

What we can deliver

An Azure Stack HCI project from CTGlobal typically includes:

Implementation of a full management platform based on Virtual Machine Manager and Windows Admin Center. We design, deploy, set up processes,

customize, validate, optimize and maintain. CTGlobal's experts deliver all the tools for your data center management, suited to your needs and internal resources.

CTGlobal installs and configures your Azure Stack HCI solution quickly and smoothly.

- ▶ Design preparations
- ▶ Lenovo hardware and xClarity installation
- ▶ VMM Installation and Configuration
- ▶ Bare metal host deployment
- ▶ Function and Performance testing
- ▶ Documentation
- ▶ System Center Operations Manager
- ▶ Training in Hyper-V, S2D and SCVMM

An Azure Stack HCI project from CTGlobal typically takes three weeks to complete.

What about a fabric domain?

A fabric domain is not a requirement, but it is always our recommendation to isolate your fabric from the general production, to protect the Hyper-V hosts and backup services, and all related services. CTGlobal's experts can deliver all or parts of the fabric domain, in conjunction with or separately from a Storage Spaces Direct installation.



Customer Case: Braathe Gruppen



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For Braathe Gruppen, CTGlobal designed, implemented and deployed a complete isolated fabric infrastructure with Active Directory, DNS, DHCP, PKI, Fileserver, Virtual Machine Manager to deliver the private cloud abstraction-layer and Bare Metal Deployment of Storage Spaces Direct nodes and clusters, and extended it over two data centers, and educated Braathe Gruppen's internal IT team on how to maintain the solution:

[Read the Braathe/CTGlobal case](#)

"CTGlobal have delivered a fully automation-based set-up with unparalleled speed and accuracy, and I am very glad that they came on board to help us. Thanks to their technical expertise we have a future-proofed and optimal solution to support our business. Not to mention that we are no longer dependent on SAN!"

Håkon Svendsen, CTO, Braathe Gruppen

"We saw that CTGlobal had the cutting-edge knowledge of how to set up a fabric domain in conjunction with our Storage Spaces Direct installation, and we decided to ask them to assist us on our project. We are in the IT provider and consultancy business ourselves, and if there are two things we know it is these: It is always worth doing things correctly from the start; and always advisable to base your approach on best practices and on insights from the true experts. Addressing complex IT projects accurately from the beginning ultimately saves you a lot of money, frustration and resources,"

Håkon Svendsen, CTO, Braathe Gruppen,
about his decision to enlist CTGlobal's services.

What is your next step?



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Get in touch with CTGlobal to find out if we can help you.

Book a 30-minute call with our Hybrid Data Center team at:

info@ctglobalservices.com

In the call we will:

- ▶ Assess your requirements based on your organization's current state
- ▶ Recommend next steps for your hybrid data center process

About CTGlobal

CTGlobal is an IT consultancy and development company focused on cloud, data center, security and enterprise client management. The corporate HQ is based in Denmark with offices in Nordics, Baltics and North America. The company was founded in 1999. CTGlobal is Microsoft Gold Partner in Windows and Devices; Cloud Platform; Cloud Productivity; and Datacenter, and our experts speak and teach at leading international seminars and conferences. CTGlobal helps enterprises maximize return on their investments in Microsoft Systems Management and cloud platform solutions, by visualizing threats to compliance, security and performance in their IT infrastructure, and prioritize tasks and resources accordingly. CTGlobal is renowned for expert solutions and recognized as leaders in the field of management technology and infrastructure visualization.

www.ctglobalservices.com

1: <https://www.gartner.com/smarterwithgartner/modernize-it-infrastructure-in-a-hybrid-world/>

2: <https://www.networkworld.com/article/3447397/gartner-10-infrastructure-trends-you-need-to-know.html>

3: <https://www.crn.com/slide-shows/data-center/here-s-who-made-gartner-s-magic-quadrant-for-data-center-and-hybrid-managed-services>