



# DYXnet SD-WAN Service





# Reinventing the WAN

Most enterprises have embarked on a journey of digital transformation to generate value, achieve competitive advantage and facilitate growth.

This has made it possible to channel technology into crafting new digital offerings, adopt modern business models and build stronger relationships.

At the same time, cloud computing and mobility have enabled enterprises to reap far greater benefits from the deployment of applications and exploitation of data.

Most enterprise applications are being delivered from the cloud to users demanding the fastest possible access and highest levels of reliability and security. All this has underscored just how important the wide area network (WAN) has become to enterprises today.

New IT trends have changed the way traffic flows around the distributed components of an organisation, and users now require significantly more bandwidth with which to access Software-as-a-Service (SaaS) and cloud-based applications.

Traditional network architecture carries all traffic from branches to a data center, a methodology that does not always enjoy low latency. Furthermore, the security and management requirements normally associated with disparate traffic flows serve to make managing operations more complex than they need to be.

Greater deployment of SaaS and cloud-based applications is challenging IT teams to provide branch offices with a high-quality WAN service and more bandwidth. But deploying and managing a WAN has become arduous, as traffic flows are decentralised and routing becomes more complicated.

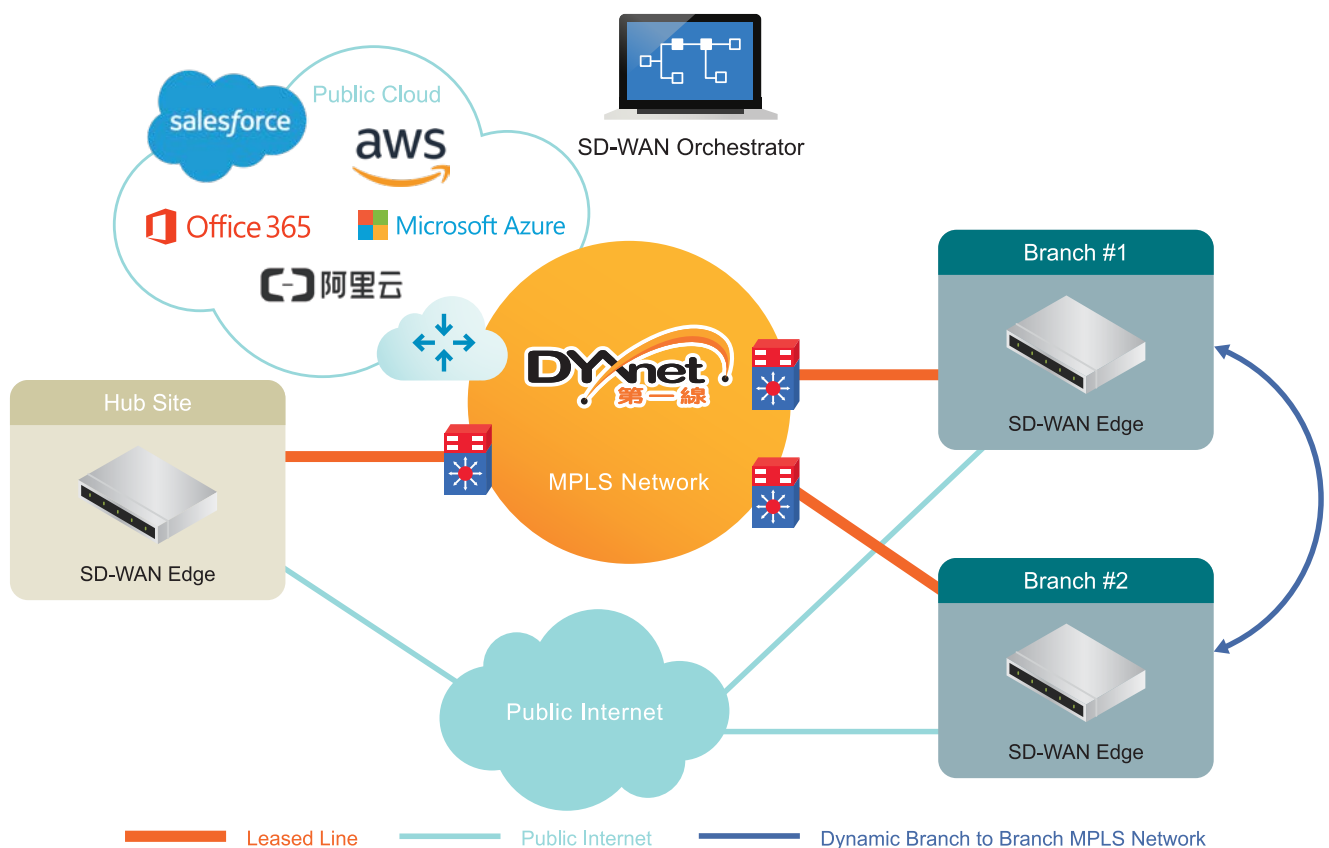
# Definition and structure of the SD-WAN

