

<http://www.telecomkh.com/en/business-communications/news/10131>

Digital transformation is transforming business

04/10/18

Date: Thu, 10/04/2018 - 17:21 Source: By Rob Anderson, NetFoundry

Digital transformation is unlocking competitiveness, creating opportunities and unleashing innovation. It not only allows the C-suite to reinvent their businesses, it makes it imperative to do so. “It is one thing to be witnessing a revolution, but what are the actual steps needed to be part of it?” asks Rob Anderson, NetFoundry



Rob Anderson, NetFoundry

Image credited to NetFoundry

We are becoming inured to the word “digital”. Digital clock, digital telephone, digital TV... It usually meant that we would be required to buy some new boxes soon. So forget it for now.

But “digital transformation” means something far more significant. More than just a technology shift, it implies a profound, cultural revolution. It signifies a transformation of business and organizational actions, processes, skills and models to take better advantage of opportunities arising from the way digital technologies are infiltrating and impacting business and society. For business digital transformation has become a fashionable buzz-phrase, but it also applies more widely to governments and public sector agencies, including those tackling some of societies’ greatest challenges – such as pollution and aging populations.

In practice, digital transformation will require changes in leadership style, encouraging innovative thinking and new business models, digitisation of assets and smart use of technology to offer employees, customers,

partners and stakeholders a better quality of experience. No single example can capture the full scope of this change, but compare the experience and features of shopping at Amazon against a traditional retail store; compare Uber to a twentieth century taxi service, or Airbnb to searching the Yellow Pages for a suitable bed and breakfast.

Look at your own business through that same lens. If you offer products or services, is it as easy for the customer to search and compare in depth features and prices – and then order and pay – as in the above examples? This is not simply about customer-facing technology: people interact with a company through many channels. A connected and informed front office offers a better customer experience. Efficiency, agility and responsiveness are enhanced by happier, more informed employees, partners and suppliers.

Digital transformation is being described as “the fourth industrial revolution” because it impacts every aspect of business and strategic decision-making. With such rapid change, many companies are struggling to even understand how to respond. Others have started rebuilding their organizational structures, operating models, business processes, technology, skills, and cultures to address the new reality of constant transformation. So where should we begin?

A modular approach

First it is necessary for business functions to be modularized into independent microservices that can be deployed across the organisation. For example, a customer may be required to digitally sign acceptance of a purchase. If this function is presented as a module, it can be re-used across many different customer engagement experiences. As digital transformation accelerates, the library of re-usable service modules will expand. As the environment changes, business functions can be updated in real time. If, for example, e-signatures are replaced by palm scans, updating that one module results in the update being automatically propagated across the entire business. Changes that might have taken weeks to roll out are now almost immediate.

A similar modularity is needed for the supporting IT infrastructure. If its components are isolated in terms of the business services they provide, it becomes easier to upgrade the minstages, instead of revamping the entire infrastructure. As a result, cloud virtualization and infrastructure-as-a-service (IaaS) become the rule, rather than the exception. Making changes and adjustments in such environments is simple, inexpensive, and immediate.

With constant change in applications and infrastructure, network agility is paramount, but networks such as MPLS and its equipment have remained largely unchanged and are the opposite of agile. Even Software-Defined Wide Area Networks (SD-WANs) are still often location, hardware, and service-provider specific.

Application Specific WANs

Digital transformation requires a paradigm shift. We are used to thinking of a network connecting physical locations. Instead we must now think of it connecting applications and shaping itself to their requirements. In application-specific networking (ASN), application endpoints define the edges and application contexts define the network properties.

What is needed is a fast, easy means to launch instant high performance, secure, application-specific networks in the same way that today's datacentres can spin up application-specific virtual machines on demand. As business services become modularized, these "App WANs" can be spun up, segmented, and adjusted in minutes to secure and connect them to the appropriate context within the company ecosystem or over the Internet.

This is being achieved by the use of software-defined overlay networks. Software-defined networking creates a "control layer" above the networks' physical structure. Instead of sending out engineers to manually adjust each piece of equipment, the network manager simply defines the changes on a central controller, then software in the control layer will immediately broadcast those changes right across the network. The physical infrastructure remains the same, but the traffic flow is transformed to define a specific virtual network across that structure.

App WANs extend that principle by creating multiple discrete virtualized network layers on top of a physical network, to suit specific applications or security needs. From a central console overlays can be dynamically adjusted to meet the applications' performance requirements and to define how specific endpoints will be allowed access across the Internet and/or existing private networks.

One major benefit of App WANs is that, being abstracted above the network infrastructure, they are completely service-provider agnostic. This is a vital consideration for larger or global enterprises that need consistent, reliable networking across any number of regions and providers.

Another is that security comes built into the network specification. The security perimeter and security needs are defined by the application, rather than the traditional combination of application, network and security infrastructure. Central control also specifies the access criteria – who or what has access, and how they will be authenticated.

Putting it all together

Internet connectivity has put power in the hands of the consumer. Your product or service may be first class, but if it is difficult for the customer to access specifications, if the telephone helpdesk is ill-informed, if delivery is slow or the wrong product dispatched, if the payment process is too clumsy...

If anypart of the interaction becomes too painful for today's customer they are probably just a few keystrokes away from finding an alternative product

or supplier.

There can be no weakest links in a digitally transformed organization. There can be no separation into hierarchical silos where departments become competitors and frustrate the customer by passing blame. Instead connections must run horizontally across the organization. Everything must be connected to everything else in order to harvest and communicate the wealth of available data.

Stocktaking is no longer a weekly event carried out by people with clipboards, it is an automated function updated in real time by Internet of Things (IoT) chips on every shelved item. Customer choices and buying patterns are also being registered and recorded along with payment details and more.

All this data would be just a burden were it not for the power of artificial intelligence to mine it and extract vital market intelligence to inform ongoing business strategy. Connectivity is the nervous system that brings it all into one intelligent and responsive whole. To achieve that, it must enable every business application with the link that best serves it, and that means application-specific connection.

The organization has become a living, intelligent organism. Now you have the opportunity and the challenge, do you also have the creativity to reinvent your business and ride this beast to the front of the field?