Why converged infrastructure for your data center?

Converged infrastructure isn't just a passing trend. It's being driven by widespread digital transformation, and it's here to stay.

Today, business data and new applications are being created faster and faster. And data center infrastructure is becoming more complex. This increasing pace leaves data center staff overburdened and unable to keep up with business demands. IDC research repeatedly tells us that IT staff members spend approximately 80% of their time just maintaining existing infrastructure or simply "keeping the lights on"—hardly a way to generate innovation.

To propel both innovation and agility, data center infrastructure must focus on improving operational and capital efficiencies. Converged systems have proven to be an excellent fit for addressing the challenges that are overwhelming data centers and their staff. Indeed, the converged system has become a key tool for IT organizations that are looking to spend less time on daily tasks and routine maintenance and more time on innovation.

Defining converged infrastructure

Converged infrastructure combines best-in-class servers, networking, and storage from industry-leading vendors in a single optimized computing system that is centrally managed. It consolidates existing storage elements into highly redundant components that can be scaled out or up as needed. The modern converged infrastructure solution enables you to future-proof your enterprise applications with cloud-connected workflows to provide a seamless data center transformation. Today's converged infrastructure solutions use industry-leading all-flash storage nodes to increase performance, reduce physical capacity requirements, and cut maintenance costs.

Converged infrastructure also helps minimize costly and time-consuming hardware integration and system maintenance. It increases IT responsiveness to business demands while providing an overall reduced cost of computing. It also frees IT to experiment with software innovation.

Traditional infrastructure deployment can be a "do it yourself" project that combines compute, storage, and network components. These deployments often require additional test and validation resources from enterprises and their partners,

which can delay the release of new applications. Converged infrastructure lowers deployment risk by offering vendor-validated solutions that reduce guesswork and speed time to application deployment with trusted infrastructure platforms.

Converged infrastructure can be an effective choice to support the most demanding applications such as large databases, virtualization, critical applications, and data analytics. It offers CIOs greater flexibility, more consistent service delivery, and a way of putting companies on the path to cloud deployment.

For systems that need to scale while delivering consistent and predictable high performance, converged infrastructure is the answer. It lets you provision infrastructure and services more rapidly and flexibly than traditional systems. Converged infrastructure can also scale granularly in all dimensions—storage, compute, and networking; scale to many more servers; and address some of the stringent performance requirements for enterprise applications compared to hyperconverged infrastructures.

Here are the top three reasons you should consider making converged infrastructure the cornerstone of your infrastructure strategy.

Three reasons to consider converged infrastructure for your organization

REASON 1:
Position IT to better meet the needs of the business

Converged infrastructure creates a more reliable, productive IT environment. With nonconverged systems, companies often struggle to optimize all the hardware elements to deliver the performance required by a diverse set of workloads without overspending on IT. With converged infrastructure, the integration of components is already completed from day one, guesswork is eliminated because you have a fully validated solution, and infrastructure management is simplified. Complexity is reduced through preintegrated hardware, virtualization, and management automation tools. Workflows are optimized so that application services can be delivered more quickly and more easily to give

a better user experience than ever before.

There are other benefits to converged infrastructure that can make big changes in your organization in the long run. With existing systems, the data center team spends 80% of its time on tedious, repetitive maintenance and daily management tasks, and spends only 20% of its time on innovation.[1] With far less maintenance than traditional IT and legacy systems, IT professionals can work toward better and more innovative ways to use technology to deliver an optimal business outcome.

Today's IT departments are expected not only to spend less, but also to do more and be more efficient. Companies are asking their IT departments to generate revenue; they aren't there just to keep the machinery humming.

Greater IT staff productivity, reduced costs, and fewer maintenance issues all make converged infrastructure a reliable choice for companies that want to better meet business demands.

REASON 2:
Gain agility to keep up with evolving business demands

Converged infrastructure offers scalability, agility, high performance, security, compliance, and ease of management. But how can companies attain the agility they seek in a fast-moving market? They must deploy converged infrastructure to facilitate the journey to cloud and to simplify the data center, so that it's easier to meet the ever-changing demands of the business. Converged infrastructure is predesigned and prevalidated for optimal functionality and supportability. Greater centralization creates more efficient economies of scale, faster IT response, increased flexibility, and reduced costs. As converged infrastructure technologies continue to evolve, IT has a reliable way to deliver the power, flexibility, and agility that business users demand in today's and tomorrow's workloads.

Converged infrastructure offerings are also changing rapidly, adding new features and functionality to reflect contemporary technologies and business requirements.

Innovations in the converged systems market are addressing the needs of modern workloads (for example, artificial intelligence/machine learning, Kubernetes environments, DevOps, and private cloud) and new workflows like hybrid cloud. Enterprises need to procure the most up-to-date converged infrastructure platform that can help them in their rapidly evolving application needs and data-centric, cloud-first futures.

