SD-WAN: Enabling network transformation for an SMB's digital success

Why SD-WAN is key to digitally transforming an SMB and ways to achieve network transformation with it.

> The recent pandemic has proven companies that digitally transform remain resilient and adaptable amid global uncertainties, and a critical piece of the digitalisation puzzle is network transformation. This article dives into SD-WAN's role in network transformation and how Singtel SD-WAN delivers the network capabilities needed for SMBs to thrive in the digital age.

The importance of going digital for small and medium businesses

Singapore's economy has faced turmoil and disruption in recent years, arising from the effects of the COVID-19 pandemic, war in Ukraine, and record-setting inflation levels. These challenges have highlighted the importance of agility, resilience, and adaptability to survive and thrive in today's business landscape. For small and medium businesses (SMBs), which make up 99% of Singapore's 290,000 registered enterprises, this means embracing digitalisation as the way forward.

Numerous government initiatives have been put in place to help Singapore SMBs adopt digital platforms and solutions. These efforts underline the urgency of digital transformation as today's businesses increasingly rely on digital tools and fast, reliable networks to expand and engage customer bases, innovate products and services, and improve operational processes.

Digital tools and networks have also enabled new trends in employment, accelerated by the pandemic. A 2021 survey showed almost half of Singapore employers have implemented flexible work options. Hybrid working arrangements, work-from-home, and co-working models are now fixtures of the Singapore workforce, and employers must facilitate responsive, stable, and secure connectivity for their employees in the new normal.

Taken together, these trends are prompting many SMBs to view network transformation as the first foundational step for their digital transformation.

Network transformation: The keystone for digital transformation

Network transformation for SMBs is perhaps even more vital than for larger corporations as most SMBs lack the technical and financial resources in-house to develop and manage complex networks. SMBs require a network solution that minimises management complexity while being adaptable to evolving needs without budget-breaking overheads.

As early as 2018, Gartner identified Software-Defined Wide Area Networks (SD-WAN) as one of the key technologies that would empower organisations through transforming networks, 'from fragile to agile', and offer the best solution for growing enterprise requirements for the next five years.
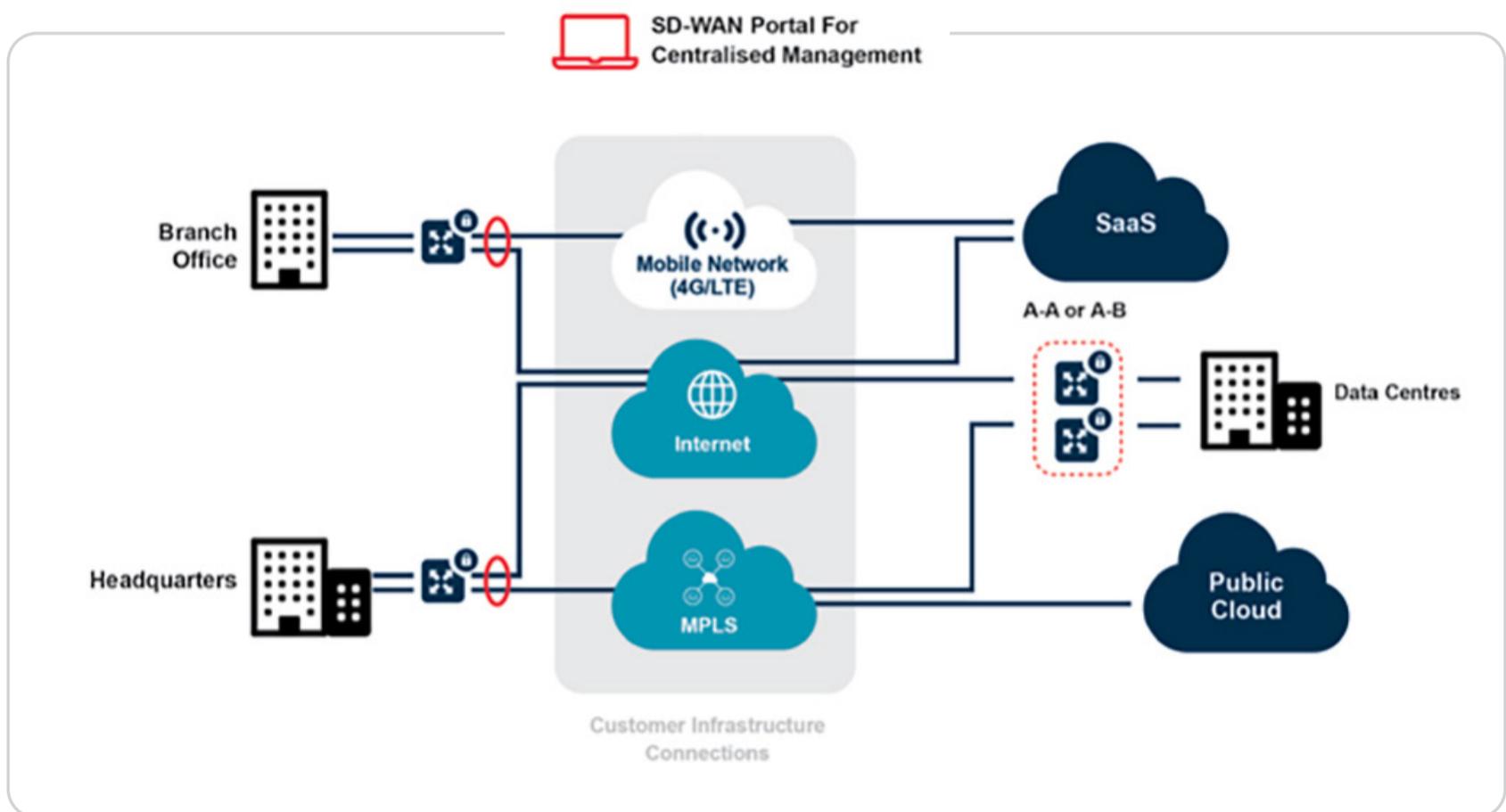
Today, SD-WAN is still one of the best ways for SMBs to reshape and refresh their networks:

