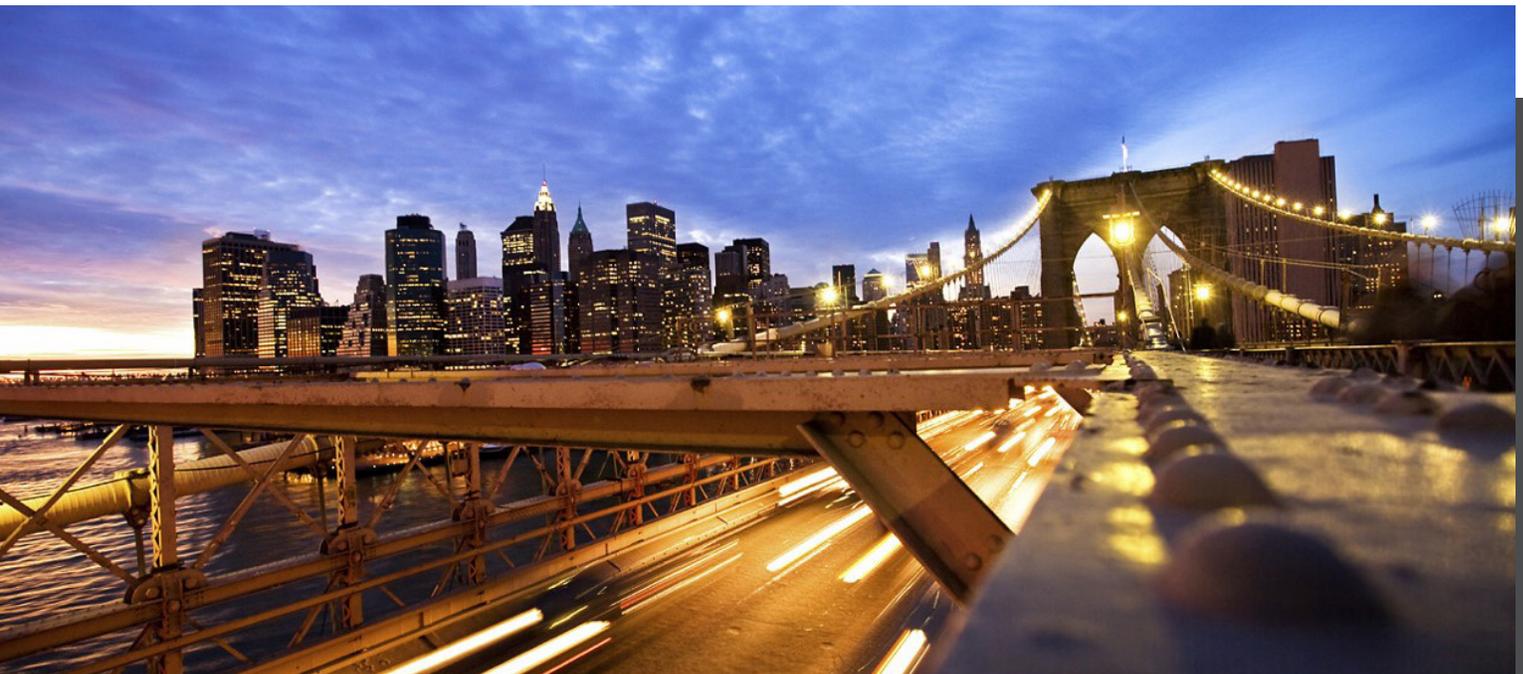


DIGITAL TRANSFORMATION AND THE MODERN SERVICE PROVIDER

Dell EMC service provider solutions



The rapidly changing digital landscape

Digital transformation is having a rapid and profound effect across virtually every industry, setting each on a journey to fundamentally transform to digital business. While exciting and significant, this transformation is matched with a fair amount of uncertainty. A survey of 4,000 business leaders across 16 countries reveals that 45% fear becoming obsolete in 3-5 years, 48% are unaware of what their industry will look like in 3 years, and only 5% are classified as digital leaders.¹ These are stunning statistics and spur a call-to-action for enterprises around the world to rapidly transform their IT, workforce and security operations in response.

