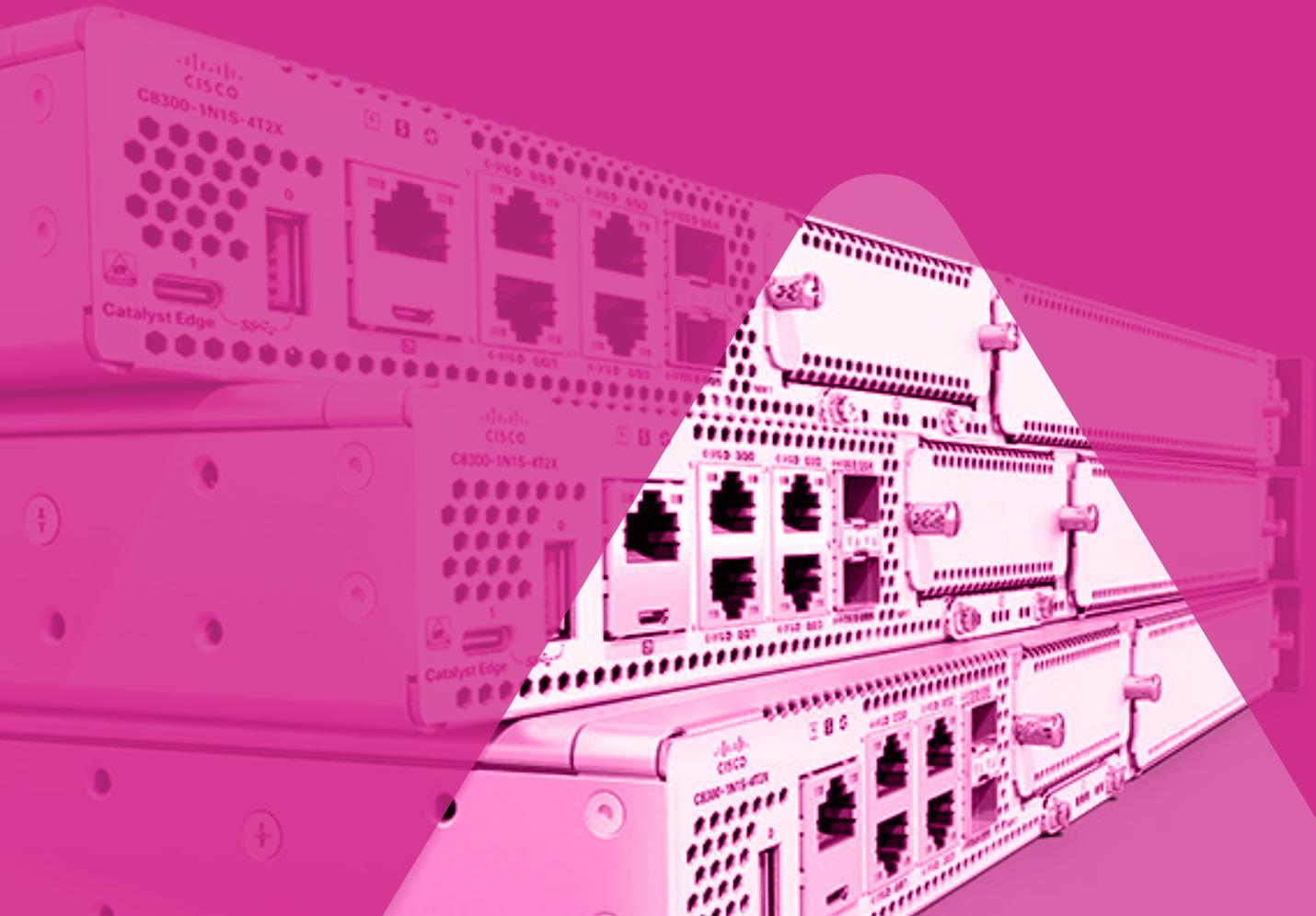




VIATEL

TECHNOLOGY GROUP

The 2023 Secure Network and SD-WAN Report



Foreword

I am delighted to welcome you to Viatel Technology Group's first SD-WAN Report.

