Investments in edge resources and AI are building a foundation for enhanced customer experiences. Unlike many multiyear customer experience initiatives, organizations can gain almost instant results using digital infrastructure and AI at the edge.

Create Exceptional Customer Experiences with Data, AI, and Edge

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Introduction

Organizations are leveraging digital infrastructure at the edge to fuel data-driven decisions and operations, creating better experiences for customers, partners, and employees. Leaders across all industries are building a strategy to harness the value of data. Central to a successful digital-first data-driven strategy is the ability to gather, cleanse, govern, and ultimately extract value from data. Platforms that streamline and secure data, regardless of location and type, are within reach.

Although simple in concept, extracting insights from data that can be used to deliver exceptional results and experiences requires three capabilities:

» The ability to manage data that exists in many locations and in a multitude of formats

» Access to platforms to perform advanced analytics and AI

» Access to data science skill sets to monetize and leverage data

Using Data to Create Exceptional Experiences

In a digital world with limited in-person interaction, data provides a better understanding of demographics and identity, enabling organizations to streamline interactions and understand customer behaviors and attitudes. Using data, organizations can predict future needs to build better relationships and retain more loyal customers. Using AI, organizations can create more empathic interactions.

Gaining the ability to extract insights from data and use those insights to drive decisions and shape interactions is the goal of a digital-first organization. In retail, data is used for targeted marketing and a better understanding of the needs and drivers for products and services. Using customer insights, organizations can not only increase sales while reducing marketing and advertising costs but better understand what kind of treatment and engagement customers want.

AT A GLANCE

KEY STATS

» 44% of organizations are investing in edge IT to create new customer experiences and improve engagement.

» 40% of organizations say that the quality and timeliness of mission-critical data insights are the most important metrics to their company leadership.

WHAT'S IMPORTANT

Organizations can gain near-immediate results in improved customer, partner, and employee satisfaction by harnessing the value of data. Extracting value from data requires access to digital infrastructure adjacent to where data creation occurs — at the edge. Developing a strategy to manage and protect data at the edge is critical in all customer experience projects.

Using advanced AI capabilities, organizations can build better interactions with partners, suppliers, and customers by augmenting service employee expertise. Rather than referring to specific departments or people (billing, service, marketing, etc.), augmented service personnel can handle all requests. Responding to queries and fulfilling requests across the organization more rapidly lead to more effective interactions that build trust and partnership.

Employers can use data to improve employee engagement and satisfaction. With digital infrastructure and AI, organizations can streamline interactions with partners, customers, and employees, reducing friction and establishing more engaging, productive connections.

Today, gaining data sources is relatively easy. IoT devices, sensors, cameras, products, and applications have the means to gather valuable data. Constant, real-time data collection is creating massive data stores. Once access to data has been established, the real work begins — managing and extracting value from that data. Managing data is a challenge because of the volume of data and multiple locations. While managing data is difficult, the benefits of effective data management are many. Organizations with good data management practices benefit from increased visibility into assets and data location, and they are better protected from data losses and breaches. Most organizations spend a significant amount of time on regulatory compliance. Having a solid data management strategy and a platform that streamlines reporting makes compliance easier and less time-consuming.

Perhaps most importantly, organizations that manage data well can extend and scale applications and operations wherever they need to be. They are increasingly analyzing and acting upon data that is generated at the edge — outside of the protected four walls of a corporate datacenter. For the many edge use cases that focus on improving customer experiences (CXs), managing data well is a key competency.

Turning Data into Insights and Action

Infrastructure, connectivity, and unique skill sets are critical elements needed to turn data into insights and action:

» **Infrastructure.** Infrastructure to gather, analyze, secure, and store data where it is created is a key requirement. Organizations need access to resilient and secure digital infrastructure. Infrastructure to support data-driven decisions is increasingly modernized to enable the secure storage and transmission of data between edge, core, and cloud resources.

» **Connectivity.** Platforms that enable the flow of data between multiple cloud platforms and core and edge locations will become increasingly necessary. Often, the ability to access on-demand infrastructure is critical to overcoming the financial barriers to widespread digital infrastructure deployment.

» **Skills.** Another important requirement is access to data analytics skill sets to interpret findings from data. For many organizations, these unique skills are challenging to find. Having data scientists who can translate the data into actionable insights is a crucial part of improving customer and partner experiences. Many organizations do not have these skill sets internally and use an outside partner. For this reason, good data management and security practices are even more fundamental to the process.

