Future Technology Needs a Solid Foundation

Today's business landscape is solidly digital. Enterprises depend on technology in every aspect of doing business. Whether they are working to streamline internal operations, providing new services to exceed customer expectations or exploring new opportunities, organizations are reliant on technology to advance their business.

It's a trend that has been building for some time, starting with the PC revolution in the 1980s and growing to encompass every aspect of business operations. In this digital era, technology drives business, helping organizations push beyond boundaries and achieve greater successes.

The technologies, processes and services that take advantage of this digital era, however, need a solid foundation to work. While technology may offer unlimited opportunity in both scope and results, it can't happen without the necessary infrastructure. Savvy enterprises understand that a solid foundation that addresses performance, reliability and affordability will enable them to grow their business faster and more securely, while also positioning them for future advancements in technology.

The Digital Transformation Revolution

Adoption of technology in businesses today is ubiquitous, thanks in large part to the myriad benefits it delivers. Companies are embracing technology of all types, recognizing its power as a catalyst of change and innovation. In large enterprises, technology adoption rates are 10 times higher than small businesses, as many of these companies look to upgrade their infrastructure while investing in technologies that have the potential to propel the business forward.[1]

Adopting the technologies that promote digital transformation is high on the list of many organizations in their IT planning. Almost three-quarters of respondents to another survey said their company has a digital transformation strategy in place or is working on one.[2]

The reasons are many for digital transformation, with each organization having its own drivers. At the core of every decision, however, is the desire to be more efficient in their operations, ultimately improving customer experience and driving them ahead of their competitors. In fact, improving productivity was listed as the top driver of digital transformation in a 2018 IDC study.[3]

Internal Drivers for Transformation

For a number of organizations, digital transformation is a direct consequence of a simple need to upgrade their infrastructure. A technology stack that is even five years old isn't as flexible or agile as today's offerings, forcing many companies to work harder to keep up with the demands of the organization, much less move ahead of their

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competition. What's more, outdated infrastructures can't integrate the technologies that advance digital transformation in the way newer, digital infrastructures can.

Along with the need to update infrastructure is the need for many organizations to do more with less. Although enterprise IT budgets continue to rise,[4] those companies that haven't adopted digital technologies are spending more of their budgets on keeping their current infrastructure running. As such, many enterprises are seeking to invest in technologies that are simple, flexible and able to integrate with each other seamlessly, without a lot of complexity.

Security, too, is a major driver for a large—and growing—number of organizations. As data breaches and other cybercrimes dominate more headlines and more companies find themselves the victims of cyberattacks, security is rising to the top as a catalyst for digital transformation.

External Drivers for Transformation
The growing ubiquity of technologies including Internet of things (IoT) and artificial intelligence also are forcing the issue for many organizations, as more see themselves falling behind competitors that have added intelligence to their operations. In fact, according to the IDC study, almost half of respondents in the global retail sector said their current competitors have already gained an advantage—or will do so within a year—by investing in digital transformation.[5]

A more technologically savvy customer base, too, is forcing the digital transformation issue for many organizations. Customers, both internal and external, expect a level of sophistication with their interaction with an organization's technology, thanks to the consumerization of IT. As such, they won't tolerate anything that degrades their user experience.

Combined, these factors are compelling organizations to embrace digital transformation, not only to reap the benefits of a faster, more secure, more agile and more flexible technology infrastructure, but also to improve employee efficiency and customer relations.

Technologies Driving Digital Transformation
Digital transformation is still a work in process for many organizations. Indeed, it can be a multi-year endeavor to ensure the right mix of technologies that address an organization's unique needs. However, there are certain core technologies in most digital transformation adoption plans.

Cloud is an essential element to any digital transformation, no matter the size of the organization. As more organizations embrace its power to reduce their systems and services on-premises and handle more of their compute-intensive operations, the cloud has grown in ubiquity and importance, with no signs of slowing.

As part of the cloud, **services-based offerings** have become the de facto standard for companies looking to increase their efficiencies and reduce their infrastructure costs while keeping up with the demands of the business. Software as a service helps organizations save on software expenses, while infrastructure as a service enables organizations to grow beyond their current data center footprint without purchasing additional hardware. Platform as a service, meanwhile, helps developers as they create new applications or customize existing applications. All help organizations save money and take advantage of the latest, most up-to-date technology.

Software-defined networking is pushing the boundaries of traditional networking, adding a layer of intelligence and visibility to help organizations manage their networks more effectively and

optimally. SDN, together with SD-WAN, also adds flexibility to the network through centralized and integrated management of network functions such as IP VPN, routing and firewall.

