



**IS SD-WAN
THE ANSWER?**

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SD-WAN: Why now?

The concept of SD-WAN has been around for almost a decade. But in recent years more organisations have begun to talk seriously about adopting it.

And when you look at the challenges today's organisations are facing, it's easy to see why.

Take yourself back to the late nineties, when the millennium bug was front page news and multiprotocol label switching (MPLS) was the network of choice.

Back then we all sat in the same cubicle every day, with the same desktop PC, the same big box-shaped monitor and the same landline phone. And all of that technology played nicely with the networks we were using at the time.

But while those traditional networks haven't changed all that much in 20 odd years, everything else in the workplace has.

Users are demanding more flexible ways of working, data and applications are increasingly moving into the cloud and the growth of 'bring your own device' culture shows no signs of slowing.

And there's also the rapidly growing pool of customer data you need to make sense of, not to mention a rise in mergers and acquisitions that demand the fast and seamless joining of previously disconnected infrastructures.

Those networks from the nineties can no longer cope.

But with SD-WAN you can start to answer these challenges.



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What is SD-WAN?

Let's start with unpicking the acronym: software-defined networking in a wide area network.

'Software-defined' is the key differentiator here.

In the simplest terms, SD-WAN is a wide area network – or WAN – architecture that works through a centralised platform, detaching the management of the network from the hardware itself and then steering traffic across the WAN in an intelligent way.

It allows you to connect your users to the data and applications they need wherever they are: head office, remote branches, working from home or anywhere else.

And it does that much more securely and efficiently than a traditional network can.

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Why is SD-WAN different?

Unlike traditional networks, SD-WAN was created with the cloud in mind.

Where you previously had to purchase extra services and bandwidth to make cloud-based applications accessible, which usually meant back-hauling traffic across your corporate WAN before finally breaking out to the cloud via your data centre, SD-WAN allows you to connect to cloud applications and services direct from any location without having to go through your corporate network.

This means end users are closer to the apps, services and information they need. Your apps will perform better and the experience those end users have - whether they're customers or staff - will dramatically improve as a result.



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A nighttime photograph of a city street with light trails from cars and buildings in the background. A large red circle is overlaid on the left side of the image.

THE FIVE BIGGEST BENEFITS OF SD-WAN

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Securing your data



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There's an ever-growing need for organisations to use real human data to test, learn, iterate and make improvements to their services in order to please their customers and stay competitive. But with the public increasingly wary about the way their data is collected, stored and used, there's no room for error when it comes to protecting your brand's reputation.

”

Andrew Halliwell, Product and Transformation Director, Virgin Media Business

Securing your data

With the average cost of a data breach rising 12% in the past five years to £3.2 million¹, strong and reliable cybersecurity is more important than ever.

Particularly with security standards changing all the time, from the ongoing impact of GDPR to the UK government's [Minimum Cyber Security Standard guidelines](#).

But organisations are under pressure to quickly move to the cloud and adopt new cloud-based technologies.

So how do you achieve the latter without compromising the former?

With the right SD-WAN approach you can get more control and visibility of your data with fast, secure and easy access to the cloud.

USE THE CLOUD WITH CONFIDENCE

- Keep business and customer data secure in a hybrid cloud environment
- See who's accessing data and systems in real time
- Make it easier to stay up to date with internal and industry security standards
- Control access to systems and data based on people's clearance levels

THE VIRGIN MEDIA BUSINESS TOUCH

Our SD-WAN includes tailored next-gen security as standard, including traffic encryption, an integrated firewall and a central management platform. So you can get all the benefits of cloud technology without putting your organisation or customers at risk.

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Want to know more?

Read: [SD-WAN: it's time to finally leave the nineties behind](#)

¹ Ponemon Institute/IBM Research: Cost of a data breach report

Optimising and evolving your technology

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With more and more applications moving to the cloud, traditional networks are often far too sluggish and inflexible to cope with that demand – not to mention extremely expensive to run.

”

Andrew Halliwell, Product and Transformation Director, Virgin Media Business

Optimising and evolving your technology

90% of organisations have experienced difficulty migrating to a cloud solution, with 43% citing complexity as the main issue².

Clearly ageing infrastructure is holding a lot of organisations back from achieving the technological changes they want.

How can you unlock new possibilities without laying waste to the expensive IT equipment you've already got?

SD-WAN allows you to simplify your current infrastructure and accelerate digital transformation, making the most of any technology investments you've already made.

