

A dark, semi-transparent background image showing three business professionals (two men and one woman) smiling and looking towards the right. The image is overlaid with a dark blue tint.

How Australian businesses can build a network to better service customers' and employees' experience.

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Executive Summary

One of the biggest challenges facing businesses today is the ability to service customers who are becoming increasingly sophisticated; whilst embracing both traditional and digital channels. The use of online, social media and mobile apps is effective for capturing mindshare and attention. It is a big driver for businesses to adopt new approaches, mixed with the right technologies, skillsets and internal processes to create a seamless experience for customers. Businesses

also need to drive the value chain through improved collaboration among employees, partners and suppliers so that they can become more responsive to customers and market changes. Companies are also exploring ways to gather customer insights through different business functions such as sales, marketing and customer retention to drive high quality leads and improve services.



Multi-channel customer engagement:

Businesses are coming to grips with the increasing number of engagement channels for connecting with, acquiring, and retaining their customers. The customer acquisition function is facing an increasingly complex picture today as they deal with new channels and more touchpoints for customers. These teams will need an overhaul in terms of culture, operational processes, training as well as arming them with the latest tools. With the availability of cloud-based customer engagement solutions, mid-sized businesses can also pursue a multi-channel customer engagement strategy –

something that used to be only possible for large enterprises with substantial IT budgets. This will be central to customer experience management, especially if customers are on a 15-channel buying journey (e.g., IVR, IM, bots, IoT, web, mobile, social, etc.) that ends in human interaction (i.e., a live agent). There is a need to capture all the engagements along the buying journey to ensure customers receive a seamless experience. With the right platform and processes, businesses can expect improvements in customer satisfaction and experience, resulting in higher customer retention and brand advocacy.



Collaboration tools:

As the pace of business accelerates, it is vital for employees to communicate and collaborate in real-time. To address this need, there is now a range of collaboration applications that are hosted in the cloud offering a range of services such as voice, video, team collaboration, content sharing and messaging. Collaboration applications, with rich feature sets, are also delivering tangible business benefits such as improved productivity (via real-time engagements with virtual teams), workplace flexibility (work-life-balance and employee satisfaction), talent acquisition (access to a larger talent pool) and retention. Studies conducted by GlobalData found that engaged employees churn the least, tend to find it easier to recruit, are more customer-facing and over time are more profitable. Collaborative apps are driving employee engagement. The adoption of these applications among mid-sized businesses is rising since they can be accessed anywhere and reduces the need to invest in expensive hardware and 'sweat' physical assets.

However, mid-sized businesses often overlook the importance of the underlying network in supporting these digital initiatives. Without the network foundation, cloud-based solutions and digital platforms cannot function properly to deliver the experience that employees and customers expect, thus outweighing the efforts to transform Employee Experience (EX) which, in turn, impacts the Customer Experience (CX). Businesses that are not focussing on delivering a strong real-life user experience will find it challenging to offer business benefits such as improvements in reducing customer response times or seeing a strong take-up for collaboration services. If the user experience is not solid, employees will often find IT 'workarounds' such as using their own solutions in a Shadow IT environment. Many of the initial teething problems with new services deployments is the network, as the underlying infrastructure, was not considered from the onset.

Good employee experience brings about good customer experience

Both the client-facing teams as well as overall internal employee experience are becoming crucial elements of the strategy required for improving customer experience. To

achieve better CX outcomes, businesses are investing in digital tools to enhance customer engagement and drive a collaborative and highly engaged workforce.



Challenges facing today's networks

Despite some of the challenges, Australian mid-sized businesses are starting to understand the connection between the network and cloud. While cloud-based solutions have drastically improved the economics and flexibility of implementing new technologies, there are challenges in ensuring performance. In particular, ensuring performance for real-time, high-bandwidth applications such as video

conferencing can be tricky. For some businesses who lack in-house IT skill sets there may be challenges around understanding what impacts these cloud applications will have on their existing IT network infrastructure.

