Singtel Business

Whitepaper:
Software-Defined WAN

Transforming Business Network with SD-WAN

The acceleration of digitalisation has seen a significant increase in demand for wide area network (WAN) connection in recent years.

Achieving Business transformation with SD-WAN

Introduction

The rapid pace of digitalisation has seen demand for wide area network (WAN) connections skyrocket in recent years.

According to Cisco, regional IP traffic within the APAC region will exceed 173 exabytes per month by 2022, growing at a compound rate of 32 per cent annually.[1] And these impressive growth figures have yet to factor in the impact of the COVID-19 crisis, which has driven unprecedented acceleration in digital service adoption and the introduction of broad-scale work-from-home programs.

Whatever the true numbers might be, all signs point to an increasing dependence on WAN connections across Asia to provide vital links between organisations, their employees, and the customers they service.

This rapid growth is accompanied by rising expectations for performance and availability, meaning organisations must invest in new technologies to optimise network reliability, security and throughput while reducing latency. Many organisations also find themselves needing to implement new links faster than was previously necessary to cater for rapidly changing business conditions.

With cyber threats continuing to rise, network security remains a paramount consideration. And in all instances, economic pressures are also reinforcing the need to get the best value from WAN investments.

For network architects and managers, this raises the stakes when it comes to selecting network technologies and suppliers.

[1] Cisco Visual Networking Index: https://newsroom.cisco.com/press-release-content?articleId=1955935

The limitations of traditional networks

Traditional WANs consisted of a small number of links between a corporate data centre, head office and branches, with some secondary links to external services and users. Network endpoints remained relatively static over time, and management and security services could be applied by routing all network traffic through a central hub or the data centre, regardless of that traffic's destination.

But this architecture can create significant problems in modern organisations where employees are working from multiple locations and connecting to multiple public clouds as well as company-owned and third-party data centres. Modern networks also carry a wider range of traffic types, including video, which can be extremely sensitive to lag in the network. Routing all traffic through a central hub for management and inspection can add significant delays to network performance and create bottlenecks during busy times.

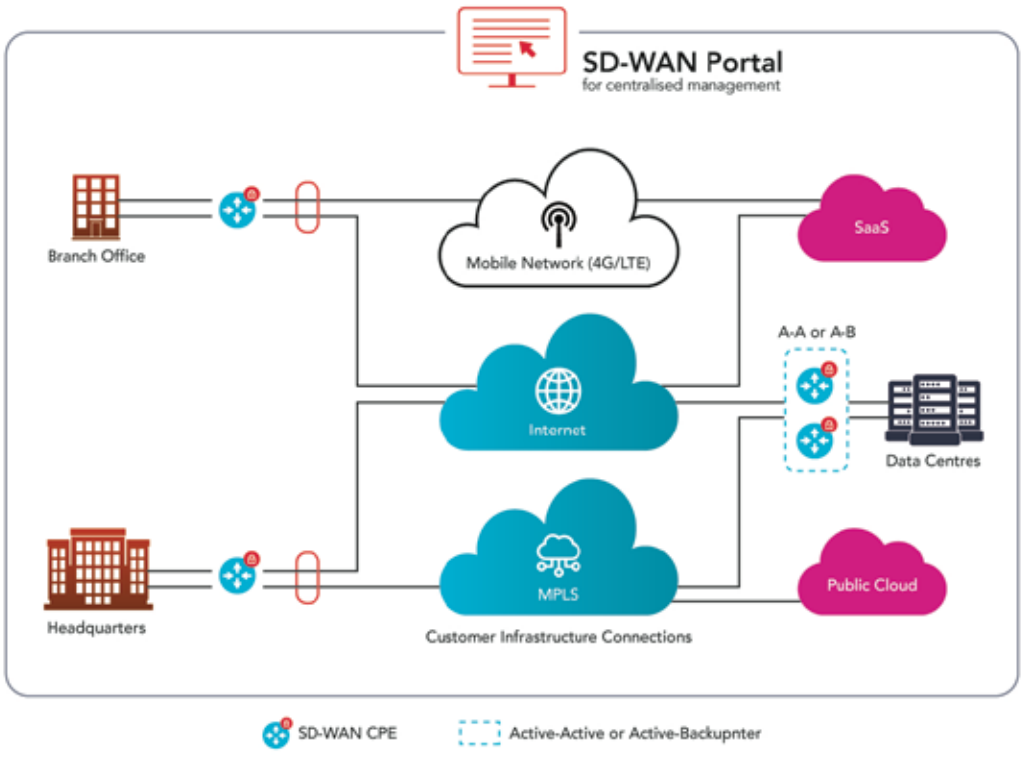
Also, modern organisations have a greater need for flexibility in how they operate, including the need to quickly connect additional locations such as new or remote offices, pop-up retail stores and trade shows sites, thus enabling an agile implementation for workforce telecommuting. Under the old model this could be a slow process due to the need to configure remote network connections on site.