PAVE THE WAY FOR CHANGE

- Optimise existing infrastructure now to make it more adaptable in future
- Maximise return on investment of the tech you've already got
- Simplify existing systems and make them easier to maintain, improving productivity
- Make it easier to share data insights between different systems and partners

THE VIRGIN MEDIA BUSINESS TOUCH

We'll address weak areas in your network and help you prioritise application bandwidth based on your business needs. You'll get direct access to cloud data and applications and the ability to combine multiple physical boxes at one location into a single software layer, with a built-in analytics platform giving you more control and helping you optimise performance.

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Want to know more?

Read: [How to finally make cloud work for public sector firms](#)

²Cloud Industry Forum

**Moving fast
without losing
control**



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If you want to grow and evolve fast enough to keep up with customer demand and compete in a crowded market, you need to be able to spin up new sites quickly, securely and without compromising productivity.

”

Andrew Halliwell, Product and Transformation Director, Virgin Media Business

Moving fast without losing control

According to a McKinsey & Company study spanning 32 years and 3,000 companies, 'growth trumps all' when it comes to financial success³.

But with growth comes technological complexity. And with more organisations now seeking growth through mergers and acquisitions, things are getting even more complicated.

How can you respond to customer needs and grow and evolve as quickly as you need to, without getting held back by all that complexity?

With SD-WAN you can empower your employees to provide the services your users want, when and where they want them, with a network that lets you scale fast and quickly create new customer touchpoints.

³ McKinsey & Company

GO ANYWHERE. SEE EVERYTHING

- Quickly react to customer demand for services at any location
- Connect all new and existing locations through a central platform and manage them remotely
- Ensure staff can use technology to be productive from day one at a new site
- Gain better visibility of your products, people and sites to help you make deployment decisions

THE VIRGIN MEDIA BUSINESS TOUCH

Along with access-agnostic SD-WAN and the ability to deploy end-points anywhere with ease, we have experienced engineers across the UK who can quickly roll out technology at new or existing sites. You'll also get access to a portal that gives you full visibility of all your applications, across all your sites.

Want to know more?

Read: [How tech can take the brakes off business growth](#)

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Improving your customer experience



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“People expect a higher and higher standard of experience from both public and private sector organisations. To meet those expectations you have to put the right tools and data in employees’ hands – ones that empower them to serve people better, whatever they need, whenever they need it, wherever they happen to be.”

”

Andrew Halliwell, Product and Transformation Director, Virgin Media Business

Improving your customer experience

73% of consumers say customer experience has an impact on their purchasing decisions⁴, while citizens are nine times more likely to trust a government agency if they're satisfied with its service⁵.

It's ultimately your people who determine the quality of that experience. But your people are only as effective as the tools in their hands. They can have the best ideas in the world, but if you can't provide the technology they need to turn those ideas into something real for your customers, all that brilliant thinking will go to waste.

How can you empower your people to make your customers love your brand whenever and wherever they come into contact with it? SD-WAN creates the foundations that let you prioritise business-critical applications, collect customer data and share insights, in real time, to enable new and cohesive customer experiences.

⁴ PwC: Future of CX

⁵ McKinsey & Company

MAKE YOUR CUSTOMERS LOVE YOU AT EVERY TOUCHPOINT

- Provide a frictionless customer experience between all channels, providers and locations, supported by real-time information
- Understand, in real time, what you and your customers are doing so you can react and forecast more effectively
- Integrate disparate end-user technologies through a central platform to help optimise your customer experience
- Quickly and easily capture, share and analyse customer data across multiple different sites and locations

THE VIRGIN MEDIA BUSINESS TOUCH

We provide an end-to-end managed service to minimise disruption and ensure continuity for your customers and staff, while making it easy for you to share data between different channels and provide a more personalised experience. With over 20 years' experience as a customer-facing service provider and a network that's solid enough not to let you down, your brand's reputation is in good hands.

Want to know more?

Read: [How to empower the customer-pleasing entrepreneurs in your business](#)

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**Empowering
productivity
and inspiring
engagement**



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With many workforces increasingly dispersed across multiple locations, devices and environments, creating a secure and seamless remote working experience should be right at the top of every organisation's priorities.

”

Andrew Halliwell, Product and Transformation Director, Virgin Media Business

Empowering productivity and inspiring engagement

Only 29% of employees are happy with the technology they use at work⁶. Some are even prepared to quit their job as a result.

