

THE HYPE IS REAL: UNDERSTANDING THE BENEFITS OF HYPERCONVERGED INFRASTRUCTURE

66% of organizations surveyed are either utilizing a hyperconverged infrastructure, or have active plans in place to move to one.

The IT landscape is moving at a rapid pace toward a converged infrastructure in which compute, storage, network, and server virtualization are offered on a single platform. The key benefits of a converged infrastructure are that it simplifies data center management, and is guaranteed to interoperate with each component (compute, storage, network, and server), eliminating costly vendor interoperability. In addition, a converged infrastructure is workload-driven for maximum reliability and efficiency.

What then, is a “hyperconverged” infrastructure?

Rather than having the compute, storage, networking and server components residing on a single platform, hyperconvergence takes this a step further and offers these components on a single appliance or cluster of x86 server nodes. It uses a software layer to control resources, providing centralized management, automation, and control. Like converged systems, hyperconverged systems are workload-driven. The difference is, hyperconverged infrastructures allow the flexibility to add new workloads from new systems and vendors by simply adding new virtual instances into the system.

Hyperconvergence eliminates the need for silos in the data center. Whereas traditional data centers contained disparate and separate hardware and software systems for storage, compute, and network functions, and converged systems made these functions virtual and residing on a

single platform, hyperconverged systems consolidate even further by using software. The software layer acts like a bridge between the appliance and the cloud of possibilities. It lets IT staff continually grow and expand, according to the enterprise’s own unique business needs. (See our white paper *Future-Ready Data Center: Converged vs. Hyperconverged Infrastructure for an in-depth look at the differences between converged and hyperconverged infrastructures.*)



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The benefits to organizations that move to a hyperconverged system are many, with little to no downside. This white paper discusses those benefits in detail.



COST

One of the most important benefits to enterprises in all verticals and sizes, is the enormous cost savings that come from the deployment of hyperconverged infrastructures. Operational expenses (OpEx) and capital expenses (CapEx) are greatly reduced from the elimination of various hardware appliances dedicated to each of the functions (storage, compute, and networking.)

The evolution of consolidation within the data center has continually showed its strength in cost savings. In fact, the Federal Data Center Consolidation (FDCC) has estimated that there was a \$2.8 billion in cost savings and avoidances from 2011-2015, with another \$8.2 billion projected for fiscal year 2019.¹ With the elimination of hardware comes a significant reduction in costly maintenance. When you consider that IT departments no longer need to deal with end-of-life products, renewing licensing, and deploying costly upgrades, enterprise IT operations realize a dramatic cost savings even while enjoying increased output.

RELIABILITY

For enterprises that develop software as part of their business, a hyperconverged system provides developers with a reliable platform on which to build and test their applications.

A hyperconverged system also provides IT teams with a reliable platform to manage, maintain, and configure the infrastructure according to the company's business needs. Operating within a reliable infrastructure reduces worries that things are going to "break." And when something does go wrong, IT staff are able to re-configure or remedy the issue through software quickly and efficiently, and in real-time. The traditional protocol of taking a hardware server or an appliance of a converged system off-line for troubleshooting, for example, is effectively eliminated.

Troubleshooting in a hyperconverged system can be handled "on-the-fly."

In addition, if the enterprise is serving consumers in any capacity, a hyperconverged system affords them the ability to offer their customers and consumers a reliable platform for software as a service or applications as a service, thereby serving both ends efficiently and effectively.

SCALABILITY

Scalability is not only one of the most important benefits of data center consolidation, it is also the greatest "headache reducer" within IT departments. In traditional models, if an enterprise wanted to grow and scale, it was an enormous undertaking. CapEx and OpEx budgets were greatly impacted and budgets had to be approved. An evaluation and comparison of vendors had to be performed to ensure the organization was purchasing the right technology to support their business needs. Interoperability among new hardware systems had to be considered and evaluated. If the hardware was replacing existing systems, the "rip-and-replace" ramifications had to be carefully evaluated. If a rip-and-replace effort could not be justified, the organization suffered from "vendor lock-in" which they had to continue operating with one vendor even though another vendor had better technology to support them. Network downtime in order to install the system had to be factored in, possibly creating a disruption in business operations.

