

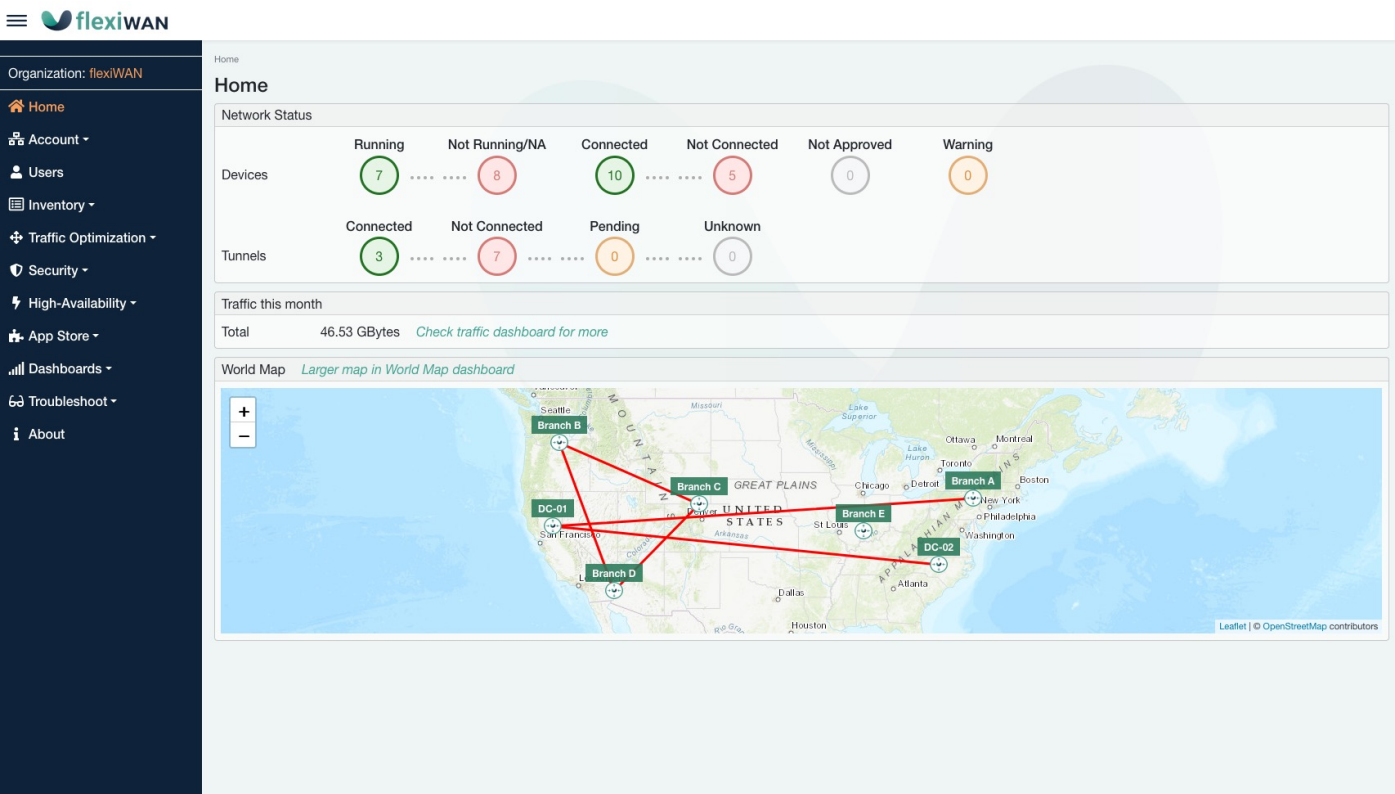
# THE WORLD'S FIRST OPEN SOURCE SD-WAN & SASE



## Solution Brief

### Introduction

flexiWAN is the world's first open-source SD-WAN (Software Defined Wide Area Network) & SASE (Secure Access Service Edge), providing a comprehensive, easy to deploy and manage solution in an innovative and affordable business model.



