# CONVERGED INFRASTRUCTURE: **Powering the Data-Driven Enterprise**

It's been widely noted that *data*, as the world's most valuable resource, is the oil of the digital economy. Indeed, one would be hard-pressed to name a more potent weapon empowering businesses to gain and maintain a winning advantage.

The amount of data generated every minute is immense and only growing. And therein lies the problem for businesses.

Businesses don't typically have a problem with data collection. They are, however, often highly challenged by putting that data to use. It's no surprise, then, that less than half of all structured data is used in enterprise decision-making. One way to ensure that stakeholders have access to every byte of relevant data is implementing a next-generation converged infrastructure (CI) with intelligence and agility at its core. This not only provides access to critical data that drives better business decisions, but also enables growth and innovation. Such an infrastructure minimizes manual tasks, predicts and mitigates risk, and empowers organizations to extract and analyze data along all points in the value chain, regardless of the data source.

Today's converged infrastructure must leverage artificial intelligence (AI), analytics, automation, resiliency, and much more, to meet the ever-growing demands of a data-driven economy.

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## Converged Infrastructures for a Data-Driven Economy

Converged infrastructures have been around for years, and early on they satisfied the needs of enterprises: integration and centralized support of data center storage, networking, and compute power, which yielded scalable infrastructure at greater efficiency and lower cost.

But today's enterprises need a converged infrastructure that is much more strategic in nature. Today's converged infrastructure must do all of the above and *also* be agile, intelligent, future-proof, and 100% ready to support new technologies. Just as important, a modern, converged infrastructure must empower businesses to turn data into business value.

Today's businesses run hundreds or sometimes thousands of applications across a multitude of devices, locations, and environments. The source of these applications are often varied; a combination of on-premise and hybrid cloud, with each using different resources at different times. That's why leading businesses are deploying modern converged infrastructures that support legacy (on-premise), native cloud applications, or a hybrid mix.

These forward-looking companies are converging operational and analytic systems, finding new and novel ways to apply the same data to multiple, strategic uses; scale that data; and uncover insights and opportunities they didn't know existed or that they even needed. The question of "How can I use this data to my strategic advantage?" is becoming more important every day.

The very best converged infrastructure can help enterprises find new ways to turn data into business value without increasing IT complexity. That's a key point, as complexity can very quickly outstrip and overwhelm any business benefit derived from data extraction and analysis.

A MODERN, CONVERGED INFRASTRUCTURE MUST EMPOWER BUSINESSES TO TURN DATA INTO BUSINESS VALUE.

## The New Converged Infrastructure Framework

The following framework highlights the new pathway to maximum ROI on your data:

1. **Unlock the full value of your data with AI-assisted decision-making to guide and drive your business in real time.**

Here's how:

- Seamlessly manage and analyze data across applications, containers, virtual machines, hybrid cloud (or even multi-cloud hybrid) environments to derive greater value.
- Enrich and analyze data to gain critical insights into data and system performance.
- Drive deeper data analysis by integrating additional AI, machine learning, and analytics APIs and applications.
- Maximize the return on data with increased control, better enrichment processes, and new monetization opportunities.

2. **Drive efficiency along the data path with an intelligent system that anticipates and navigates challenges as you scale.**

Here's how:

- Accelerate ROI with adaptive data reduction services that minimize the time it takes to access data and the amount of storage required.
- Build a self-optimizing data center that automatically spreads workloads across devices to ensure consistent utilization and performance.
- Effectively plan infrastructure growth and eliminate the budgeting guesswork with predictive risk profiles that identify historical trends.

3. **Prepare your business to rapidly adopt new technologies, such as the volumes of data collected from everyday analytics, using a scalable, agile infrastructure.**

Here's how:

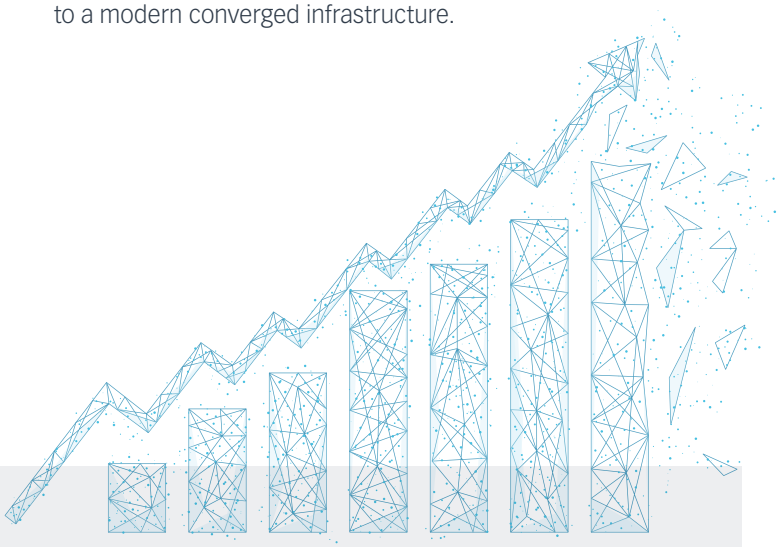
- Scale efficiently with a flexible solution built for cloud-native apps.
- Support a wide range of data types and workload requirements on hybrid cloud and multi-cloud hybrid environments.

