White Paper

Cisco and Hitachi Adaptive Solutions for Converged Infrastructure

Accelerating the Journey to a Data-centric Culture

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Introduction

Organizations are in the midst of a digital transformation unlike anything we've seen. With the hopes of better supporting the business, organizations are looking for real-time responsiveness, but companies are finding this increasingly challenging. Why? Because traditional IT is in the midst of a transformation of its own, moving from the role of service provider that simply delivers compute, storage, and data management resources and ensures SLAs are met to the role of a strategic business enabler that provides lines of business with strategic insight, next-generation technology, and innovations that improve the bottom line.

Companies are looking to modernize their infrastructures to support the real-time needs of the business, empower IT to be more productive/responsive with an agile infrastructure, and enable organizations to confidently deploy and support next-generation applications with data-centricity in mind. By modernizing IT and its supporting infrastructure, organizations become anchored in a future-proof platform that not only improves IT agility to meet the dynamic nature of the business, but also instills confidence across the organization that it can reliably support the need for constant data accessibility and availability.
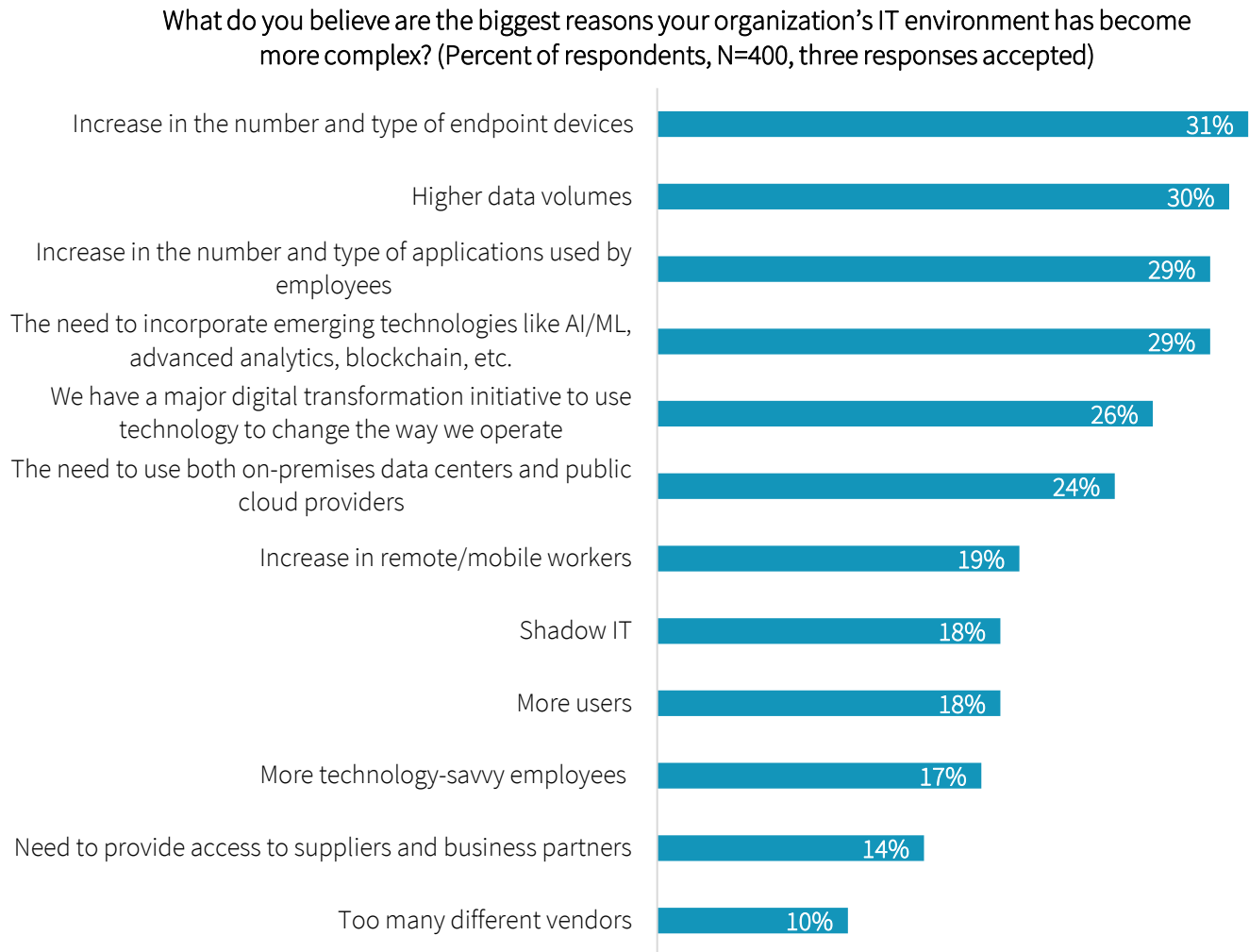
The Complexity of IT

