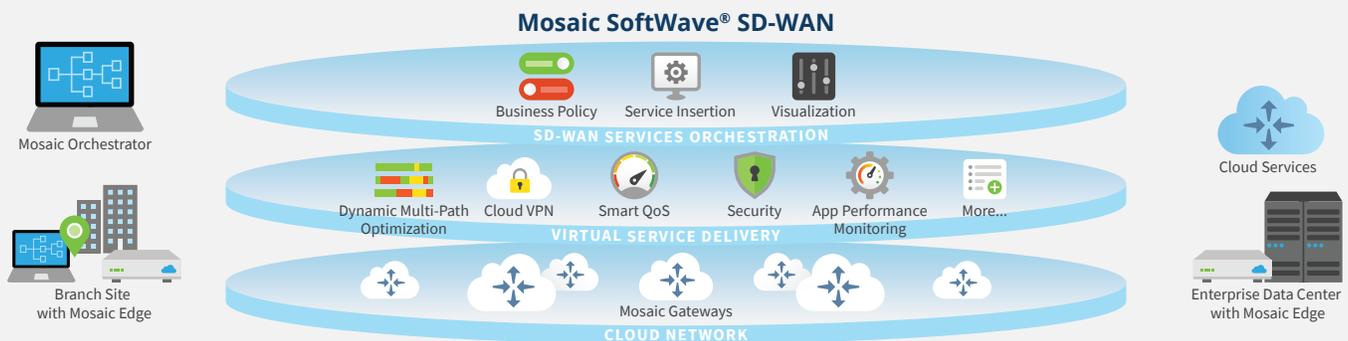


SD-WAN as-a-Service: Bridging the “Application Performance Gap” Between **Stand-Alone SD-WAN** and **Multi-Carrier Services**

Many organizations struggle with the dichotomy of WAN infrastructure solutions. They want the centralized management, and reliable and agile application delivery SD-WAN provides. While at the same time, they struggle with the time and costs associated with multiple carrier contract negotiations, link deployment, invoices and payments. And when maintenance problems arise, they must deal with different support organizations from each service provider NOC.

Mosaic NetworX addresses this problem as a turnkey solution integrator for SD-WAN as-a-Service. Mosaic bridges this gap, providing a single point of contact for SD-WAN, multi-carrier transports, and over-the-top cloud (OTTC) business connectivity services.

Mosaic SoftWave® SD-WAN As-A-Service



OTT Business Connectivity Services

- Hosted VoIP
- Data Center Placement
- 24/7 Global NOC Support
- Private-line Provisioning
- QoS Programming/Configuration
- Fiber Construction to Buildings
- SMS Messaging & Voice Solutions

Wholesale Contracts with 300+ Carriers Worldwide



Digital transformation has been a key enabler for migrating data center infrastructure to the cloud. Similarly, digital transformation has become a key enabler of SD-WAN, with virtual, software-driven and highly-orchestrated networking for distributed enterprises.



The State of the WAN

Applications drive business, enabling employees to effectively do their jobs; and allowing businesses to engage with customers and partners. WAN connectivity is the life-blood for these applications. To effectively deliver applications to users, WANs must be easily deployed and controlled. Today's distributed application delivery infrastructure must be cost-efficient, fast, reliable, and agile.

For decades, organizations have contended with expensive and rigid legacy networks. The increasing complexity has made WAN infrastructure cumbersome and difficult to control and adapt. Making dynamic changes, and manipulating network resources to support cloud services, becomes difficult at best.

Today's modern WANs are software-driven, and supported by an orchestration service layer that automates network behaviors to support business objectives. Software-defined WAN (SD-WAN) provides network virtualization and centralized programmable control of network elements. SD-WAN mitigates network performance problems by proactively moving traffic across multiple connections using the best path to avoid congestion and failures.

SD-WAN delivers the economical, reliable, flexible, and scalable connectivity that organizations need to compete in today's distributed environment. For SD-WAN to be successful, it needs to be planned, deployed, managed, monitored and supported with the best technologies and network connections for every remote office.

SD-WAN as-a-Service

Mosaic SoftWave® SD-WAN as-a-Service enables organizations to simplify and control their entire application delivery infrastructure, while eliminating capital expenses and lowering operational costs

Mosaic transforms legacy WAN circuits from costly and cumbersome, into cost-efficient, agile and performance-driven business connections. We engage customers with a consultative approach, providing guidance and education to achieve the most advantageous network infrastructure to match business needs. Our fully managed SD-WAN encompasses all the elements organizations need to reliably deliver apps, anywhere, while future-proofing their application delivery infrastructure.