When Viatel embarked on our SD-WAN journey five years ago, we were evangelists in the Irish market. Our team was convinced we had seen the future of enterprise networking. The doors we knocked on were not so sure. We met many blank stares and heard more than a few "SD-Wha's?!" in those early days.

But the world changed. Data and applications moved. How we work transformed. SD-WAN 'grew up' beyond the hype of early adoption to become the de facto network of choice. We are now in a very privileged position where companies knock on our door and ask us about SD-WAN.

The pandemic moved the needle on technology and business comms. CIOs are examining the technology that allowed their companies to survive in crisis and exploring how it can help them to thrive in the post-pandemic world. Business leaders now rightfully recognise technology as a linchpin of their organisation. Business resilience is the new obsession. Enterprises want infrastructure that is protected and reinforced but is also agile and responsive. Whatever the world has up its sleeve next, they plan to be ready and technology is the main tool in their arsenal.

Businesses are committed to investing in their IT infrastructure in 2023 and beyond. It is crucial that wise decisions are made, the best partners selected, the right technologies identified. Hence the time felt right for our first SD-WAN Report. We have looked at the maturation of a technology, its successful application across a variety of sectors and its future development.

We hope you find our insights useful and that this guide may prove a useful stepping stone on your own SD-WAN journey.

Happy reading,



Paul Rellis
CEO
Viatel Technology Group



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SD-WAN: Networking Transformed

Defining SD-WAN

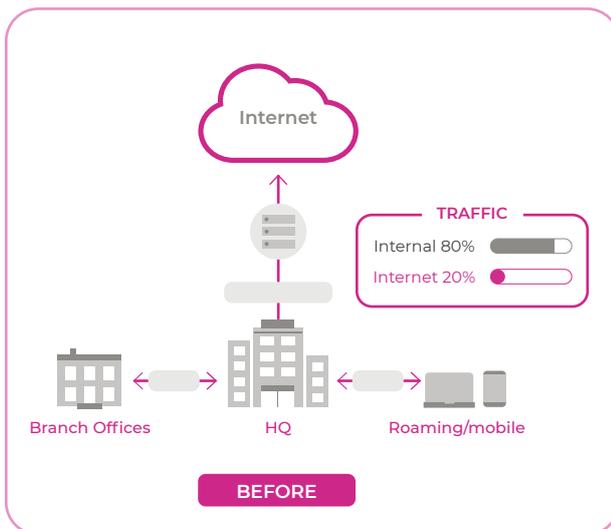
SD-WAN or software-defined wide area network is a type of virtual network architecture that employs software to manage the network communication.

Definition of SD-WAN: Gartner

SD-WAN solutions provide a replacement for traditional WAN routers and are agnostic to WAN transport technologies. SD-WAN provides dynamic, policy-based, application path selection across multiple WAN connections and supports service chaining for additional services such as WAN optimisation and firewalls¹.

Traffic Evolution and the Impact on Network Design

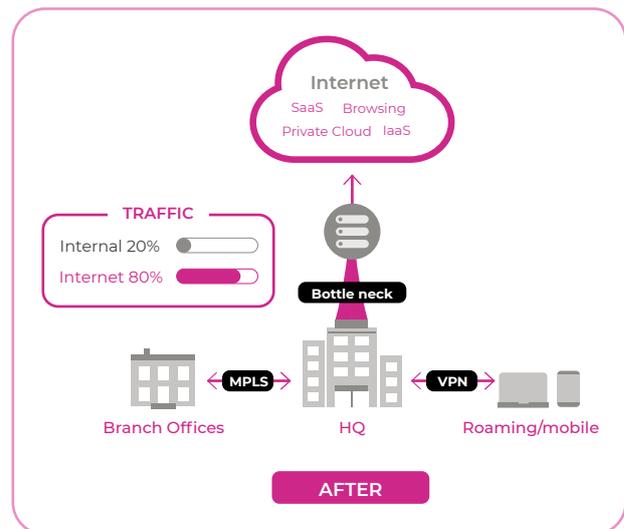
SD-WAN is a more modern approach to networking. Its design and configuration reflect the dramatic changes in corporate traffic flows in recent years.