The service provider industry—collectively, communications service providers, cloud service providers, managed hosting providers and enterprise/consumer web tech companies—is not immune to the effects of digital transformation. In fact, many providers are in the unique position of needing to embark on their own form of a digital

transformation—transforming their own operations and infrastructure, transforming how they interface with upstream partners, advertisers and digital content, and transforming the downstream services they offer to enterprise and consumers (see figure 1).

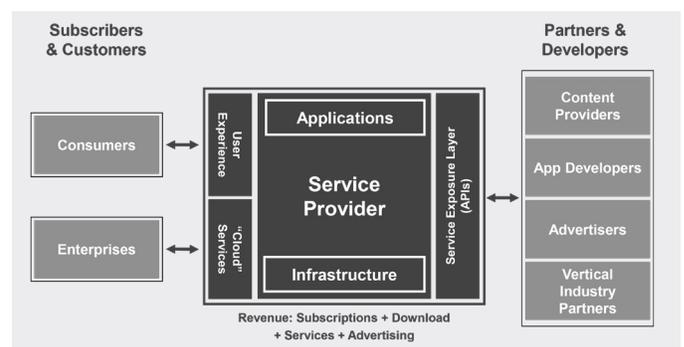


Figure 1. The modern service provider business framework

¹ www.delltechnologies.com/en-us/perspectives/digital-transformation-index.htm

A survey of 4,000 business leaders across 16 countries reveals that **45% fear becoming obsolete** in 3-5 years, **48% are unaware** of what their industry will look like in 3 years, and **only 5% are classified as digital leaders**. These are stunning statistics and spur a call-to-action for enterprises to rapidly transform their IT, workforce and security operations to respond.

The modern service provider journey

Given the unique role that the many different types of service providers play, they too must embark on a journey to modernize, automate and transform operations and processes in the face of digital transformation. Communications service providers, for example, have an opportunity to modernize, virtualize and automate their service delivery infrastructure, making it more agile and responsive for mobile, IoT and next-generation business service connectivity. In doing so with technologies such as Network Functions Virtualization (NFV), communications service providers can stand up services faster, adapting them more quickly to the changing needs of downstream customers while interfacing more effectively with upstream digital content providers and cloud partners.

Managed service providers also have a critical journey to embark on. Enterprise and small and medium business (SMB) customers increasingly seek out solutions for hosted private cloud, infrastructure-as-a-service (IaaS) and cloud brokering services that are critical to their IT transformation initiatives. Many enterprise customers, for example, are increasingly looking to move beyond basic hosting and bare metal co-location services to as-a-service offerings for infrastructure and private cloud.

Even public cloud service providers, software-as-a-service (SaaS) and enterprise/consumer web tech providers, considered by many as the most advanced in the service provider community, must continue to push the envelope in the face of digital transformation. For example, as enterprises transform their on-premise IT operations, seeking out hybrid cloud solutions, they will look to public cloud service providers for 'burst' capabilities—bursting from a hosted private VMware cloud, for example, to resources on AWS, or from a hosted Microsoft AzureStack into Microsoft Azure. These enterprises will also increasingly seek out business continuity services such as disaster recovery-as-a-service or backup-as-a-service to then layer on top.

Workforce transformation is placing further demands on service providers, driven in large part by the continued proliferation of faster and more capable smartphones and connected devices and coupled with increased adoption of desktop virtualization and security capabilities. As a result, the enterprise workspace can increasingly be virtualized and mobilized,

and even made available as an as-a-service offering (e.g. desktop-as-a-service). And with increased security services, the worlds of personal computing and business computing can increasingly come together in a seamless, secure, always-on experience through cloud-based VPN services.

Building blocks of the modern service providers

While there are many different types of service providers servicing various regions and customer types, it is becoming increasingly clear, from a technology perspective, that all of these providers are converging on common technology building blocks. Some may be further along, but increasingly, at the heart of the modern service provider is compute-centric infrastructure, in some cases at hyperscale proportion, virtualized and automated through a software-defined framework balancing the needs for bare metal, virtual machine, and container based/microservice requirements.

