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Accelerating Digital Transformation Through **Hyper-converged** Solutions

Digital transformation may be on the top of every executive's to-do list, but growing IT complexity is getting in the way. How should business and IT leaders overcome this challenge? The combination of hyper-converged infrastructure and enterprise-class hyper-availability is a smart play.

Sources and Implications of IT Complexity

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IT and business executives are in an all-out sprint to digitize their core business functions and, in so doing, become digital businesses themselves. This digital transformation effort is at or near the top of the list of strategic initiatives to allow enterprises to spot and leverage new business opportunities faster and more efficiently than their competition.

There's a hitch, though: IT is becoming more complex than ever, and it's impacting organizations' ability to use digital technology and applications to drive new opportunities. For instance, global consulting giant Bain & Co. surveyed 1,000 organizations to gauge their progress toward digital transformation, and it discovered a harsh reality: "The payoff from digital transformation can be impressively high, but the success rate is regrettably low."¹

Boston Consulting Group put it even more starkly: "We continually encounter companies whose failure to address IT complexity hampers or substantially slows their digital transformation programs."² And it's not just business leaders coming to this conclusion. Data from Enterprise Strategy Group points out that 69% of IT decision-makers acknowledge that IT is more complex than just two years ago.³

What's causing this complexity, and what can organizations do about it?

This paper looks at how IT and business leaders can turn the corner on IT complexity through a re-engineering of enterprise data centers through hyper-converged infrastructure and modernized data protection and data availability software.

Sources and Implications of IT Complexity

Before we dive into smart strategies for reducing IT complexity, let's consider some of the reasons why this complexity is mounting—and why it's so essential for enterprises to address it head on.

Organizations' accelerated reliance on IT for everything from back-office accounting and human resources to sophisticated analytics that predict buyer behavior is well documented and widely acknowledged. So, too, has the increased utilization of consumer technologies by employees and customers alike, such as mobile devices, personalized applications and public cloud services.

But, this increased digitization has spawned oceans of data—most of it unstructured and difficult to manage—and more application silos. This has bred operational inefficiency, higher Capex costs and substantially higher risks in all forms—security, data loss, legal, compliance and data

1 "Orchestrating a successful digital transformation," Bain & Co., December 2017

2 "Simplifying IT to accelerate digital transformation," Boston Consulting Group, April 2016

3 "Infrastructure Predictions 2018," Enterprise Strategy Group, December 2017

IT complexity is hamstringing organizations' efforts to bring new products and services to market faster.

governance. As a result, it has often become harder—not easier—to bring new services to market rapidly, and it has forced already-stretched IT staffs to spend too much of their time on operational mandates such as monitoring and manually tuning systems to meet stringent service-level agreements, tighter backup windows and demand for improved recovery-time objectives and recovery-point objectives.

One of the most striking examples of growing IT complexity is the stunning growth in data volume, velocity and variety, due to application sprawl (both on-prem and in the cloud) and device proliferation. And now add in the billions and billions of connected things in the Internet of Things era, and it's easy to understand why reigning in IT complexity is a strategic mandate—and not just for the CIO. It's something every C-level executive and every board member needs to confront.

In other words, it's a mess for organizations that remain rooted in legacy environments marked by equipment and applications designed for the years before the current digital revolution. Most importantly, IT complexity is hamstringing organizations' efforts to bring new products and services to market faster. Money is being wasted, and opportunities are being squandered.

A new approach is needed.

A Strategy for IT Simplification

How can organizations simplify IT in order to improve business agility, enhance financial return on investment, reduce risk and fulfill the striking potential of digital transformation? Much of it starts with a redefinition of IT infrastructure. In fact, it even transcends that; it's about re-envisioning the next-generation data center.

Instead of the traditional model of air-cooled rooms with raised floors and lots of big iron, the data center is now less of a single physical nexus for computing, and more a virtual confluence of multiple computing sites located in a headquarters facility, in remote offices and in the cloud. That means that a new IT infrastructure model is necessary—one that not only supports this new data center paradigm, but also reduces complexity that is strangling organizational agility, flexibility, reliability and scalability.

There are two key elements to this new infrastructure model:

- A dramatic swing toward hyper-converged infrastructure (HCI), which is far easier to deploy, expand and manage than legacy infrastructure.
- An elevation of the importance of integrated application Availability and data protection, particularly in the face of increasingly virtualized application workloads in private cloud environments

Without high levels of application Availability and the capability to quickly recover critical business data, digital transformation is a pipe dream.

