Transforming the digital customer experience .

How Software Defined Networking is helping enterprises transform customer experience.

verizon✓

Businesses around the world are about to experience a seismic shift in the demands placed on their customer experience (CX) capabilities.

The question is: how can companies expect to consistently delight customers with seamless, secure and intuitive CX in the future, when so many still struggle with CX strategies and initiatives today?

A recent Forrester survey found that among 314 U.S. businesses, CX quality actually declined between 2016 and 2017[1]. "Not a single brand has risen to the top of our rankings and continue to move upward", said Rick Parrish, Senior Analyst at Forrester . "Losses were broader and deeper than gains, and twice as many brands sank as rose."

The danger of going backwards in CX delivery is compounded by the sheer increase in number of consumers browsing and buying online. For example, Forrester projects an additional 26 million shoppers will be both browsing and buying from retail sites by the end of this decade.[2] If that is to become a reality, a significant number of new customer-facing websites, mobile applications, payment gateways and logistics systems must be developed, tested and deployed to capture market share.

Those that can get ahead of the game by using critical innovatives in CX to mobile, big data analytics and machine learning will take the biggest market share. Those that lag behind, won't.

What will be the make-or-break for companies as they develop these capabilities? The enterprise network.

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Network virtualization has come of age.

It first happened in the cloud. Virtual cloud infrastructure has already replaced a large proportion of on-premise hardware. In fact, cloud has become a standard service delivery model for businesses around the world.

Taking this several steps further is Verizon's Virtual Network Services (VNS) and Software Defined Wide Area Networking (SD-WAN). It offers companies greater control over how they do business. Network deployment, data security and threat response—along with machine learning and collaboration capabilities. This has a profound effect on CX.

VNS diminishes reliance on single-purpose hardware by virtualizing services, such as WAN routing, security and WAN optimization. With VNS, these services can be delivered in faster timeframes, with support from Verizon's experts.

VNS is flexible too. It supports a wide variety of deployment and operations models from on-premise to cloud and self-service to full management.

To make matters simpler for IT teams, VNS uses a set of standardized building blocks. These include infrastructure resiliency options and centralized management tools hosted in the cloud—building blocks that have been pre-validated and can be further validated with client applications, as required.

Verizon's VNS centralized management capability has been specifically designed so that businesses can provision, test, service-chain and manage their services.

Finance, media, retail, manufacturing and oil and gas—almost any sector imaginable—can improve its CX offering. But different industries have different requirements.

Let us give you some examples of how your industry might develop its CX with Verizon VNS.

Financial Services.

CX in the financial services industry is going through a revolution. Traditional perceptions of customer loyalty, product development, physical location, service delivery —and the ability of IT to deliver improvement in CX across these areas—are all being challenged.[3]

"The very nature of finance is changing," says Gabriel Schild, Executive Consulting Partner focused on Digital Transformation at Verizon Enterprise Solutions (VES). "New, nimble competitors are emerging faster than ever before to take market share from incumbents. They are servicing customers that now expect their commercial transactions to mimic their private, digital interactions."

There is added pressure. While customers expect more from financial institutions, these same firms are faced with fundamental changes to the regulation of information. The result is that banks, insurers and finance houses have to deliver far more evolved CX solutions. This is because they are simultaneously required to protect information from greater and more complex cyber security threats and provide transparency for compliance.

VNS SD WAN addresses many of these problems. The resiliency, performance, transparency and security it offers—and its ability to leverage cloud service offerings —make it the go-to solution for CX development.

"VNS SD WAN can dynamically optimize networking resources to help improve the resiliency and speed of applications such as ecommerce, online banking, mobile banking, wealth management client communication and HTTP Intranets," says Paul Berry, a distinguished Solutions Architect for Verizon. "The transparency and control capabilities—including the security functions offered by VNS SD WAN—are exceptional."

"Connectivity helps to ensure that the customer experience at the end of the process is consistent across all channels and all devices or end-points," adds Schild.

But the benefits of VNS go further. Its strength also lies in giving business greater ability to test and manage financial services CX systems and deliver on the governance and compliance that they require.

This new level of orchestration doesn't only offer rapid virtual services on-boarding and CX service automation, Verizon's global integration architecture assists financial institutions with end-to- end control of their CX applications, providing greater oversight. And with robust service level agreements (SLAs), financial institutions have a clearer view of the ever-evolving compliance landscape.

> **Banks, insurers and financial institutions have to deliver far more evolved CX solutions.**

Retail.

After significant resistance from consumers, retail apps have finally taken off. Forrester says the number of consumers browsing and buying online will hit 270 million by 2020, driven largely by activity on mobile devices.[4]

This makes the capabilities of your network and network security services particularly important for retail sales. Without the resiliency, performance, rapid set-up and change that VNS helps to deliver for application development, customers may not engage with your app. Or they simply won't keep it on their mobile phone.

There are other factors at play too, such as price efficiency and flexibility. The emphasis used to be on fixed asset hardware with depreciation over a three to five year term. With software defined networks, this shifts to an OPEX model based on consumption.