But fixing this issue is not quite as simple as giving them the technology they do want. In many cases, outdated and inflexible infrastructure is preventing organisations from investing in the right workplace tech when it's needed.

How do you ensure you can always adapt to people's digital needs quickly enough without putting data security at risk?

With SD-WAN you can connect all your sites and mobile devices in a secure and efficient way, empowering your employees to be productive and effective wherever they are.

⁶ *Insight: The Employee Experience*

PUT THE POWER IN PEOPLE'S HANDS

- Give employees fast, secure access to critical business applications and databases wherever they are
- See where people are and what they're doing in real time, using those insights to improve process and performance
- Securely and smoothly connect all company and personal devices with your central systems
- Make sure employees can always access the tools and resources they need to serve your customers

THE VIRGIN MEDIA BUSINESS TOUCH

We provide everything you need for a truly mobile workforce, from SD-WAN to remote access servers, WiFi services and more. Our intelligent network solves any issues before they can interrupt your employees, and with multiple backup WAN technologies we can guarantee uptime for critical apps. No more frustrated faces on the people you want to keep happy!

Want to know more?

Read: [How tech is helping organisations win the talent war](#)

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SD-WAN myths: Fact or fiction

With so much hype and uncertainty surrounding SD-WAN, there are naturally quite a few myths and half-truths popping up in conversation.

Here are three of the most common ones we've heard.

Your business-critical apps aren't safe on the internet

Fiction

Many organisations wonder how they can protect their critical apps on the internet without any traffic engineering mechanisms. But SD-WAN is fully application-aware, i.e. it can store information about the apps it connects to and treat them in a tailored, intelligent way. Our own SD-WAN service also has traffic engineering built into the underlay, on the internet circuit itself, ensuring you're as protected as possible.

Hybrid cloud is essential for SD-WAN

Fiction

It's a common misconception that you have to run your SD-WAN over both an MPLS circuit and an internet circuit. The argument is that you need the traffic engineering an MPLS circuit provides in order to properly protect your critical apps. But as we mentioned above, with the right provider, SD-WAN has traffic engineering built in. So there really isn't any benefit in keeping the MPLS circuit around.

A stateful firewall is good enough for SD-WAN

Fiction

There are more than 70 SD-WAN vendors out there, but not all of them provide the next-gen firewall you need to ensure your data – and your customers' data – will be safe. If you're only rolling out a single SaaS app like Office 365 then perhaps a stateful firewall would be enough. But if you want to do full web browsing from multiple branches, you're going to need something more robust than that to protect your applications.

IS SD-WAN
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Which SD-WAN is right for you?

No organisation is the same, and no SD-WAN setup is the same either.

There are three types of SD-WAN available in the market: private, public and hybrid.

Each of them has its own pros and cons, but ultimately the choice depends on what you want to achieve and what your current situation can accommodate.

To make your life easier, we've broken down the differences that matter.

PRIVATE – MPLS BASED SD-WAN <ul style="list-style-type: none">On-premise, centrally controlledLimited flexibility	The MPLS approach usually requires a dedicated SD-WAN environment, managed centrally from a datacentre or service provider network. While this option offers a high level of security and reliability and allows you to build on your existing network, it won't always provide the flexibility you need as you'll still be bound by the limitations of MPLS.
PUBLIC – INTERNET BASED SD-WAN <ul style="list-style-type: none">Cloud controlledHigh flexibility	This approach gives you the most choice when it comes to network access across all your sites. Your SD-WAN platform is hosted in the cloud, allowing you to quickly set up new services and easily control your traffic from end to end. It's the most flexible option, but make sure next-gen security and performance guarantees are included in your provider's service.
HYBRID – MPLS AND INTERNET BASED SD-WAN <ul style="list-style-type: none">On-premise or cloud controlledSome flexibility	The hybrid approach gives you more control over how you connect your apps to your network, choosing a public or private connection depending on the situation. This option does provide more flexibility than the private approach, but it's also more complex, more expensive and arguably doesn't let you unlock the full potential of SD-WAN.