Historic Traffic Flows

Traditionally, 80% of any enterprise's network traffic was internal. Only 20% went out to the internet. Consequently, network design was centered on the HQ with far lower demands on internet connectivity and firewalls.

- Branch offices tunnelled all traffic back to HQ over MPLS
- Remote and mobile workers (far fewer in number) connected to HQ via VPN
- All applications were hosted on-site or in a private data centre



The Internet Becomes the Centre of the Universe

In the last five years, traffic flows have flipped with a drastic increase in internet traffic. The advent of Microsoft 365 and the emergence of cloud hosted applications precipitated this change which was then accelerated by the Covid-19 pandemic.

As organisations continue to adopt cloud applications and storage, more and more of their workloads are running from the cloud. Now 80% of traffic typically leaves the corporate network to go to the internet while just 20% remains internal.

¹<https://www.gartner.com/en/information-technology/glossary/software-defined-wan-sd-wan>

Traditional Network Design Just Doesn't Work Anymore

Traditional network design, centralised on the HQ, forces all internet traffic through a single stack of security appliances. This leads to:

- PERFORMANCE ISSUES
- IMPACTS USER SATISFACTION
- HAMPERS SAAS ADOPTION

Attempting to make the old model fit for purpose- by investing in far more powerful internet connections and firewalls- is expensive and not terribly effective. The time is ripe to change the model to a data centre centric and cloud centric approach like SD-WAN.

Benefits of Transforming the Model

The top three benefits of adopting an internet or cloud-centric approach:

- Cost-effective improvement in network traffic capacity
- A fully managed SD-WAN service freed up critical networking and technical resources
- Enterprises experienced lower unplanned downtime, leading to better customer experience.

The Network of Choice

The market for SD-WAN has matured considerably and the technology is now the mainstream choice. One survey of 650 global ICT professionals revealed that most enterprises have deployed or plan to deploy SD-WAN by 2024².

48% GROWTH 2020-2027

The global market for SD-WAN was estimated at €1.6 Billion in the year 2020. This is projected to reach a revised size of €25.5 Billion by 2027, growing at a CAGR of 48%³.



² <https://www.gtt.net/us-en/whitepaper-how-to-realize-the-full-potential-of-sd-wan>

³ <https://www.reportlinker.com/p05900262/Global-SD-WAN-Industry.html>

Where next for SD-WAN?