Compute-centric

Cloud service providers, SaaS vendors and enterprise/consumer web tech providers all leverage inherently compute-centric architectures. Depending on scale, these service providers deploy commercially available servers (rack servers, blade servers, etc.) or contract semi-custom or fully-custom designs to dimension for hyperscale.

For communications service providers, the opportunity is different. These providers look for the first time to disaggregate much of the proprietary infrastructure that governs wireless and wireline service delivery, replacing it with virtualized network functions running on standard x86 compute infrastructure. This represents a significant shift architecturally, with providers adopting more IT-like, Data Center-like principles in the context of service delivery.

Software-defined

The compute-centric infrastructure is matched with multiple layers of software to define and dimension both infrastructure and service delivery elements. It is software, for example, that virtualizes the compute platform spawning virtual machines and containers. And it is software that defines the storage architecture, defines the networking forwarding and control planes, and provides the glue to automate and orchestrate it all.

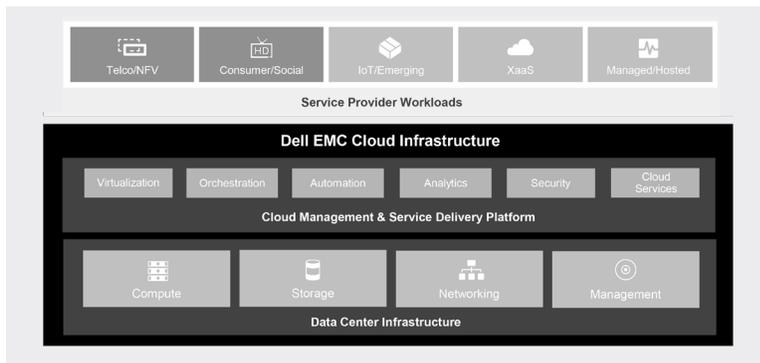


Figure 2. Dell EMC cloud infrastructure

Software also defines the service delivery framework and capabilities. Different software workloads, or 'personalities', are loaded on top of this software-defined infrastructure to support the range of service provider offerings and capabilities from NFV workloads to IaaS/PaaS/SaaS workloads to internal IT/back-office workloads (see figure 2).

The Dell Technologies advantage

Regardless of the scope or scale of your service provider operation, we believe that Dell Technologies can be the trusted technology partner as you chart a journey that is right for your business, partners and customers. With the richness of products, validated systems and service capabilities spanning Dell, Dell EMC, Pivotal, RSA, SecureWorks, Virtustream and VMware (see figure 3), we believe Dell Technologies is uniquely positioned with the most complete and modern set of capabilities to aide and shape that journey.

We also offer a unique go-to-market engine designed to match technology adoption with service creation through our Service Provider Partner Program. At its core, the Partner Program is geared to accelerate cloud-based

service creation and associated enterprise adoption through an incentive-based sell-in/sell-out framework. This program is instrumental against the backdrop of digital transformation and the rapidly changing requirements of businesses of all sizes. We believe we are advantaged as a leading IT solutions provider to enterprise, knowing how their needs are evolving and the role that service providers can, and must, play in that evolution.

Our capabilities are backed by a suite of global services for design and deployment, as well financing solutions through Dell Financial Services. And to further assist, we have an extensive set of relationships with systems integrators, systems outsourcers and networking equipment providers, and an open and broad technology ecosystem including Intel, Microsoft, Oracle, SAP, Red Hat and many more to accommodate virtually any set of requirements at any scale.

Find out how we can help you. Meet us on the web, engage with our executives and engineers, design a proof-of-concept. Let us help transform your business.



Figure 3. The Dell Technologies family

Meet us on the web, engage with our executives and engineers, design a proof-of-concept. Let us help **transform your business.**

Digital Transformation and the Modern Service Provider
February 2017 | V.1.0