

WHY CONVERGED INFRASTRUCTURE IS A MUST-HAVE FOR A DATA-DRIVEN ORGANIZATION

The role of IT is changing dramatically, and that means organizations need to rethink the kind of infrastructure they need to fulfill their mission to become a data-driven organization. This paper looks at why data-driven infrastructure is needed, and how to evaluate and select a converged infrastructure solution to achieve those goals.

The form, format and function of IT infrastructure are changing rapidly and irrevocably. The days of monolithic, expensive and rigid hardware in glass houses are fast disappearing in favor of new infrastructure options.

The big driver in this shift toward a new infrastructure model has far less to do with Capex and other economic factors than it does with the central role that IT infrastructure plays in the digital economy. The very essence of the problems computers have traditionally been tasked with addressing has moved from achieving fast response times, storing lots of data and connecting users with applications needed to do their jobs to an entirely different usage model.

Now, the focus is on the data, and in unlocking the value that data brings to the organization. Data warehousing, business intelligence and analytics are propelling organizations to make smarter, faster and bigger-impact decisions, spurred on by technologies such as artificial intelligence, machine learning, the internet of things, edge computing and, of course, the cloud.

Taking advantage of all the data that is being created, captured, stored, shared, analyzed, reported and acted on requires a completely different IT infrastructure than that of the past. It needs infrastructure to be nimble, more affordable, hyper-scalable at a moment's notice, easily managed without an army of administrators and, above all else, data-driven.

Welcome to the world of converged infrastructure—the “new normal” for organizations looking for data-driven infrastructure.

THE ESSENTIAL ROLE OF DATA IN DIGITAL TRANSFORMATION AND DIGITAL BUSINESSES

Many IT strategists and business leaders have embraced the axiom “data is the new oil” to describe the importance of having a data-centric approach to business outcomes that matter. For everything from improving customer satisfaction and enhancing competitive differentiation to uncovering new sales and profit opportunities, data is now the engine that drives economic value. This is a critical reason why data is at the heart of digital transformation programs and organizations’ efforts to become truly “digital businesses.”

For IT professionals traditionally entrusted with ensuring the availability, accuracy and security of data, the rules of the game are now different. Instead of focusing the lion's share of their efforts on IT tasks and services that “keep the lights on,” their emphasis has now shifted to delivering outcomes that matter. Whether those outcomes are financial, operational or transactional, deadlines and goals set by line-of-business leaders have now risen to the top of the list for using data in a more strategic manner.

This has put intense pressure on IT organizations, since business stakeholders’ demands are less tolerant of the historical challenges IT leaders have faced in evaluating, acquiring, deploying and updating technology. Instead, IT professional now are scrambling to find ways to help their business clients—internal business stakeholders, customers and trading partners—consume technology and data in a simpler, more straightforward, faster and more cost-efficient manner.

WHY AND HOW IT INFRASTRUCTURE MUST CHANGE TO BE DATA-DRIVEN

This is where IT infrastructure plays an important role. Infrastructure no longer is defined by the traditional data center that has historically been siloed and riddled with complexities.

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The substantial changes in the nature of data itself—the volume, variety and velocity of data—means that traditional IT is neither efficient enough nor simple enough to support the demands of line-of-business stakeholders looking to achieve critical goals. And it's not just the data itself that is changing; the definition of data sources is more complex and important, as well. Instead of data sources being a workhorse enterprise application like ERP, data sources now include a substantially broader range of applications, databases and devices. And those data sources exist on-premises, in the cloud and in a multitude of “connected devices” that make up the Internet of Things (IoT).

Workloads that shape these new strategic outcomes, therefore, must account for this diversity of data and data sources in ways that traditional IT no longer can. Welcome to the world of converged infrastructure (CI).

CI is attractive to organizations looking to modernize and right-size the marriage of infrastructure and data because it is purpose-built for the major drivers of data-driven business outcomes: flexibility, agility, resilience, economy and scalability. Data-centric workloads such as customer experience, user self-service, analytics and machine learning are just a few of the solutions that are already benefitting from CI.

The tidal wave of unstructured and semi-structured data from the many new data sources requires an infrastructure that can be deployed easily and quickly, delivering substantial economic value much faster. It also offers organizations the flexibility of dynamic component scaling, pre-tested and validated operation “out of the box” and, of course, seamless integration with the cloud computing architectures increasingly adopted by organizations.