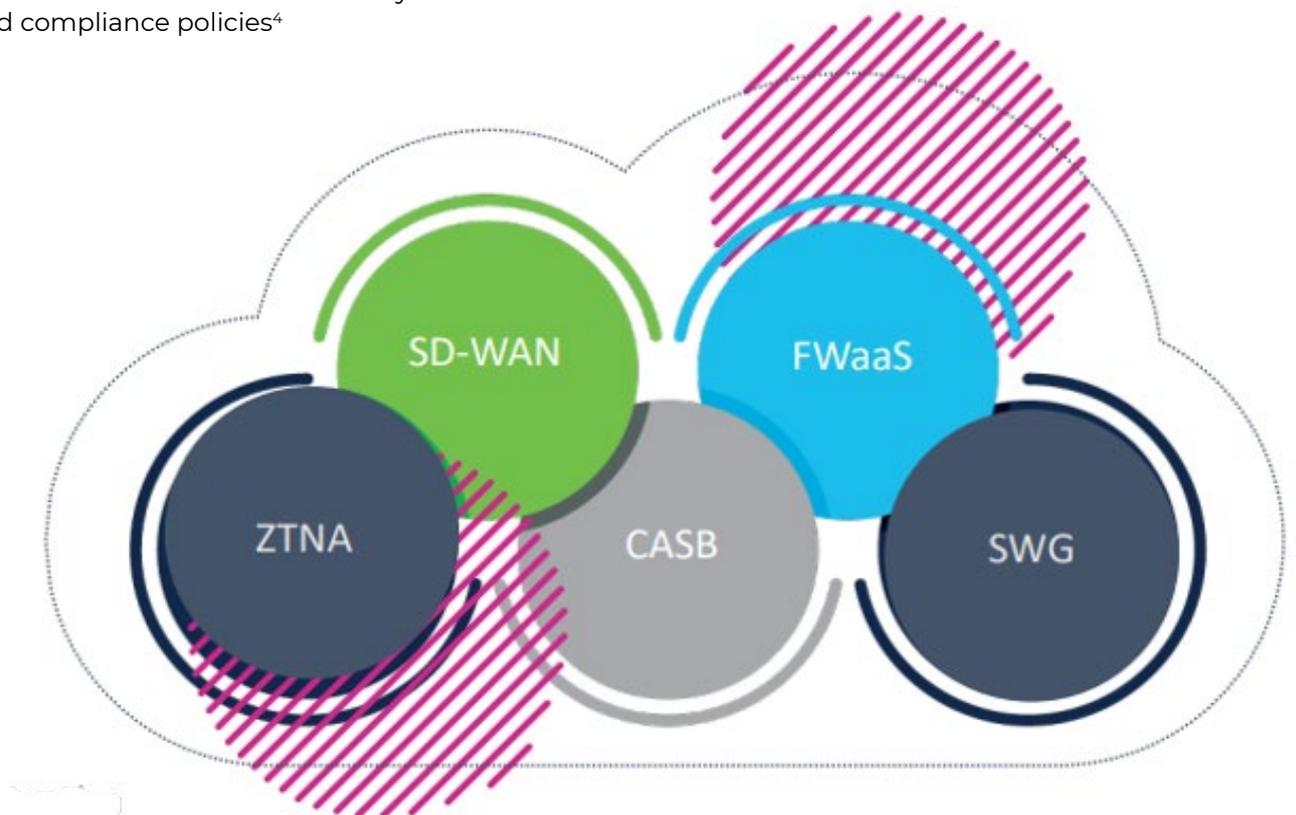
SASE (Secure Access Service Edge) is an umbrella term that describes the architecture that combines the native security abilities of SD-WAN with cloud-centric security to connect and protect users no matter where they are located.

Definition of SASE: *Gartner*

Secure access service edge (SASE) delivers converged network and security as a service capabilities, including SD-WAN, Secure Web Gateway, Cloud Access Security Broker, Next Generation Firewall and zero trust network access. SASE supports branch office, remote worker and on-premises secure access use cases. SASE is primarily delivered as a service and enables zero trust access based on the identity of the device or entity, combined with real-time context and security and compliance policies⁴

Benefits of SASE

- Connects dispersed workforces seamlessly to applications in any environment from any location
- Controls access through a simplified, cloud-native security service and unified policy enforcement
- Converges networking and security functions with an integrated approach



⁴<https://www.gartner.com/en/information-technology/glossary/secure-access-service-edge-sase>



Eilish O'Connor,
CTO,
Viatel Technology Group

Is SASE The Future of SD-WAN?

Gartner expects that by 2025, 50% of new SD-WAN purchases will be part of a SASE offering, which is a major increase on the 2022 figure of 10%. We see SASE's potential in its ability to deliver on two pressing needs: the employee's desire for flexible work and the organisation's need for security.