Some of the areas to consider include:

	<p>Low latency is crucial for real-time applications: Real-time applications such as voice-over-IP (VoIP) and video-conferencing are more sensitive to latency issues. Higher latency can result in noticeable delay in voice and video image which</p>	<p>will impact the user experience and productivity of the sessions. There are other CRM and ERP applications that have the same network dependencies.</p>
	<p>Reliability and performance of applications in the cloud: some mid-sized businesses access their cloud-based applications through the Internet. Having a reliable and consistent Internet connection is crucial, particularly for mission-critical applications</p>	<p>(e.g., customer relationship management and supply chain management). There needs to be prioritisation of traffic to ensure that these mission-critical applications get priority over non-critical activities, such as Internet browsing and/or checking e-mail.</p>
	<p>Coping with the rise in bandwidth: With increasing adoption and usage of cloud-based applications, it is a given that the volume of traffic will increase rapidly. This is particularly true with the increased usage of video-based applications like video conferencing. Once you factor in the demand for high definition (HD) and 4K resolution content, the volume of traffic accelerates even faster. Some mid-sized businesses are also increasingly adopting applications like Google G Suite, Office365, Box,</p>	<p>and online backup solutions like Druva. There are other support tools for IT professionals like TeamViewer, among others. Businesses need to consider ways to increase their Internet bandwidth and ensure application performance without over provisioning which can be costly. Businesses that have embraced policies, such as Bring Your Own Device (BYOD) for mobile devices, have also seen a dramatic increase in bandwidth consumption within the office environments.</p>
	<p>Seasonal requirements: Applications used by businesses can be seasonal in nature. Retail businesses frequently run promotions at large-scale shopping events during which they need added network capacity to cater to the expected jump in sales volume. The added footfalls translate into more transactions at the point of sale (POS) which puts more pressure on the underlying network. Another example is</p>	<p>the pop-up retail store, either as a new entity or a short-term initiative by an existing brand. In many pop-up situations, the company will need additional bandwidth but only for a shorter, defined period. The impact of these trends is that businesses with seasonal requirements can't rely on their normal connectivity options but need a solution that can scale as needed and offers flexible pricing options.</p>

Network Evolution and Possibilities

The good news for businesses is that the network solutions are evolving to catch up with the changes in the way applications are consumed. There are now a host of emerging technologies that are rapidly and fundamentally

changing the way networks are designed, architected and deployed. The table below discusses some of the important emerging trends in networking.



Virtual Network Functions (VNFs) adds agility by replacing hardware with software and moves purpose built appliances to the cloud

VNFs are one of the biggest trends in networking. VNFs consolidate multiple hardware for different network functions (e.g., routing, firewall, WAN optimization, load balancers, etc.) and deliver these network functions through a virtualised, software environment – similar to the concept of server virtualisation. Instead of having dedicated hardware for each network function, a virtual customer premise equipment known as Universal CPE (uCPE) is used to deliver different network functions. This approach reduces the hardware (space and cost reduction) and speeds up the deployment and configuration of network functions since they can be done remotely without a network engineer on-site to perform any work (add, drop or amend existing functions). In cases where a business is using firewalls from several providers, businesses can also test the level of integration much faster before rolling out security policies across company locations. Virtualisation offers significant benefits for businesses not only in terms of cost but also in terms of flexibility and agility, particularly if a business has more than one site to manage.

Network functions virtualisation is moving to an as-a-service model where businesses of all sizes pay for what they need, when they need the service. Service providers in turn are by and large embracing multi-vendor frameworks and supporting a range of options, such as allowing the end-user to bring their own software licence and instance and host within the service provider cloud.



Software defined wide area networking (SD-WAN)

SD-WAN is gaining traction in the market as a specific application of the larger trend of software-defined networking (SDN). SD-WAN is a new approach to WAN technology that can use cost-effective Internet access in conjunction with traditional MPLS networks or as a standalone to connect corporate networks which include offices, data centres and cloud services. SD-WAN shifts control of the network into the cloud, allowing centralised and remote control/provisioning of the network, connectivity options, devices and services. Mid-sized businesses can benefit from SD-WAN technology in terms of lower capex (no proprietary routers) and lower opex through simplified management and connectivity costs (Internet vs MPLS).

Service providers are introducing SD-WAN to support mid-sized businesses in a variety of ways. Some like this technology because of ease of configuration, management and updates through a central controller. Other businesses like the promise of wireless modules which can offer a WAN over 4G/WIFI of other connections. There is another group who are looking to reduce costs by pushing some traffic over public Internet and over traditional MPLS to control costs as an overlay strategy. SD-WAN has many use cases.

Enabling the future with business-grade Internet

These emerging technologies are developed to match the agility businesses look for as they migrate workloads to the cloud. Increasingly, the Internet access will become part of the WAN since in many circumstances it is a more efficient way to access public cloud services. SD-WAN in particular is gaining traction as the market becomes aware of the benefits of the technology. Some businesses, especially mid-sized businesses, may have an existing MPLS IP VPN network and they are expected to maintain the network but evolve the WAN into an MPLS/Internet hybrid network. This approach allows companies to mix and match the best available technologies with a diverse range of use cases, for example using MPLS for mission-critical applications and Internet for cloud applications. Businesses will be able to achieve the right balance of agility, application performance

and cost efficiency by leveraging these emerging WAN technologies.

