

Businesses leverage connected cloud architectures to fast-track their digital transformation in response to the social and economic disruption caused by the pandemic. A well-architected connected cloud strategy is the foundation to build a resilient enterprise.

Businesses Implement Connected Cloud Architectures to Successfully Navigate Disruption

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Introduction: Resiliency Through Cloud

Any lingering doubts about the criticality of a cloud-enabled, digital-first strategy have been removed by the COVID-19 crisis. The pandemic exposed significant vulnerabilities and "flat spots" in business operations and supply chains — three quarters of U.S. companies report supply chain disruption from the crisis — that served as a wake-up call for management to hasten the move to cloud. The sense of urgency created by massive disruption raised questions about current business models and highlighted the need for insight-driven decision making. Businesses needed to move faster to deliver customer value at scale. Organizations that had a head start on their digital transformation (DX) journey have fared much better, experienced less pain, and are better positioned for whatever the future brings. For these businesses, the agility, resiliency, and scalability enabled by cloud made it possible to deal with the crisis from a position of strength. However, only 35% of businesses report having completed their digital transformation before the pandemic.

There are different approaches for achieving the optimal cloud-enabled architecture. What works for one business may not be suitable for another. Whatever the approach, the business needs a shared understanding of the desired transformation outcomes, what it will take to achieve them, and any gaps in skills and experience that need to be addressed. Most businesses engage expert partners to help create a business case and blueprint for successful transformation that emphasizes optimized end-to-end business processes and workflows, improved visibility into operations and customer behavior, and complete alignment with the business strategy. These outcomes are essential to building a resilient and adaptable future enterprise.

AT A GLANCE

KEY STATS

- » 35% of businesses were digitally transformed before the pandemic
- » 42% of businesses invest in technology to close gaps in DX
- » 64% of businesses aggressively seek out emerging technology

Definitions

This section provides brief definitions of terminologies used throughout this paper.

- » **Business resiliency:** The ability of the organization to rapidly adapt and respond to business disruptions while sustaining business operations and its core purpose. Resiliency is a prerequisite for the digital economy.
- » **Connected cloud architecture:** Refers to the direct connections between private environments including enterprise private cloud, hosted private cloud, multiple public clouds, and cloud at the edge. Also referred to as *hybrid architecture*, connected cloud architecture eliminates network fragmentation and delivers the increased speed, agility, and portability needed to optimize digital processes, workflows, information access, and user and customer experiences.
- » **Innovation:** The reimagining of the value that the business creates and captures and how it operates to create that value. *Innovation* as referenced in the paper is broad in scope, including business model, process, structural, network (supply and value chains), experiential, and product and service. Innovation can be disruptive or incremental, which represents most innovations.
- » **Knowledge value chain:** Describes the activities and events that transform data into information that is analyzed for insight and applied by workers in real time to make decisions.
- » **Cloud data management:** The management and sharing of data across cloud platforms, including private and public clouds and on-premises deployments. Data management platforms are designed to gather, manage, manipulate, and deliver data to be analyzed for decision making.

The Five Stages of Enterprise Recovery

IDC continues to track the impact of COVID-19 on IT spending. Findings from this research led to the design of a framework to assess the stages businesses go through on their journey from crisis response to recovery and the impact of cloud and digital technologies at each stage. Specifically:

