

# Overcoming the challenges of SD-WAN to unlock true value

8 key considerations for your business-first design





## At a glance

- Successful SD-WAN strategies start with your business objectives
- Real world SD-WAN challenges and considerations for enterprises
- Tata Communications IZO<sup>™</sup> SDWAN

# Successful SD-WAN strategies start with your business

SD-WAN has the potential to deliver what today's enterprise networks need. While re-thinking the WAN is an important step in any digital transformation initiative, careful planning and consideration is required to tap its true potential. It goes without saying that SD-WAN is not a plug-and-play proposition, and there is no 'one size fits all' approach when it comes to designing an enterprise-grade architecture.

Enterprises will need to navigate many complex decisions across design, delivery and operational phases to create their business-first SD-WAN architecture. Based on our experience with many enterprises across industries and regions, we have identified eight key challenges that you might encounter while deploying SD-WAN.

## Navigating the 3 phases of SD-WAN deployment

## Design Phase

- Choosing right technology & creating a best-fit solution
- Designing a consistent
  proof-of-concept experience
- Planning for regional regulations and compliance



- Ensuring risk-free transformation and interoperability
- Resolving complexities in integration
- Defining and implementing the right policies



- Using proactive monitoring and automated operations approach
- Tracking applications & policies during lifecycle management

# Design challenges

## CHALLENGE 1

## Choosing the right technology and designing the best-fit solution

Designing a best-fit solution starts with the selection of the right technology, which isn't easy given the overwhelming choice in the market. We recommend a four-step process that aligns the business objectives with the technical solution.

**Step 1.** Start with a clear articulation of business outcomes before evaluating technology.

**Step 2.** Map technical requirements to these objectives. For example, if the primary business requirement is improving user experience, then capabilities like application-based routing, link-load balancing and WAN optimisation become critical.

**Step 3.** Conduct thorough due diligence that includes inventory analysis, site categorisation, network and application landscape, existing QoS design, and historical incident and ticket analysis. This can help to leverage existing investments – for example, where security vendor contracts don't terminate at the same time as WAN services. Solutions that offer integration with third-party services can protect investments while helping enterprises to realise business outcomes.

**Step 4.** Select the right technology that seamlessly fits with the existing and future enterprise architecture components such as security, cloud and LAN.



## CHALLENGE 2 Designing a consistent proof-of-concept experience

Not all SD-WAN deployments need a proof of concept (PoC) but organisations with a complex environment may need to run a PoC to ensure that the solution will serve their requirements. However, lack of process planning and gaps in defining success criteria can sometimes lead to an unsuccessful PoC, as happened with one of our European manufacturing customers, and this can often impact deployment timelines. While designing a PoC experience, you should consider the following:



**Clearly identified success-criteria:** Define metrics for both technology KPIs (e.g. latency reduction, capacity increase) as well as business KPIs (e.g. cost reduction, user satisfaction score).



**Careful site selection:** A thorough site selection process is important as it can provide critical insights for deployment. In some cases, a PoC on a complex/critical site needs to be considered to identify real migration challenges. Site selection also requires a clear understanding of link parameters, applications and hardware selection considerations.



Any complex integration requirements can be further addressed through appropriate high-level and low-level design architectures that include traffic flow, multi-vendor solution components, application landscape, CPE landscape and licensing details.

## CHALLENGE 3 Planning for regional regulations and compliance requirements

This is a big concern for large, global organisations as there are unique, country-specific requirements to consider. Moreover, as the nature of security threats evolve, compliance requirements also become more complex. For example, regulations in certain countries/ regions restrict internet access to other regions, which affects the end-user experience. The overlay architecture in those regions needs to be customised and rigorously tested before deployment.

For network owners, architects and administrators, it is a herculean task to understand all these country-specific requirements and design a solution that is compliant. There is an ever-increasing pressure to reduce business risk and protect against threats. In many cases, enterprises choose to work with partners who understand the regulatory landscape and can help ensure compliance.



# Delivery challenges

### CHALLENGE 1

# Ensuring risk free transformation and interoperability

In some organisations, different business units may be using different providers – adding to complexity. For example, a global ITeS enterprise we worked with had acquired many smaller companies, which resulted in a mix of domestic and international MPLS services from multiple providers, along with internet-based, site-to-site VPNs. Merging and managing diverse networks was a big challenge, along with multiple point of contact, contracts and SLAs to navigate.