Hybrid workers need and expect to be able to access the applications they use every day with no issues. According to Cisco's Future of Technology research, over 9 in 10 (94%) respondents say this is very or somewhat important to them. Interestingly, fewer (89%) are interested in knowing where the apps they access most frequently are based⁵. The mandate probably won't shock CIOs: teams just want the apps to work, rather than knowing the nitty gritty details of how it happens.

Recent PwC research reported that 83% of Irish respondents did not believe they had fully mitigated the security risks of remote working. 75% of these respondents will increase their cybersecurity budget for 2023 as they seek to mitigate these threats⁶.

The beauty of SASE is that it integrates security and networking functions, so it actually reduces complexity while increasing functionality. The team at Viatel expects to see greater ongoing uptake of SASE in the enterprise community especially with the flexible model (per user/per device) and Cisco's ongoing developments.

“The beauty of SASE is that it integrates security and networking functions, so it actually reduces complexity while increasing functionality.”

⁵ https://www.cisco.com/c/m/en_us/solutions/future-of-tech.html

⁶ <https://www.pwc.ie/reports/global-digital-trust-insight-survey-2023.html>

What SD-WAN Really Delivers

New technologies are always accompanied by a flurry of bold claims. A quick Google reveals the promises made by SD-WAN vendors, ranging from reduced costs to enhanced security. As SD-WAN matures, how much of the initial hype has distilled into meaningful benefits to business?

There are a number of often echoed advantages (namely, traffic visibility, bandwidth management, Quality of Service and traffic shaping) that, more and more, are expected as standard with any network upgrade. These are valuable but no longer act as true differentiators for the technology.

The promise of reduced costs is another popular headline claim. In our experience, reduced costs may be somewhat of a misnomer. It depends wholly on the network to be replaced, but the price tag of a new SD-WAN may not necessarily be lower than the price paid but the value delivered for a comparable price point is immeasurably higher. However, where cost savings and efficiencies exist, they will always be capitalised on.

In Viatel's years of experience, the meaningful advantages that drive decision makers to select SD-WAN are:

- **CLOUD ADOPTION**
- **NETWORK VISIBILITY**
- **SMOOTH AND FAST DEPLOYMENT**
- **ENHANCED SECURITY**

The Benefits of SD-WAN

- ✓ Smooth & Fast Deployment
- ✓ Cloud Adoption
- ✓ Central Management
- ✓ Enhanced Security
- ✓ Increased Bandwidth
- ✓ Intelligent Traffic Shaping
- ✓ Bandwidth Management
- ✓ Traffic Visibility
- ✓ Improved Application Performance
- ✓ Simple to Self-Deploy
- ✓ Reduced Costs
- ✓ Carrier Redundancy
- ✓ Greater Choice of Connectivity Providers.

SD-WAN: DIY Deployment vs Managed Service

SD-WAN is often touted as 'simple to self-deploy'. And it's true that SD-WAN is easier to deploy for networking experts. However, with the exception of very large enterprises with deep technical resources, most businesses will find it difficult to pursue a DIY approach to SD-WAN. When asked to list the challenges they faced when taking a do-it-yourself approach to SD-WAN, respondents cited:

- Hiring and retaining a skilled in-house workforce
- Keeping up with technology developments
- Ability to negotiate favourable terms with technology vendors⁷

Without exception, the businesses we speak to have no desire to self-deploy. Viatel delivers a **fully managed service**. We take complete ownership of planning, installing, managing and monitoring your network – allowing our customers to focus on their core business. Our deployment experience and comprehensive service-level agreements de-risk the process of moving from a legacy WAN environment to a software-defined architecture giving the peace of mind that every company wants when undertaking such an exciting and fundamental network transformation.



Lauren Kehoe,
Head of Group
Product Strategy,
Viatel Technology Group

“The companies we speak to have no desire to self-deploy. Viatel’s fully managed service allows customers to focus on their core business while we take care of the underlying network.”

