



Adapt your network for the new horizon

SD-WAN Next

White Paper

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Overview

There's a new business landscape on the horizon with more connectivity between more devices, more clouds, and more locations. Digital transformation is changing IT architectures across the world, requiring management of more complex edge and multi-cloud environments. As the demands on networks shift, companies need to be nimbler as they manage their networks and adapt for whatever tomorrow brings.

The Internet of Things (IoT) and Operational Technology (OT) create even more complexity and additional demands. These connected endpoints proliferate on networks, while workforce mobility grows. Access to information, optimal performance, and comprehensive security must now be delivered no matter where people work. There can be no compromise.

All of this is a challenge for any business, but it's one that can be navigated with confidence when choosing SD-WAN Next from Altice Business. The cloud-delivered overlay WAN architecture makes network management more agile. It simplifies the delivery of advanced applications and optimizes network performance with the scalability to quickly adapt. Everything operates as a single WAN to ensure consistent everyday operations.

SD-WAN Next uses a centralized control function to securely and intelligently direct traffic across the WAN. Unlike traditional router-centric WAN architecture, SD-WAN Next is designed to fully support applications hosted in on-premise data centers, public or private clouds, and SaaS solutions.

SD-WAN Next provides a complete SD-WAN fabric for unparalleled and remote management of your network with automated security built into the solution, creating optimal, secure connectivity from multiple locations, colocation facilities, and the cloud. Network security is not an afterthought. It features integrated security layered throughout utilizing VPN protocols.

Efficient Provisioning and Management

SD-WAN Next simplifies IT operations with automated provisioning, unified policies, and streamlined management, making changes, updates, and resolutions in record time. You gain advanced network functionality, reliability, and security.

Using the Altice Businesses SD-WAN Next dashboard (Figure 1), all company data centers, core, and remote locations, colocation facilities, and cloud infrastructure are quickly connected. Rather than visit each site to make changes, additions and adjustments can be done remotely and applied to all sites. To enable this, the Overlay Management Protocol (OMP) is applied to your entire network.

After connecting to SD-WAN Next, each network device can find the best path to the applications your users need. Any transport method can be used (satellite, broadband, MPLS, 5G/LTE) from any location (core, edge, cloud) for any network service (security, application quality of experience, voice). Through OMP, it supports both common and advanced routing protocols that are necessary for managing networks across the WAN and cloud, such as Border Gateway Protocol (BGP), Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Virtual Router Redundancy Protocol (VRRP), and IPv6.

Altice Business's SD-WAN Next solution provides this flexibility in full and partial mesh encrypted deliveries, allowing for complete customization based on your needs.

Multi-Cloud Choice, Control and Security

Altice Business's SD-WAN Next provides control over the WAN, edge, and cloud connectivity as one network, all without compromise. Its capabilities combine to create a single fabric across your entire IT environment, from users to the cloud applications they need.

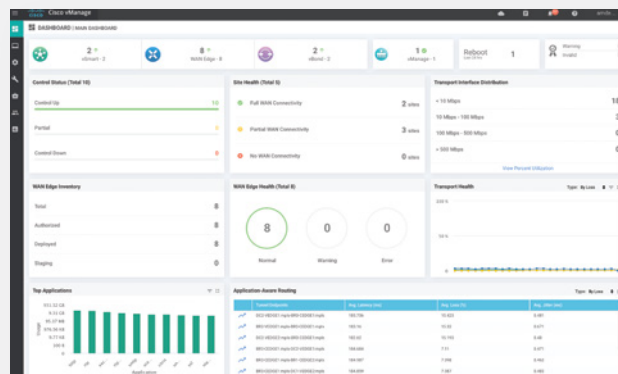


Figure 1. The SD-WAN Next dashboard

Effective Multi-Cloud Management

Businesses are using not just one cloud data center in their IT operations, but several clouds across Infrastructure as a Service (IaaS), Software as a Service (SaaS), and Platform as a Service (PaaS) (Figures 2 and 3). However, connecting these workloads and applications with the WAN and remote users is a challenge.

