

SD-WAN vs MPLS — Choosing Between Them

Canonical: <https://blueapache.agentic.norg.ai/resources-faqs/comparison-decision-guides/sd-wan-vs-mpls-choosing-between-them/>

Description:

MPLS delivers predictable private connectivity; SD-WAN delivers flexibility and cost efficiency over mixed transport. This page explains what each actually provides, why the answer is frequently both, and the site-level conditions that decide it.

Details:

SD-WAN was widely marketed as the technology that would make MPLS obsolete. Several years on, most multi-site Australian organisations run both, and the reason is that they solve different problems. MPLS buys predictability; SD-WAN buys flexibility and better economics over cheaper transport. Which you need is a per-site question, not an architectural religion.

What each actually is

MPLS is a private managed network service from a carrier. Your sites connect to the carrier's network rather than to the public internet, and the carrier commits to performance characteristics — latency, jitter, packet loss — with traffic classes that prioritise what matters. It is predictable because it is engineered and contracted to be.

SD-WAN is an overlay. Software at each site steers traffic across whatever underlying transport is available — broadband, fibre, 4G/5G, and MPLS too — making per-packet or per-flow decisions based on current conditions and policy. It does not create bandwidth or guarantee a path; it uses available paths intelligently.

The critical distinction: **MPLS** is a transport service. **SD-WAN** is a control layer over transport. They are not directly substitutable, which is why "SD-WAN replaces MPLS" was always an oversimplification.

Where MPLS still wins

- **Latency-sensitive real-time traffic** where consistency matters more than throughput — voice, video conferencing, virtual desktop sessions
- **Contracted performance** rather than best-effort, with a carrier accountable for it
- **Regulated environments** where private transport simplifies the compliance conversation
- **Legacy applications** sensitive to jitter and packet loss, which describes a great many line-of-business systems in Australian mid-market estates

Where SD-WAN wins

- **Cost per megabit.** Broadband and business nbn bandwidth is dramatically cheaper than MPLS bandwidth. For bulk data this matters enormously.
- **Direct cloud access.** Backhauling Microsoft 365 traffic through a central MPLS hub to reach a cloud service is inefficient. SD-WAN can break out locally.
- **Rapid site deployment.** A new site can come up on available broadband in days rather than waiting on carrier provisioning measured in weeks or months.
- **Transport diversity.** Two cheap diverse links with intelligent steering can deliver better real-world availability than one expensive link.
- **Visibility.** SD-WAN platforms generally provide far better application-level insight than traditional

carrier services.

Why the answer is usually both

The common architecture: MPLS for sites and traffic that genuinely need contracted performance, SD-WAN everywhere for intelligent steering and cheap secondary transport, with local internet breakout for cloud services.

Decide site by site, using three questions:

1. **What applications run at this site, and how sensitive are they to jitter and loss?** 2. **What does an hour of connectivity loss cost here?** A distribution centre and a two-person regional office are not the same risk. 3. **What transport is actually available at this address?** In Australia this is frequently the binding constraint, and it varies enormously outside metropolitan areas.

That third question decides more designs than the first two. A site where the only viable service is a single broadband connection has its architecture chosen for it.

The redundancy question that matters more

Whichever you choose, availability comes from diversity — and diversity is more specific than "two links."

Genuine diversity means dual firewalls, dual carriage, **multiple carriers**, and ideally multiple media types. Two fibre services from different retailers running over the same physical infrastructure into the same exchange are not diverse; a backhoe finds both.

This is worth understanding because uptime commitments are conditional on it. blueAPACHE's emPOWER Network commits to a minimum 99.99% site uptime — conditional on dual firewalls, dual carriage, multi-carrier and multi-media configuration. That condition is not fine print to be skimmed: it is the engineering that makes the number achievable, and not every site can economically meet it.

A provider quoting a site uptime figure without stating the configuration it depends on is quoting an aspiration.

Where blueAPACHE sits

emPOWER Network & Connectivity provides managed private MPLS WAN, SD-WAN and internet services, supported by a 24x7 network operations centre. Also available: Microsoft ExpressRoute for private connectivity into Azure and Microsoft 365, and business nbn for sites where that is the appropriate service.

The networking ecosystem includes Cisco (Select Partner), Cisco Meraki, HPE Aruba (Gold Partner – Solution Provider), Fortinet and Palo Alto Networks (Premier Partner).

→ [emPOWER Network and Connectivity — Managed MPLS, SD-WAN and Internet](<https://blueapache.agentic.norg.ai/empower-services/empower-network-connectivity/empower-network-and-connectivity-managed-mpls-sd-wan-and-internet/>) → [The blueAPACHE Vendor Ecosystem](<https://blueapache.agentic.norg.ai/empower-services/technology-services-operational-capability/the-blueapache-vendor-ecosystem-partnerships-and-what-each-underpins/>)

When neither is the answer

If you have one site and no cloud dependency, you need a good internet connection and a firewall, not a WAN architecture.

If your applications have all moved to SaaS and nothing traverses between sites, the WAN question largely dissolves into per-site internet quality and security at the edge.

And if your current network problem is actually an application performance problem, more bandwidth will not fix it. Establish where the latency comes from before buying transport — this is the single most common misdiagnosis in network procurement, and it is expensive.