⁷ <https://www.computerweekly.com/news/252527384/Enterprises-embrace-SD-WAN-but-miss-benefits-of-integrated-approach-to-security>

SD-WAN as a Sustainable Choice

Viatel partners exclusively with Cisco for our SD-WAN solutions. Cisco has set a science-based target to reach net zero greenhouse gas (GHG) emissions across by 2040. Some of the sustainability outcomes driven by Cisco SD-WAN include:



ENERGY SAVINGS

- Cloud-delivered backend
- HVAC* Efficiency
- PoE Port Schedules
- Automation
- * Heating, Ventilation, and Air Conditioning

*Heating, ventilation, and air conditioning



REDUCE WASTE

- The Takeback Programme lets Cisco Equipment owners return hardware that has reached end-of-use, at no cost. Cisco reuses 99.9% of all products returned to them.



REDUCE TRAVEL

- Cloud-management
- Zero Touch deployment
- Hybrid Work
- Cameras and Sensors

Environmental Sustainability Specialisation

At Viatel Technology Group, we care deeply about our communities and the world we work in. We pledged to work with Cisco towards a sustainable future and we are proud to be certified under Cisco's Environmental Sustainability Specialisation. This means we reduce, reuse and recycle with our customers and have exclusive access to the Takeback Incentive.

CERTIFIED


CISCO
Partner

Environmental Sustainability
Specialized

Key Customer Outcomes

SD-WAN technology can benefit any organisation, particularly any enterprise with a branch network. Viatel has noted particular customer success in the following verticals:



1. Healthcare

Migration to SD-WAN improves patient experience by facilitating digital care services and securing confidential medical records. It also facilitates the expansion of primary care branches.



2. Credit Unions

SD-WAN is very clearly a popular and practical choice among credit unions that are growing and amalgamating. The preferred network choice also assists the modernisation of financial services for members.



3. Recruitment + Outsourcing

The fast-paced world of recruitment thrives on SD-WAN. The network delivers always-on access to essential tools and protects databases of confidential client and candidate information.



4. Retail

With a shift to digital and contactless payments, retail locations are highly susceptible to lost revenue in case of outages. Providing active redundancy improves availability and strengthens cyber resilience.



5. Pharmacy + Wellbeing

Moving to a modern and stable network support an always-on customer experience, whilst protecting customer data and promoting patient privacy.

Case Study: McCauley

McCauley is a community pharmacy group and one of Ireland's most popular and recognisable retailers. The group specialises in omni-channel retail with customer-focused digital platforms. A secure, robust network is essential to support operations. The team at McCauley is dedicated to delivering an exceptional experience for their customers and patients so a seamless rollout was a top priority when deploying new technology.

The Solution

Viatel partnered with McCauley to successfully design, deliver and manage a secure, state-of-the-art SD-WAN and telephony service across 40 sites nationwide.

Experienced Partner

Years of experience in delivering secure SD-WAN in a retail environment gave McCauley full confidence that Viatel was a partner that they could trust.

Seamless Deployment

Minimal disruption to customers and colleagues was a top priority for McCauley. Viatel ensured there was no adverse impact on customer experience in-store or online.

Security

Protecting the privacy of thousands of patients on McCauley's databases was one of the primary reasons to migrate to SD-WAN.

Technology for Omni-Channel Retail

Rolling out SD-WAN guarantees McCauley's ability to reach customers across their digital services, e-commerce site and click and collect service. It is of paramount importance that customers can reach them quickly and easily on their chosen channel.



Watch: Morgan O'Callaghan, Senior Business Development Manager, Viatel Technology Group chats to Sara-Jane Allen, Retail Operations Director with McCauley

“The rollout project was exceptional as well as the customer service that Viatel provided. I would absolutely recommend Viatel to any other retailers out there in the market.”

Sara-Jane Allen
Retail Operations Director
McCauley



Case Study: CPL

CPL is a global provider of recruitment, staffing and outsourcing services. As Ireland's largest talent solutions group, CPL has 1,500 directly employed staff working in Ireland, the UK and Europe. CPL's mission is to find the best candidates for their clients and to find the best jobs for their candidates. A fast, secure, reliable network with always-on access to databases, job boards and specialist software is essential to their everyday operation.