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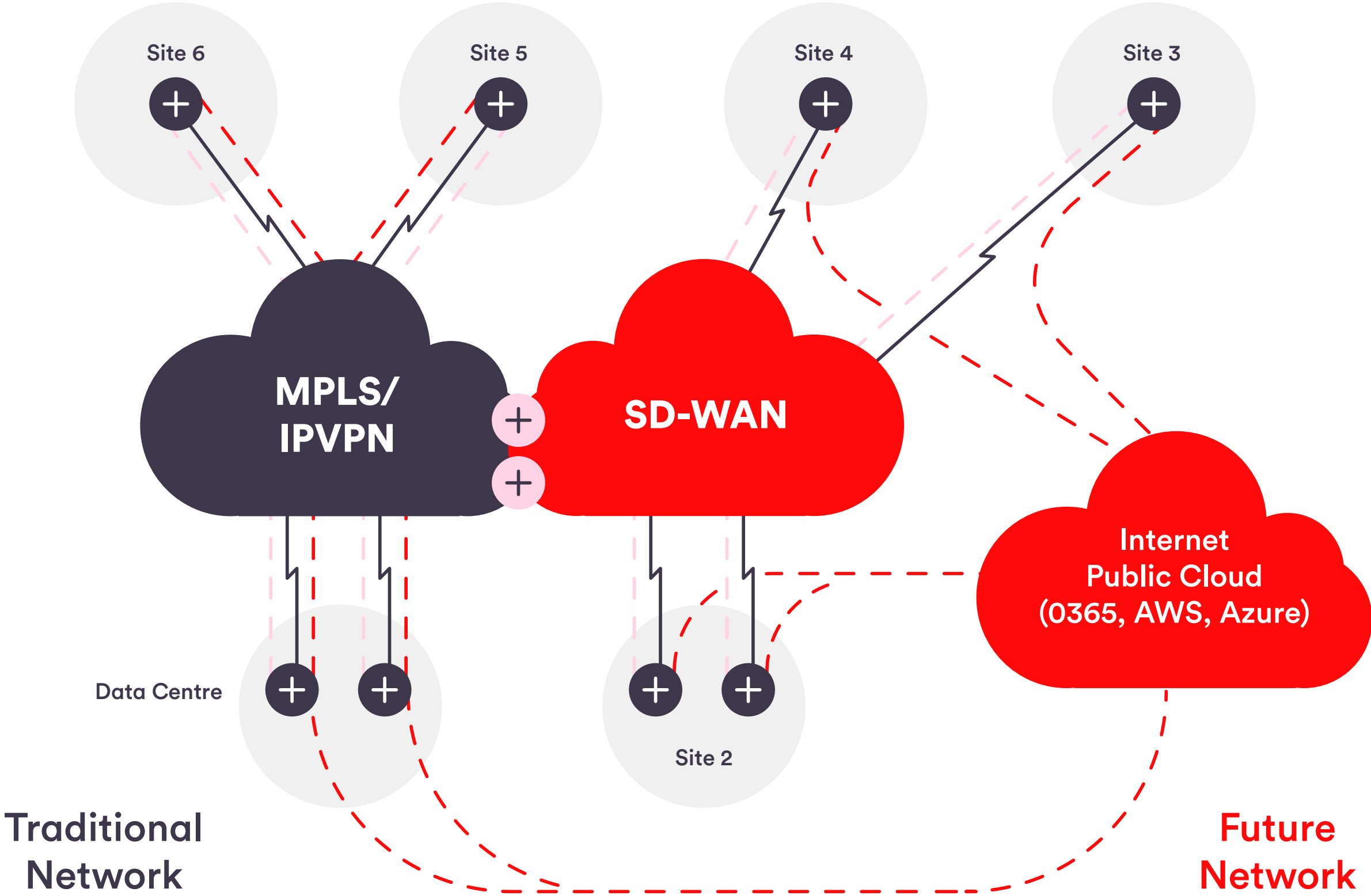
The SD-WAN migration journey

This diagram shows how we migrate you from your traditional network (on the left) to SD-WAN (on the right).

We use resilient service gateways between your existing MPLS (IPVPN) network and your new SD-WAN network, ensuring a seamless transition and uninterrupted site-to-site communication.

Migrate at a pace you're comfortable with, testing and tweaking along the way, feeling the benefits of SD-WAN with every little change.

- Traffic (Private)
- Physical circuits
- + Service Gateway
- + CPE
- Traffic (Public/Internet)



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Your next steps

MPLS isn't going anywhere soon. But ultimately it's yesterday's network.

It's hard to ignore the potential opportunities SD-WAN is opening up for all kinds of industries, how it's fundamentally changing the way organisations work and serve their customers.

And with cloud adoption on the rise, SD-WAN will almost certainly become the network of choice in future. In fact, it could be essential if you want to succeed in decades to come.