Data and analytics are essential elements in the new digital economy, as they help uncover new areas of opportunity and expose areas in need of improvement. Data is the most important asset in business today; analytics are key in deciphering and understanding what the data is telling the organization.

Watch This Space:
The Next Wave of Technologies

As more companies move beyond the first phase of digital transformation, having adopted most if not all the requisite technologies, a new generation of technologies are slowly being added to further advance business for these organizations. This next wave of technologies build upon the capabilities of the core transformational technologies to provide even more value and insight.

Virtual environments are growing as a value-add for many verticals in multiple areas of business, from product design to customer experience. In the hospitality sector, hotels can use virtual technology to enable guests to "see" different rooms and choose the one that best fits their needs before they check in. Similarly, retail customers can virtually try on clothing, furnish a room or even test drive a car before buying. In health care, virtual technology can aid in a range of tasks, from enabling medical students to practice procedures to helping practitioners perform checkups remotely to patients in rural areas.

The **Internet of Things (IoT), artificial intelligence and machine learning** are growing in popularity as technologies already having an impact on business, with major potential in multiple industries. The connection between systems and data not only provides intelligence, but also is enabling organizations to move into new areas of opportunity and even new lines of business. These data-intensive applications can help organizations in a number of areas that impact business including improving internal processes and enhancing

customer experience, to name a few. As these technologies continue to mature, their impact on the organization will only increase.

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Network-edge applications will be another major player for organizations that already have implemented SDN, SD-WAN and the cloud—technologies that bring intelligence, flexibility and power to the network edge, where the majority of customer-focused business occurs. Network-edge applications have the potential to empower employees to make decisions that impact the business as a whole and enable greater interaction between customer and organization.[6]

A Solid Foundation
Powers Digital Transformation

The technologies that enable digital transformation are truly transformative in both design and scope. Never before have organizations had so many opportunities to discover new opportunities, enter new markets and advance their business through new processes and services as a direct result of technology.

That said, the promise of digital transformation today and in the future can't be realized without a solid foundation of performance, flexibility and affordability for maximum impact today and in the future.

As the number of devices on any given network increases, so, too, does the amount of data generated by these devices. Users, meanwhile, expect networks to be fast and highly responsive, regardless of what applications they're using. A foundation of **performance** keeps systems, applications and services running at performant speed.

Likewise, as new technologies transform business models and processes and organizations become even more technology-enabled, networks must be able to adapt to new technologies without causing bottlenecks or slowdowns. A foundation of **flexibility** ensures that technology works for the business, not the other way around, and that the network can grow and adapt as new technologies are added.

What's more, today's networking technology is open, vendor-agnostic and API-friendly—a far cry from the closed, proprietary legacy systems that organizations traditionally have relied on. A foundation of **affordability** ensures organizations can easily add new technologies that integrate seamlessly and offer greater processing power without expensive "bolt-on" integrations.

The Right Foundation Needs the Right Technologies

In building a foundation of performance, flexibility and affordability, organizations must ensure the technologies they choose will provide benefits both today and in the future, so less of their IT budget is spent on keeping their network up and running.

As such, certain technologies can help organizations build a strong foundation for their digital strategies moving forward.

A Gig-speed network connecting all locations of an organization, from corporate headquarters to branch offices and beyond, is a must for fast, efficient information flow, enabling organizations to work faster, be more efficient and get more done.

Network intelligence provides much-needed insight at all points along the network for high performance and central management, enabling true flexibility and network optimization.

Managed services provide robust capabilities with little stress to the network, enabling organizations to add new services as their business grows and changes and technology needs change.

Unified communications are a must for enhanced collaboration and customer-centric interactions, enabling organizations to empower their employees and be more responsive to customer needs while improving productivity and overall communication.

Security, delivered on-premises or as a service, ensures networks and sensitive data—not to mention users—are safe from potential threats.

Conclusion

The digital transformation efforts of many organizations have pushed them beyond their desired outcomes of increased efficiencies and enhanced productivity, enabling them to propel their business forward via new processes and new opportunities. The next generation of digital transformation technologies hold even greater promise of opportunity for these organizations.

But the current and future achievements wrought by digital transformation can't be realized without a solid foundation of performance, flexibility and affordability for maximum impact. Equally important is the right technologies that create a solid foundation. Organizations that understand and adopt such technologies will have a greater chance of success in digital business today and in the future.

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5 Ibid

6 Carl Weinschenk, "Digital transformation 2.0: Everything revolves around the edge—IDC report," FierceTelecom, Nov. 2, 2018 https://www.fiercetelecom.com/telecom/digital-transformation-2-0-everything-revolves-around-edge-idc-report

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