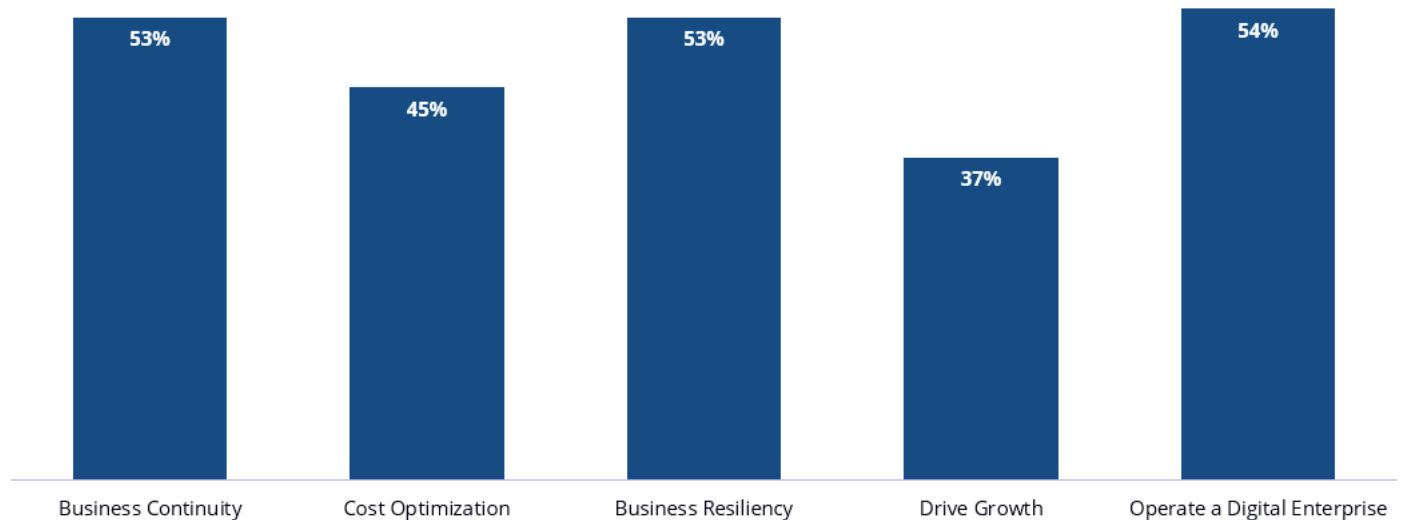
1. **Crisis Response:** Focus on **business continuity** and stabilizing operations.
2. **Economic Slowdown:** As revenue slows, the focus shifts to **cost optimization** and near-term ROI for new initiatives.
3. **Recession:** The prospect of a protracted decline in revenue drives investment to build **business resiliency**.
4. **Return to Growth:** As revenue starts to improve, the business looks to aggressively invest for **future growth**.
5. **The Next Normal:** The business settles into whatever the next normal is and operates more as a **digital-first enterprise**.

The framework offers context for understanding what is driving business behavior as economic and market conditions change throughout the crisis.

IDC tracked the percentage of businesses leveraging cloud to successfully navigate change across the five stages (see Figure 1). A key finding from the research is how cloud provides the foundation for response at each stage of the journey to the future enterprise.

- » 53% of businesses are using cloud for crisis management, including business continuity and enhancing security.
- » 53% of businesses are using cloud to optimize operations and create business resiliency (zero downtime).
- » 45% of businesses are using cloud for cost reduction (for example: datacenter exit, retiring legacy debt).

FIGURE 1: ***What Is Your Organization Using Cloud For?***



Source: IDC, 2020

IDC research also highlights the importance of cloud for innovation at each stage, as 90% of businesses use cloud to innovate on their journey to becoming a digital-first enterprise.

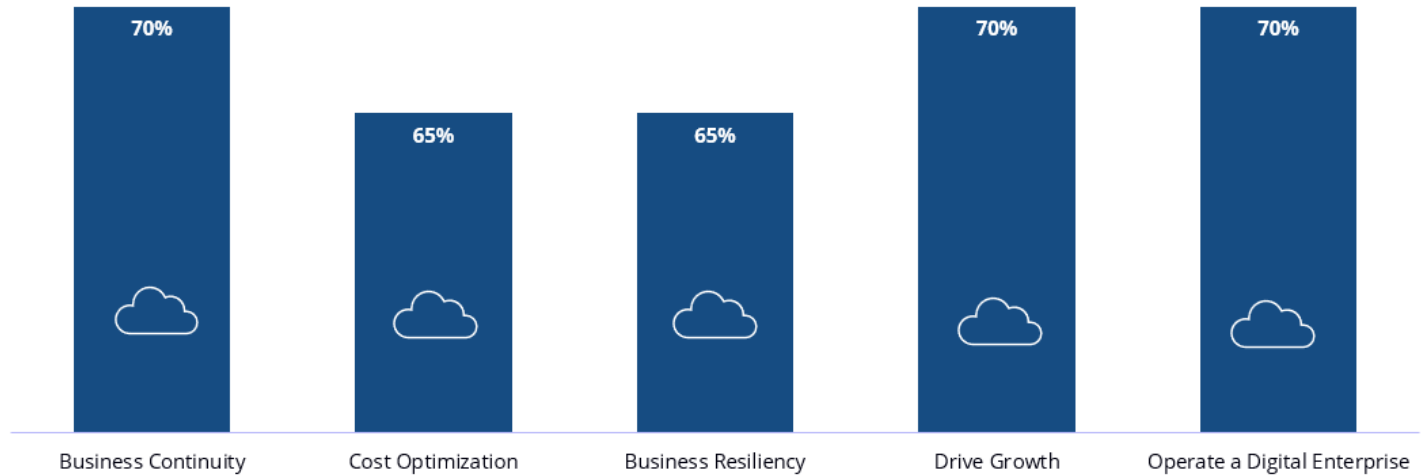
Shift in IT Focus and Investment Strategy