REASON 3:
Build a foundation for a hybrid cloud future

Converged infrastructure solutions have incorporated some of the best features of public cloud, thus enabling IT teams to create a seamless hybrid cloud environment—the de facto architecture for digital transformation. Converged infrastructure offers scalability, agility, high performance, security, compliance, and ease of management. Enterprises can implement a private cloud in the data center by using converged infrastructure and integrate it with multiple public clouds to create a consistent hybrid cloud[2].

Companies that deploy a hybrid cloud strategy also enjoy greater flexibility and scalability.

Ongoing data security concerns and sovereignty requirements are causing IT departments to take a closer look at their cloud plans. Administrators need to know at all times where their data lives and who is managing it.

By combining a converged infrastructure with public cloud services, you can create a single seamless solution that delivers trusted data protection, confidentiality, integrity, and availability. And it's elastic enough to meet unpredictable demands for IT resources. For example, IT teams can add new cloud services in seconds without sacrificing data security, enabling them to scale workloads on demand. Another plus: because a hybrid cloud allows workloads to move between private and public clouds as computing needs change, it provides new opportunities for reducing capital expenditure (capex) and operational expenditure (opex) when compared with traditional IT models.

Reimagine your data center with FlexPod

With these benefits of converged infrastructure in mind, what's your next step?

Consider the FlexPod® platform.

FlexPod is built on groundbreaking technology and innovation from NetApp and Cisco, and it's trusted by thousands of customers across the globe. The FlexPod platform meets and exceeds the challenges of simplifying deployments for best-in-class data center architecture.

Composed of prevalidated storage, networking, and server technologies, FlexPod is designed to increase IT responsiveness to organizational needs, reduce the cost of computing, and deliver maximum uptime and minimal risk. By simplifying the delivery of data and applications, your enterprise gains the advantage of running new services and workloads at the edge, at the core, or in the cloud.

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FlexPod business advantages and benefits

Your infrastructure needs to work *with* you, not *against* you. FlexPod offers your organization many benefits, from improved efficiency and performance to dramatic cost savings.

Performance

Today's advances in application complexity are mirrored in rising consumer expectations. IT is being asked to pull every lever that it can to speed innovation and to respond more quickly to the business, all while using fewer resources. It's critical to deliver performance for all environments.

With FlexPod, you can scale and repurpose systems without having to adjust your software or networking capabilities or interrupt operations. You can purchase the systems you need today and scale up your integrated infrastructure for greater performance and capacity (adding or upgrading computing, network, or storage resources granularly). You can also scale out if you need multiple consistent deployments (adding integrated systems) or scale to the hybrid cloud.

FlexPod includes the latest Cisco UCS Servers, Cisco Nexus switches, and NetApp® all-flash storage in a scalar, modular system that is easily managed as a single entity by Cisco UCS Manager. FlexPod consistently offers high-performance delivery of fast and secure business-critical applications.

Other benefits include:
- Up to 11.4 million IOPS at 1ms latency out of the box with NetApp AFF storage arrays (AFF storage is 10x faster than the old FAS systems.)
- The first converged infrastructure with end-to-end NVMe to power the high-performance needs of today's real-time applications.
- A choice of servers and form factors that allow you to achieve an optimum balance of CPU, memory, I/O, internal disk, and external storage.
- Better overall response times to business-critical SAP, Oracle, and Microsoft enterprise applications.

Agility

Profit pressures and more fluid business environments demand infrastructure that can keep up. FlexPod has responded with a design that allows you to deploy new hardware and software in just minutes. The FlexPod solution also makes it easy to implement a cloud strategy and reap the benefits of unprecedented levels of IT agility.

Each FlexPod unit can be connected to the cloud. NetApp AFF and FAS arrays in FlexPod inherit the attributes of a data fabric powered by NetApp technology, which is how FlexPod connects to the cloud. To help you accelerate your digital transformation, the data fabric simplifies and integrates data management across edge, on-premises (core), and cloud environments. It delivers consistent and integrated

hybrid cloud data services, so you get optimal data visibility and insights, data access and control, and data protection and security. FlexPod enables you to easily move data to and from the cloud by using your data fabric powered by NetApp, and lets you manage data from the cloud with Cisco Intersight and Cisco CloudCenter.

With the right balance of on-premises and off-premises clouds, your IT staff and users can tap into computing and data storage resources in a way that aligns with your needs, including data location, security, compliance, cost, and flexibility. And you retain sovereignty over your traditional and cloud-native applications and data for enhanced business success.