## Analytics: The Cornerstone of a Modern Converged Infrastructure

An effective converged infrastructure not only combines world-class storage and compute power, but also advanced data services, analytics, and automation to gain insights, unlock the full potential of data, and operate at maximum efficiency. Businesses are making the investments necessary to support smarter decision making, as predictive and prescriptive analytics will drive 40% of enterprise investments by 2020, according to IDC.

Of course, data provides the power to unlock new product innovations, open up revenue opportunities, drive customer satisfaction, and create daylight between competitors—but only if the underlying infrastructure can process, aggregate, and analyze it.

There are two ways to apply intelligence and analytics to a modern converged infrastructure.



## The Current State of Data

A wealth of research shows that traditional data center architectures create major challenges around distilling business insights from data. These include:

**1. Failed data transformation initiatives**

IDC has found that digital transformation now accounts for **34%** of technology spending **($1.3 trillion in 2018)**, but only a small amount of this investment **(33%)** has been recovered based on operational improvements or additional revenue generation.

**2. Reduced access to data**

Forbes calculates that an average Fortune 1000 company that can **increase data accessibility by just 10% could deliver $65 million in additional net income** — revenues that cannot be realized while data access remains limited.

**3. Inability to analyze data and extract business insights**

Harvard Business Review states that only **50% of organizations' structured data is currently being analyzed**, with the figure falling to a tiny **1% for unstructured data**. This shows the scale to which data siloes in private and public cloud platforms — and data in multiple formats — can negatively impact the ability to deliver data-driven insights.

**4. Inefficient data storage**

Most organizations are currently using around **65%** of their storage system capacity to **store non-primary, inactive data** that could be stored much more cost effectively on private or public cloud platforms.

### THE ULTIMATE RISK: LOSING OUT TO MORE AGILE, DATA-DRIVEN COMPETITORS.

Forrester research shows that **58%** of firms acknowledge that data and analytics are very important to staying competitive. At the same time, **45%** of organizations say the ability to drive business insights from data will be the most important contributor to competitive advantage within the next three years.

With the stakes so high, can you afford to continue working with a data center architecture that limits the value of your data and your ability to compete effectively? For additional information, **click here**.

The first is at the system level, for prescriptive and predictive analytics of the system. A modern converged infrastructure uses machine learning, automation, and AI to find and predict failures, and identify ways to improve system performance, allocate resources, and uncover efficiencies. This lets businesses meet service-level agreements (SLAs) and uncovers data-driven insights that provide the foundation for enhanced systems of record and innovation.

The second is applied to the data itself, using advanced analytics to gain important business insights. In this scenario, data is enriched with metadata classification to provide context for deeper understanding, and infused with AI for additional insights. Analytics empowers businesses to activate data by discovering, integrating, and orchestrating assets to generate these insights.

## Adaptive Solutions for Converged Infrastructure

Hitachi Vantara and Cisco Systems, global leaders with decades of collective expertise helping enterprises build and maintain world-class data centers, are modernizing converged infrastructures with an intelligent solution that helps businesses meet current challenges, and positions those businesses for future growth.

Adaptive Solutions for Converged Infrastructure is a Cisco Validated Design (CVD) that combines the companies' best-in-class technologies including Hitachi storage and Cisco compute and networking. Engineered, tested, and validated by both companies, it supports high-end, enterprise-grade, multi-use application workloads and delivers an agile, operationally efficient solution for continuous data availability and SLA management.

The companies, partners for over a decade, are laser focused on helping enterprises accelerate the modernization journey and unlock the value of their data. The powerful combination of technology, coupled with deep infrastructure expertise of Hitachi Vantara and Cisco, lets business quickly capitalize on new opportunities including IoT, hybrid-multi-cloud, and advanced analytics. Adaptive Solutions for Converged Infrastructure is a resilient solution that leverages automation and AI to eliminate manual tasks as well as predict and mitigate risk.

One key area of differentiation: the solution includes software that lets enterprises manage and analyze data regardless of its source. Most large businesses have data and applications stored in a mix of repositories; legacy systems on site, an on-premise private cloud, or native apps stored in a "public" cloud such as AWS. To have a truly effective data governance and analytics strategy, a converged infrastructure must apply AI-based management that covers all data, no matter where it resides.

With converged infrastructure leveraging new technology such as automation, AI, and IoT, businesses can meet SLAs with data-driven insights that provide the foundation for enhanced systems of record and innovation.

It's no secret that data fuels innovation and growth. In fact by 2020, it's been widely reported that for every person on Earth, 1.7MB of data will be created every second.

Enterprises need to adapt to today's data-driven world and prepare for the future with an intelligent converged infrastructure that delivers unmatched reliability, speed, efficiency, and data management. This puts the right data into the hands of the people who need it, and ultimately delivers better business outcomes.

**Click here** to learn more about Cisco and Hitachi Adaptive Solutions for Converged Infrastructure. For additional information, **click here**.