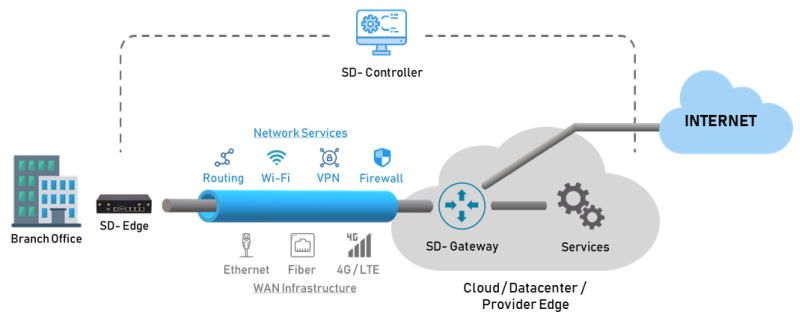


Decillion Devices "SD-WAN In A Box" is a fully managed SD-WAN solution with built-in virtual functions, gateways and orchestration engine, enabling organizations get to market faster with minimal integration and deployment costs.

It's no secret that SD-WAN is at the top priority list of every enterprise looking to upgrade his network. Utilizing the benefits of cloud computing, virtualization and software-defined networking (SDN), SD-WAN enables business agility through seamless multi WAN orchestration and providing MPLS grade network latency over public Internets, at much lower costs.

In spite of the benefits it offers, one of the key challenges of SD-WAN deployment is disrupting the traditional networks and undergoing an entire operational transformation towards SDN/NFV to support SD-WAN services, which not only requires significant investments, but also an upgrade in skills to align with SD-WAN technologies. Additionally, solution integration between the application vendors, service providers and enterprises will always be a challenge, especially if closed architecture principles are followed.

Decillion Devices "SD-WAN In A Box" is a complete solution architected within a network appliance (physical or virtual), that can be easily plugged into private datacentres or public cloud infrastructure to quickly launch SD-WAN capabilities for service provider and enterprise networks. The solution follows a hybrid approach to SD-WAN deployment with service orchestration and chaining across both physical (customer) and virtual (provider) edge networks. This also allows organizations to incrementally offload services to the virtual edge, reducing on-premise complexity and simplifying branch office connections.



*Decillion Devices SD-WAN
Value-added service delivery over high-speed Internet*

In a nutshell, Decillion's SD-WAN In A Box helps organizations to quickly transform their traditional networks into fully capable SD-WANs with minimal integration, cost and hardware refresh.

Unique Value Proposition

Consolidated solution

Built on top of an ETSI open standards OpenStack NFV architecture, with its own network, compute, storage and virtual machine (VM) resources, the solution provides SD-WAN capabilities within a single box instead of deploying NFV orchestrators, virtual network functions (VNF) and VNF Managers across multiple resources. Acting as a complete technology, the solution is designed for fast and easy deployment across public clouds, provider edge and datacentres, with open APIs published for third-party integrations.