With FlexPod, you get:

- Integrated and standardized components that reduce application deployment from months to days or hours.
- Simplified IT with standardized workloads.
- The multiprotocol capabilities of NetApp ONTAP® data management software, which help meet the diverse needs of your applications. You meet your SLAs by implementing quality-of-service (QoS) capabilities.
- Single-click convenience to deploy the application profile and related components and data to any data center or cloud environment.
- Easy management. FlexPod integrates with Cisco Intersight management, which enables FlexPod to be end-to-end software defined from a single pane of glass.

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Economics

The streamlined approach of FlexPod lowers IT operating expenses by minimizing the need for specialized skills and the maintenance required to tune databases. A smaller footprint means additional savings in data center costs. Common efficiency gains are related to provisioning and scaling, which are obvious strengths of FlexPod solutions. Indeed, FlexPod makes it easy for you to provision virtual machines, applications, and storage, and it simplifies the task of adding new capacity for compute and storage. Significant cost benefits include the following:
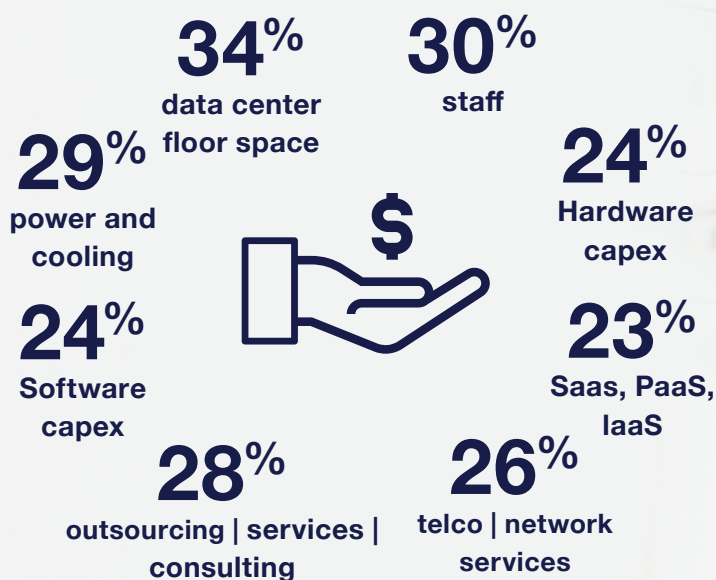
- An average of 24% lower capital spending
- 40% fewer full-time staff members needed to manage the infrastructure
- 65% more time spent in innovation and new projects; 30% less time spent on administrative tasks
- Lower data center costs, including 34% less floor space, 26% less telco/networking spending, and 29% less power/ cooling spending
- A 30% average reduction in staff costs[2]

FlexPod and the Bottom Line

Slash Your TCO & Operational Budget

First FlexPod. Then savings.

On average FlexPod customers reduced captial spending by 24%. Here's a breakdown of the FlexPod cost advantage.

34% data center floor space

30% staff

29% power and cooling

24% Hardware capex

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24% Software capex

23% Saas, PaaS, IaaS

28% outsourcing | services | consulting

26% telco | network services

Future-Proof

Keeping up with technological advancements is critical for any business. With FlexPod next generation compute, storage, and fabric, you're in the forefront of digital transformation, so your company can maximize its capabilities and potential.

All FlexPod solutions can be scaled up or out and duplicated in a modular fashion to accommodate your future growth. They can also scale to a larger FlexPod configuration with a clearly defined upgrade path that takes advantage of all existing components and

management processes. FlexPod gives you the ability to:

- Scale from entry-level designs up to high-performance big data workloads
- Grow seamlessly to meet increasing application demands
- Deploy quick, cost-efficient upgrades through modular system design
- Orchestrate data easily from edge to core to cloud by using a data fabric powered by NetApp
- Integrate the newest technologies with rapid validation

A solid foundation for the future

Converged infrastructure solutions provide many benefits, including fast implementation, easy management, flexibility, high performance, cloud connectivity, and efficient support. These demands must be addressed by many data centers—and FlexPod solutions are purpose-built to meet these requirements. With FlexPod, Cisco and NetApp have reimagined a data center that can keep pace with the evolution of IT and enable enterprises to build a solid foundation for the future.

Performance
61%
improved application
performance

Economics
24%
lower capex
on average

Agility
32%
less time spent on
monitoring, troubleshooting,
and remediation

Future-Proof
65%
more time spent
on innovation and
new projects

Learn more about FlexPod at:

FlexPod.com
NetApp.com/flexpod
cisco.com/go/flexpod

[1] IDC webinar, "Building a flexible IT architecture to simplify application modernization and digital transformation," Eric Sheppard and Lee Howard, 2020.

[2] IDC Whitepaper, "Agile and Efficient — How FlexPod Drives Datacenter Modernization," Eric Sheppard and Chris Kanthan, 2019

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