

# SD-WAN NETWORKING FOR THE CLOUD ERA

Software-defined WAN (SD-WAN) is a fundamentally different approach to WAN design that better deals with the performance, economic and security challenges created by data traffic growth, cloud, mobility and the Internet of Things.

## WHY SD-WAN

The underpinnings of today's WAN technology was first implemented in the 90's when cloud was weather, not computing. Since then the proliferation of cloud, mobility and the Internet of Things has dramatically changed the consumer and enterprise IT landscape. Yet, the average organisation still uses late '90s networking.

Traditional WAN technologies like MPLS, VPLS and VPN tunnels struggle to meet the needs that enterprise IT now demands. Connecting applications hosted in a complex combination of private and public cloud environments is increasingly operationally intensive and expensive. Bandwidths and performance are put under pressure as it becomes easier to connect mobile devices to networks. Furthermore, the breadth of connectivity has dramatically increased the range of security threats a network has to deal with.

SD-WAN comprises a number of advances in network technology that better support modern network requirements.

## IS SD-WAN RIGHT FOR YOU?

If any of the following situations describe you or your organisation then an SD-WAN solution will be of benefit.

1. We're running SaaS or real time applications that are having performance challenges.
2. We can't measure or guarantee application performance across our network.
3. We're struggling to justify buying more comms capacity.
4. We have sites that we can't afford to make highly available.
5. It takes too long to get network changes done.

## THE BUSINESS BENEFITS OF SD-WAN

Leveraging the key architectural building blocks of SD-WAN, the following business benefits can be achieved.



### SAAS AND REAL-TIME APPLICATION OPTIMISATION

Application aware routing and internet breakout at the network edge **reduces the latency** associated with traditional routing of internet traffic through central data centres which results in a **better end-user experience**.



### IMPROVED RELIABILITY

Aggregating traffic across multiple underlay network transport methods improves reliability and **guards against single path failure**. The ease of 4G connectivity from edge network devices provides high availability options for single connection sites.



### REDUCED COSTS OR INCREASED BANDWIDTH

**Right-sizing MPLS** capacity and augmenting with more **cost effective internet capacity**, and out of band connectivity methods like 4G can reduce cost or dramatically increase bandwidth.



### FASTER DEPLOYMENT

Advanced policy based management, **zero-touch provisioning** and **4G LTE mobile capability** means sites can be up and running sooner. Similarly, policy management means changes can be made faster to support business time frames.



### ENHANCED SECURITY

The built in **end-to-end encryption** and secure key management protects all network traffic. Network segregation enables secure connectivity to partners, supplier and customer networks.

**SD-WAN IS AN INVESTMENT IN A NETWORK THAT BETTER SUITS THE DEMANDS OF TODAY'S AND THE FUTURE'S IT NEEDS.**

## HOW SD-WAN WORKS

SD-WAN is built on 6 key architectural principles when combined, result in a dynamic, scalable and secure WAN solution.

<b>TRANSPORT INDEPENDENCE</b>	<ul style="list-style-type: none"> <li>SD-WAN routers create an overlay network across available underlay network to provide optimal mix of bandwidth and cost</li> <li>Underlay networks can be chosen from private MPLS or VPLS, Public Internet, or 4G mobile</li> <li>SD-WAN overlay network supports Quality of Service for multiple traffic types</li> </ul>
<b>APPLICATION AWARENESS</b>	<ul style="list-style-type: none"> <li>Network is aware of applications that are traversing the network and where they are destined which enables smarter routing decisions</li> <li>Network-wide SLAs can be set by and enforced on an application by application basis across SD-WAN</li> </ul>
<b>AUTOMATICALLY SECURE ENDPOINTS</b>	<ul style="list-style-type: none"> <li>Automatically encrypted with AES256 between all endpoints</li> <li>Keys are automatically rotated at 2 hour intervals</li> </ul>
<b>NETWORK-WIDE SEGMENTATION</b>	<ul style="list-style-type: none"> <li>Traffic can be segregated endpoint to endpoint based on application, business or security rules to enhance overall security</li> <li>Enables simple and secure connectivity to partner or 3rd party networks</li> </ul>
<b>CENTRALLY ENFORCED BUSINESS LOGIC</b>	<ul style="list-style-type: none"> <li>All SD-WAN endpoints are managed via a single pane of glass management system</li> <li>Reduces the operational overheads of maintaining several individual sites and enables faster changes</li> </ul>
<b>CENTRALISED NETWORK SERVICES</b>	<ul style="list-style-type: none"> <li>Complex network functions like firewalls, load balancers and IPS can be easily inserted at strategic locations in SD-WAN</li> <li>Network functions can be private or cloud-based</li> <li>Simplifies network design and on-going management</li> </ul>

## SD-WAN SERVICES

NTT Communications ICT Solutions (NTT ICT) has a broad portfolio of SD-WAN services available. Services encompass:

NETWORK AS A SERVICE	MANAGED SERVICE	CONSULTANCY
Design, build and manage ongoing operations of networks and devices from the edge to the core	Managed SD-WAN devices and overlay network management, allowing for BYO underlay network providers	SD-WAN design and device or network procurement

## WHY CHOOSE NTT ICT FOR SD-WAN



### GLOBAL NETWORK LEADER

NTT has 20 years' experience delivering network services within Australia and has been recognised as a Leader in the Gartner Magic Quadrant for Networking Services, Global from 2014-2018.



### TECHNOLOGY PARTNERSHIPS

Our solutions are built on a combination of traditional industry heavyweights as well as best of new technology start-ups.



### LOCAL SUPPORT

Services are backed by an in-country 24x7 service desk, engineering and architectural team. Customers have access to a named account manager and service delivery manager.



### DEVOPS HERITAGE

NTT have been working with software-defined infrastructure since the start of the DevOps movement and have a depth of practical experience in Software-defined Networking (SDN) and Network Functions Virtualisation (NFV) technology.

## CONTACT US

[www.nttict.com/sd-wan](http://www.nttict.com/sd-wan)

Request for a no-obligation discussion with our network gurus at [contact@nttict.com](mailto:contact@nttict.com)

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## WHO IS NTT ICT

NTT Communications ICT Solutions (NTT ICT) provides network, infrastructure, security, cloud and managed services to Australian companies who care about quality. Our team of local experts and engineers help companies decide which solution will best suit their business and deliver bespoke tools and services to make it easier for them to operate and innovate. We help companies expand into Asia and globally, leverage their legacy IT and transform into next generation solutions and reduce complexity and risk.

NTT ICT is a wholly owned subsidiary company of NTT Communications, one of the largest ICT companies in the world. Our offerings are backed by the company's worldwide infrastructure, including the leading global Tier 1 IP network, the Arcstar Universal One™ VPN network reaching 196 countries/regions, and over 140 secure data centres worldwide.

*Gartner Source - Magic Quadrant for Network Services, Global, 27 February 2018, Danellie Young, Katja Ruud, Bjarne Munch, Takeshi Ikeda, Neil Rickard.*

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