Organization: flexiWAN

Home

### Home

Network Status

|         | Running | Not Running/NA | Connected | Not Connected | Not Approved | Warning |
|---------|---------|----------------|-----------|---------------|--------------|---------|
| Devices | 7       | 8              | 10        | 5             | 0            | 0       |

|         | Connected | Not Connected | Pending | Unknown |
|---------|-----------|---------------|---------|---------|
| Tunnels | 3         | 7             | 0       | 0       |

Traffic this month

Total 46.53 GBytes [Check traffic dashboard for more](#)

World Map [Larger map in World Map dashboard](#)

The map displays a network topology across the United States with the following branches and data centers:

- Branch B (Seattle)
- Branch C (GREAT PLAINS)
- Branch D (San Francisco)
- Branch E (New York)
- DC-01 (San Francisco)
- DC-02 (Atlanta)

Image 1: flexiWAN's Management System, flexiManage

## flexiWAN stands out in the market due to several key attributes:

### Modern approach

It is built in a modern approach for combining networking and security, using AI for improved quality-based routing decisions and automation for self-healing of the network and system stability.

### Simplicity

It is easy to deploy and configure, with a central management that allows managing the network, devices, and policies in just a few clicks. It features auto full-mesh and hub & spoke tunnel creation for selected devices.

### Performance

It offers superior performance, tested by Intel, and can scale from small to large servers & cloud platforms, making it cost-effective. Its business model is instance-based rather than bandwidth-based, making it even more cost-effective, predictable, and ready for growth.

### SaaS Model

It's offered in a SaaS model that gives users easy, self-service access to the system starting with a free tier that can be extended by a pay-as-you-go option with no long-term commitment

### Lower TCO

Given these attributes, flexiWAN reduces OPEX and CAPEX compared to other solutions on the market. Given its simplicity, MSPs, Telcos and SIs are required for less effort and time (reduced CAPEX) to configure and maintain the system while offer it to a larger range of market segments. By disaggregating HW and SW, allowing for a bring-your-own-HW approach, CAPEX is reduced and you control the cost structure of the solution.

### Open-Source:

As an open-source solution, it promotes an "Open Source First" trend, moving away from vendor-locked closed monolithic solutions, and offers a hardware agnostic, bring your own hardware model.

### Flexibility

flexiWAN is built in a modular and open architecture. It provides the ability to dynamically load 3rd party applications that extend the system, similar to the smartphone concept. flexiWAN also features REST APIs for enhanced flexibility and openness of the system.

## Key Features and Benefits

### Intelligent Traffic Routing & Optimization

flexiWAN utilizes advanced algorithms and real-time network analysis to intelligently & dynamically distribute traffic across multiple WAN connections, including broadband, and cellular networks. flexiWAN's Quality Based Routing (QBR) analyzes real-time network conditions and selects the best path for data transmission based on quality metrics such as latency and packet loss. It optimizes performance, reliability, link utilization, and cost-effectiveness by dynamically routing traffic through stable paths. QBR maximizes bandwidth utilization and provides granular

control for administrators to prioritize critical applications. This application routing functionality ensures control over traffic, optimized performance, and minimized latency for critical applications and services.

### Advanced Troubleshooting Tools

Allows for local and remote troubleshooting avoiding expensive truck rolls.

### Efficient management through policies

Safeguard your connections with our robust firewall policies, configure Path Selection policies for application-based routing and prioritize mission-critical tasks using QoS policies. All done in a few clicks for a batch of devices from our central management.