IT is still complex, and it's not getting any easier. Working with legacy infrastructures doesn't afford the flexibility to meet future needs, while labor-intensive data center administration consumes budget and limits resources available for strategic initiatives. While constant data growth can overwhelm compute, storage, and network resources, inadequate data management and analysis can exacerbate existing challenges. Siloed data in legacy systems makes it difficult to recognize trends and derive valuable insights—and analytics initiatives are unable to deliver an acceptable time to value, hurting the return on investment (ROI) timeframe. It's not surprising that many IT teams view data-driven initiatives as burdens rather than a means to enable improved insights and a healthier bottom line.

Supporting this complexity claim, ESG research shows that relative to two years ago, 66% of organizations find their IT environments more complex, with 27% saying it's equally as complex.[1] So what's driving the complexity? The burgeoning growth of devices, data, and applications top the list, while digital transformation and data-driven initiatives add to that complexity (see Figure 1). Organizations understand the need to use next-generation technology, like containers for increased agility and artificial intelligence to increase insight into growing data sets, but existing infrastructure and workflow complexities are preventing them from recognizing the value they hope to gain from these strategic investments.

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[1] Source: ESG Research Report, *2019 Technology Spending Intentions Survey,* February 2019. All ESG research references and charts in this white paper have been taken from this research report.

Figure 1. Reasons IT Environments Are More Complex

What do you believe are the biggest reasons your organization's IT environment has become more complex? (Percent of respondents, N=400, three responses accepted)

Reason	Percent
Increase in the number and type of endpoint devices	31%
Higher data volumes	30%
Increase in the number and type of applications used by employees	29%
The need to incorporate emerging technologies like AI/ML, advanced analytics, blockchain, etc.	29%
We have a major digital transformation initiative to use technology to change the way we operate	26%
The need to use both on-premises data centers and public cloud providers	24%
Increase in remote/mobile workers	19%
Shadow IT	18%
More users	18%
More technology-savvy employees	17%
Need to provide access to suppliers and business partners	14%
Too many different vendors	10%

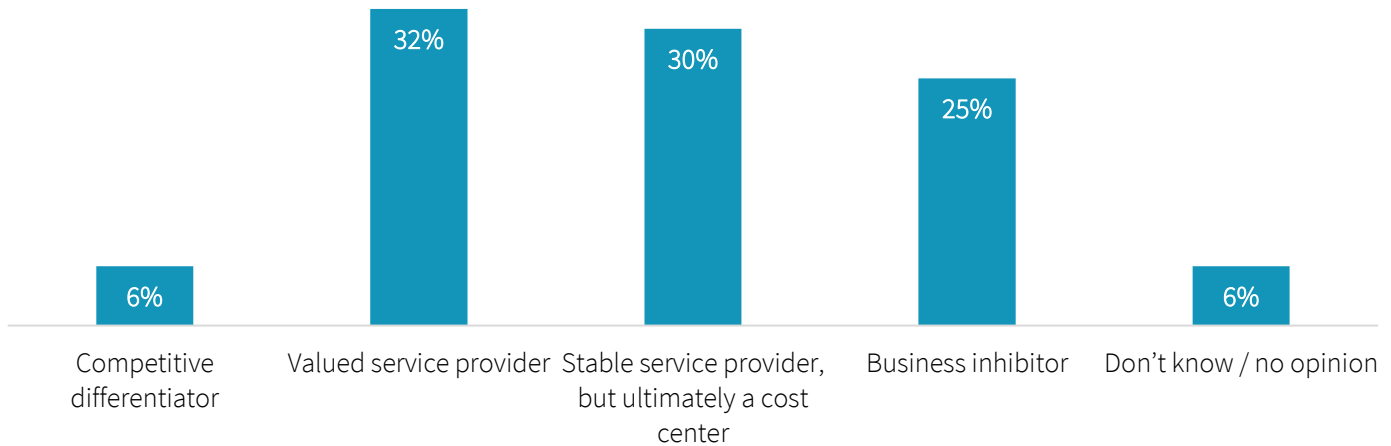*Source: Enterprise Strategy Group*

Skills Shortages

While the market hears a great deal about skills shortages related to cybersecurity, AI, and analytics, there is also a skills shortage in core IT. Based on ESG research, while 38% of organizations report a problematic shortage of existing skills in IT architecture/planning, and 33% have a shortage in IT orchestration and automation, those organizations that believe they are mature in their digital transformation efforts are significantly more likely to cite an inability to hire the right personnel in these areas.