VNS SD WAN is game-changing when it comes to the way businesses can scale up the network for peak application use and bring it back down again when consumers aren't buying. This is much more appropriate for seasonal buying around the holidays, for example.

VNS SD WAN also has implications for in-store purchases. It can facilitate the rapid roll- out of pop-up and short-lease stores to meet demand for specific products at certain times and places. Retail firms no longer have to wait months for connectivity for their communications tools, point-of- sale terminals or interactive video walls. VNS allows delivery of those services faster, so that retailers can respond to market-demand quicker.

This is because VNS changes the cost-base of provisioning network infrastructure. The combination of low cost, broadband connectivity and network virtualization helps IT departments to deploy services to new sites and build security landscapes faster and at lower capital cost.

They also have the option of improved staff communications to better serve their customers. "Verizon's Unified Communications and Collaboration as a Service (UCCaaS) offering isn't a customer-facing application," says Mathew Wells, Verizon Solutions Executive for Advanced Communications. "But what it does is create a better customer experience by helping to drive faster and more effective staff collaboration.

"When a customer asks a question in-store about a product that the sales associate present can't answer, a sale is lost. But with UCCaaS, it is possible for that staff member to initiate a video call or messaging service chat to an expert in a different store using their own mobile phone. It works across the public internet, on a VPN-less connection that is encrypted from the UCCaaS cloud to the end-point. The staff member answers the question. The customer is happy —and hopefully buys that product."

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Media.

Media businesses of every shape and size need speed, collaboration and strong customer engagement to survive and thrive. But often these requirements are set against a backdrop of poorly designed and un-optimized systems that attempt to deliver them.

"Application developers rarely consider the network when they are building their apps," says Paul Berry. "They develop them as if for a LAN (Local Area Network), and LAN's typically have a lot more bandwidth and resources than WANs. As a result, the application often ends up being quite 'chatty'—it generates a lot of unnecessary back and forth communication—but the developers may just leave it there."

VNS WAN Optimization looks at what components of that traffic you can cache, helping to free up resources so that critical customer and collaboration applications can run faster." It effectively "pushes away" those applications that aren't critical or time sensitive, and prioritizes those that are.

> **VNS WAN Optimization allows you to prioritize critical customer and collaboration tasks and applications over those that are not critical or time sensitive to the customer experience.**

Imagine you are trying to run a video session with a customer over your network. At the same time, someone in production is trying to download a large file. VNS SD WAN allows you to prioritize the video above the file, including switching the download to an alternate circuit. The result: no more calls dropped or time delay frustrating your customer.

But the possibilities do not end there. On-line advertising, sales, client relationship management, content management, content provider relationship management, content distribution infrastructure and platform services, like Verizon Digital Media Services and streaming hosts, can all benefit from VNS, whether B2B or B2C.

Manufacturing, Mining, Oil & Gas, Transport.

Heavy industry might not be the most obvious place to find CX use cases. But if we treat staff members as recipients of internal services, they become customers too.

"Manufacturing, mining, oil and gas and transport organizations have plenty of reason to move to VNS SD WAN," says Paul Berry. "They all require consolidation and integration of their IT resources and improved cost efficiencies."

The ability to switch network loads between multiple circuits based on application type and circuit performance helps to remove the 'clunkiness' of traditional networking. Then there is the ability to consolidate and standardize networking hardware and run multiple functions on the same box. Add the introduction of RF tagging and IoT to track people, equipment and shipments, and VNS SD WAN may make a lot of sense.

Tagging and IoT deployments have become a particular area of interest as programs accelerate across industries. Of course, companies want to avoid the potentially large losses that can occur when a network or application goes down. They need improved visibility into the essential services their networks distribute. VNS SD WAN offers a series of routing and security solutions that helps make the network more stable and robust, even in extreme environments.

But advances in predictive and diagnostic maintenance systems, particularly those augmented by Machine-to-Machine learning, worker mobility and communications systems are beginning to become commonplace.

These systems can increase efficiency, productivity and the bottom-line on a day-to-day basis. Businesses are beginning to rely on them as a baseline for profit. It is therefore essential that networks handle the information to and from potentially hundreds of thousands of devices, application instances and people simultaneously, remotely and at scale.

With centralized visualization and management capabilities and integration with advanced communication tools like UCCaaS, VNS SD WAN is a smart choice in these circumstances.

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Further deployment of technologies like RF tagging, IoT and Machine-to-Machine learning will mean that your network needs to be able to handle information to and from potentially 200,000 or more devices, applications and people simultaneously, remotely and at scale.

"All of these industries are experiencing a new generation of health and safety regulations and compliance, too," Berry adds. "They are improving their in-house training and their distribution of information to workers. A network that is CX-ready has never been more important."

To learn more about how a software-defined networking solution from Verizon can help your business improve customer experience, visit us at **www.verizonenterprise.com/digitaltransformation.**

References

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