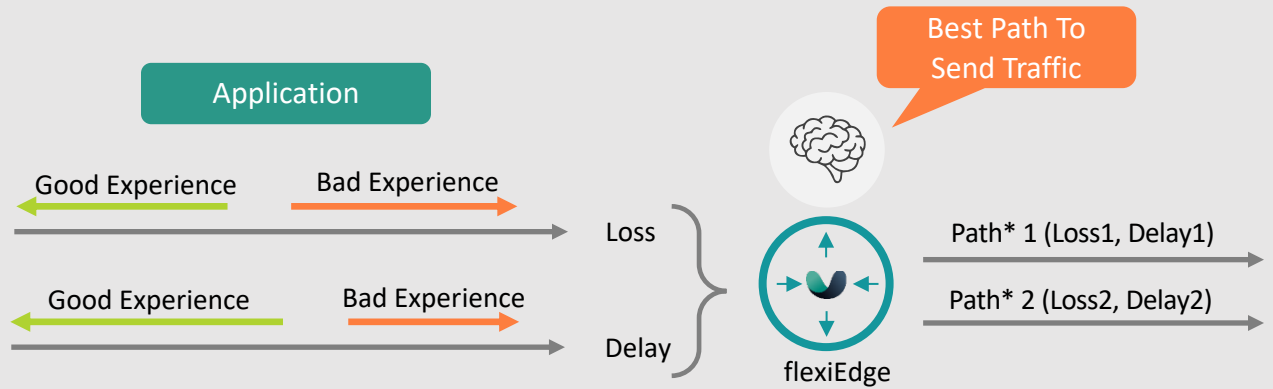


Image 2: How flexiWAN's Quality Based Routing works

\* A Path is Tunnel, Local Internet Breakout or Cloud Peer

### Quality of Service

Our Quality of Service (QoS) feature prioritizes your critical applications, ensuring they run seamlessly even with a limited WAN bandwidth. With easy-to-configure QoS policies and queues, you can deploy optimized traffic management to multiple devices easily. Additionally, our advanced configuration options provide you with the flexibility to meet specific network requirements. Experience superior network efficiency with flexiWAN's QoS - because your network deserves the best.

Home → Policies → QoS Policies → add

#### QoS Policy

Save Policy Restore Defaults

\*Policy Name  Description

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**WAN Outbound QoS Plan**

|               |           |
|---------------|-----------|
| Realtime 30 % | Data 70 % |
|---------------|-----------|

| Realtime queue | Realtime Bandwidth Limit   |
|----------------|--|
|                | (As percentage of WAN bandwidth, increments of 10 between 10%-70%) |
| Real-Time      | 30 %   |

| Data queues       | Weights                                    |
|-------------------|--|
|                   | Values in increments of 10 between 10%-70% |
| Control-Signaling | 40 %                                       |
| Prime-Select      | 30 %                                       |
| Standard-Select   | 20 %                                       |
| Best-Effort       | 10 %                                       |
| <b>Total 100%</b> |  |

Advanced

Image 3: Quality of Service settings

## Centralized Management and Monitoring

flexiManage management platform delivers a centralized interface for effortless configuration, monitoring, and troubleshooting of flexiWAN deployments. Administrators can easily define and enforce network policies, monitor performance metrics, and receive real-time alerts for proactive issue resolution, ensuring smooth network operations.

## Scalability and Resiliency

flexiWAN is designed to scale seamlessly from small branch offices to large enterprise networks. It offers versatile deployment options, including physical appliances, virtual machines (VMware, KVM, Oracle VirtualBox), and cloud instances (AWS, Hetzner, Google Cloud, Oracle Cloud).

Experience uninterrupted uptime with flexiWAN's high availability solution, empowered by the use of Virtual Router Redundancy Protocol (VRRP). Leveraging the strength of VRRP, flexiWAN enables seamless hardware redundancy, maintaining operational continuity even under unforeseen circumstances.

flexiManage central management platform offers robust horizontal scaling, adapting effortlessly to the evolving network demands. As the endpoint device management requirements grow, flexiManage resources expand in sync.

This flexibility enables organizations to adapt to evolving business needs without compromising performance or security.

## AI-Based Network Healing

This flexiWAN feature is a cutting-edge solution designed to monitor devices and tunnel stability, addressing network failures, routing issues, and changes in public IP or ports. By analyzing various network events, it offers corrective actions or recommendations, enhancing connectivity and routing.

The AI-driven algorithms can detect anomalies, suggesting configuration changes to bolster network and device stability, and send notifications for network issues.

## flexiWAN App Store

flexiWAN is a comprehensive SD-WAN solution with built-in security. It is built in an application-based modular architecture that allows extending the platform with flexiWAN and 3rd party applications. The App Store platform serves as a marketplace for applications that users can choose to install based on their specific needs (optional). It aims to include a variety of applications that enhance and expand the functionality of flexiWAN. These applications are grouped into three categories: flexiEdge Native Apps (running natively in the flexiEdge data path), flexiManage Native Apps (running in the cloud management for provisioning, monitoring, and control), and Off-the-shelf Linux applications (integrating with flexiEdge using off-the-shelf Linux). The team is continually working on new applications to be introduced in future periods.

## Open-Source

flexiWAN serves the “open source first” strategy of many companies that prefer to use services that are also open source. Being open source not only gives companies more confidence in the longevity of the solution and helps to reduce vendor lock, it also increases security. Many times vendors announce the release of security fixes after several months in which a vulnerability existed. In such cases, the customers of that vendor were exposed to the vulnerability without being aware of it (while the relevant hackers might have compromised security utilizing it). It is well known that open source solutions tend to be more secure as vulnerabilities are discovered and promptly fixed by the vendor or by the community reducing occurrences of compromised security. Many SD-WANs utilize open source in their products but only flexiWAN also opened its solution to be open source.