Divergent Perspectives on IT

Due to infrastructure complexities and skills shortages, end-users and line-of-business stakeholders have come to view IT more negatively. This viewpoint is further exacerbated because IT is forced to leverage traditional infrastructures, which were not architected to support real-time business requirements and next-generation applications—resulting in decreased flexibility and agility, inefficient operations and management, and reduced productivity. ESG asked business decision makers how line-of-business stakeholders view the IT organization. While 32% view IT as a valued service provider, 30% ultimately view IT as a cost center, with 25% going as far as saying IT is a business inhibitor. Just 6% of business decision makers viewed IT as a competitive differentiator (see Figure 2).

Figure 2. Line-of-business Stakeholders' View of the IT Organization

In general, how would you rate your company's IT organization? (Percent of respondents, N=210)

Source: Enterprise Strategy Group

Whether due to overly complex processes to select, deploy, and/or provision resources; the length of time needed to deploy proper IT services; the inability to provide adequate security and compliance controls; or the lack of skills to support emerging technology such as AI and data science, IT organizations must begin to reevaluate how they deliver IT in order to satisfy the requirements of those who rely on it.

Focusing Spend on Realigning IT with the Business

Organizations understanding the existing complexities of IT has not prevented them from pursuing digital transformation. When leveraging the wrong underlying infrastructure, the transformation takes longer than expected. Organizations must put data on a pedestal as its strategic value to the business should not be overlooked. As such, organizations will look to embrace technologies that allow them to better align to business requirements, and data center modernization enables organizations to break down data, operational, and organizational silos to better support their next-generation data-centric culture.

The key to data center modernization is anchoring your business on a trusted infrastructure foundation, and this highlights the reason organizations are prioritizing converged infrastructure solutions. In fact, when it comes to the top data center modernization priorities, deploying converged (CI) and/or hyperconverged infrastructure (HCI) platforms is the most often cited area in which organizations will make the most significant investments over the next 12-18 months. Additionally, organizations will look to CI/HCI platforms for advanced intelligence capabilities such as leveraging artificial intelligence and machine learning as an embedded feature to help improve operational efficiency.

Cisco and Hitachi Adaptive Solutions for Converged Infrastructure

For organizations looking to simplify IT, improve agility, maintain compliance, and ensure reliability, Cisco and Hitachi, two industry veterans, have partnered to create Cisco and Hitachi Adaptive Solutions for Converged Infrastructure. This jointly developed solution enables organizations to embrace a data-driven culture through an infrastructure foundation built for today and support the future needs of the business.

The Product

Based on best-in-class converged infrastructure for enterprise service data delivery, Cisco and Hitachi Adaptive Solutions for Converged Infrastructure offers organizations a way to help transform and accelerate innovation by using tightly integrated Cisco and Hitachi technology. Using a data-centric foundation and a comprehensive roadmap purpose-built to help organizations transform business data into valuable business insights, Cisco and Hitachi Adaptive Solutions for Converged Infrastructure presents organizations with a viable means to securely store, manage, move, enrich, activate, and monetize data.

This purpose-built, joint solution provides a platform using AI-based management to simplify operations and offers system-level data insights for improving data center efficiency. With a foundation comprising an intelligent IT core and a centralized view of data, cloud platforms, external systems, and end-user devices, Cisco and Hitachi Adaptive Solutions for Converged infrastructure enables organizations to:

- Maximize the value of all data to swiftly enhance ROI.

- Focus on data-driven innovations to deliver real business value.

- Improve data management and governance, while mitigating risk.

- Increase operating efficiency.

With Cisco and Hitachi Adaptive Solutions for Converged Infrastructure, organizations gain access to a full range of Hitachi VSP products, including hybrid and all-flash storage options. Cisco provides compute and networking with its x86-based UCS blades and IP-, Fabric-, and SAN-based networking technology from the Nexus and MDS product lines.

Organizations can use VMware vCenter to manage Cisco and Hitachi Adaptive Solutions for Converged Infrastructure, with integrations for Cisco UCS Manager and Hitachi Unified Compute Platform Advisor, as well as additional plugins for networking, data protection, and data management/orchestration.

Proven Leadership

Cisco and Hitachi are proven leaders in the enterprise IT space with thousands of organizations around the globe relying on their technologies to support their businesses. For years, organizations have relied on converged reference architectures with Cisco and Hitachi. With Cisco UCS, organizations gain a world record-holding server performance leader (150 world records) that has reached more than 64,000 customers globally—and over 10,000 enterprise-class customers worldwide on Hitachi Virtual Storage Platform.

When Cisco and Hitachi solutions are deployed together, organizations obtain peace of mind knowing both vendors understand the complexity and customization required to support unique business use cases and future business growth. Their combined storage, server, and networking experience enables organizations to acquire technologies that can meet the scalability, resiliency, security, and extensibility required to support the dynamic needs of a digitally transformed, data-driven business.

