SD-WAN –
WHAT AND WHY?

SD-WAN DE-MYSTIFIED

IDC predicts that the SD-WAN market will be worth $2.1bn in Europe by 2021*

WORTH
$2.1
BILLION

92%
GROWTH

That's a staggering 92% growth year on year.
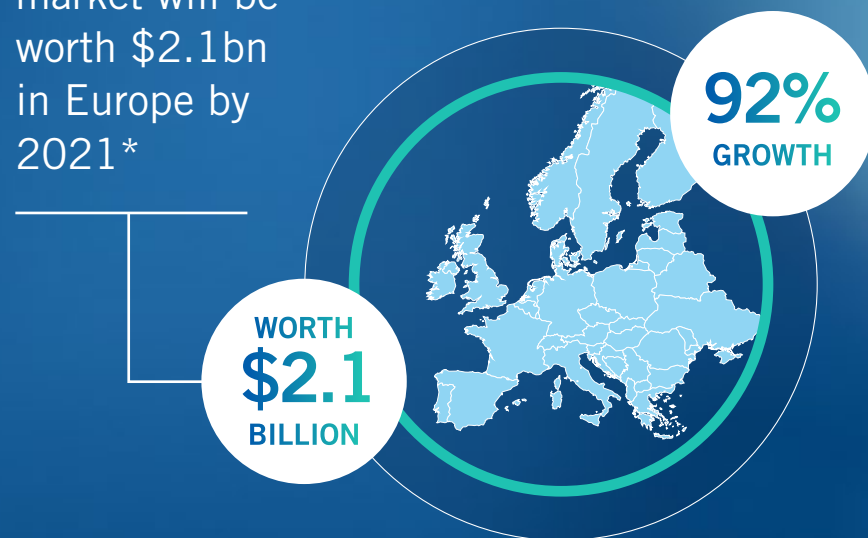
* Worldwide SD-WAN Forecast, 2017–2021

http://www.computerweekly.com/microscope/news/45 0420531/SD-WAN-demand-surging-across-Europe

The technology has been gathering pace in the US for some time, where it is being widely adopted as the next generation WAN providing cloud access, improved application availability and performance, with more flexibility than legacy networks. This is now driving demand for SD-WAN in Europe with the expectation that it can solve significant challenges for distributed enterprises as they progress their digital transformation initiatives.

In part one we will explore:

What is SD-WAN?

What are the different approaches to SD-WAN?

Why distributed enterprises are so interested in SD-WAN

How SD-WAN offers an appealing response to challenges

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THE ULTIMATE GUIDE TO SD-WAN FOR THE MODERN DISTRIBUTED ENTERPRISE: PART ONE
SD-WAN – WHAT AND WHY?

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WHAT IS SD-WAN?

SD-WAN is a software based technology solution that enables network infrastructure managers to control the monitoring and management of the network from a central point, providing a 'single pane of glass' view.

This means we can now set up centralised policies for how things run over the network and deploy those policies from a central point without the need to manually implement each policy at an individual branch router level. This approach provides a seamless and uniform implementation of policies and configuration across all networks and locations on a global scale.

Because SD-WAN is overlaid on the existing WAN infrastructure, it can be used with any connectivity type and is independent of any telecommunication provider's infrastructure. This means that it can dynamically route network traffic across any and all connection types available at a site. However, the SD-WAN solution needs to be able to accommodate the individual characteristics of different connectivity types since, for example, DSL connections and LTE connections behave in different ways. With this degree of flexibility it is easy to see why SD-WAN is sparking interest with anyone who is accountable for managing highly distributed complex networks that need to support new digital transformation initiatives.