With a hyperconverged infrastructure, that slate is wiped clean; scaling and growing the business is as easy as an IT professional adding another "instance" to their virtual environment already in place. The software layer within hyperconverged infrastructures allows enterprises to add new workloads from disparate sources with a guarantee that it will seamlessly interoperate.



In terms of scalability, the storage component in hyperconverged systems has not quite yet reached the level of converged systems. However, this is expected to change rapidly as new advances in storage technology becoming available.²

FLEXIBILITY

Along with scalability in a hyperconverged system, flexibility is an important distinction from traditional data centers. The ability to be “agile” in such an environment applies to both technology and people. On-the-fly configuration of new virtual instances, VMs, etc. can be seamlessly handled by the IT department, without the constraint of time and resources.

If a business chooses to introduce new technology, there is little to no disruption in the daily operation of the business. Contrast this to the days when enterprises needed to have multiple cross-functional teams in place, taking up time and resources, to carefully weigh the impact of putting in a new software system and the hardware that supports it. With hyperconverged systems, as business needs arise, the infrastructure can instantly support them.

REDUCED COMPLEXITY

Along with flexibility, complexity is also reduced, which frees up IT resources to be more strategic. With hyperconverged systems, a single IT manager can manage the entire system versus a team of specialists for each area (networking, storage, compute, etc.) Far from eliminating jobs, the hyperconverged system elevates IT departments from “fixing and patching” to providing upper management with strategic ways to match current technology to the enterprise’s business needs.

Reduced complexity also eliminates many of the headaches formerly suffered by IT staff from managing complex data centers. Rather than awakening at midnight by a phone call requiring a trip into the office, the IT staff can even put out any fires remotely.

THE DRIVING FORCE BEHIND HYPERCONVERGED INFRASTRUCTURES

While IT departments greatly benefit from hyperconverged infrastructures, IT is not necessarily the sole driving force. Workloads and people are helping to drive a process that traditionally was driven solely by siloed IT departments.

A new HR system, for example, may be a business requirement of the organization. Yet rather than utilize this new HR system via a cloud computing process in a converged system, the benefits of accessing it through a hyperconverged system are three-fold:

1. The new system and the old systems will talk to each other
2. The new system can be added easily without data center downtime or dedicated resources
3. The new HR system will be cost-effective both in terms of dollars and productivity

As other departments see a better solution for their compute-intensive applications, IT departments are responding by setting up hyperconverged infrastructure where these new workloads can easily be added without complexity and a drain on resources.

Hyperconverged infrastructures are quickly replacing traditional data center models and are becoming the next logical step from converged infrastructures. In fact, IDC estimates that the hyperconverged market will experience a 64.5% compound annual growth rate (CAGR) from 2014-2019, generating more than \$4.7 billion in global sales.³ As hyperconverged technology becomes more readily available, enterprises are recognizing the many benefits of moving workloads onto such a system. The benefits enable businesses to be agile, increase their effectiveness, dramatically lower costs, and help them win new business faster than ever before.



TALK TO WEI TODAY

Ask WEI’s data center tech experts about which hyperconverged solution is right for you. We can host a demonstration for your team, and in our data center demo lab we can stage a replica of your IT environment to test the latest hyperconverged solutions. Contact WEI today.

¹ FedTech Magazine, March 22, 2016. Federal Data Center Consolidation Has Saved \$2.8 Billion, with More Coming by Phil Goldstein.

² Future-Ready Data Center: Converged vs. Hyperconverged Infrastructure. WEI Insights White Paper

³ IDC White Paper, May 2016. Reviewing Important Drivers of Hyperconvergence and the Timely Launch of Hewlett Packard Enterprise’s HC 380 by Eric Sheppard.

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WEI is an innovative, full service, customer centric IT solutions provider.

Why WEI? Because we care. Because we go further.


At WEI, we’re passionate about solving your technology problems and helping you drive your desired business outcomes. We believe in challenging the status quo and thinking differently. There are a lot of companies that can take today’s technology and create a great IT solution for you. But we do more. We go further. And we have the customer, vendor and industry awards to prove it. WEI is a premier technology partner, who always puts our customers first while providing the most innovative solutions for over 25 years.



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