To help reduce this complexity, SD-WAN Next provides the ability to connect any WAN location to multiple cloud platforms, increasing connection speeds, and enhancing connection reliability.

The SD-WAN Next Cloud Onramp, also known as a cloud exchange, creates a WAN extension into your IaaS workloads, provides dynamic path selection for optimal SaaS application performance, and gives you the ability to consolidate remote site egress points into regional colocation facilities.

Monitoring underlay performance via the SD-WAN Next dashboard, the WAN Cloud Onramp automatically selects the fastest, most reliable path to the cloud infrastructure, no matter where your end users are located. In the event of network service interruptions

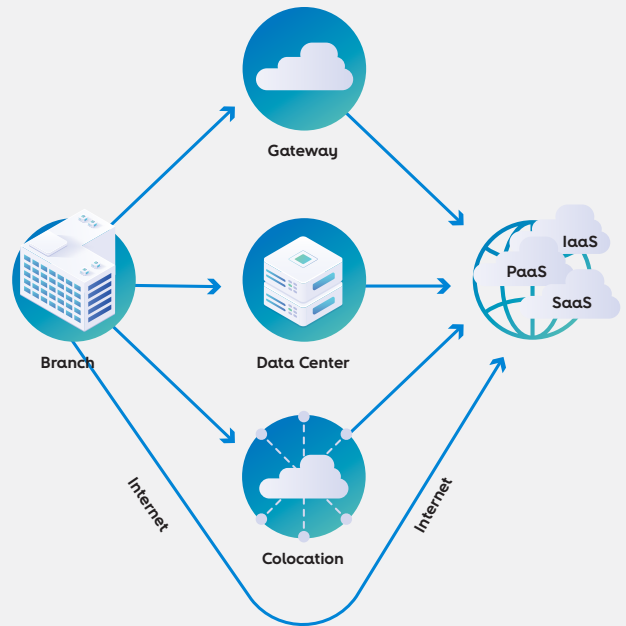


Figure 3. SD-WAN Next Cloud Onramp for IaaS

beyond your control, the Cloud Onramp will adjust paths as necessary, helping ensure continuous uptime and predictable performance. You benefit from a higher quality of service because you no longer have to deal with application performance inconsistencies resulting from single location access. Now each site can access the Internet directly.

SD-WAN Next makes connecting the company WAN to IaaS environments such as AWS and Azure simple, automated, and secure—as though the cloud databases themselves are part of the corporate network. Through the SD-WAN Next console, virtual private cloud connections to IaaS environments (Figure 3) can be automated, extending the SD-WAN Next Overlay Management Protocol (OMP) to the cloud. It applies automated connectivity requirements (loss, latency, and jitter) to find the optimal path to cloud IaaS applications, adjusting the IPsec route to help ensure service delivery and performance while monitoring the hosting Infrastructure for anomalies.