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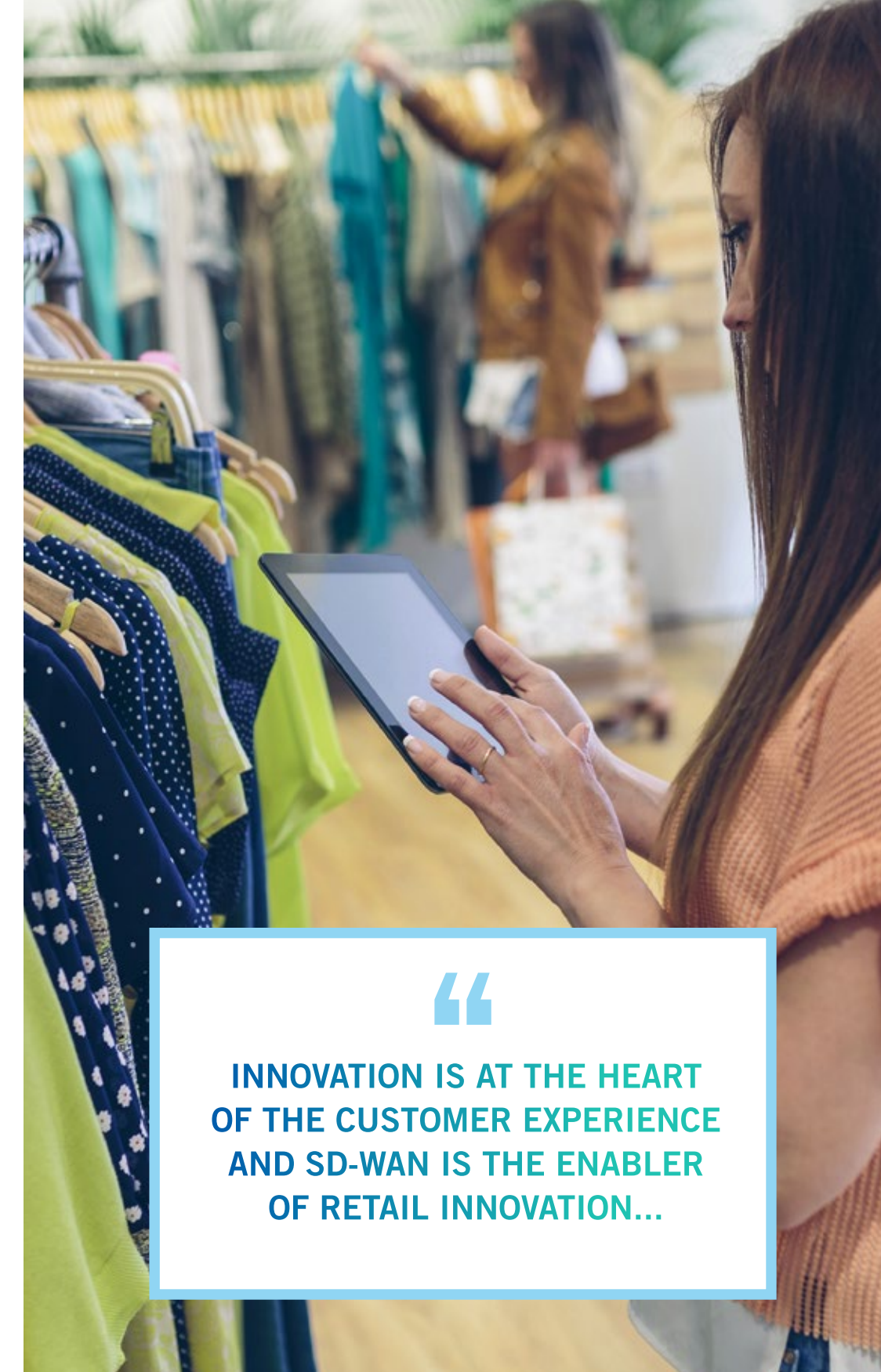
INNOVATION IS AT THE HEART OF THE CUSTOMER EXPERIENCE AND SD-WAN IS THE ENABLER OF RETAIL INNOVATION...

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CLOUD ENABLED

EDGE ENABLED

> **NOT ALL SD-WAN SOLUTIONS ARE DELIVERED IN THE SAME WAY BUT THERE ARE TWO BASIC APPROACHES...**

Cloud enabled SD-WAN sees the intelligence sitting in the cloud as opposed to at the network edge. Updates to existing routers may be required depending on their age.

Cloud based solutions may well be based on relationships with individual service providers or be the proposition from service providers themselves. This can sometimes limit flexibility for the customer and can extend the time it takes to deploy to a new site.
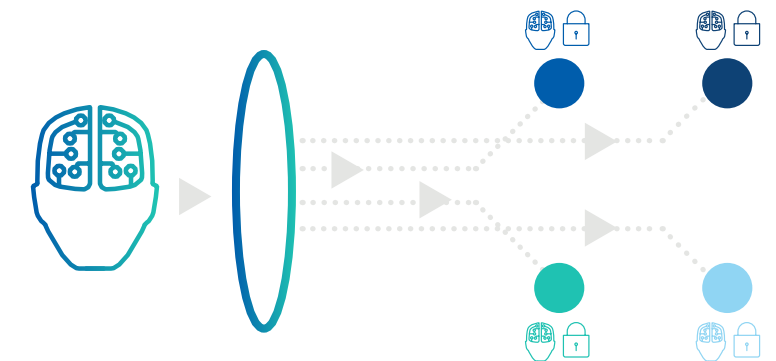
When deploying a cloud based solution, management is always part of the package. It's effectively SaaS. This can help drive resource efficiencies. However, the underlying WAN router infrastructure will still need to be managed, so this is not a fully hands off approach.