This is critical, since data-driven workloads are essential for mission-critical requirements — they are already putting substantial demands on infrastructure, such as skyrocketing storage capacities, the need for low-latency data access, intensified compute performance at scale, easily expanded network bandwidth and a simple, flexible and familiar virtualization layer that facilitates the integration of CI into hybrid cloud environments.

WHAT TO LOOK FOR IN A CONVERGED INFRASTRUCTURE SOLUTION

The good news is that there are a lot of CI solutions available for organizations to consider. The not-so-good news is that many vendors shroud their solutions in marketing hyperbole, positioning their solution for nearly any workload or use case imaginable.

That's why it's important to start by making your checklist in evaluating the different solutions options (and that includes the companies providing the solutions). So, be sure that your CI solution includes such functionality as:

- Best-in-class validated infrastructure components includes (storage, compute, networking, and virtualization) to meet tight timelines for provisioning and in meeting today's business outcomes.
- Engineered for data-centric workloads for mission critical applications like SAP, Oracle, big data, data warehousing, high-performance computing (HPC), financial modeling and more.
- Equally comfortable in on-premises and hybrid-cloud environments.
- Designed with enabling data-driven technologies, including artificial intelligence, machine learning, automation and analytics.
- Rock-solid resiliency in order to ensure availability of data for mission-critical workloads.
- Proactively meeting security and compliance mandates.
- Easy, multiple configuration options, rather than buying a one-size-fits-all solution.
- Easy management with a familiar, single-pane-of-glass console.
- Easy, fast and affordable scalability, including the ability to dynamically scale components only as needed rather than as an entire node or cluster.
- Reduced risk in data governance, compliance and cybersecurity.
- Automated management and monitoring to reduce the need for human intervention in things like performance tuning and data behavior analysis.

HOW HITACHI AND CISCO ADDRESS THESE NEW REQUIREMENTS

IT professionals looking for the right CI solution to build a future-proofed, data-driven infrastructure for modern workloads and improved business outcomes are fortunate that two industry leaders—Cisco and Hitachi Vantara—have collaborated to develop and market a line of CI solutions.

Cisco and Hitachi Adaptive Solutions for CI stand out from the many competitive offerings because the solution leverages the long-standing industry leadership and respective technology strengths of the two companies in an easily deployed, flexible and cost-efficient architecture. For instance, the combination of Cisco's market leadership in both networking and servers and Hitachi's demonstrated technical innovation in storage means IT decision-makers enjoy the ability to uncover, extract and use data in a more strategic

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In fact, it's appropriate to look at the Cisco and Hitachi Adaptive Solutions for CI as a "stairway to data value." For instance, consider how an application deployed on those CI solutions yields data insights that then can be migrated to Hitachi Content Platform, where metadata can be extended to make it more accessible by business users throughout the enterprise. Then, the same data could be combined with data extracted from other sources to produce a detailed picture related to a key business function.

Cisco's emphasis on "intent-based networking" is a unique characteristic in the CI solutions space, helping IT departments deliver enhanced data-centric functionality to business stakeholders quickly, securely and at scale. Intent-based networking allows the Adaptive Solutions for CI to align with specific business needs. Whether it's designed to ensure the highest-possible levels of availability during the frantic end-of-quarter rush for financial departments or the ability to pinpoint minute changes in

consumer demand during holiday seasons, intent-based networking helps set Cisco and Hitachi Adaptive Solutions for CI apart from competitive offerings.

CONCLUSION

As the very nature of data has shifted from tactical to strategic in all organizations, it has forced organizations to rethink the role and characteristics of infrastructure to deliver data that shapes outcomes that matter.

This swing toward a data-driven infrastructure inevitably leads to CI, a modern, right-sized and highly flexible infrastructure design that is optimized for data-centric workloads. By making infrastructure simpler to deploy, more agile, more cost efficient and easier to manage, CI provides organizations with a gateway to strategic, differentiated use of data.

Although there are many CI options that can be considered, the Cisco and Hitachi Adaptive Solutions for CI provide IT decision-makers with a unique combination of best-of-breed technology, global support, expert integration, simplified management and powerful automation and AI tools for unearthing data insights that shape outcomes that matter.

[Click here to learn more about Cisco and Hitachi Adaptive Solutions for Converged Infrastructure.](#)