# "...refers to the composite hardware, software,

According to Techopedia<sup>1</sup>, IT infrastructure:

network resources and services required for the existence, operation and management of an enterprise IT environment. It allows an organization to deliver IT solutions and services to its employees, partners and/or customers and is usually internal to an organization and deployed within owned facilities."

So, what's the best option? It depends. IT infrastructure decisions should be made after carefully evaluating the needs and variables of

In short, it's the foundation for business continuity.

each organization. In this infographic, we will examine the benefits and disadvantages of two types of infrastructure,

The most important difference

TechTarget defines these two infrastructures as: **Converged Infrastructure:** 

What are Converged

and Hyperconverged

Infrastructures?

"An approach to data center management that



**Hyperconverged Infrastructure:** "A type of infrastructure system with a software-centric architecture that tightly integrates compute, storage, networking and virtualization resources and other technologies from scratch in a commodity hardware box supported by a single vendor.3"

The Pros and Cons of

Hyperconverged vs. Converged Infrastructure

**BENEFITS OF** 

hyperconverged and converged. Let's find out which

is best for you.

between the two is best described by Tom's IT Pro: "...in a converged infrastructure, each of the components in the building block is a discrete

> server, just as the storage can be separated and used as functional storage. In a hyperconverged infrastructure, the technology is software defined, so that the technology is, in essence, all integrated and cannot be broken out into separate components.4" NERASTRUCTUR

component that can be used for

its intended purpose – the server can be separated and used as a

for years, but hyperconverged is becoming a common virtualization topic. Like any solution, there are benefits and disadvantages to each. CHANGEaaS developed a fantastic list of advantages and disadvantages of each<sup>6</sup>: **HYPERCONVERGED INFRASTRUCTURE**<sup>6</sup>

Converged infrastructure has been the standard

**CONVERGED** INFRASTRUCTURE<sup>6</sup>

Consolidated option Components are interconnected

Less deployment time

vmware, kvm, Xen)"

Operating Systems"

60

All of the architecture is tested to ensure functionality Faster than trying to build it yourself

Supports "multiple hypervisors (hyper-v,

Could potentially work with "bare-metal

Reduces data center space and cabling

Great SAN or NAS performance

**CONVERGED** INFRASTRUCTURE<sup>6</sup> Locked-in with hardware vendors

"Upgrades can be very difficult to do

because the interconnections between

Cheaper to maintain and deploy Hardware and software are in the same server Increases flexibility and scalability

Faster and easier deployment Improved performance with SSD Disk

Green IT initiative<sup>7</sup>

resources in case of hardware failures<sup>7</sup>"

Increased consumption of CPU and memory

Hardware and software choices could be

issues when you need support

Avoid being "locked-in" by a specific hardware

Self-service or full orchestration options

**DISADVANTAGES OF HYPERCONVERGED** INFRASTRUCTURE<sup>6</sup>

### components generates a dependency6" Hard to be flexible or scalable

Could be pricey

The Current State of IT Infrastructure

Have you already adopted

hyperconverged infrastructure?

In 2015, ActualTech Media partnered with

Hyperconverged.org to create the "2015

State of Hyperconverged Infrastructure

Market Report<sup>5</sup>". They interviewed a sample size of 507 IT professionals at companies with a minimum of 100 employees. Their research included some fascinating findings<sup>5</sup>:

Current Adopters vs. Non-Adopters

of Hyperconverged Infrastructure

by size of company

NON-ADOPTER

Plans to adopt Hyperconvergence

**CURRENT ADOPTER** 

company size

100 to 499 employees

within the next 24 to 36 months by 500 to 4999 employees

100 to 499

employees

24%

29%

500 to 4999 employees

40%

33%

YES, PLAN TO ADOPT

5000 or more employees

5000 or more employees

NO, DO NOT PLAN TO ADOPT

**PROSPECTIVE** 

**CUSTOMERS** 

53%

21%

16 %

14%

13%

12%

10 %

37%

Hyperconverged Infrastructure

planned adopters

purchase criteria by current and

High availability (HA) features

Global management

Public cloud integration

Customer references

Policy management at the VM level

Support for multiple hypervisors

53% 48% Ease of scaling capacity and performance 55% 40% Cost / ROI 35% 36% Management through a common interface 26% 29% Hypervisor supported 37% 28% Recoverability via integrated backup, replication features 28% 25% Automation features to eliminate manual processes 27% 25% Data efficiency (dedupe and compression) 17% 24 % Single vendor purchase and support model

22%

15%

12%

13 %

14 %

7%

**CURRENT** 

**CUSTOMERS** 

Which of the following would you consider to be your organization's most important IT priorities over the next 12 to 18 months?

Reference architecture for my mission-critical application

44% **Improve** Operational Efficiency Increase Use Of Server Virtualization

25 %

Data Center Consolidation

22%

Services

20%

Application/

7%

Data Migration Initiative

DB Project

Major

Improve ROBO IT

18 %

4%

Other IT priority

Hyperconverged Infrastructure

Deploy

Deploy A

Which is the primary driver for

your interest in hyperconverged

infrastructure?

"Private Cloud"

Infrastructure

27% 28 % Infrastructure Manage Data Project Growth

Improve operational efficiency

Hardware upgrade / refresh 12 %

Data center consolidation initiative 12 %

**VDI initiative** 7 %

Cost reduction

20 %

17 %

Improve Backup/

(VDI)

Use Cloud

Major

Infrastructure

Services (i.e. laaS)

Desktop Infrastructure

Recovery/DR

Improve scalability 6 % Improve backup/recovery/DR 6 % Need to improve ROBO operations 5 % Ongoing performance issues 4 % Need to accelerate VM provisioning 4 % Dissatisfaction with legacy storage infrastructure 3 % New application deployment 3 %

Reduction in interoperability issues 1%

What is the primary reason that

you have no interest in deploying

hyperconverged infrastructure in

14 % Current solution works fine

13 % Recently upgraded infrastructure

11 % No IT or business need at this time

10 % No time/resources to evaluate

the near term?

8 % Hyperconvergence needs to mature 7 % Acquisition and implementation costs 7 % Doesn't have a selection of "best-of-breed" technology 7 % Don't see the benefits

8 % Concerns about vendor "lock-in"

1% Concerns about resiliency 1 % Not available from an "approved" vendor

6 % Organizational/cultural resistance

5 % Needs to prove itself for mission-critical needs

3 % Deployment time and disruption

So, Which One is Better?

## This is all going to depend on the needs and wants of your organization.

While both can work effectively, the flexibility and scalability that hyperconverged infrastructures offer

is a big selling point for companies looking to grow. Plus, this option is green and will decrease the amount of IT headaches. Likely, you're currently on a converged infrastructure and your CIO has talked to you about switching.

above to get an idea of what your priorities are, which will help you make an informed decision.

Review the advantages and disadvantages listed

www.techopedia.com/definition/29199/it-infrastructure

http://www.hyperconverged.org/wp-content/up-

http://www.stratoscale.com/blog/data-

http://searchdatacenter.techtarget.com/definition/converged-infrastructure http://searchvirtualstorage.techtarget.com/definition/hyper-convergence

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center/top-5-perks-of-a-hyper-converged-data-center-infrastructure-solution/

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http://changeaas.com/2014/09/11/the-use-of-hyper-converged-and-converged-infrastructures-2/

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