Coexistence and interoperability of traditional and transformed networks is an important consideration for seamless transition without impacting user experience. Solutions like distributed cloud gateways to manage communications across different OEM technologies need to be considered as a part of the design.



## CHALLENGE 2 Resolving complexities in integration

Integrating SD-WAN with existing security tools is critical for visibility, simplified management and control. The deployment plan should include ways to integrate SD-WAN with existing IT systems such as monitoring and visibility tools, SoC tools for security monitoring, LAN/WiFi systems and active directory. You may want to consider partnering with service providers that have close working relationships with a large ecosystem of partners, suppliers and OEMs. With operations excellence and integration expertise, ensuring integration between multiple technologies and toolsets becomes much easier.

## CHALLENGE 3 Defining and Implementing the right policies

The current application landscape is complex and not all applications are created equal. Some applications need lots of bandwidth, some are sensitive to latency, some are sensitive to loss, and some perform poorly with jitter. Lack of application-level analysis can lead to problems in determining appropriate traffic steering policies. To get the most out of your SD-WAN deployment, you may want to consider the following while defining policies:



# **Operational challenges**

#### CHALLENGE 7

## Using proactive monitoring and automated operations approach

One of the benefits of SD-WAN is that it provides better visibility and analytics on network performance. But having granular visibility into underlay performance is equally critical for monitoring and proactive remediation. Look for partners who have well-defined underlay-overlay correlation mechanisms and use AI/ML to help reduce MTTR (mean time to resolve) through faster root cause analysis and proactive threat mitigation.

#### **CHALLENGE 8**

# Tracking applications and policies during SD-WAN lifecycle management

Once SD-WAN is deployed, tracking applications and policies is important so that you can continuously adjust the network to support emerging requirements. As your digital transformation initiatives gather pace, more and more applications and workloads will move to the cloud – which will require a constant review and optimisation of policies. Enable periodic tuning of the network and re-tagging of some of the newly introduced or customised applications, and ensure applications get the best network path that meets your business objectives.

With SD-WAN always evolving, most technology OEMs constantly upgrade their solutions – resulting in the introduction of new versions and patches in the network environment. Set up proper version management techniques to allow viewing and tracking of configuration to ensure seamless upgrades, without any disruption.



## Tata Communications IZO<sup>™</sup> SDWAN

Our vision for an efficient SD-WAN deployment integrates vendor capabilities with complementary service excellence to ensure a future-proof design. This approach helps address challenges across Day 0, Day 1 and Day 2 of the SD-WAN lifecycle.

The Tata Communications IZO<sup>™</sup> SDWAN solution helps enterprises in their SD-WAN adoption through a modular, managed services approach. This approach is facilitated by our ecosystem of network and technology partnerships, flexible deployment and management models. The entire stack is underpinned by the Tata Communications TCx platform, which helps provide a unified, single-pane-of-glass experience to our enterprise customers through their entire SD-WAN journey.

#### Tata Communications IZO<sup>™</sup> SDWAN Platform





Our define-deliver-optimise approach has helped many customers create their business-first SD-WAN. Here's how:

- **Define (Day 0):** In the define stage, our multi-domain experts create best-fit solutions for enterprises based on their business objectives, existing infrastructure investments, and future requirements. We also provide simulate and validate services to enable enterprises to experience the value from SD-WAN transformation through virtual and on-site PoCs.
- **Deliver (Day 1):** In the delivery stage, we leverage our proven governance capabilities to migrate customers to SD-WAN seamlessly. Our global technical experts convert enterprise requirements (such as infrastructure integration, traffic and security) into validated policies/configurations and then help implement them.
- **Operate and Optimise (Day 2):** We provide end-to-end management with our global NOC and field support capabilities in over 150 countries. We have built technology-agnostic platforms and tools to provide higher uptime through capabilities such as proactive network monitoring and Al-driven fault diagnosis. We also provide single-pane-of-glass visibility across services, dashboards and a self-service portal.

## Trusted by experts and industry alike

Our IZO<sup>™</sup> SDWAN offering has been recognised by multiple analysts globally, for years. We have been recognised as the leader in the Gartner Magic Quadrant for Global Network Services nine times in a row. And we ensure customer satisfaction with a consistent Net Promoter Score (NPS) of 78 percent. Click to find out more about our

Analyst Recognition & Awards - Tata Communications IZO<sup>™</sup> SDWAN

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