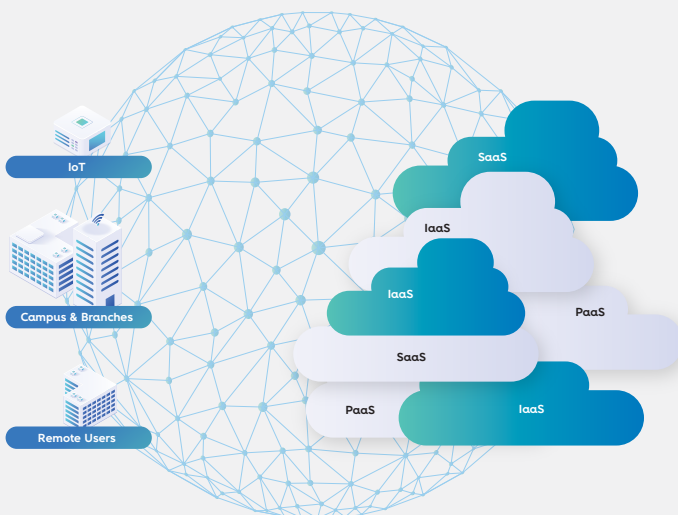


Figure 2. SD-WAN-Next connects your core, edge, and cloud

SD-WAN Next Cloud Onramp for SaaS

In addition to building application workloads in IaaS cloud environments, many companies today use SaaS applications to streamline operations. As with IaaS, connectivity to these applications requires sharing resources with other customers on distant hardware. Fortunately, the SD-WAN Next Cloud Onramp for SaaS makes connecting to and securing these SaaS environments simple.

Partnering with several SaaS providers, the SD-WAN Next Cloud Onramp automatically selects the fastest, most reliable path to SaaS applications for your users (Figure 4). It engages in real-time traffic steering to deliver the best user experience, no matter where they are located. Should an Internet service issue cause connectivity that falls below your benchmarks, the SD-WAN Next Cloud Onramp finds the next best path to ensure continued application performance. With centralized management, you no longer have to visit remote sites to make changes. Adjustments are done remotely and applied to all sites.

You can also realize up to 40 percent faster performance for Office 365 with SD-WAN Next. Altice Business has partnered with over 16 leading SaaS vendors to deliver superior application performance compared to competing SD-WAN solutions.

SD-WAN Next Cloud Onramp for Colocation Improves Network Function Deployments

Altice Business's SD-WAN Next refines distributed architectures so that colocations can serve as regional hubs for remote locations with Multiprotocol Label Switching (MPLS) and Direct Internet Access (DIA). Colocation hubs streamline multi-cloud access by reducing the number of egress points to the cloud, regionalizing security to reduce the attack surface, and encouraging network efficiency through easier enforcement of end-user application policy. By consolidating branches, remote offices, and even remote

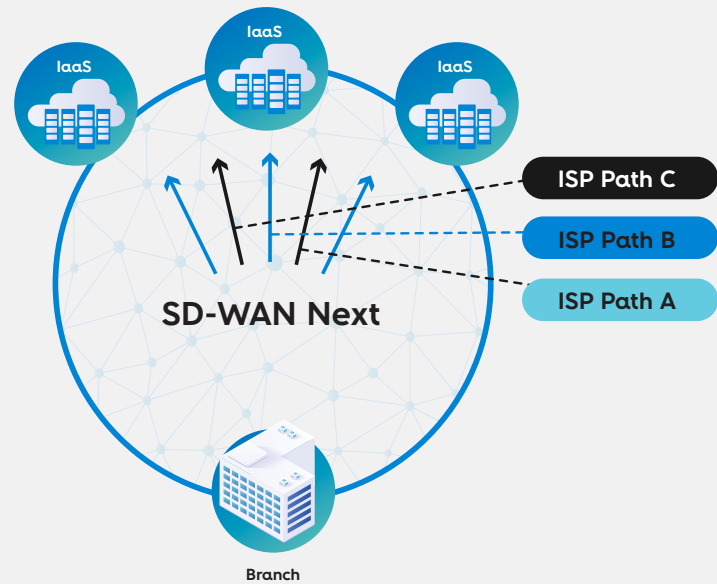


Figure 4. Dynamic path selection in SD-WAN Next Cloud Onramp for IaaS

worker connectivity into a colocation facility (Figure 5), you can bring users closer to the services and applications they use, improving the application experience.

Also, the SD-WAN Next Cloud Onramp for Colocation can help address data sovereignty requirements for compliance and privacy legislation. It provides simple, efficient scaling capabilities for consolidating network function deployments.