Over the past several months, there has been a significant reprioritization of IT focus and investment strategy, largely in response to the massive increase in remote workers. As one CIO stated, "The workforce is all over the place. The dramatic change in where work is performed uncovered significant challenges with processes that were designed for physical presence and how information is being used." IT investments prioritize spending on cloud and digital technologies to address operational vulnerabilities or "flat spots" in business operations exposed by the crisis and close the gap on digital transformation. As businesses increase the use of public cloud, the focus has expanded from a single cloud service provider to multiple premises across multiple cloud service providers. More than 50% of enterprises are already using some form of hybrid cloud architecture for their infrastructure needs to increase flexibility and workload portability.

CIO investment strategies must balance the need for near-term ROI with longer-term objectives that lay the groundwork for the future enterprise. By moving to cloud, the business can take advantage of automation technologies to drive greater operational efficiency through task and process automation. Figure 2 highlights the importance of business automation technology made possible by cloud across each of the five stages of recovery.

FIGURE 2: Impact of Cloud-Enabled Business Operations and Automation Technology

To what extent does or will business operations and business automation technology (e.g., IoT, operations technology, RPA, robotics, AR/VR) help you achieve the following?



Source: IDC, 2020

The Future of Work Arrives Early

For many businesses, plans to change how and where work gets done have been underway for some time, with investments in a new generation of SaaS and cloud-enabled applications infused with AI-enabled automation and machine learning to manage increasing volumes of data and improve worker productivity. IDC expects that by 2024, an explosion of data, driven by demand for AI and IoT, will exceed 100ZB. The current crisis accelerated these plans, as the shift to an all or mostly remote workforce became the immediate priority. The change had far-reaching implications for every aspect of the business. Since the onset of the crisis, businesses have prioritized the use of cloud infrastructure, platforms, and SaaS to secure operations across a more distributed and complex enterprise to enhance security, ensure a safe working environment for employees, and increase scalability for different work environments. Throughout this period, visionary CIOs have stepped up their outreach across operations to lead the collaboration effort with lines of business as they implement decentralized digital processes and improve how data, information, and insight are used for decision making. To succeed, businesses can use connected cloud architectures to support a work model that furthers human-digital worker collaboration and supports a work environment unbounded by physical space and guided by relevant, timely information. However, many CIOs cite the lack of data integration and poor data quality as leading barriers to optimizing the use of data to drive transformation outcomes. Over the past few years, data management platforms have emerged as highly effective solutions to some of these challenges. These platforms help unify data silos and provide a common model so that data can be collated and compiled into relevant data streams, which is a significant enabler of increased agility.

Cloud supports a work model that fosters human-digital worker collaboration and supports a work environment unbounded by physical space and guided by relevant, timely information.

The need for information sharing extends beyond the walls of the enterprise and into ecosystems and supply chains that collaborate to create superior customer experiences and greater economic value for all participants. High-performing and adaptive ecosystems require data sharing to enhance network effects and increase the speed of value-based innovation.

Benefits of Connected Cloud Architecture to Support Digital Strategies

The current crisis offers important teaching moments for business leaders who may have been hesitant to invest in cloud and digital technologies to preserve capital and protect legacy business models. The über-lesson is to disrupt or be disrupted. The pandemic is a high-impact disruption; we do not yet know its duration. What we do know is that change is a constant, and there will be future disruptions for businesses to contend with. Cloud continues to protect businesses from the damaging impact of the pandemic, allowing business operations to run smoothly. Businesses must create flexible, resilient architectures to respond to changes as they occur and adapt as needed when current plans do not reflect the changing reality. A well-connected cloud architecture enables rapid changes in processes and workflows as we emerge from the crisis and return to economic growth. There are many advantages to this approach, as listed here.