Continuous Integration and Deployment

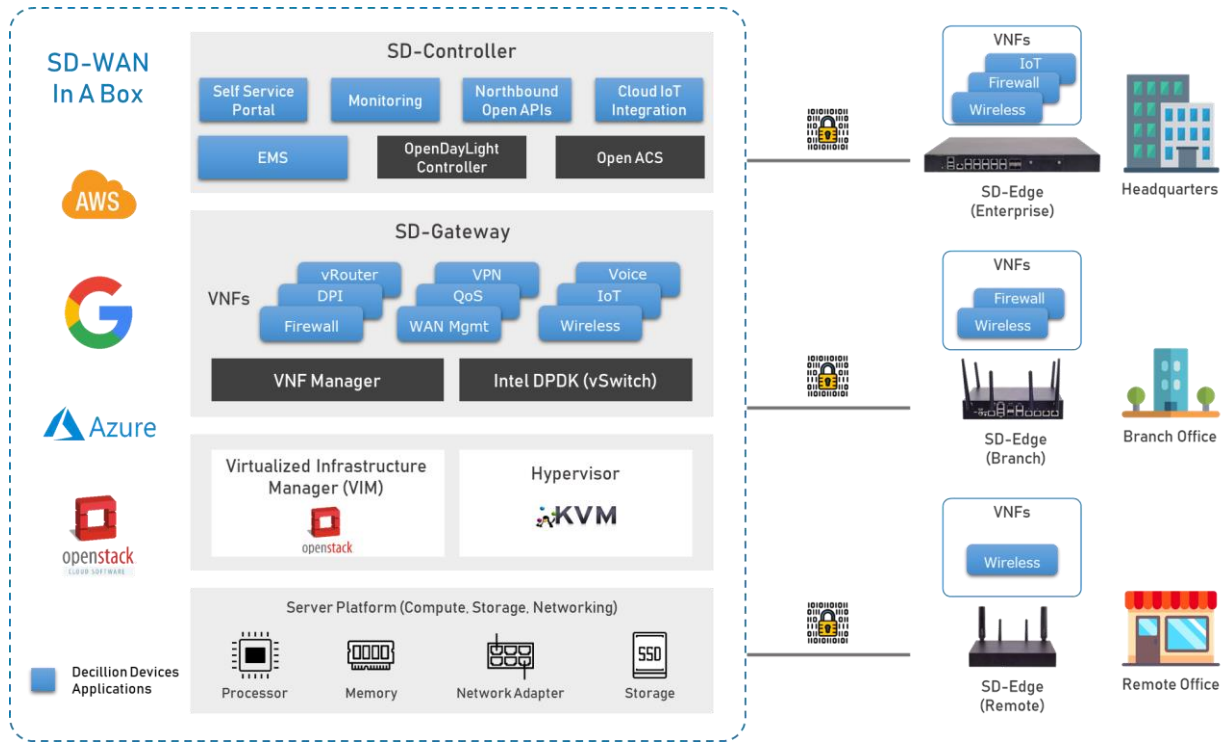
Based upon a data-model architecture (YANG/NETCONF), Decillion's SD-WAN In A Box enables software teams to build and deliver applications more frequently and reliably over a hierarchical and well-tested development framework. Support for virtual gateways, and VNFs for firewall, router, QoS etc., allows simulation of test beds within the virtual box and complete validation of the solution before field deployments, reducing the risk of defects and failures.

Flexible deployment options and dynamic service chaining also allow organizations to deploy network services on physical edges on-premise or bridge the entire network traffic to virtual gateways hosted across datacentres.

Traditional SD-WAN challenges	Decillion Solution	Benefits
Long development and integration cycles	Automated architecture with hierarchical design for quick enhancements and customizations	Product development time is reduced from months to days
Deployment cost and complexity	Flexible service hosting options across physical and virtual gateways	Reduced on-premise clutter and significant cost savings with whitebox CPE appliances
Vendor lock-in	OS, hardware and cloud-platform agnostic software	OEM/ODM independence

Architecture Overview

The "SD-WAN In A Box" is integrated over Openstack NFV platform and consists of two components: SD-Gateway and SD-Controller. The SD-Gateway connects the branch networks to the VNFs and other resources hosted in the cloud, enabling a unified SD-WAN architecture and advanced security through DPI and Cloud VPNs. The SD-Controller is a centralized server responsible for network-wide onboarding of network services and VNFs, license management and validation of connected assets. The framework is architected using NETCONF/YANG data modelling principles and automated using Decillion's patented auto-rendering engine to generate management interfaces from YANG data models.



The orchestration engine is built using Openstack's Generic VNF Manager (VNFM) and an NFV Orchestrator (NFVO) services to deploy Virtual Network Functions (VNFs) on virtual CPE platforms. The VNFs follow the same YANG modelling principles defined for the management framework, and can be hosted as microservices in VMs or containers. The VNFs are further interfaced with a fast-path DPDK plane for high-speed, optimized service chaining and delivery.

The edge networks are further simplified with deploying barebone whitebox CPEs (SD-Edge), that provide secure branch-to-cloud connectivity and enable service delivery from the SD-Gateways.

Supported Whitebox Appliances

Cloud / On-prem

SD-Gateway: NCA-4020



16 cores, 128 GB RAM,
1 TB Storage

SD-Controller: NCA-2510



16 cores, 32 GB RAM,
512 GB Storage

Customer Premise

SD-Edge: NCA-1515



8 cores, 16 GB RAM,
128 GB Storage

SD-Edge: LUNA-D125



2 cores, 2 GB RAM,
8 GB Storage

Hardware Partner: Lanner Electronics

ABOUT DECILLION DEVICES

Decillion Devices India Private Limited focuses on delivering network as a service using SD-WAN technology, deployed on-prem or in public clouds. Our SD-WAN enables centralized service deployment, management and monitoring for home and enterprise networks, industrial gateways and connected fleet solutions.

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