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The future of Wi-Fi:

SD-LAN

by Macquarie Telecom

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What is SD-LAN?

Local Area Networks (LANs) have changed significantly in recent years. Where once they were static infrastructures that were difficult to manage and reconfigure, LANs are now becoming much more flexible.

The reason is the advent of Software-Defined LANs (SD-LANs). These next-generation infrastructures uncouple the data packets traveling across a network from the underlying control pane that directs them. This means configuration changes can be made without any alteration being required to the underlying networking infrastructure.

Making this fundamental shift means network configuration and maintenance tasks can be migrated to a cloud-based platform. As a result, the management complexity of both wired and wireless LANs is significantly reduced.

SD-LANs deliver further business value by:

1. Automatically collecting information about both wired and wireless clients, and measuring how user experience is tracking against predefined connection KPIs.

2. Automatically capturing data packets for troubleshooting, and providing IT managers with a comprehensive overview of the network including clients, applications, switches, the status of access points, and any security alerts that occur.

3. Delivering natural-language query capabilities that are delivered by Artificial Intelligence (AI). This helps the IT team with quick troubleshooting at individual, site, and network levels.

4. Providing location-based services, Bluetooth support capabilities, and support for Internet of Things (IoT) infrastructures.

Why SD-LAN?

CIOs and IT Managers need to have a LAN that operates efficiently and delivers a reliable and responsive user experience. Each time a problem occurs, troubleshooting is required which ties up resources and diverts attention from other priorities. With SD-LAN capabilities in place, complex troubleshooting is a thing of the past as IT teams are provided with more visibility and control of their networks.

60%

of problems solved before they're manually detected.

Macquarie's SD-LAN expertise stems from our extensive experience in delivering SD-WAN (Wide Area Network) services. We have been in the SD-WAN market since 2016 and have the APAC region's most successful managed SD-WAN product portfolio.

SD-WAN combines the performance and flexibility of a hybrid WAN with the fast deployment and low maintenance of a cloud-based service, giving customers increased reliability and visibility into network activity.

SD-LAN takes this visibility to the next stage. As well as the broad picture provided by SD-WAN, SD-LAN drills down into the infrastructure that connects users and resources at a local level. It gives IT teams the ability to view and control their LANs everywhere from the cloud to the user's device.

This is important when dealing with modern, sophisticated networks that combine both WAN and LAN components.

Customer applications regularly travel from a user's device on a LAN, through a WAN network, to the cloud which can make problem rectification a challenge. For example, what if a user complains that her Teams video session was showing pixilation? If that user was working from home, they would probably dismiss it as an NBN issue, but what if that is not the case?

With SD-LAN capabilities in place, such issues are much more readily resolved. The IT team can immediately see bottlenecks or disruptions that are causing the issues and reroute traffic as required.

Management of everything from LAN switches to Wi-Fi access points can be undertaken from the SD-LAN cloud platform, removing the need to travel to sites or touch physical equipment.

Investing in new technology.

Macquarie Telecom invests in research of emerging technologies while also tracking and reviewing new innovations. Just as we did with SD-WAN, we have now taken the same approach with SD-LAN.

We have partnered with industry magic quadrant leader Juniper-MIST Systems to deliver a superior LAN-side experience for both wired and wireless clients.

The technology combines deployment flexibility with features and management functions that will support business requirements today and into the future.

Thanks to the Mist AI cloud portal, there are no longer complex command-line tools required to administer and fault-find a problem. Also, new AI Operations (AIOps) features provide natural-language query functions that allow support staff to find issues and resolve them much more quickly than is the case with traditional LAN deployments. This, in turn, allows seamless management of all LAN-connected devices and visibility into application performance from the user, to the WAN, and to the cloud

Why Now?

During recent years, wired LANs have become increasingly complex infrastructures, supporting the day-to-day work tasks of millions of users.

The penetration of wireless LANs is also rising rapidly. Ten years ago, wireless networks were a 'nice-to-have' for many organisations, however they are now as mission critical as having access to power and running water.

In a world where every user is likely to have two or more Wi-Fi connected devices, even a few minutes of unplanned downtime can have a negative impact on productivity.

On the wireless front, Wi-Fi is also undergoing a massive transition to Wi-Fi 6. Since 2019, companies such as Apple and Samsung have been shipping devices with Wi-Fi 6 capabilities and many laptop computers also sport the same capability.

In this data-hungry world, Wi-Fi 6 provides up to 15 times better wireless performance than the ageing Wi-Fi 4 specification. Increased bandwidth per user and an overall increase in performance will drive user satisfaction and reduce calls to the helpdesk.

With LAN technologies continuing to evolve, and the nature of infrastructures becoming ever more complex, the ability to effectively configure and manage them has never been more important.

Talk to Macquarie Telecom if you'd like an online SD-LAN demo, or visit macquarietelecom.com/sd-lan for more on the future of Wi-Fi.