



1、 Abloommy SD-WAN Profile

SD-WAN is one of the cloud-managed functions of the Abloommy Cloud Service (ACS), a cloud-based management and orchestration platform that makes the network infrastructure of a distributed enterprise cloud manageable and programmable. Based on Abloommy's smart-edge technologies, SD-WAN can be deployed on an Abloommy Edge-Controller device at a branch, DC, or the edge of the cloud. Abloommy's SD-WAN brings simplicity, programmability, and scalability to the WAN infrastructure of a distributed enterprise, makes it fully application-aware, and guarantees the quality and performance of business applications regardless of where they are deployed—HQ, DC, or the public cloud.

2、 Features

Adaptability in a diversified WAN environment

Abloommy's SD-WAN gateway, an Abloommy Edge-Controller with SD-WAN deployed, supports various WAN transport technologies such as MPLS, Broadband, Ethernet and LTE/4G. It also supports Hybrid WAN access modes with multiple concurrent WAN links using these transport technologies. It can be deployed in a branch, DC, or the cloud either as an appliance or a virtual machine.

Deep visibility and central management

ACS (Abloommy Cloud Service), as a public multi-tenant Cloud Service platform consisting of a group of SD-WAN central controllers (CSP), centrally manages all S-WAN devices and policies, and visualizes the performance of each WAN link by continuously measuring and monitoring its packet loss, jitter, and latency.

Application-aware delivery with QoS assurance

Abloommy's SD-WAN gateway leverages DPI (deep packet inspection) and real-time performance monitoring of each WAN link to make application-aware, policy-based transport path selections. ACS defines the QoS policies for each application, and the SD-WAN gateway chooses a transport path that best suits the application traffic in real time. With unidirectional packet-based measuring and monitoring of the performance of each WAN link, the transport path selection supports flow-based load balancing, packet-based load balancing, and link aggregation—multiple concurrent links can be

used to deliver a single application, in order to meet QoS requirements.

Fast deployment with plug-and-play

Abloomy SD-WAN can automatically set up overlay networks between branches and other branches, branches and headquarters, branches and the cloud, and headquarters and the cloud. All SD-WAN devices can communicate with each other automatically based on the policies defined on the ACS. With ZTP (zero touch provisioning) supported, Abloomy SDWAN solution is truly plug-and-play.

Security

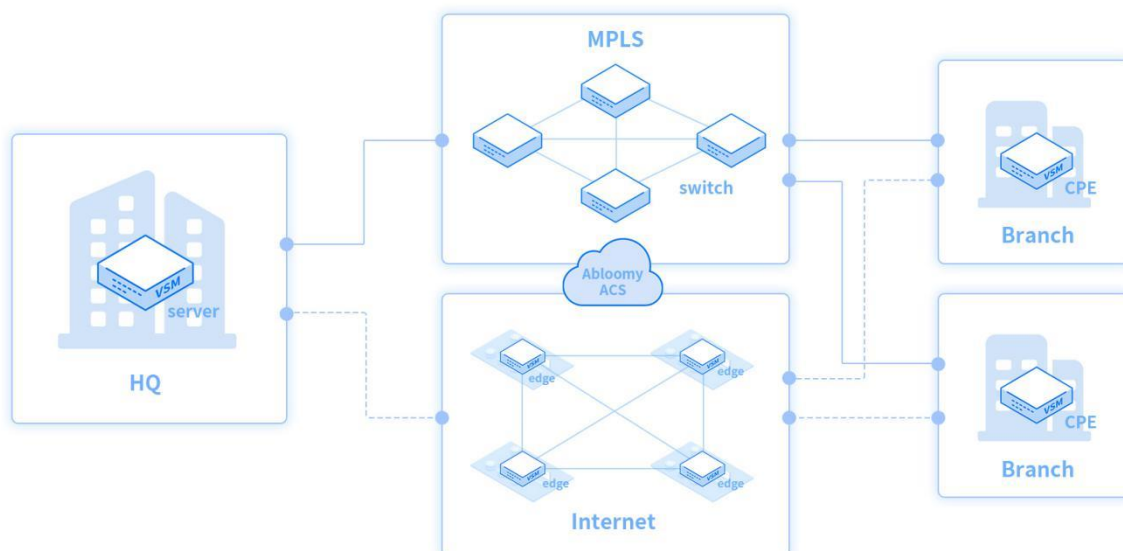
Abloomy' s SDWAN solution uses CA and DTLS/TLS technologies as the foundation for the control plane, and the same encryption scheme as IPSec to protect the data plane. Each SD-WAN gateway supports NG firewall and role-based NAC (network access control).

Reliability

The control plane of Abloomy' s SD-WAN solution uses a distributed architecture. ACS is composed of a group of SD-WAN central controllers deployed either on-site with the customer or on a public cloud like AWS or Azure. These controllers work as a unified controller pool with N+N redundancy to ensure zero failure time.