## Cost-Effectiveness and Operational Efficiency

By leveraging cost-effective internet connections and optimizing WAN utilization, flexiWAN helps organizations significantly reduce network expenses compared to traditional MPLS-based solutions. Its streamlined management interface and automation features minimize manual intervention, lowering operational costs and freeing up resources for strategic initiatives.

## Hardware vendor agnostic

Experience true freedom with flexiWAN, hardware vendor agnostic SD-WAN solution. Our Bring Your Own Device (BYOD) approach allows you to choose hardware that fits best with your needs. flexiWAN offers a certified hardware program for guaranteed compatibility and performance however we still believe in flexibility, allowing you to choose your own hardware. As long as your chosen hardware meets flexiWAN's system requirements, you can leverage flexiWAN.

## Technical Specifications

- ✓ Supported Platforms: Physical appliances, virtual machines (VMware, KVM, Kubernetes, VirtualBox), cloud instances (AWS, Hetzner, DigitalOcean, Google Cloud)
- ✓ Routing Protocols: BGP, OSPF
- ✓ VPN Protocols: IPsec, IKEv2, OpenVPN
- ✓ Security Features: Firewall, Layer 3 & 4 application filtering, Cloud peering using IPsec for connecting with 3<sup>rd</sup> party services (e.g. SSE)
- ✓ Traffic Optimization: Traffic shaping and Quality of Service (QoS), AI-based Quality Based Routing (QBR)
- ✓ Management Interface: flexiManage web-based interface, RESTful APIs, Command Line Interface (CLI)
- ✓ High Availability: Active-passive failover, active-active clustering
- ✓ Deployment Options: Branch offices, data centers, cloud-based
- ✓ Integration: APIs for seamless integration with third-party systems and custom development

## flexiWAN licensing options

The licensing of flexiWAN revolves around the hosting of the management system, flexiManage, and the actual usage of the system according to the number of flexiEdge instances registered in flexiManage in a given billing period. The pricing of flexiWAN can be found on our Website.

## flexiManage hosting options:

### Enterprise SaaS

flexiManage hosted by flexiWAN in the cloud and serves several flexiWAN customers in multi-tenancy architecture. A customer opens an account on flexiWAN and may serve multiple end-customers from that account.

### Dedicated Environment

An isolated deployment of flexiManage hosted by flexiWAN that serves a single specific customer (for example a service provider or an SI). This isolated environment is branded with the logo of the customer (with a Powered by flexiWAN note), the domain of the customer, and can be used to serve many end-customers in a multi-tenant environment.

### Self-Hosting

In this case, flexiWAN would help the customer to install and deploy flexiManage in customer's cloud with similar branding options as in the case of the Dedicated Environment. This option is typically good for very large service providers and telcos with large deployments as it requires more work and comes at a higher cost.

## About flexiWAN

flexiWAN disrupts and democratizes the SD-WAN & SASE market with its 3 world firsts:

- 1** First SD-WAN & SASE Open Source
- 2** First application store for SD-WAN & SASE
- 3** First SaaS business model for SD-WAN & SASE

Featuring flexiWAN's modular, application based, approach, flexiWAN helps MSPs, Telcos and Sis serve a wide range of market segments from the smallest businesses (even a single location business), through SMBs and mid-size retailers, to large enterprise and retailers.

## flexiWAN stands out of the SD-WAN crowd by being:



### Better

Built in a modern approach for combining networking and security instead of adding them as an add-on to old systems. flexiWAN uses AI for improved quality-based routing decisions and automation for self-healing of the network and system stability.



### Simpler

flexiWAN is the easiest SD-WAN to deploy and configure. Managing 3 or 3,000 devices in one network is done in just a few clicks in the central management system. It features auto full-mesh and hub & spoke tunnel creation for selected devices.



### Faster

Cost effective and superior performance as tested by Intel. The only SD-WAN that scales from 2 CPU cores & 4GB of RAM to large servers & cloud platforms making it the most cost-effective SD-WAN out there. flexiWAN's business model is instance based rather than bandwidth based making it even more cost effective and predictable.

### About flexiWAN

[flexiWAN](#) is on a mission to disrupt and democratize the SD-WAN & SASE markets. With its "3 World Firsts": *First open source SD-WAN & SASE; First SD-WAN & SASE applications store; First SD-WAN & SASE SaaS business model*, flexiWAN offers a different and open approach to networking and security.

To learn more about flexiWAN's unique approach to networking, visit [www.flexiwan.com](http://www.flexiwan.com), and follow the company on [Twitter](#) and [LinkedIn](#).