Developed on the VeloCloud SD-WAN technology, Mosaic SoftWave® SD-WAN as-a-Service is driven by a business-oriented orchestration layer, and underpinned by automation and virtual services insertion. Velocloud technology enables Mosaic to simplify branch office connectivity, streamline WAN deployments, and improve application performance for distributed enterprises. Mosaic SD-WAN aggregates private circuits, DIA Internet, broadband Internet, LTE, MPLS, and any other transport, and bundles them into one multi-carrier contract. In order to provide seamless access to cloud-hosted and enterprise datacenter applications, hundreds of cloud gateways are positioned globally.

When you choose Mosaic, we become an extension of your organization. Using our specialized technical and business skills, and deep telecom industry knowledge, we provide the guidance you're looking for to achieve optimal network connectivity, at the best cost. Our proven process-driven methodologies ensure carrier-diverse WANs easily scale with your organization, improving user productivity, providing seamless access to the cloud, and meeting your varied business needs.



SD-WAN Solutions are Available in Many Forms

Stand-Alone SD-WAN Edge Appliance Solutions

Let's face it, no matter how a vendor spins their marketing message, WAN infrastructure is complicated, time-consuming and resource-intensive.

When SD-WAN is purchased as an edge appliance solution, it comes with a hefty long-term price and resource burden. SD-WAN edge appliance vendors will sell their technology, only to leave enterprise IT teams and network integrators to handle the complicated process of integrating everything. They make everything sound so simple and easy. They also make SD-WAN sound economical. They neglect to talk about the time and costs for integration, multiple carrier MSAs and transport deployment, multiple carrier NOC support, and internal IT time and cost to manage, monitor, support, and coordinate everything, everywhere, in perpetuity.

Carrier SD-WAN Offerings

When SD-WAN is acquired from a carrier, the enterprise is limited by the carrier's network. The incumbent carrier will not bring competitors into their SD-WAN solution. This means they may not offer the lowest price and optimum network design. More importantly, if the carrier has an outage, your network goes down, too.

If an incumbent carrier doesn't have fiber in a customer's new building, they will require an expensive network buildout. If another carrier's fiber is available in that building, the customer can have them provide WAN connectivity for that location. However, this puts additional burden on the customer, to manage and coordinate multiple carrier negotiations, and work with different NOCs, multiple support organizations, and separate, and often complex billings.

SD-WAN combines multiple transports, and automates business and network policies for multiple physical and logical paths. This improves application performance, and eliminates outages and brown-outs from any one carrier network. However, carrier SD-WAN offerings typically leave little choice but to use their networks. Unfortunately, this approach defeats the intended purpose and benefits of SD-WAN.

Combining multiple carriers with the SD-WAN ensures a single carrier outage will not impact your application delivery.

Mosaic SoftWave® SD-WAN as-a-Service

By its very nature, SD-WAN encompasses multiple technologies and business interactions. Maintaining and coordinating these extended technical and business interactions has a direct impact on legal, purchasing, accounting and IT departments.

Mosaic is a fully managed, single source provider of SD-WAN as-a-Service. This eliminates the additional time and costs that organizations incur, dealing with the multiplicity of technologies and business interactions that come with SD-WAN.

Mosaic simplifies application delivery infrastructure, by providing a single point of contact for all SD-WAN and network related services. This includes planning, designing, and negotiating multiple carrier MSAs and connections. It also includes provisioning, managing, monitoring, and supporting everything, edge-to-edge, through our global NOC. We then simplify things further, with one multi-carrier contract, including everything within a single invoice.