With edge enabled SD-WAN, the intelligence sits at the network edge. This involves installing hardware at the branch site with augmented edge security. The central management controls the SD-WAN device which then in turn controls the infrastructure that sits behind it.

An edge based deployment delivers more flexibility in terms of connectivity. The edge device doesn't care what connectivity type is in place or who the connectivity is provided by. This is appealing to organisations that have a multi-national presence or who have sites distributed across very disparate locations. It could also make speed of deployment to new sites much quicker as connectivity can be provided by multiple suppliers.

An edge based deployment can be managed in-house or handled by a Managed Service Provider. We will explore these options in more detail later in the series.

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WHY ARE DISTRIBUTED ENTERPRISES SO INTERESTED IN SD-WAN?

Fundamentally it's because the Wide Area Network has become more strategically important to many businesses than it has ever been before. This step change in the importance of the network is being driven by several key changes in the focus of businesses across Europe. With the benefits that SD-WAN promises in terms of providing better WAN availability, application performance and network resilience we can see why it is an attractive proposition.

1 Firstly, the move to delivering applications via the cloud has put more demand on Wide Area Networks. Clearly, more capacity is needed to deliver these applications to the user. This means there is a need to actively monitor and control application performance by using load balancing and on the fly prioritisation mechanisms which react to changes on the network.

2 Secondly, many organisations are looking to digitally transform their businesses. Much of this is driven by a need to enhance the customer experience and improve productivity. Both of these outcomes will be enabled through bandwidth-hungry applications but also the deployment of machine-to-cloud communications through Internet of Things (IoT), which will require the connectivity of many devices to multiple third party services. This, of course, puts even more strain on Wide Area Networks in terms of capacity but also on the management of devices on the network.

3 Thirdly, the need for more capacity, along with the service termination of older technologies, is forcing companies to look at more scalable and readily available internet based services. This requires a higher degree of network security with centralised and comprehensive Unified Threat Management (UTM) to protect the network from multiple threats.

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HOW DOES SD-WAN HELP TO ADDRESS YOUR DIGITAL TRANSFORMATION CHALLENGES?

1

By delivering centralised management of network traffic policies, SD-WAN enables network managers to prioritise traffic and then dynamically route that traffic according to priority level across any available connection to the site. This means that all available bandwidth is used effectively all of the time, including previously tagged 'just in case' back-up lines that would historically be dormant for most of the time. As a result, existing connectivity is used more effectively, negating the need to add more bandwidth to cope with an increasing number of applications.

2

Due to the intelligence in the dynamic path routing, businesses can experience much more predictable availability of applications. In terms of the enhancement of the customer experience, this is a compelling outcome. Offering additional services to customers such as free Wi-Fi or augmented reality services will only add value if those services are available to the customer when they try to use them.

3

With the increasing exposure of networks to the internet, as well as the surge in threats that are looking to exploit this exposure, SD-WAN offers a significant advantage in centrally managing and effectively dealing with this new context. The implementation of standardised security policies across all components in combination with UTM services enable organisations to deal with the higher security exposure.

Of course, with any new technology, businesses will be looking to drive efficiencies that lower costs and reduce pressure on stretched resources. SD-WAN is set to deliver on this too. A cost benefit analysis is likely to show improvement on both of these points.

SD-WAN is not just about cost efficiency. It can empower organisations to deliver on commercial objectives. The key here will be identifying which flavour of SD-WAN is best for your business by fully evaluating the options available and mapping them against both the structure and complexity of your business estate and the key challenges that you are trying to address.

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ABOUT US

Hughes Europe helps distributed enterprises to maximise productivity and enhance the customer experience by providing optimised managed networks for multi-site environments. We work with our customers to design, implement and manage wide area networking solutions.

