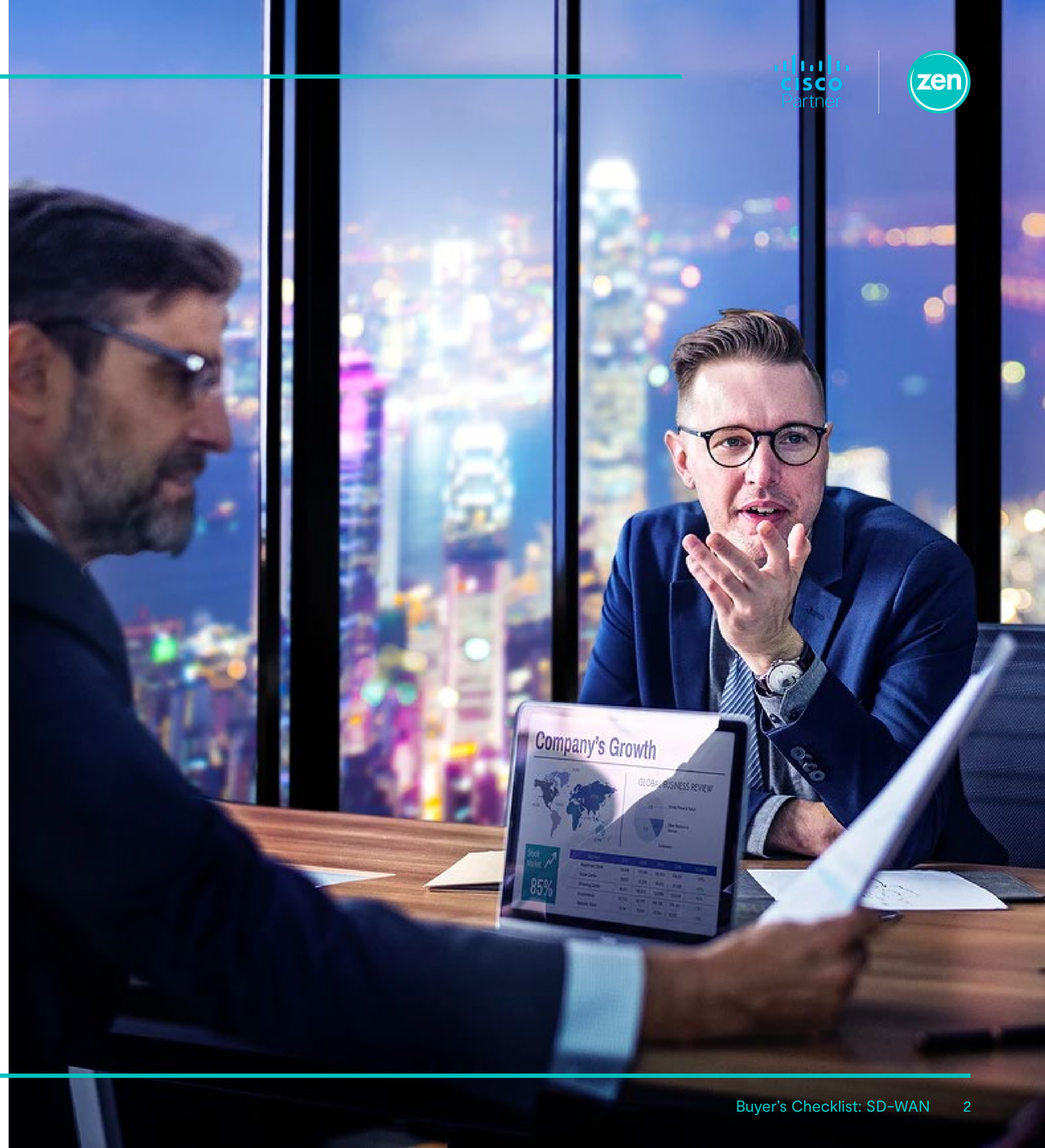
Buyer's Checklist: SD-WAN

SD-WAN as a Managed Service

Contents



Summary

The software-defined wide area network (SD-WAN) has emerged to fill the growing need enterprises face for a secure method to reliably connect users, data, and applications.

SD-WAN solutions can be deployed by in-house experts or acquired as a managed service. So, what are the benefits, and why should you consider SD-WAN as a managed service option?

This buyers guide is intended for practitioners, decision-makers, and technology buyers who need to evaluate SD-WAN as a managed service.

Challenges of Existing WANs

Enterprises working across more than one location have always needed some form of wide area network (WAN).

The traditional model of campus, branch, and data centre as distinct physical locations operated by a single enterprise made the definition and implementation of a WAN straightforward, giving rise to managed private WAN networks based on the MPLS protocol.

Today, enterprises of all sizes are becoming increasingly distributed, and in parallel, cloud services across Software as a Service, Infrastructure as a Service, and Platform as a Service (SaaS, IaaS, PaaS) have become widely adopted. As enterprises have moved at least some of their critical applications to cloud vendors, network connectivity has become increasingly crucial to enterprise operations. And yet, it has become difficult, if not impossible, to land physical circuits in all needed locations.

At the same time, fundamental expectations of employees, customers, and partners have shifted. Pervasive, reliable, and performant service delivery has gone beyond “nice to have” and is now table stakes for any organisation. As a result, visibility and granular control over WAN traffic have become basic, if often unrealised, requirements.