3、 Typical Applications

Abloomy's SD-WAN solution includes the public Abloomy Cloud Service (ACS), central controllers (CSP) and SD-WAN gateways (VSM). VSM can play three roles: CPE, Edge, Server.



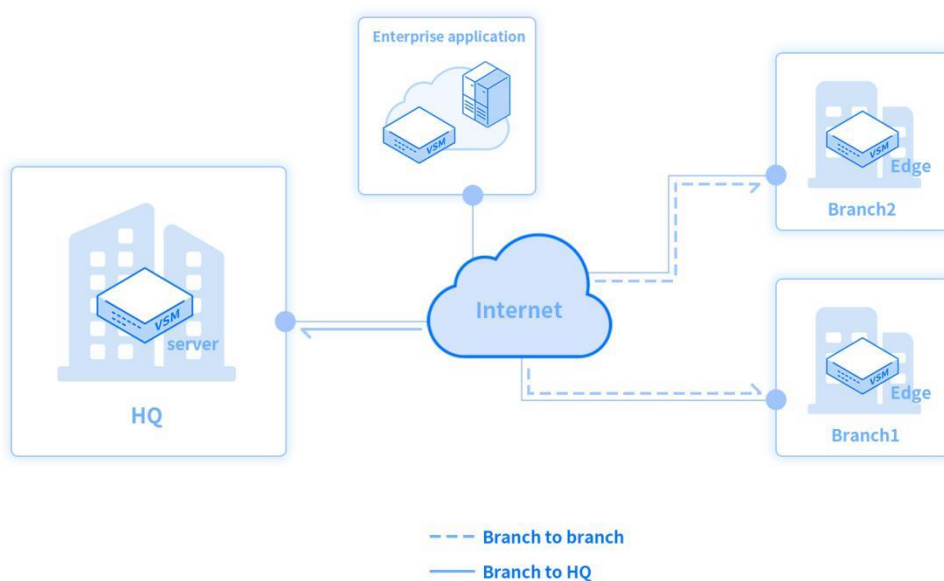
- Abloomy SD-WAN edge can deploy in the cloud
- SD-WAN Server can deploy in IDC or HQ
- CPE,Edge and Server are controlled by ACS

The customer can work with either the public Abloomy Cloud Service (ACS) or a standalone central controller (CSP) to centrally set up SD-WAN networks, define application-specific business policies, and enforce these policies through SD-WAN gateways to achieve the goal of SLA for each business application.

Abloomy's SD-WAN gateway resides at a branch, DC, or the edge of cloud, supports multiple links (MPLS, Internet, LTE, etc.), receives configuration and policies from the ACS or standalone CSP, and conducts data plane functionality.

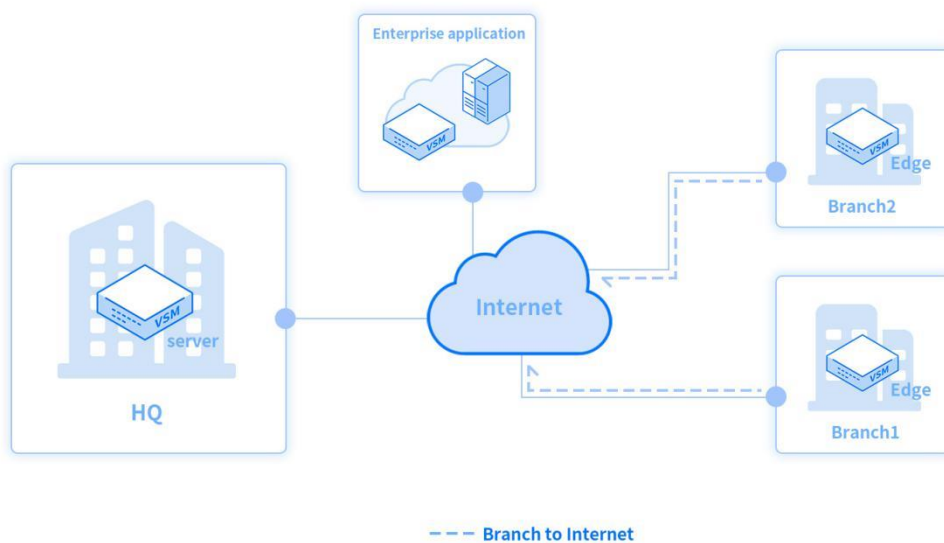
Two usage scenarios for Abloomy's SD-WAN solution:

3.1 Branch to Branch/Headquarters







In this application scenario, SD-WAN is deployed as an appliance at both the branch and headquarters.




3.2 Branch/Headquarters to Cloud



In this application scenario, SD-WAN is deployed as a virtual machine at the edge of the cloud.

