Digital transformation enables enterprises to keep up with internal and external customer demands. Technologies such as mobility, cloud, data analytics, virtualization, and the Internet of Things (IoT) have been evolving for some time now, giving IT and business organizations improved productivity, more flexibility, increased efficiency, and greater cost effectiveness.

But as organizations leverage next-generation technologies to become more nimble, they are struggling to balance the need to respond quickly to business imperatives while delivering a secure, robust network that is always available. Legacy systems, including networking and security architectures, limit developers and IT in terms of flexibility, which means that they often cannot deliver apps securely and on time.

“Digital transformation is about creating new experiences for users, customers, and for our market,” says Milin Desai, vice president of products at VMware, a provider of cloud and virtualization software and services. “The networks that have gotten us to where we are in the last 25 years are not the networks that will move us going forward.” It takes an average of 30 days to deploy an application, especially in larger organizations, Desai says. The traditional ways of supporting the workforce as well as managing and securing apps just aren’t meeting today’s business needs.

A Modern Network Strategy
To answer growing business demands, organizations need to embrace a new, more flexible approach to their network architecture. This means shifting data centers from hardware-centric to software-based networking and distributing
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MILIN DESAI
VICE PRESIDENT OF PRODUCTS, VMWARE

network services to wherever applications reside, independent of the supporting infrastructure. This changeover is at the heart of a successful digital transformation.

Now, instead of the infrastructure dictating the application, the application must dictate the infrastructure. “We live in an application-centric world,” says Desai. Developers want to create apps that are automated and can be immediately deployed. To enable this, the network needs to comprise a set of data interfaces that can be defined in application layers that are multi-cloud ready. More important from a competitor perspective is the customer experience—often the differentiator for being a leading IT organization.

At Amadeus, a Madrid, Spain–based technology company that specializes in global travel, the goal was to improve the customer experience throughout the entire spectrum of travel e-planning, from initial search and pricing to managing reservations, check-in, and departure. With four billion transactions daily, travelers demanded high availability and rapid access to IT resources and services. The pressure was on IT to ensure superior availability and quick response times while keeping costs under control.

To embrace a new IT infrastructure strategy with software-based networking, organizations must first remove the physical barrier, says Peder Ulander, vice president of product marketing at VMware. But that’s not all; a cultural shift is also necessary. “We’re moving from an era of data centers to centers of data,” Ulander says. “We’re moving from an era of data centers to centers of data,” Ulander says. “That means that if your network is based on physical boxes and pieces that are not transient, you have already created the wrong environment to support new applications for customers.” This new environment and its related cultural shift rely on collaboration, which leads to leading-edge strategies, more efficient application deployment, and an improved customer experience, he says.

A Secure, Invisible Infrastructure
With software-based networking, cybersecurity—an increasingly important focus for organizations—is built in. “People are thinking differently about networking security and general infrastructure. Security needs to be baked into every piece of the infrastructure,” which also saves time and money, Ulander says. The result is that IT and business can deliver products and services to customers while maintaining operational controls and reducing cyber threats.

A new “invisible” infrastructure like this makes vital collaboration easier by eliminating existing IT silos and enabling IT staff and developers to work better together—but it also requires a new way of thinking. “The siloed IT specialists must understand the shift toward software networking and containers to build this concept,” Desai says.

Traditionally, organizations have had on-premises infrastructure. Now, applications are being built in the cloud, where the organization doesn’t own the infrastructure. Apps can be delivered via software instead, with production-ready containers. Automating and adopting a new approach to networking enables IT and developers to leverage enterprise-class security, networking, storage, and compliance throughout the application life cycle. Automation also reduces human error, which means IT can spend more time on innovation and endeavors that drive the business.

Today, digital transformation requires an open, infrastructure-agnostic IT model and network, as well as a change management shift that nurtures business collaboration. And as IT provides a more flexible framework, developers can set policy; consequently, businesses become more nimble and better positioned for growth and future technology changes. This new cultural template and modern network strategy will foster cutting-edge approaches, streamline application development, promote collaboration among developers and IT, and improve customer experiences—all while ensuring businesses have a competitive edge in the ongoing digital transformation journey. For more information on the bridge to digital transformation, visit https://www.technologyreview.com/hub/the-bridge-to-digital-transformation/.