In addition to these fundamental shifts, the modern enterprise is acutely aware of the need for security. Whether you attribute this to expanding regulations, increasingly savvy cyber-criminals, growing demands for user privacy, or risk-averse postures of boards and investors, the results are the same: Security and reliability are strict requirements placed on all enterprise networks, and WANs are no exception.

Against this background, organisations are looking to get on the front foot, building future business plans around what digital technology can do for them rather than just shoring up existing capabilities. As a result, they are revisiting their connectivity strategies to align with their evolving business needs, with service delivery underpinned by a secure, flexible, and reliable method of connecting users, data, and applications.

The Response: SD-WAN as a Managed Service

The SD-WAN has emerged in response to these growing requirements for digitally transforming the current business landscape.

We can say that SD-WAN is a concept and not a technology because there is not a single underlying protocol that defines an SD-WAN. Rather, it is an operating model enabled by various vendors' products in different ways by opening up mechanisms to have real or virtual devices controlled from a central point. The result is that multiple architectures and network types can be managed as a single service; for example, combining public and private internet connections with 5G services.

Given this flexibility and the ability to work with both existing and new connectivity types, many enterprises have already chosen to test or deploy SD-WAN solutions. Alongside flexibility and agility, drivers include improved monitoring capabilities, better quality of service, and improved resulting performance and end-user experience, whether by internal staff or customers.

This flexibility does come at a cost, however. While the need for and functionality of an enterprise WAN is understood by most IT professionals, SD-WAN can be confusing. In part, this is due to the evolving nature of the SD-WAN market, as well as the basic nature of SD-WAN itself.

Specifically, a key characteristic of SD-WAN is its use of network virtualization, building a logical overlay network over one or more network underlays. This allows an SD-WAN, with minimal manual intervention, to connect and route users and applications over any type of physical connectivity even when no enterprise-specific connectivity is involved, such as with internet-based cloud services.

This combination of centralised management and network virtualization is what allows SD-WAN to offer higher flexibility and reliability, but it creates another set of capabilities that need to be defined, deployed, managed, and kept up to date by network engineers and operations teams. The operational overheads are not inconsiderable, particularly when both normal network operations and keeping up with changes are taken into account.

Some organisations are content to keep this effort in-house, whereas others have turned to third-party providers of SD-WAN as a managed service. This means you can focus on running the business.

As one online travel provider once told us, "We don't want to be known as the best network engineers in the world but as the best source of holiday information in the world."

Assessment Criteria

So, what should you consider in a solution? You can compare your own priorities against what a particular SD-WAN managed service provider offers by using the SD-WAN as a Managed Service Checklist in Tables 1, 2, and 3.

Note that SD-WAN as a managed service does not differ in functionality from SD-WAN, but it enables the benefits without incurring additional management overheads.

Table 1: Table Stakes

Table Stakes		Top Priority	Secondary Priority	Not a Priority
Encrypted Network Vizualisation	SD-WAN Network Vizualisation benefits from encryption, which is great for privacy			
Use of Multiple Circuits	Delivery of the managed service across multiple circuits increases aggregate bandwidth, fault tolerance and resilience			
Path Measurement	Path measurement monitors multiple circuits, linking to centralised policy based management to determine how traffic should be routed.			
Managed Service Features	Managed Service providers can monitor and configure available networks, removing the need for in-house experts			

Table 2: Key Criteria

Key Criteria		Top Priority	Secondary Priority	Not a Priority
Routing and Forwarding	This is the ability to tie routing protocols into an existing network. Forwarding lets you take advantage of steering different traffic over different links within the SD-WAN.			
Network Security	Many vendors incorporate security features such as cloud access security broker, secure web gateway, web application and API protection, and user and entity behaviour analytics.			
WAN Optimisation	A managed service can take advantage of connectivity features across circuits, such as protocol acceleration to reduce latency and compression and deduplication to maximise bandwidth, and forward error connection to counter packet loss.			
Managed Peering	Some service providers offer access to internet exchange points (IXPs), which can be incorporated into the SD-WAN architecture.			
Cloud Integration	A primary question is how the SD-WAN platform ties into the various SaaS and PaaS; for example, enabling a direction connection to Office 365 from edge devices to minimise latency while preserving security and manageability.			
Application Awareness (JC1)	If a vendor can identity applications running across the network, information can be fed into security and forwarding policy.			
Flexible Deployment (JC2)	Delivering on both business agility and operational efficiency, this is about deciding, for example, whether to deploy a 1GB vs a 10GB device as a physical device or a virtual appliance from an online marketplace.			

Table 3: Evaluation Metrics

Evaluation Metrics		Top Priority	Secondary Priority	Not a Priority
Scalability	Be sure to account for the WAN you have today but also the WAN you expect to have in 3,5 or even 10 years.			
Feature Set	It is not always best to select an SD-WAN solution based simply on the largest possible list of features. Focus on the specific feature set your organisation requires.			
Flexibility	Be sure that your chosen solution offers the option you need to connect all your locations, including branch, campus, data centre, cloud, and even remote users.			
Managed Solution and Partner Ecosystem	The ecosystem of solutions and partners that integrate with your chosen SD-WAN platform ideally should include any related products or services you currently have deployed and those you plan to deploy.			
Business Value and Total Cost of Ownership	SD-WAN is about flexibility and manageability as well as book cost and pricing model. Use of a managed service should also factor in the ability to focus on business needs.			

Smart Networking for Smart Business

Get in touch today to find out more and start your journey with Zen

01706 902579

solutionsales@zen.co.uk

Written by Chris Grundemann

GIGAOM

SITUATION PUBLISHING