The Solution

CPL partnered with Viatel to migrate from a traditional MPLS network to a fully managed SD-WAN. The rollout encompassed 32 sites located across seven countries (Ireland, United Kingdom, Germany, Poland, Czech Republic, Slovakia and Hungary).

Deployment

Viatel's technical team delivered a seamless rollout despite the onset of the Covid-19 pandemic. Regular updates and weekly meetings with the appointed project manager were crucial for CPL's peace of mind.

Visibility

The single-pane-of-glass that the Meraki stack provides has been a game changer for CPL, providing insights into traffic across the entire network. The visibility saves time and resources for a busy IT Department.

Trusted Support

A stable service means CPL rarely need to call on Viatel but they trust that we are there when they need us. Responsiveness is essential and CPL value the ability to pick up the phone at any hour of day (or night!) if they require assistance.

Growing the Partnership

Impressed with Cisco technology, CPL has adopted more of the stack including managed switching, wireless LAN and smart cameras. Viatel is now a trusted partner and CPL more recently opted to migrate their physical server environment to Viatel's private cloud.



Watch: Nicola Connaughton, Senior Business Development Manager, Viatel Technology Group chats to Keith O'Connor, IT Director with CPL

“From an IT Department perspective, the guys can log onto a dashboard and see what is happening on the network. It makes our life easier on a day-to-day basis and it's much easier to manage.”

Keith O'Connor
IT Director
CPL



Is it SD-WAN Time for Your Business?

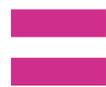
SD-WAN may not be a fit in every single instance but if you are refreshing your network infrastructure, SD-WAN should be part of the conversation.

In our experience, the following scenarios, when combined with a need or desire to refresh network infrastructure are the primary motivators for adopting SD-WAN.

**Refreshing WAN/
Infrastructure**



- Change in operations: particularly Growth or Acquisition
- Cloud Migration
- Focus on Security
- Business Continuity
- International Operations
- Mobile Workforce



**Ideal SD-WAN
Environment**

The Journey to Adopting SD-WAN

Network migration is a serious undertaking. Viatel has devised a five-step journey to SD-WAN. From exploratory workshops to deployment, this proven process enables our team to develop a deep understanding of the customer's network and business challenges. It also instils full confidence in the customer that the Viatel managed SD-WAN is the right solution for them.

Step 1: Exploratory Workshop

Is SD-WAN what your business actually needs? Our best Cisco Meraki brains will help to figure that out. This initial session touches on business goals, networking challenges, security, available connections and other practical details.

Step 2: Right-Fit Session

Time to start getting into the detail. In this two-way, peer-to-peer consultation, our team maps exactly how our SD-WAN service can get to grips with your technology requirements and business priorities.

Step 3: Test Drive

Experience the capability of Viatel's SD-WAN in a test environment. Come armed with scenario questions and dig deep, our experts are on hand to help and guide you.

Step 4: Proof of Concept

Now it gets exciting! Select sites where you want to pilot SD-WAN and watch it come to life. Proof of concept is an invaluable way to build confidence in the solution prior to rollout.

Step 5: Delivery and deployment

SD-WAN rollout is project managed by our team. Customers are always fully appraised of delivery timescales thanks to updates on our cloud project management suite.



Watch: Ian Hayes, Solution Architect, Viatel Technology Group talks through our tried and tested SD-WAN process. Our Solution Architects are available for expert one-on-one technical consultation at every stage of the SD-WAN journey.

“Viatel’s award-winning five step methodology is proven to help enterprises understand and seamlessly adopt SD-WAN at a pace that suits their organisation.”