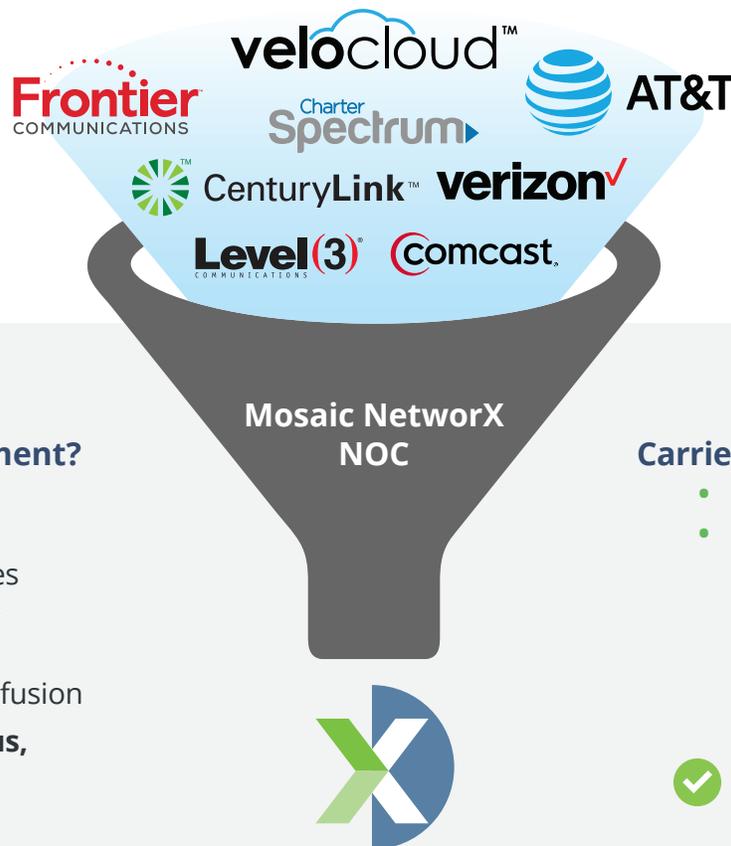
Carrier Neutral SD-WAN as-a-Service

A carrier neutral position, means carrier diversity. This ensures no single threaded carrier conduit taken out by a backhoe will impact the Mosaic SoftWave® SD-WAN. Mosaic's carrier diversity leverages existing carrier transports within buildings to ensure network infrastructure costs are minimized.

Not all network providers are equal when it comes to performance, response time, and transparently identifying and taking responsibility for SLA MTTR. This puts the burden of proof on the customer. Mosaic proactively tracks and measures all contracted carrier SLAs, and provides accelerated discrepancy resolution to ensure all carriers meet SLA criteria.

Organizations worldwide have chosen Mosaic for a competitive technology advantage, and therefore, a competitive business advantage. IT teams are free from the burden of dealing with time-consuming, and productivity draining tasks associated with WAN infrastructure.

Mosaic SoftWave® SD-WAN as-a-Service includes our negotiated wholesale contracts with over 300 carriers worldwide. This enables us to provide the best connections based on proximity, price, deployment time, and service quality. Mosaic provides all SD-WAN technology, transports, and other data and voice services, within a single invoice and one point of contact.



Why Carrier Management?

- Save Time
- Reduce Cost
- Liberate Resources
- Greater Efficiency
- Single NOC
- Multi-Vendor Confusion
- ✓ **Eliminate Tedious, Mundane Work**

Carrier Management Features

- On-Net Circuits
- Off-Net Circuits
 - ▶ Open Carrier Tickets
 - ▶ Troubleshooting
 - ▶ Escalation Management
 - ▶ Reporting & RFOs
 - ▶ Up/Down Monitoring
- ✓ **Monitor, Alert, Report**

Mosaic NetworkX simplifies carrier management.

Top Benefits of the Mosaic SD-WANaaS

- Fully managed SD-WAN as-a-Service - IT personnel can focus on high-value, strategic projects
- Global network coverage – negotiated wholesale contracts with over 300 carriers worldwide
- Carrier neutral - no more finger pointing between network service providers
- Global NOC proactively monitors, manages, and supports end-to-end WAN infrastructure – 24/7/365
- Multi-carrier MSA contracts bundled in one contract - and one invoice
- Best network connections based on proximity,

For decades, WANs have strived to deliver a quality experience (QoE) to large enterprise users. But, today, it's about delivering a QoE for both enterprise users and IT teams. Making WAN infrastructure user-friendly requires seamless WAN connectivity, delivered any time, from anywhere.

Build-Your-Own SD-WAN



IT Team Responsibility



Deploy, manage, monitor, troubleshoot, and resolve disputes



SD-WAN

- Multiple carrier links
- Service contracts/billing
- Multiple NOC support

SD-WAN as-a-Service



Turnkey SD-WAN, multi-carrier links, and business connectivity services



Enterprises no longer need to:

- Configure & Manage
- Maintain network equipment
- Negotiate multi-carrier contracts



IT can focus on strategic projects that move business forward.

We believe complexity is the enemy of innovation and execution. When you remove layers of complexity - simplicity and agility emerge. Mosaic SD-WAN as-a-Service removes layers of complexity. We accomplish this by streamlining and simplifying the design and management of secure, self-healing, intelligent global networks. Mosaic transforms WAN infrastructure from a complicated, build-your-own model, to a simplified, fully managed service model.

This is what Mosaic NetworkX does.