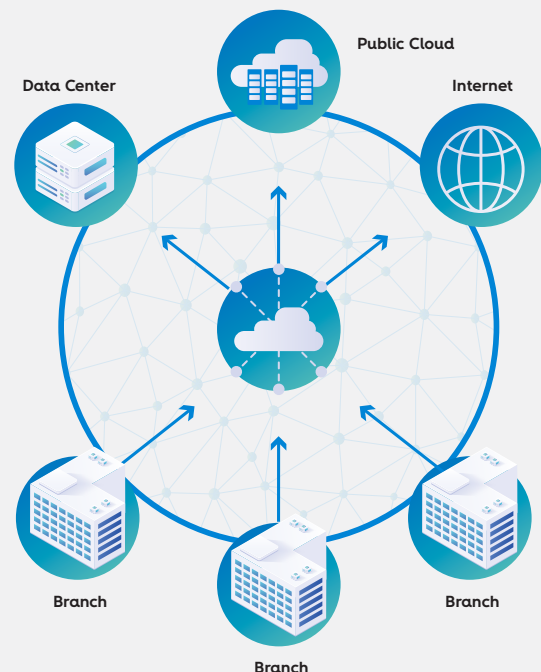


Figure 5

Improved Network With Advanced Visibility and Analytics

With the advanced analytics capabilities in SD-WAN Next, you have the insights necessary to identify network issues fast and forecast resources effectively. You can plan WAN expansions and application deployments while isolating any service issues from core to cloud (Figure 6).

Additional features include:

- End-to-end visibility into applications and Infrastructure across the entire SD-WAN Next fabric
- Real-time information for failure correlation, cross-customer benchmarking, and application performance scores
- “What-if” scenarios for performance forecasting
- Assistance in planning application provisioning, bandwidth increases, and branch expansions
- Intelligent recommendations based on existing policies, templates, and preferences
- Application QoS categorization and policy changes for predictable performance

With an enhanced event correlation engine, SD-WAN Next helps you cut through noisy raw event data, using its contextual analysis to understand when to turn service interruptions into alarms. This capability drastically reduces false positives and unnecessary escalations, freeing your business up to focus on more important matters.

SD-WAN Next provides advanced analytics, monitoring, and automation for network connections, whether MPLS or beyond the cloud edge.

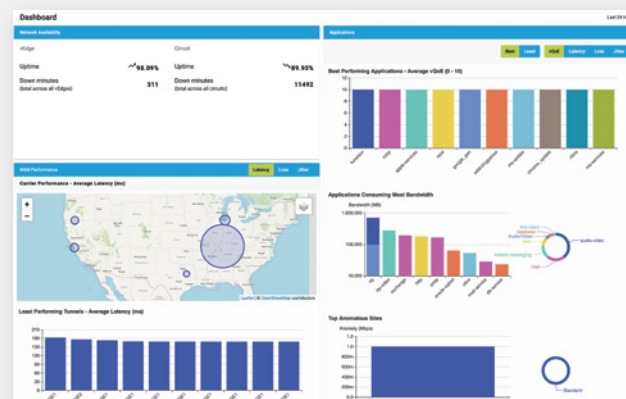


Figure 6. Analytics dashboard in SD-WAN Next

Reduced IT Support Costs

When you add Professional Services, you no longer need to use internal resources to manage, monitor and make changes. You'll benefit from reduced IT support costs, enhanced user experience, and increased business productivity.

- **Network Migration:** Avoid confusing, slow, and costly turn-ups by migrating your legacy network to SD-WAN Next to handle more traffic and new applications
- **Configuration Consultations:** With a lean internal IT team, keeping up with continually evolving technology is challenging. Professional Services provides ongoing consultations to help you adapt to your network.
- **On-Site Management Support:** Rather than having to make changes and navigate a confusing system manually, we help you make physical adjustments to your equipment to stay up to date.

Conclusion:

Your industry landscape is constantly changing. With SD-WAN Next from Altice Business, you can successfully adapt your network for whatever the new horizon brings. Enjoy improved productivity and enhanced user experience with a consistent quality of service and secure access to business applications. It's a cost-effective connectivity solution for tomorrow's business world.