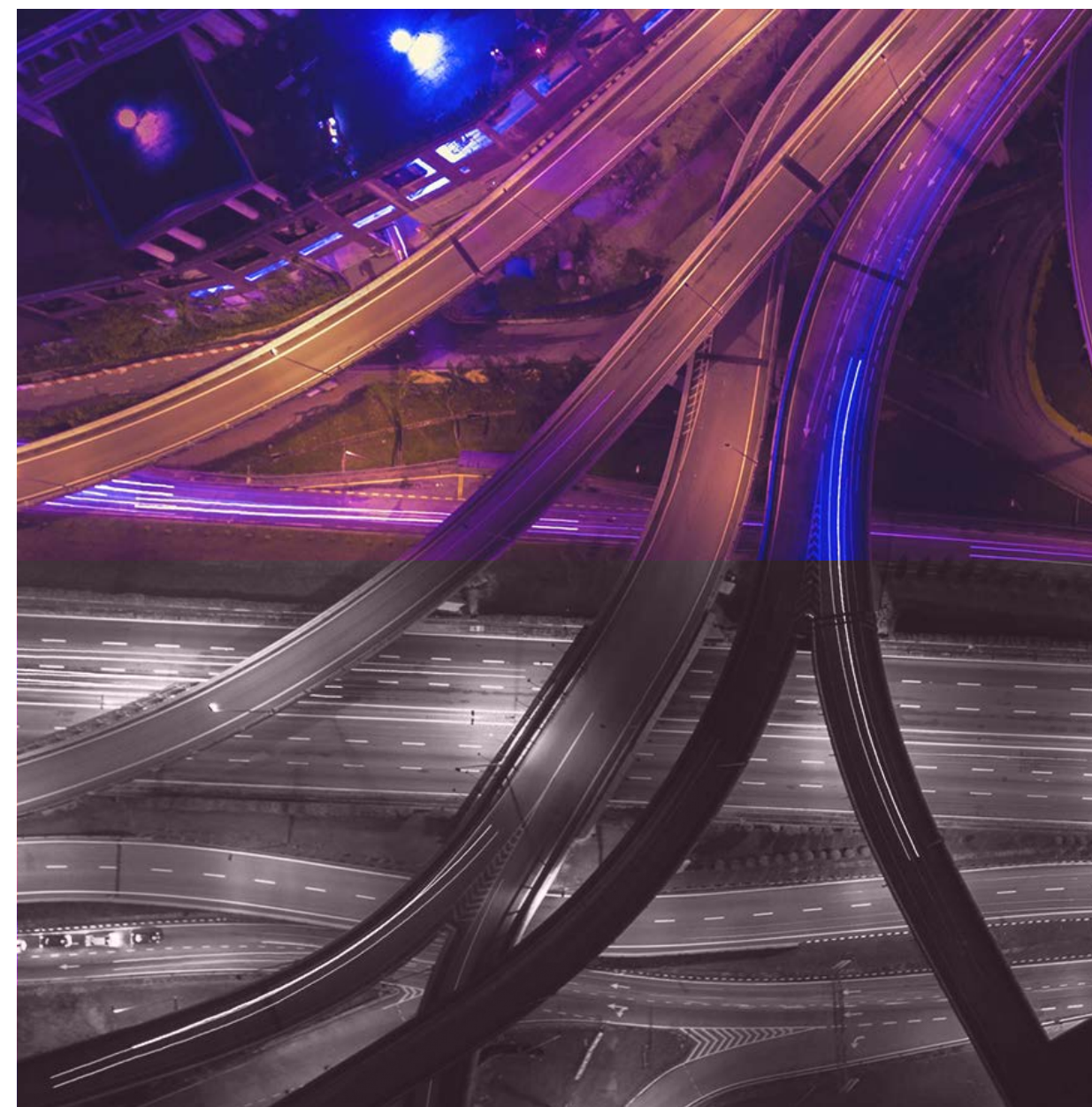
Of course, SD-WAN isn't something you can just switch on overnight. And the idea of moving

your whole organisation onto a new network naturally feels quite daunting, especially when you're under pressure to do it securely and without disrupting your day-to-day business.

But equally you don't have to overhaul everything at once to see some of the benefits we've talked about. You can move as much or as little of your network to SD-WAN as you want, bit by bit, whenever you're ready.

It's not one big, disruptive hit. It's a journey. A series of small but powerful changes, each one helping you serve your people and customers better than the last.

And now is the time to start that journey.



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Want to talk?

0800 953 0180

virginmedia.co.uk/enterprise