Ultimately, modern network architectures require greater flexibility in how traffic is prioritised, managed, and secured, to provide the performance and adaptability that organisations demand, but without compromising security.

Singtel SD-WAN for business transformation

To meet these complex needs, organisations are increasingly turning to SD-WAN technology, which uses a software-defined (SD) management layer to create a unified network management framework that can intelligently and securely manage traffic flow.

Singtel works closely with the customer to understand their requirements for application performance and security, and then develops SD-WAN network solutions that are specific to their needs, using technology from industry-leading partners including Cisco, Fortinet, and Velocloud. This enables the company to implement technology best suited to the exact requirements of businesses.



Networking equipment is deployed to the customer's required locations, such as their headquarters, branch offices and corporate datacentres, and integrated into a central cloud-based control for management and monitoring. Subsequent new connections can also be connected quickly from this central management console.

The single-pane-of-glass interface provides integrated inspection capabilities that deliver the ability to intelligently identify applications on the very first packet of data traffic. This knowledge can be used to create policies that best reflect the organisation's need for performance and security, based on real-world usage, allowing for the creation of automated policy-based routing that ensures traffic is carried across the most suitable links. And because the management console is cloud-based, it is available to approved users from any location.

The single-pane-of-glass management experience significantly simplifies the task of monitoring, managing and prioritising network traffic. This makes SD-WAN ideal for organisations with highly distributed operations, such as retailers, banks, as well as those that are reliant on multiple data centre and cloud services. It enables new connections to be easily managed and secured from a central location.[2]

New endpoint hardware can be deployed quickly and configured centrally, allowing it to be brought onto the network much faster. And by eliminating the need to for selected traffic to be routed through a physical hub for security inspections, latency in the network can be reduced.

Singtel SD-WAN also includes a complete suite of security solutions and integrated threat protection, including firewall, antivirus, IPS, web-filtering and data encryption. All transactions are seen and inspected through this central interface, making it easier to spot threats and anomalous behaviours. Also, by having security integrated directly into the SD-WAN, any changes to the network's configuration are also automatically secured.

A critical benefit of SD-WAN is that users are free to choose their preferred connectivity solutions, whether that is private or dedicated network for high performance and security applications, mobile networks running 4G/LTE for remote locations or redundancy, or low-cost public internet services for lower priority traffic. This means the organisation can use whatever connectivity is best suited for specific traffic requirements.

For example, business critical operations might run across a private or dedicated network and take advantage of this technology's enhanced security services to ensure control over network performance during peak demand periods. Non-critical traffic can be carried on the public internet to reduce cost. An organisation can also quickly reroute traffic across a 4G/LTE network in the event of an interruption to its regular network.

In addition, self-healing capabilities mean traffic can be automatically routed to the next best available link in the event of an outage of the primary link.

With so many benefits to users, it is little wonder there is significant interest in SD-WAN technology. The research group, Markets and Markets, expects the global SD-WAN market size to grow from US$1.9 billion in 2020 to US$8.4 billion by 2025 as organisations around the world increase their use of cloud services, and subsequently their need for high performance, low-latency wide area bandwidth. This translates to a compound annual growth rate of 34.5 per cent, and with APAC projected to experience the highest growth rate.[3]

Singtel SD-WAN for remote workers

With workers spending more time working off-premises, and in some cases having relocated to their home or other off-premises location permanently, it is important to ensure they can retain a fast, secure and reliable connection to their corporate computing resources.