Seamless access to the cloud

Traditional WANs and Multi-Protocol Label Switching (MPLS) circuits route traffic through corporate hubs, creating centralised chokepoints that introduce latency as bandwidth demands increase. SD-WAN's policy-based routing architecture finds the most efficient path, offering seamless cloud access and allowing businesses to take full advantage of cloud-based enterprise apps, while offering much more scalable bandwidth.

Connectivity for the hybrid workforce

As more and more employees work off-site, they need to connect through a reliable and secure network that can be set up quickly and at minimal cost. While Virtual Private Networks (VPNs) are a popular solution, they need onsite IT staff to configure, and are becoming increasingly complex as the network grows. MPLS networks may deliver reliability but often require greater time and financial investment with every new appliance and endpoint added, as they operate on Ethernet switches and routers between layer 2 and 3 networks. On the other hand, SD-WAN enables communications between different network endpoints—whether on the internet or private MPLS—which eliminates any need for additional hardware and simplifies deployment and operations.

Security and data protection

The cyber landscape continues to see rising numbers of sophisticated threats and malicious actors: in 2021 alone, 137 ransomware attacks occurred in Singapore, a 54% increase from 2020, while multiple major data breaches occurred even at large multi-national corporations. As cyber-attack surfaces grow with the proliferation of mobile devices and Internet-of-Things (IoT) appliances in business networks, SD-WAN-supported cloud-based security has become a must-have for SMBs, offering protection that is centrally managed for agility, and scalability as the network expands.
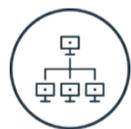
Meeting digital end-user expectations

As both workforce and customer bases shift towards digital natives, end-user expectations are constantly rising. Solutions like MPLS may provide the robustness and performance, but at the expense of agility needed to optimise mobile and cloud-based applications. SD-WAN's multipath and dynamic routing architecture offers the network performance, reliability, ease of management, and scalability for varying workloads and expanding networks, that end-users are coming to expect and demand.