Both vendors are committed to continued innovation in support of next-generation data-driven cultures so that organizations are able to leverage a foundational technology in Cisco and Hitachi Adaptive Solutions for Converged Infrastructure —investing in a future-proof platform that allows businesses to transform, whether expanding into new markets, offering new data-centric services, or capitalizing on new opportunities more quickly than ever before.

Establishing a Data-centric Foundation

As companies look to embrace a data-centric culture, using an infrastructure that enables seamless management of applications and data across hybrid environments is essential to deriving the greatest value—and Cisco and Hitachi can intelligently support the real-time needs of businesses across globally-dispersed organizations. AI-assisted decision making allows organizations to more quickly and accurately enrich and analyze data to improve operational efficiency. Whether leveraging AI-based advanced analytics for anomaly detection, root cause analysis, risk profiling, utilization forecasting, or overall performance health analysis, companies are attaining deeper business insights by integrating AI, machine learning, and analytics APIs with application requirements and business objectives.

Cisco and Hitachi Adaptive Solutions for Converged Infrastructure allows organizations to better monetize their data and insights to maximize their ROI with improved data visibility and accessibility. Operational efficiency gains further extend to orchestration—by leveraging a self-optimizing data center that intelligently spreads workloads across the ideal infrastructure—leading to consistent resource utilization and performance. This, in turn, yields a more effective way to plan for IT growth, while eliminating the guesswork of where to scale and, therefore, where to invest from an infrastructure standpoint.

With Cisco and Hitachi Adaptive Solutions for Converged Infrastructure, organizations are on the path to deploying the latest and greatest technologies using an ideal infrastructure—one that supports not only the agility required to handle real-time needs of the business but also future application and analytic initiatives—whether embarking on an IoT journey, leveraging custom AI algorithms to support a specific business use case, or embracing a hybrid and multi-cloud mantra for the digitally transformed organization.

Ensuring Data Accessibility and Availability

With the goal of having a foundational platform, organizations must be confident that IT can quickly deliver the appropriate services required to support a growing business. Together, Cisco and Hitachi offer a resilient infrastructure that enables organizations to deliver better business outcomes as simply as possible. By applying automation to eliminate labor-intensive and error-prone tasks, IT can focus on more value-added initiatives. Unifying and automating control of resources streamlines provisioning and maintenance. With a foundational infrastructure, IT can quickly respond to the business, delivering end-users the right services and resources through a unified solution stack in a timely manner.

Additionally, organizations can more easily integrate new technologies without impacting existing workloads, ensuring business priorities remain on task, while driving future innovation. By leveraging AI to assist with prediction and risk mitigation, IT can better ensure availability. Automation is extended from daily routine tasks to more complex tasks, reducing human error and risk in terms of downtime and/or data loss.

Organizations can employ data mirroring to maximize uptime and leverage advanced security solutions to protect business-critical data and applications from an ever-evolving threat landscape. Service level agreements and service level objectives are easily monitored using integrated alerting, which informs IT when thresholds are hit, or anomalies are detected.

With Hitachi Data Instance Director (HDID) and global-active device, organizations gain the comprehensive data protection and disaster recovery required to ensure the uptime requirements of mission-critical applications and their supporting data are easily met. HDID provides copy data management across lines of business to simplify policy-based workload creation and management across lines of business. This not only enables organizations to easily meet uptime and accessibility SLAs during recoveries, but also provides physical and virtual copies of data that intelligently and automatically get created, refreshed, and destroyed. A core feature of Hitachi Storage Virtualization Operating System, global-active device focuses on simplifying operations across globally-distributed environments to improve continuous operations through full data consistency, availability, and protection. Whether during failovers or migrations, continuous data

protection enables organizations to meet even the strictest of RPOs and RTOs, with host-transparent storage-site failovers occurring without requiring reconfigurations.

The Bigger Truth

Organizations understand the value of digital transformation. They want to modernize their infrastructure to increase operational efficiency. They want to become more agile to respond to the real-time needs of the business. They want to be on an easy onramp to embrace hybrid cloud infrastructure on their terms. They want to be more data-driven by embracing next-generation technologies that can provide actionable insight. And they want all of this while improving IT productivity and minimizing costs.

With Cisco and Hitachi Adaptive Solutions for Converged Infrastructure, organizations are put on a path to achieve these digital transformation milestones on a reliable, secure infrastructure that ensures access to their most valuable asset: data. With complete availability and near-zero downtime, organizations can more swiftly attain business insights in order to positively impact the bottom line.

Enterprise Strategy Group is an IT analyst, research, validation, and strategy firm that provides actionable insight and intelligence to the global IT community.

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