Common Obstacles Along the Way

Organizations face several challenges in trying to improve customer experiences. Leading obstacles include:

» Unifying data sources

» Creating cohesive customer journeys

» Complying with privacy regulations

» Funding projects

Organizations need to leverage data to make more intelligent business decisions, and the volume of data generation is growing at a staggering rate. More than half of the organizations expect that the amount of operational data they are using will grow 16–30% in the next year (source: IDC's *IT/OT Convergence Study,* 2022); 12% of organizations believe their data volumes will grow by more than 30%. This growth will continue at an exponential rate as data-gathering devices continue to proliferate. Sensors, satellite imagery, web traffic, digital applications, videos, and credit card transactions are just a few of the thousands of data-generating sources and platforms creating massive volumes of data every day.

The variety of data sources also presents a challenge for most organizations. Some data resides in cloud locations, and some data is local. Data is entangled across various applications. Harnessing the value of data requires the ability to gather, store, analyze, and protect it regardless of where it resides.

Controlling costs is an issue that most organizations find unavoidable. With data stores growing at an exponential rate, cloud costs can quickly spiral beyond initial expectations. This presents a stark reality check for most organizations, making critical projects, even those directly related to improving customer experiences, difficult to justify and fund.

Another key challenge for organizations is data security and compliance. Ensuring that customer data is secure and that privacy measures are in place is becoming more difficult because of the broader ecosystem in today's digital world. Customer experience projects often rely on many partners. From social media to retail marketing to supply chain operations, IT organizations must ensure that all partners adhere to stringent privacy and data security practices. Large volumes of customer data reside in cloud-based platforms and applications, increasing the possibility of cloud-based breaches. For this reason, IT organizations need to develop a comprehensive data security strategy that embraces a hybrid multicloud, location-agnostic approach. A successful strategy includes the ability to support growth in data volume, variety, and destinations for real-time interactions. Simultaneously, this security strategy must balance the need to deliver a rapid and positive user experience — one that does not create latency or introduce friction or delays in customer and user response times.

Many organizations lack a clear understanding of these initiatives' ROI. Building the business case is a difficult yet necessary step. Finding ways to measure results and quantify the value of investments also requires data and the ability to analyze it. Any CX initiative needs to have clear and measurable outcomes that align with company objectives. To ensure ongoing funding, organizations can link customer experience project spending with broader C-level initiatives, such as improved customer retention rates and creating competitive differentiation.

Customer Experience Initiatives at the Edge

Following are some of the ways industries are improving experiences, using edge and, often, AI technologies:

» **Manufacturing:** The ability to access data whenever and wherever needed; streamlining processes and supply chains

» **Retail:** Improving checkout processes for customers and creating interactive and personalized shopping experiences

» **Media:** Fast data streaming across multiple device platforms

» **Healthcare:** Support for remote patient care and creating better provider and patient engagement

» **Financial services:** AI-based sentiment analysis to improve experiences through both digital and employee-assisted channels, such as branches or contact centers (Outcomes include immediate improvements in interactions, driving greater loyalty and, in turn, better profitability.)

Trends

Organizations are defined by their ability to leverage data and digital platforms to strengthen customer relationships. With technology, they can transform experiences with employees and partners to establish bonds that result in greater loyalty and profitability.

In the gaming industry, serving geographically dispersed players is a key challenge. These players require high-performance and low-latency connectivity between core datacenter and edge locations. Cloud providers that can provide the responsiveness that advanced gamers require, anywhere around the world, will gain competitive advantage.

Unified communications (UC) providers were put to the test over the past few years, supporting remote work and virtual collaboration. Users expect and require these services to work seamlessly and securely, wherever they are located around the world. Direct and private connections to UC services that bypass the public internet are increasingly required. Access to high-speed connectivity improved performance and resilience and underscored the importance of network and connection providers in delivering exceptional experiences.

In healthcare, AI and high-performance digital infrastructure are transforming processes with the goal of improving patient health in a number of ways. Imaging solutions running AI take large amounts of data to detect anomalies and improve patient diagnoses. This requires vast data stores, located around the world, to train AI models. Another way that the healthcare industry is using digital infrastructure to solve key challenges is by supporting secure virtual visits and even augmented reality (AR)–assisted surgeries.

A common challenge across all industries is having access to digital infrastructure everywhere data is created and stored. The ability to support high-performance, low-latency connections has a direct impact on customer experiences. For many technology providers, the ability to rapidly provision services and meet service-level agreements for performance and resilience is the foundation upon which their business depends. IDC research indicates that improving customer experiences is a top priority for the IT organization, only slightly behind ensuring security.