- » Respond to change in near-real time to reduce systemic risk and positively impact business performance outcomes.
- » Engage in experimentation that hastens time to value and creates resource-based sustainable competitive advantage.
- » Accelerate innovation capabilities across a variety of use cases — including experience, process, and product — to react and respond to new business needs.
- » Increase visibility and information-sharing across a distributed enterprise, ecosystems, and supply and value chains.
- » Improve compliance.
- » Unite data silos for analysis and create a knowledge value chain that accelerates and improves decision making.

Considerations

IDC research highlights the rapid adoption of hybrid cloud architectures. Modern enterprise business applications are increasingly distributed across premises based on best fit and optimized location choices. Workload movement is part of every IT portfolio, driving the need to integrate one or more public clouds with private environments to orchestrate application workloads across deployments based on changing business requirements, workload characteristics, and usage patterns. Hybrid cloud architectures offer greater flexibility, choice, and portability to locate workloads where you need them.

Businesses do not have the luxury of long planning cycles. The speed at which change is occurring drives IT to embrace agile methodologies. SaaS and cloud software providers offer platforms that feature a common architecture and data model, and tools for building and deploying apps and services across the connected cloud infrastructure: build once and deploy anywhere. Flexible architectures provide the freedom to position resources close to users and reduce data latency

while adhering to regulatory, data residency, and corporate compliance. Technology to manage and control complex distributed environments continues to evolve as suppliers also must expand their offerings and speed time to market. IDC's 2020 Cloud FutureScape captured this trend; by 2022, 70% of enterprises will deploy unified VMs, Kubernetes, and multicloud management processes and tools to support management and governance across on-premises and private and public clouds. To become an adaptive organization, key imperatives for IT and line-of-business (LOB) decision makers must be considered, as outlined below.

Imperatives for the Agile Organization

Digital-first businesses need smarter data and better use of information to create superior customer and user experiences, which are hallmarks of the digitally mature business.

- » Identify and/or create relevant data streams that can be combined and analyzed for insight to inform decision making, highlight new opportunities, and address operational issues before they have a material impact on the business and customers.
- » Leverage a connected cloud architecture as the foundation to address data sprawl across public and private clouds, SaaS, and on-premises systems.
- » Invest in an intelligent cloud data management platform to consolidate data silos, eliminate complex integrations, enable data reuse, and achieve secure data orchestration and governance.
- » Improve application performance and user experience by deploying workloads to the optimal cloud environment based on business requirements and workload characteristics.
- » Most importantly, nurture a culture of informed action and information-sharing by empowering workers and ecosystem partners with essential information, workflows, and processes and the freedom to apply their knowledge to shape user experiences.

Conclusion

The global economy is emerging from a crisis that is worse than almost anything in recent memory. The social and economic impact of the pandemic delivered an important message: Adapt or perish. Many businesses are adapting, and some are thriving because of human inventiveness and technology innovation. Cloud computing has helped businesses deal with the crisis from a position of strength, and research shows that employee productivity has increased as many work remotely. The increased agility and resiliency provided by a connected cloud architecture effectively meets the changing needs of a distributed enterprise. Businesses that are charting a course to become digital-first use connected cloud architectures to create a resilient and adaptable model that supports the changing needs of the business while laying the groundwork for future growth and prosperity.

The increased agility and portability of a well-connected cloud architecture is best suited for the continuously changing needs of the enterprise.

About the Analyst



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Frank Della Rosa is Research Director for IDC's SaaS and cloud software practice. Mr. Della Rosa's core research focus provides in-depth analysis, strategy, and guidance to both technology suppliers and midmarket and enterprise buyers on various aspects of cloud computing, including hybrid cloud and multicloud adoption, strategy, buyer behavior, and trends across vertical markets, business application categories, and geographies. Mr. Della Rosa also provides analysis on ISVs' journey to SaaS, enterprise adoption, SaaS management, cloud maturity, market forecasts, supplier market shares, and cloud marketplaces. In addition to these topics, planned research will cover the proliferation of SaaS platforms, changing buyer demographics, and SaaS-embedded innovation accelerators like AI, machine learning, and extended reality. Based on Mr. Della Rosa's extensive experience in buyer personas, his research also includes an emphasis on the broadening impact of SaaS and cloud services on IT and line-of-business buyer behavior.

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