4、 Hardware Specifications

Model	VSM800	VSM810-L	VSM1000	VSM2000
				
Application	Small branch	Small branch	Medium branch	Medium branch
Concurrent users	50-250	50-250	250-500	250-500
Weight	1.5kg	1.5kg	4kg	4kg
Dimensions (W*D*H)	290mm*155mm*44mm	200mm*165mm*44mm	438mm*330mm*45mm	438mm*330mm*45mm
Interfaces	4*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 ports	4*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 ports 1*SIM card slot	4*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 ports	4*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 ports
CPU	Intel N2807	Intel N2807	Intel N2807	Intel Celeron 2.0GHz
Memory	Default: 2GB, expandable	Default 2GB, expandable	Default 2GB, expandable	Default 2GB, expandable
Hard Disk	Default 16G SSD, expandable	Default 16G SSD, expandable	Default 32G SSD, expandable	Default 32G SSD, expandable
Power Supply	12V DC	12V DC	110-240VAC	110-240VAC
Power Consumption	60W	60W	70W	70W
Humidity	10% ~ 90%, non-condensing	10% ~ 90%, non-condensing	10% ~ 90%, non-condensing	10% ~ 90%, non-condensing
Operating temperature	0°C~40°C (32°F~104°F)	0°C~40°C (32°F~104°F)	0°C~40°C (32°F~104°F)	0°C~40°C (32°F~104°F)
Storage temperature	-20°C~80°C (-68°F~176°F)	-20°C~80°C (-68°F~176°F)	-20°C~80°C (-68°F~176°F)	-20°C~80°C (-68°F~176°F)

Model	VSM3000	VSM5000	VSM7000
			
Application	Medium branch	Medium branch and HQ	HQ and Data Center
Concurrent users	750-1000	1000-2000	2000-4000
Weight	4kg	7.5kg	13.5kg
Dimensions (W*D*H)	440mm*330mm*45mm	440mm*455mm*45mm	424mm*565mm*90mm
Interfaces	6*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 ports	6*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 ports	2*10/100/1000Base-T Ethernet ports 2*SFP ports 1*console port 2*USB 2.0 ports
CPU	Intel J1900	Intel i3 3.3GHz	Intel i7 3.6GHz
Memory	Default 2GB, expandable	Default 4GB, expandable	Default 4GB, expandable
Hard Disk	Default 64G SSD, expandable	Default 128G SSD, expandable	Default 256G SSD, expandable
Power Supply	110-240VAC	110-240VAC	110-240VAC
Power Consumption	70W	250W	350W
Humidity	10% ~ 90%, non-condensing	10% ~ 90%, non-condensing	10% ~ 90%, non-condensing
Operating temperature	0°C~40°C (32°F~104°F)	0°C~40°C (32°F~104°F)	0°C~40°C (32°F~104°F)
Storage temperature	-20°C~-80°C (-68°F~176°F)	-20°C~-80°C (-68°F~176°F)	-20°C~-80°C (-68°F~176°F)

5、 Software Specifications

Basic functions	ARP, DHCP Server/Client/Relay, PPPOE Client, NAT, VLAN
LAN	IEEE 802.1P, IEEE802.1Q, IEEE802.3, MSTP
IPv4 routing	Policy routing, Static routing, BGP
IPv6 routing	IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL
Multicast	IGMP V1/V2/V3, IGMP-Snooping V1/V2/V3
MPLS	LDP, MPLS L3 VPN, Static LSP, Dynamic LSP
WAN Link selection	Dynamic transport path selection based continuous monitoring of latency, jitter and packet loss of each WAN link
Flow-based load balancing	Support sending different applications on different WAN links based their priority and SLA
Packet-based load balancing	Support link aggregation, tunnel binding, data reorganization
Unidirectional measurement	Support unidirectional traffic measurement, continuous measurement on each packet
Application-aware	Support application detection with DPI and selecting transport path or path aggregation and the balancing algorithms based the application' s SLA
VPN	GRE VPN, L2TP VPN, MPLS VPN
QoS	Role-based prioritization and bandwidth control, application-based prioritization and bandwidth control, traffic shaping
LTE	FDD LTE, TDD LTE (Currently only VSM810-L supports)
Security	Role-based NAC, NG firewall, VPN, DDoS attack protection, Black / white list, DTLS/TLS, IPSec, ESP-256-CBC
WiFi AC	AP management, CAPWAP, User management, RF management, QoS, WLAN security(wep/wpa/wpa2)
Authentication	Radius, AD, LDAP MAC address based authentication 802.1X authentication Social media authentication (Facebook, WeChat, etc.) SMS authentication Customer' s APP authentication
Report	Reports of system, interfaces, users, applications, traffic, and quality of WAN links
Management	Support Web, Console, SSH management