MANAGING DIGITAL TRANSFORMATION IN A BOUNDARY-LESS WORLD

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DYNAMIC TECHNOLOGY SOLUTIONS

During the past few years, the phrase "Moving to the Cloud" has evolved from a marketing message to a mature business and technology strategy aimed at creating a more agile business, institution or government.

Digital transformation is following a similar path. It has become the new rallying cry thanks to customers looking for better goods and services, employees desiring frictionless work environments, and Boards of Directors or Trustees seeking a competitive edge.

One only has to look at Amazon as a prime example: Alexa, can you help us with this?

Like it or not CIOs are being asked to transform business and government operations incorporating the cloud, IoT, mobility, machine learning, artificial intelligence, and business analytics. Many realize that you can't just adopt new technologies and expect transformation.

Instead, digital transformation is much broader and encompassing; it is how you apply new technologies to transform your entire organization — the way you interact with customers and employees, the organization's culture, and the platforms you plan on implementing. It's a transformation of how an organization thinks and acts.

Launching a digital transformation involves a lot of planning. The entire executive team needs to define what "digital" means to your business or institution. Part of this discussion needs to include the realization that business now extends far beyond what happens within your four walls. Thanks to a number of different technologies, business knows no bounds:

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Workers are located around the world and in home offices

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Suppliers and shippers connect seamlessly to your warehouse and inventory systems

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Customers expect more tailored experiences; frictionless commerce and new ways to connect to services (i.e. Alexa, Siri, HoloLens)
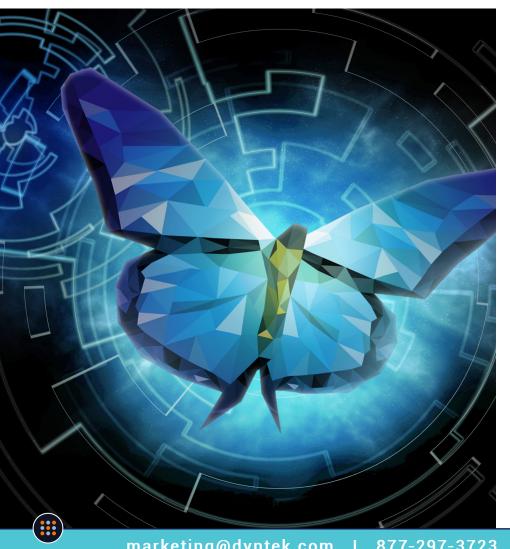
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Classes no longer exist only on campuses

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Board of Directors demand reduced operating costs while expecting executives to create new business models and competitive services for continued growth

Operational borders are being redrawn and redefined faster than we've previously experienced. Those companies, institutions and governments that are slow to address this new reality risk falling behind.

According to Gartner, 33% of businesses are now in the scaling or refining stages of digital maturity — up from 17% last year.[1] That means IT is finally being viewed as a strategic asset, not just a cost center or fixed infrastructure that needs to be maintained.

It also means IT has to become more involved in defining the business strategy and helping executives understand what's possible, what the new risks are in a boundary-less world, and understand what digital assets need to be protected at all costs.

From an IT perspective, it's helpful to start conceptualizing your digital transformation by addressing three core areas: network adaptability, security and collaboration.

▶ IS YOUR NETWORK ADAPTABLE?

You already know the heart of your enterprise is your data center; it's the engine that powers new business capabilities and new applications and services. Unfortunately, it's often a complex organism that's hard to manage and challenging to adapt and scale.

As the technological foundation of your business, determining whether your data center and your network infrastructure are adaptable and flexible is a first step toward digital transformation. Many organizations are learning they may need a complete revamp of their architecture to enable new ways of doing business.

[1] CIO Agenda 2019: Digital Maturity Reaches a Tipping Point, by Kasey Panetta, Smarter with Gartner, October 16, 2018

▼ TRANSFORMING HEALTHCARE

Two trends are driving healthcare transformation: value-based delivery of medicine and personalized approach to care. Healthcare organizations are asking how they can improve outcomes for patients while at the same time reducing the costs of the overall system and figuring out how to make smarter decisions in a more timely fashion. Many envision an entirely new approach to how they interact with patients that's much more customer-centric.

To deliver this new way of providing care means CIOs are reexamining how their networks handle data, what platforms they are using to collect and analyze data, how they are securing this information, what technology should they deploy around it, and how they should keep track of patients.

In every industry, digital transformation really starts with an understanding of the business, its strategy, what its values are, and how to treat customers and employees, which trickles down to the overall technology architecture. Can your current architecture support the new way of doing business or offering services, and if not, what do they need to implement to achieve their business goals?

Many organizations find their existing infrastructure is too rigid and will not accommodate new technologies and paradigms. They are looking outside of their organizations at cloud services and applications because they offer flexibility, fast provisioning, rich features and a pay-as-you-go approach. Some startups are embracing Cloud as their entire IT infrastructure letting Amazon, Google or Microsoft manage the servers the business needs. More established firms and educational institutions are taking a hybrid approach, which allows IT to take on more strategic roles while still protecting core assets.

In both approaches, securing data assets in a borderless world becomes a much more critical task.