Our flexible connectivity solutions combined with our multi-vendor approach means we can take modern technology capabilities and identify the right solution to meet our customers' commercial needs. Our long-standing relationships with our customers, which span many years, are testament to our collaborative and quality focused approach.

We deliver our services throughout Europe with offices in the UK, Germany and Italy and offer a single point of contact with a single, aggregated service level agreement for all sites irrespective of size or location.

Through our HughesON portfolio, we specialise in delivering secure WAN connectivity, network resilience, optimisation and SD-WAN to help our customers deliver the application availability they need to deliver the highest levels of employee productivity and Customer Experience.

We are part of Echostar Corporation and a division of Hughes Network Systems. The Group has a $1.89bn turnover with operations in 100 countries around the globe. In Europe alone, where we have been helping our customers to achieve optimal value from their network infrastructure for more than 30 years, we manage 55000 sites, across 28 countries supporting more than 5 billion transactions every year.

HUGHES WORLDWIDE CAPABILITIES

~450,000
Enterprise sites deployed

2,100
employees globally

7+ million
terminals of all types delivered in more than 100 countries

Over 5bn
Transactions annually in Europe alone

Customers on **6 continents**

1.89 BILLION
Turnover across the group

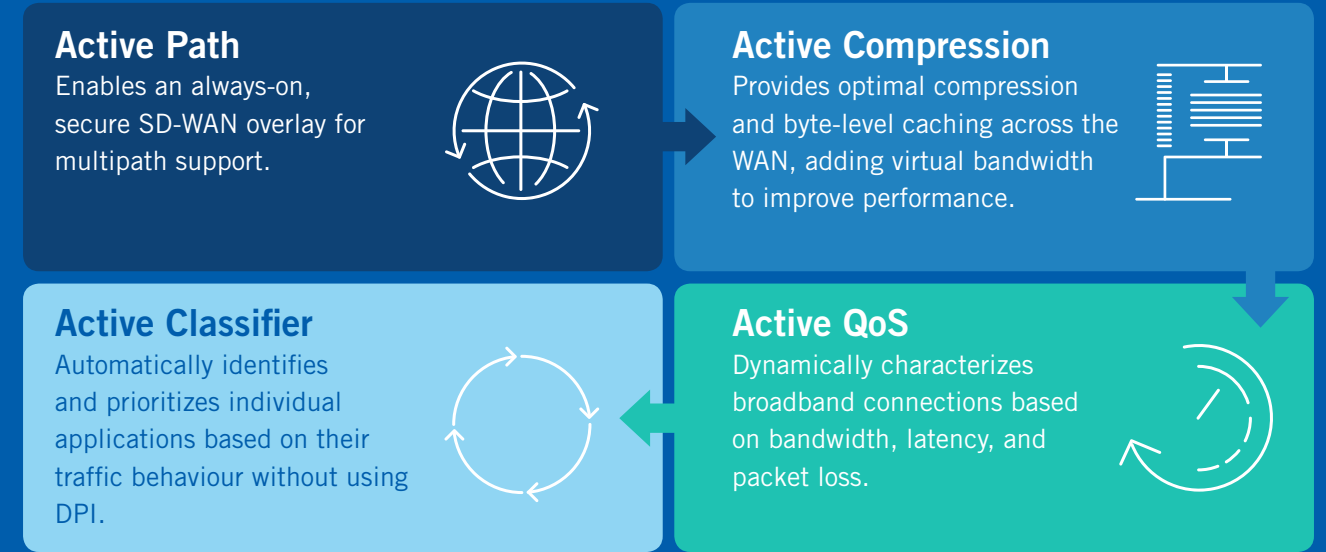## Leaders in SD-WAN

>33k SD-WAN deployed

Deployed over **18 countries**

Largest single SD-WAN customer with 3,500 locations

Award Winning Innovation

HughesON Managed SD-WAN named 2018 SD-WAN Product of the Year
By Internet Telephony Magazine

Hughes Named "Top Performer" in 2019 SD-WAN Customer Success Report
From FeaturedCustomers

Active Path
Enables an always-on, secure SD-WAN overlay for multipath support.

Active Compression
Provides optimal compression and byte-level caching across the WAN, adding virtual bandwidth to improve performance.

Active Classifier
Automatically identifies and prioritizes individual applications based on their traffic behaviour without using DPI.

Active QoS
Dynamically characterizes broadband connections based on bandwidth, latency, and packet loss.

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