IDC research has shown that half of all organizations are planning to upgrade their existing edge resources. For many, the need to support new, digitally enhanced operations is motivating these upgrades, with 44% of organizations stating that they are investing in new edge solutions to create new customer experiences and engagement and 66% stating that they run or are planning to run AI/ML applications at the edge in 2023. Investment in edge infrastructure will grow at a compound annual growth rate of 22.8% — significantly faster than core at just 6.0%. Access to digital infrastructure that can support the unique needs of these demanding new workloads will be an important investment area for organizations. Today, many existing edge resources do not support the required level of remote monitoring and management, and many organizations are not yet prepared to support AI/ML workloads at the edge. Power and cooling capacity, greater storage capacity, and more powerful systems are key investment areas for organizations.

About Equinix

Equinix operates 240+ global datacenters across 71 markets in 32 countries that contain interconnections to all the key clouds and networks. Equinix aims to help digital leaders bring together and interconnect their foundational infrastructure.

Equinix strives to help organizations as they create new customer experiences with infrastructure and connectivity in all their locations with their partners in efforts to accelerate their digital advantage. Central to Equinix's mission is the ability for customers to place critical infrastructure wherever they need it, create instant physical and virtual connections to a dynamic global ecosystem of 10,000+ companies, and seize opportunity with agility, speed, and confidence. This approach is designed to enable best-of-breed hybrid multicloud architectures by locating next to leading public clouds and networks and further allows instant physical or virtual connections on a reliable, secure, and sustainable platform.

Digital leaders want to scale with agility, speed the launch of digital services, seamlessly connect to customers and partners, and deliver world-class experiences. Equinix has positioned itself to provide all these capabilities.

Challenges

Equinix is a key partner for many organizations as they seek to extend digital services and resources. Although Equinix is well recognized as a digital infrastructure platform provider, its role in helping customers shift to rely on data-driven insights is not as well known. Equinix is in a key position to drive innovation and transform customer experiences by sharing best practices across industries and partners. When Equinix's customers do well, Equinix does well. A challenge for Equinix is promoting its own capabilities while supporting its customers and helping them grow and create competitive differentiation.

Conclusion

Today, most organizations have massive volumes of data but only use a small fraction of it to create better customer experiences. A gap exists in gathering data and extracting insights from it that could drive better engagement with customers, partners, and employees. In a digital-first world, connecting with customers and partners in new ways and creating exceptional experiences are high priorities. By leveraging data and AI, organizations are streamlining interactions and processes to reduce friction and establish strong bonds with customers. Accomplishing this requires access to digital infrastructure at the edge to gather, analyze, secure, and store precious data. The ability to manage and secure massive data volumes is a key challenge and is becoming even more difficult as the volume, variety, ownership, and location of data expand and scale to a high level of complexity. Developing a data management strategy and gaining access to infrastructure to support data wherever it resides are defining capabilities on the journey to improved customer experience.

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Equinix is uniquely positioned to help organizations as they shift to data-driven decisions because it has the physical resources and connections to support secure data gathering, storage, and analytics at the edge. Owing to its proximity to cloud service providers, leveraging multiple data sources securely is an important capability. Not all of a company's data analytics use first-party data. IDC believes that improving customer experience will continue to be a C-level priority for the immediate future. To the extent that Equinix can help organizations fill the skills gap and connect with data science and analytics resources, the company has strong growth potential as a digital infrastructure partner.

About the Analyst

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Jennifer Cooke is a research director within IDC's Worldwide Cloud and Edge Infrastructure practice, where she leads IDC's Edge Strategies research. Jennifer's research provides insights into the ecosystem of physical infrastructure, software, and services that support secure and resilient operations at the edge. With a background in datacenter research and a >25-year career as a technology analyst, she has a keen interest in the evolving role of technology in supporting efficient operations and innovation.

MESSAGE FROM THE SPONSOR

Digital leaders know why the fastest digital infrastructure growth is at the digital edge. With their digital infrastructure built on Platform Equinix, they are delivering digital experiences at the edge to securely enable remote workforces, develop crucial insights, and improve end user experiences. This strategy has rewarded them with a huge advantage over competitors in the fast-changing digital economy. As the world's digital infrastructure company, Equinix empowers organizations to innovate and stay competitive where business happens — at the digital edge.

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