Adopting an SD-WAN solution: Challenges and considerations

While SD-WAN is one of the best offerings for network transformation, businesses must be wary of the potential challenges and pitfalls when adopting new solutions. This is especially crucial for SMBs who cannot afford to make costly mistakes on the digital transformation journey.

With many SD-WAN solutions being internet-based, end-to-end Quality of Service (QoS) cannot be assured for all users, which in turn makes it difficult to achieve end-to-end prioritisation of applications.

Effective network architecture will need to incorporate load balancing to maximise network capacity, along with automated path intelligence to allow different routing policies to be assigned to yield the best performance; for example, by assigning application-based routing for less-critical cloud-based apps like Office 365 while assigning the highest priority of Service-Level Agreement (SLA)-based routing for business-critical applications that cannot be allowed to fail.

The performance and reliability of SD-WAN are dependent on available transport media, but for business-critical applications, there must be a backup. For such cases, SD-WAN should automatically failover to the best available link when the primary WAN path has degraded to ensure connectivity when it's needed most. Proactive monitoring of networks and equipment is also crucial to ensure that interruptions and congestion are rapidly identified and flagged for incident handling and resolution. Most importantly, guaranteed SLAs must be in place to ensure business continuity for critical applications.

To address this, SD-WAN providers usually offer solutions fully managed by the customer, co-managed, or fully managed by the vendor. It is important for SMBs with limited IT team resources to consider which model best suits their business needs while taking advantage of the ease of centralised management that SD-WAN offers.

As a result, the crowded SD-WAN space—with numerous vendors offering a wide range of features—can make the search for the right vendor a time-consuming affair for IT decision-makers. Decision-makers will need to be familiar with their business' unique requirements, to assess which vendors can offer the best fit and value add. For SMBs that do not have in-house expertise, the right vendor should also offer the ability to design, deploy and manage a complete and holistic networking solution, that will last into at least the next decade.

Singtel SD-WAN: The right solution for SMBs

As the oldest and most established internet service provider in Singapore, Singtel is a trusted partner for SMBs seeking to digitally transform.

In terms of network transformation, Singtel SD-WAN offers:

An enhanced customer experience
Network optimisation ensures fast and seamless connections for business applications.

High network availability
By automatically determining best paths for traffic, connectivity for business-critical applications is assured.

Fast deployment
Remote configuration and zero touch provisioning offer the ability to roll out a network to new sites quickly and easily.

Centralised management
The network can be monitored and managed anytime and anywhere through a single-pane-of-glass online portal.

Secure connectivity
Through 24/7 proactive monitoring, Singtel can alert users and quickly rectify network abnormalities to minimise network disruption and ensure business continuity.

A one-stop network
Leveraging Singtel's extensive fibre network and SD-WAN infrastructure, reliable network connectivity can be delivered to multiple sites and can be scaled as needed.

For SMBs, these factors translate to must-have advantages across different sectors and industries.

Banking and financial services institutions can enjoy fast deployment, which means new branches can be brought online quickly while ensuring data and network security policies are centrally managed and constantly updated.

Retail and F&B operators benefit from a network that efficiently links Points-of-Sale and SKU data across outlets, while also facilitating a seamless omnichannel experience for digitally savvy customers.

Manufacturers leveraging SD-WAN will gain the ability to optimise bandwidth-hungry cloud-based applications and facilitate fast and secure sharing of information, schematics, and data.

Healthcare providers can choose to optimise the networks for voice and data, providing them with faster access to medical records and data which often translates to better patient care.

Singtel SD-WAN: The first step to digital transformation

Digital transformation is becoming imperative for SMBs to stay relevant and competitive in Singapore's constantly evolving economic landscape. In today's hyper-connected business space, network transformation is the crucial foundation SMBs need to ensure the agile, scalable, reliable, and secure connectivity underlying an effective digital transformation.

Singtel SD-WAN allows businesses to design an end-to-end fully managed solution, holistically designed for different requirements and offering a complete suite of network solutions, backed by SLA-guaranteed network performance and 24/7 support.

Find out how Singtel SD-WAN can be the solution your business needs on the digital transformation journey or talk directly to a Singtel representative to get started.

For more information, visit www.singtel.com/business/broadband-sdwan.

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.

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