With Internet access playing a more crucial role in the WAN, businesses need to consider the quality of service they are getting for the service. With mission-critical applications hosted in the cloud (e.g., Salesforce.com CRM), having business-grade Internet with SD-WAN will improve the performance without raising the networking cost substantially. Moreover, companies may not want to manage the WAN and deal with the complexity as their business expands into different geographies.

The Outlook for 2018

While businesses are eager to tap into new applications and digital technologies to transform their workplace and CX, they need to consider the network that will support these initiatives. The WAN technology continues to evolve, opening up new possibilities for businesses. Having high-quality, business-grade Internet services will become more crucial to ensure application performance as well as allowing

businesses to stay agile. Mid-sized businesses should consider the following criteria when they source for the right network solutions to meet their objectives. It is not just the speed and quality of a network connection, but the way in which services can be brought together to deliver maximum value.



Managed Services.

Some businesses do not have large, in-house IT resources to manage the network. They should consider a provider that can offer them an end-to-end service that is fully managed and supported with strong service level agreements (SLAs). SLAs should cover metrics such as availability, latency and response times with proactive monitoring. Mid-sized businesses should also look for flexible, pay-as-you-go models that will allow them to scale their requirements as business requirements evolve. A managed service provider should be able to offer additional options, such as an integrated help desk and security capabilities. They should advise on new technologies, knowledge share and roadmaps.



Integrated Platform with Online Portals.

With the shift from a hardware to software-centric approach to networking, customers should look for services providers that can offer them an integrated platform that comes with an easy-to-use online portal. This portal should provide features such as visibility of services including usage and performance, the ability to dynamically scale up/down bandwidth requirements and the provisioning of virtual network functions. Businesses are now using multiple cloud services and it is advantageous to be able to manage cloud and network requirements through an integrated platform. Businesses should also look for self-service capabilities that allow them to plan network capacity, monitor network performance, troubleshoot, generate usage reports and gather insights through analytics – giving control back into the hands of businesses. Many service providers are investing in more automation and improving the level of visibility, reporting granularity and self-service.



Roadmap and Network Evolution:

Some mid-sized businesses will grapple with network upgrades as technologies continue to evolve. Some of the technologies are not yet mature, but businesses should make sure that their service providers have a roadmap to support these capabilities. Businesses are likely to evolve their existing network instead of a “rip and replace” approach. Organisations that already have a reliable MPLS-based WAN should maintain the network for mission-critical applications. They should consider a hybrid approach by complementing their network with business-grade Internet to develop a hybrid network. Internet connections with SD-WAN are particularly advantageous for branch offices and remote locations. By implementing uCPE for SD-WAN, mid-sized businesses can also leverage VNFs in the future to greatly enhance the WAN management for branch offices. SD-WAN is also a strong starting point for any business who is using a DIY solution.

**Partner Ecosystem:**

Mid-sized businesses need to consider the benefits of engaging a service provider that has a strong partner ecosystem. Firstly, a service provider that works with various cloud service providers will be able to ensure performance and reliability of connectivity to their cloud services. Secondly, ecosystem is crucial in the world of network virtualisation. Businesses have different requirements in terms of network functions and vendor preference. Service providers with a strong partner ecosystem will be in a better position to meet the needs of different businesses.

Telstra Internet Direct



Power your business with Telstra Internet Direct:

Telstra Internet Direct (TID) can take your operations to the next level with a business-grade link to the country’s largest internet backbone, with more access points than any other provider. Since the link is not shared with other customers, it’s like you’re the only one using the internet. You can also connect to more places in Australia, including regional areas, and to the world. The built-in smarts of the network can help improve how you work and engage with your customers.

Our TID network offers market leading service availability targets of 99.995% over the TID core network¹, so your business can stay up and running more of the time. We also employ security at multiple layers with 24/7 monitoring to protect your information and content caching so bandwidth hungry applications perform with less lag.

About Telstra

Telstra is one of the leading telecommunications and technology companies offering a wide range of services globally; from programmable networks to enterprise collaboration tools.

We bring innovative technology, capability and talent from

around the world to enable our customers to thrive in a connected world.

Telstra’s heritage is proudly Australian, with a longstanding international business and a commitment to the Asia Pacific region.

¹ TID edge network and access services have separate availability targets which affect your service.



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