SECURITY KNOWS NO BOUNDS

In today's working environment, employees no longer work within the four walls of the corporation or organization. They may work from home, in offices around the world or from a beach. Employees often use third party applications like Dropbox to share and move data, and they may work with outside contractors or consultants. New ways of working require new ways to secure data.

Additionally, as more and more sensors, appliances and homes are connected through the Internet, IT has to rethink security. Rather than simply fortifying the company data center, IT has to figure out how to secure data that travels out the door with employees as they head to home offices, and how to secure data flowing from remote locations via a myriad of mobile and fixed networks.

Not only does IT have to secure the data, but they have to step up and better train users and figure out how to protect non-traditional systems. As a municipal water system, for example, how do you monitor and secure water being delivered from a wooden pipe that's been in operation from the early 1800s? Adding IoT sensors is part of the answer; but then how do you wirelessly connect that sensor to the data center and what do you need to do to protect that data?

TRANSFORMING GOVERNMENT

Major cities and counties are rethinking how they interact with citizens, what they need to change to be better stewards of governmental assets. For example, one way to make it more efficient for a small businessperson to open a restaurant could be allowing him/her to obtain all the necessary permits — food handling, business license, building inspection, etc. — in a single place rather than going to the many different agencies involved.

To deliver this kind of service, a city may need to transform how data flows through the various agencies and completely transform the network and data center infrastructure necessary to support a central data repository, but ensure it is flexible, secure and the costs of providing the service are affordable. The technology needs to support a better user experience while having a positive economic impact on the community.

For the most part, corporations, healthcare organizations and educational institutions have adopted a number of security tools to fortify their four walls. Figuring out how to orchestrate security across the enterprise – which now stretches far beyond those perimeters — and incorporate analytical tools to identify threats requires a new level of understanding and management.

The answer is simple: you need to incorporate artificial intelligence (AI) and security analytics. But implementing AI and analytics isn't a matter of bolting on new security devices. You need to take an inventory of what you have, figure out how to automate security and store data and determine how the company will behave so that your business and brand aren't impacted. And, you need to orchestrate the system to produce results in seconds, not hours or days.

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COLLABORATION AND COMMUNICATION

The way we work and learn has changed drastically over the past decade, bringing many new challenges to IT. Increasingly, organizations are dropping the traditional hierarchical structure and instead forming smaller, project-led teams informed by experts and managed from a distance. To get closer to customers, lower real estate costs, and hire local talent, enterprises are creating satellite offices with short term rents, which allow them to scale or downsize as needed.

Instead of being in the same physical location in order to work together, businesses are hiring talent around the nation and world and increasingly collaborating with customers, which necessitates increased communication of different types, alignment with different time zones, and a demand for new ways to connect this distributed workforce.

Since the advent of the Internet, email has become the standard communication tool. But email communication creates silos of information that are hard to extract as new group members are added, projects become complex and edits multiply. Add in data and information generated in video conferences, webinars and posted on social media tools such as SlideShare or YouTube, and managing data and working effectively and centrally becomes a technology challenge.

The devices we use to communicate have also changed dramatically. The proliferation of personal mobile devices and use outside corporate boundaries requires new approaches to security and often, WLAN redesigns. This redesign effort often includes implementing new security tools such as proof, identity, authentication, and online fraud protection.

TRANSFORMING EDUCATION

The way we learn is undergoing similar transformation especially when it comes to collaboration and communication. Many high schools and colleges offer online classes so students no longer have to visit a classroom at a specific time to learn.

While some classes are offered through video conferencing and connect teachers and students living in different areas, other platforms allow students to log in at any time to view videos, take quizzes and chat with other students no matter what the time.

Teachers and professors can hold live interview sessions with experts located anywhere in the world and tap into a number of tools — YouTube videos, corporate websites and scientific platforms to supplement their lessons. They can provide extra support for children that need more help while also providing additional enrichment assignments for those more advanced.

At the same time, many schools provide parents instant access to grades, teacher emails and homework assignments allowing them to instantly communicate with teachers and monitor assignments on snow days, for example.

These new ways of learning means updating antiquated networks, incorporating smart-phone access and beefing up data centers and network infrastructure. With tight budgets more and more schools are looking to the cloud for hosted applications and data storage that's growing exponentially.

These advancements in technology and approaches have led to a more personalized approach to education where specific methods can be prescribed to students and parents to achieve the best results. Students, teachers, and parents benefit from these advances but creates an impetus on IT to transform their approach to technology.

CONCLUSION

Digital transformation incorporates a different way of thinking that is driven by customers and the need to remain competitive. It goes beyond the desire to add machine learning or artificial intelligence to your technology offerings. It requires fundamental knowledge about how your business, government or educational institution wants to transform and an understanding what it needs to do to deliver new goods and services.

Creating a modern architecture is critical in the transformation of any organization — especially in our increasingly connected world of IoT, and cloud, as we grapple with new and persistent threats to security. Unfortunately, there is no silver bullet for digital transformation. It requires a deep understanding of your current technology, the business outcomes desired and a wide range of technologies that need to be orchestrated to accelerate transformation.

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