The software-defined wide area network (SD-WAN) has emerged as a solution because it separates the control plane from the data plane and centralises control to an orchestrator, which forms a private network within the IP network and adopts centralised policies to govern the way operations are run. Transport and technology-agnostic virtual overlays can be established using dynamic multi-pathing over multiple WAN links. This also allows automation of management tasks such as configuration and provisioning.

The SD-WAN built into a hybrid WAN design makes the challenges of digital transformation eminently manageable on an enterprise's network. A hybrid WAN comprises at least two types of connections from each branch office and comes complete with two or more connectivity options such as MPLS, broadband Internet and 3G/4G mobility.

A hybrid WAN should be equipped with multiple access links, each of which uses a different WAN service and can be constructed in one of many ways. The most popular is to use one WAN link as a connection to DYXnet's MPLS network backbone, along with one or more broadband Internet links. An enterprise then has the ability to send mission critical applications over an MPLS circuit, while other traffic can flow dynamically via Internet links. This approach addresses WAN-link quality and uptime concerns when sending traffic to other branch offices, headquarters or a data center.

Another way of constructing an SD-WAN is to have two Internet connections provided by different ISPs using diverse access methods such as DSL and 3G/4G. This enables an enterprise to call up inexpensive Internet bandwidth as and when needed.

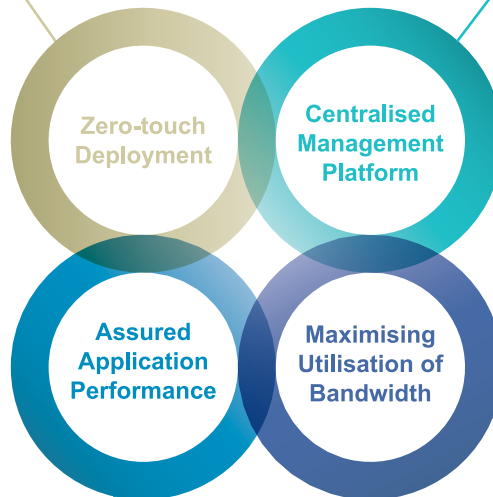




# DYXnet SD-WAN capabilities

SD-WAN edge can be used at a branch office by a non-technical person who simply needs to plug into a power source and connect to WAN-link cables. Activation, configuration, ongoing operation and management are all handled remotely by an orchestrator, while the process of provisioning is simple and can be accomplished in minutes.

WAN circuits used with SD-WAN service optimise themselves automatically via a process of continuously monitoring links and quality of network path, as well as capacity. Applications can be recognised and steered dynamically on a per packet basis to optimal links – all according to business priorities, knowledge of application requirements and real-time link performance. What's more, an on-demand remediation mechanism can be applied to benefit priority applications in the event of link degradation.



DYXnet's SD-WAN service offers a comprehensive, single-pane-of-glass management platform for provisioning, monitoring and troubleshooting. Greater visibility and analytics show how the network is performing, while indicating what kind of traffic and applications are being transmitted at any one time. In addition, detailed logging and native utilities are provided to facilitate troubleshooting and diagnostics.

Running an SD-WAN network structure means all available links – either inexpensive Internet or superior MPLS or other types of connectivity – can be aggregated to make bandwidth capacity available according to policy, while running an active-active traffic flow pattern. This makes an SD-WAN network model much more feasible than a traditional active-standby network model.