Singtel SD-WAN facilitates this through the deployment of dedicated hardware to the employee's off-premises location, delivering the same level of oversight and manageability as other endpoints on the network. Furthermore, the use of SD-WAN enables network administrators to segregate professional and personal traffic, ensuring that productivity is not impacted by other users in the home environment contesting the available bandwidth.

[2] Software-Defined Wide Area Network (SD-WAN) Market: https://www.marketsandmarkets.com/Market-Reports/software-defined-wan-market-53110642.html#:~:text=According%20to%20MarketsandMarkets%2C%20the%20global,34.5%25%20during%20the%20forecast%20period

[3] https://www.marketsandmarkets.com/Market-Reports/software-defined-wan-market-53110642.html

This arrangement can also mitigate the growing concern that many organisations face that their more distributed workforce might be weakening their overall security posture. By deploying SD-WAN technology into remote and home environments network administrators can ensure that these endpoints are as secure as they might in an office environment, with full monitoring of network traffic.

Conclusion

This combination of distributed hardware and centralised cloud-based management delivered with Singtel SD-WAN solutions provides an unparalleled level of control and flexibility for network management. Existing connectivity investments can be maximised while ensuring appropriate levels of reliability, security, and performance for the types of traffic the network carries.

By bringing together expertise in WAN design with industry leading partners, Singtel can deliver the best possible solutions to customers, who can also benefit from comprehensive consultancy, professional services, and options for managed services post implementation.

The trend towards use of cloud services and distributed computing resources shows no signs of abating, nor does the need for workers to be productive from any location. With organisations needing to transform rapidly to meet the changing needs of their customers, it is vital that they operate networks that can meet the challenge of providing connectivity that is reliable, secure, and high performance.

Only though use of SD-WAN technology can organisations ensure they have the connectivity, flexibility, and visibility they need to meet these challenges.

About Singtel

Singtel is Asia's leading communications technology group, providing a portfolio of services from next-generation communication, technology services to infotainment to both consumers and businesses. For consumers, Singtel delivers a complete and integrated suite of services, including mobile, broadband and TV. For businesses, Singtel offers a complementary array of enterprise mobility solutions, data hosting, cloud, network infrastructure, 5G, IoT, analytics, robotics and cyber-security capabilities. The Group has presence in Asia, Australia and Africa and reaches 700 million mobile customers. Its infrastructure and technology services for businesses span 21 countries, with more than 428 direct points of presence in 362 cities.

Awards

IDC MarketScape: Asia/Pacific Next-Gen Telcos: Telecom Services Vendor Assessment 2020
- Singtel Named a Leader

IDC MarketScape: Asia/Pacific Communications SP SD-WAN Managed Services Vendor Assessment 2020
- Singtel Named a Leader

Frost & Sullivan Asia-Pacific Best Practices Awards 2020
- Asia-Pacific Telecom Group of the Year

Carrier Community Global Awards 2020
- Best WAN Solution Provider

Telecoms World Awards 2020
- Best Enterprise Service – Singtel Software-Defined Network

Asia Communication Awards
- Best Enterprise Business Service (Operator) – Singtel Software-Defined Network 2020
- Best Enterprise Service – Singtel Software-Defined Hybrid Network 2018

Carrier Community Global Awards 2020
- Best WAN Solution Provider

Telecoms World Awards 2020
- Best Enterprise Service – Singtel Software-Defined Network

LIMITED-TIME PROMOTION

100Mbps Dedicated Internet

- 99.99% service level agreement
- Low latency assurance
- 24/7 proactive monitoring

$800/mth

TOP-UP

Managed SD-WAN

- Integrated next-generation firewall
- Cloud-based portal for network visibility
- Automatic failover capability
- Application-based routing
- Quality-based routing
- Options for scalable unified threat management features

$179/mth

For more information g-segmentdata@singtel.com Visit the website

Terms & Conditions: Prices exclude GST. Minimum 24-month contract applies. Promotion ends 30 April 2022. Prices exclude licence for unified threat management. Contact us for higher speed plans or hybrid connectivities.