Beyond Deployment: Care and Support

The real test of a network comes after the technology is deployed. Service level agreements (SLAs) are the key differentiator when SD-WAN is delivered as a managed service. Because Viatel Technology Group understands how crucial our networks are to our customers' operations, we have developed award-winning, post-deployment support that sets the standard for comprehensive ongoing customer care.

Expert 24/7/365 support

Certified SD-WAN engineers based in Dublin, Limerick and Dundalk monitor our networks around the clock to ensure everything is performing as expected.

Dedicated Account Manager

Every SD-WAN customer is partnered with an experienced account manager. Our account managers' job is to get under the skin of your business so we can always meet requirements.

Service Manager Quarterly Review

A service manager is your conduit into the business. Our service managers are senior figures within our organisation who are empowered to take care of any issues and to resolve queries in record time to enhance your customer experience. These managers also facilitate quarterly service review sessions, presenting detailed statistics and expert analysis of SD-WAN performance.

Escalation Matrix

We know our SD-WANs are robust and our support team will get things back on track fast (if an issue arises). Should you ever experience anything less, we want to know about it. So, we arm our SD-WAN customers with the numbers of our business leaders, up to and including the CEO, and we encourage you to use them, should you need to.

Annual SD-WAN Review

Once a year, we get together to examine the performance of your network and to share insights into Viatel's technology roadmap including all the latest developments in Cisco Meraki SD-WAN services.



Watch: Eimear Nealon, Enterprise Team Leader, Viatel Technology Group discusses our customer care and support. Each SD-WAN customer is assigned an Account Manager as a dedicated point of contact fully familiar with their business needs and technical set up.

“SD-WAN services
are mission critical.
We built the ultimate
support service to reflect
the huge responsibility
we have to our customers.”

Damien McCann

Director of Sales and Marketing
Viatel Technology Group



About Viatel Technology Group

- #1 Market-Leading Supplier of Managed SD-WAN in Ireland
- Award-winning Cisco Innovation and Transformation Partner
- Meraki Masters: our technicians are fully certified by Cisco Meraki
- Mature SD-WAN portfolio with tried and tested deployment model
- 24/7/365 access to SD-WAN experts

Our SD-WAN Estate in Figures

2017

First Viatel SD-WAN Deployment

347

Networks delivered

852

Devices configured

15

Live across fifteen countries

50,000

Hours of expert NOC support



Viatel Technology Group is Ireland's leading independent digital services group. We connect companies to their competitive advantage with best-in-class business comms, connectivity, voice, cloud and digital transformation services. A Deloitte Best Managed Company, Viatel employs 275 experienced staff to deliver exemplary service to almost 5,000 enterprise

customers including many household names, multinational corporations and national institutions. A proud Guaranteed Irish member, Viatel has global capabilities including an international network and transatlantic data centre facilities.

Discover how Viatel can help your business:
getstarted@viatel.com

About Cisco

Cisco (NASDAQ: CSCO) is the worldwide leader in technology that powers the internet. Cisco inspires new possibilities by reimagining your applications, securing your data, transforming your infrastructure, and empowering your teams for a global and inclusive future.

A Leader in SD-WAN

With an estimated 43,000 SD-WAN customers globally, Cisco is a leader in the Gartner SD-WAN Magic Quadrant. Cisco operations serve clients of all sizes and verticals. Cisco has a solid roadmap for product and innovation that aligns with emerging customer requirements, such as single-vendor SASE, new consumption models and AI networking⁸.



Viatel - Cisco Partnership

Viatel Technology Group is proud to be a Cisco Partner. We deliver our managed SD-WAN service exclusively on Cisco Meraki technology. Our technical team are certified as experts in the configuration and support of Cisco's powerful products. Cisco has named Viatel as their 'Transformation & Innovation Partner' for our deep understanding of our customers' operations and our talent in marrying that knowledge with technology to deliver real business results.

VIA TEL
TECHNOLOGY GROUP

CISCO
Partner



Platinum
Standard

⁸ Gartner, Magic Quadrant for SD-WAN Gartner Reprint

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