HCI has rapidly gained acceptance among a wide range of enterprises because of its ability to simplify the delivery of IT services in large organizations, remote offices and even small/mid-sized businesses—and to do so cost efficiently. In fact, HCI is the fastest-growing segment of the global market for integrated systems.⁴

By combining core data center functions such as compute, storage and networking with a virtualization layer, HCI can be deployed in hours versus days or weeks. HCI also is attractive to IT organizations because it is implemented with a unified, automated management framework that relieves in-house staff from routine monitoring and management for each infrastructure component.

For instance, this unified management framework allows a core function such as storage management to be handled through VM-defined virtual volumes, rather than in traditional Logical Unit Number and disk array groups. This is a greatly simplified approach to infrastructure management, freeing up internal resources to work on transformative applications that advance the business.

HCI also enables IT simplicity by supporting workload consolidation through all-flash storage arrays, which can be automatically tuned to meet the performance needs of different workloads. Additionally, HCI is a great solution for multi-tenant workloads, which often have variable performance requirements.

And, when paired with an integrated Availability and data protection software platform, HCI delivers a wide range of capabilities that help the enterprise meet more stringent operating requirements and bring new services and products to market faster because of reduced IT complexity. These features—and their benefits—include predictable quality of service, always-on Availability, lower Capex and Opex, faster and easier recovery from unplanned outages, accelerated innovation capabilities and easier scalability of backup and replication workloads – all without impacting production systems.

Ideally, HCI data protection and data Availability platforms should be implemented as an agentless solution that directly integrates with leading hypervisors such as vSphere and Hyper-V for easier, faster deployment and low impact on other IT resources. Doing so will not only reduce IT complexity, but also will ensure that systems and applications are highly available. Without high levels of application Availability and the capability to quickly recover critical business data, digital transformation is a pipe dream.

4 “Competitive Landscape: Hyperconverged Integrated Systems,” Gartner, October 2017

A Proven Approach: NetApp HCI with Veeam Availability Software

Because HCI's adoption is rising rapidly, a number of HCI solutions options have emerged. While they typically share many of the same building blocks—integrated hardware stack plus hypervisor and management layers—there are significant differences in each HCI solution.

One proven solution is represented by the partnership between NetApp and Veeam. Each company is a leader and innovator in its respective areas of expertise—NetApp, the leading provider of hybrid cloud data services, and Veeam as the leading provider of Hyper-Availability solutions for multi-cloud environments. Together, they have partnered to deliver a combined HCI and Hyper-Availability solution that provides the automated performance, availability and protection required for critical workloads that help drive digital transformation. This joint solution is engineered around the philosophy of reduced IT complexity for faster and easier application deployments and reliable, high-performance, economical scalability.

For instance, a key differentiator in NetApp HCI solutions is the ability to run mixed application workloads, like VDI, Oracle and SQL, on the same HCI cluster. Other HCI solutions typically require a dedicated cluster per workload. This flies in the face of infrastructure consolidation initiatives as it often results in silos of HCI. But NetApp HCI architecture enables organizations to run mixed application workloads on the same cluster without compromising performance. This enables businesses to operate a true private cloud by providing the multi-tenancy necessary to support mixed workloads from multiple user groups across multiple lines of business; in effect, federated IT. This approach simplifies IT and greatly improves efficiencies.

Likewise, Veeam's integration with NetApp HCI and virtualization software, enables organizations to simplify the Availability and data protection of mixed workloads across private cloud environments. Moreover, the combination of automated storage performance management embedded within NetApp HCI and Veeam's ability to simplify Availability for critical workloads and data, enables IT organizations to spend less time on day-to-day IT administration and more time helping the business innovate. If digital transformation is the goal, automated performance, Availability and data protection cannot be afterthoughts.

The Veeam Hyper-Availability Platform® combines backup, recovery, replication and failover in an easy-to-manage solution. And, it adds essential functionality that further reduces complexity such as advanced monitoring, reporting and capacity planning. Moreover, organizations can

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accelerate the pace of digital service delivery by leveraging embedded features like Veeam DataLabs in NetApp HCI environments to test and design new application features and updates, and perform security and compliance testing, without any disruptions to production systems. Veeam's agentless deployment shrinks the time required to get NetApp HCI solutions up and running, and reduces risk through sub-15-minute RTOs and RPOs for all applications and data. Not only does this reduce management burden on data center administrators, but it allows IT personnel to spend less time on operational management and more time focusing on strategic business initiatives.

Conclusion

In order to make digital transformation a reality, organizations must take essential steps to reduce IT complexity that ensure high performance, enhanced reliability, risk reduction and improved cost efficiency.

HCI solutions, particularly those designed and deployed with integrated data Hyper-Availability and data protection software, can help organizations do more—with less—in becoming digital businesses and better serving the needs of their customers and business stakeholders.

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