Allot Virtual Editions

Service Gateway - Cloud Editions

Flexible, Agile, and Scalable Delivery of Virtualized Network Services

The Allot Service Gateway (SG) is a powerful and proven service delivery platform, providing a single point of integration in thousands of CSP and enterprise networks. The Allot SG powers our Allot Smart solution suite, generating actionable intelligence and providing tools that enable CSPs to optimize, innovate, and capitalize on every service opportunity. The Allot Service Gateway Virtual Edition (SG-VE) and Containerized Edition (SG-CE) play the same role as the SG in your virtualized or telco cloud environment. It provides a high-performance service delivery framework and is built to power Allot Smart services as virtual network functions (VNFs) that operate seamlessly and consistently across your core network and into the cloud.

Allot Service Gateways support the full range of deployments, from bare metal through virtualized to NFV, and all the way to fully containerized, cloud native. All options drive service innovation and the highest possible QoE. The SG-VE supports on premises, orchestrated, COTS and private cloud deployments over VMware and OpenStack. The Service Gateway Containerized Edition (SG-CE) runs in Kubernetes "docker" containers in cloud native deployments. All Allot SG deployment options provide the the following benefits and features.

Benefits

- **Increased deployment agility**

  Deploy Allot's Layer-7 application visibility, policy control, charging, and security services wherever they will be most effective - at customer premises, network edge, cloud data center, or small-scale remote locations.

- **Seamless service integration**

  Accelerate time-to-market by delivering some or all of Allot's market-leading services from a virtualized service delivery framework that is pre-integrated with your Cloud (e.g. Gi-LAN) and MEC requirements.

- **Elastic service delivery**

  Automatic adaptation of Allot Service Gateway capacity, performance, and functionality to support dynamic service demands.

- **Complete compatibility**

  Allot Service Gateway virtual/containerized editions are fully compatible with your existing Allot deployments and with ETSI NFV and cloud architectures, giving you extreme flexibility as you plan expansions and new service projects.

Features

Single Point of Service Integration

Allot's growing portfolio of value-added services are pre-integrated with Allot Service Gateway Virtual Edition, enabling fast deployment of innovative solutions for:

- Network Visibility
- Traffic Management
- Policy & Charging Control
- Regulatory Compliance
- DDoS Protection & Bot Containment

The virtualized platform also supports real-time traffic steering to third-party VAS applications or other virtualized services, so you can minimize interoperability and integration issues and accelerate service rollout.

Architecture

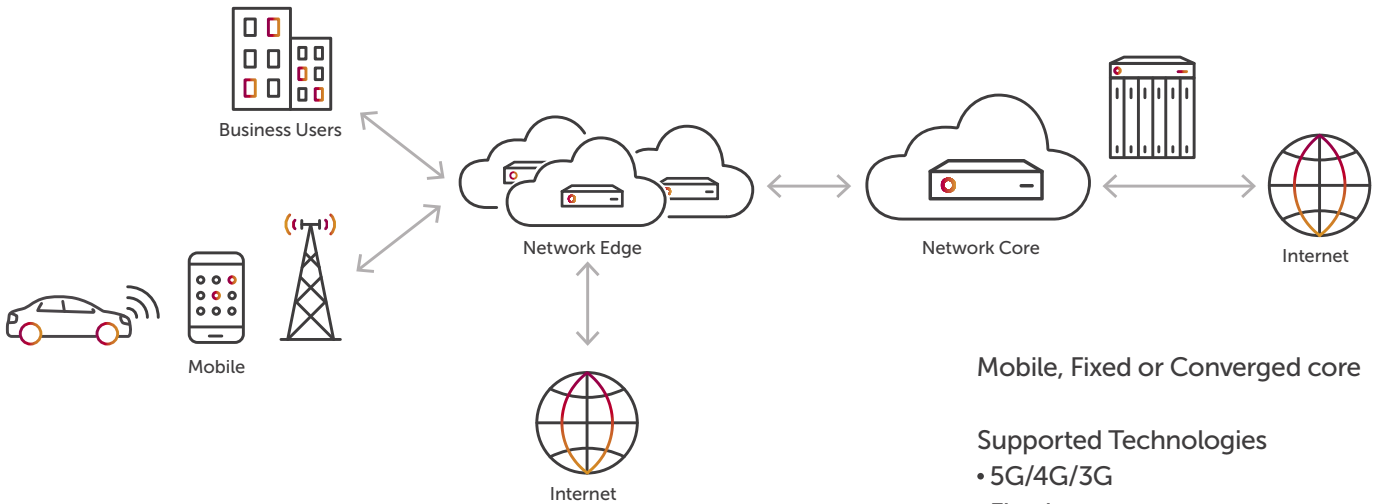
To develop the SG-VE and SG-CE, Allot re-architected its software comply with industry standards, implementing the following technologies:

- Control and User Plane Separation (CUPS)
- Full Life Cycle Management with integration to leading orchestrators
- Continuous Integration / Continuous Delivery (CICD) for all development and delivery processes

Allot's complete offering can be deployed as a full suite of control plane and user plane VNFs on cloud operating systems, such as VMware or OpenStack and as containerized, cloud-based microservices, supporting a range of Lifecycle Management (LCM) functions.

Deployment Flexibility

Allot Service Gateways's range of deployment options enables CSPs to enjoy the same granular visibility and control of network, service, user, and device traffic, ensuring delivery of optimal QoE, regardless of deployment mode.



Mobile, Fixed or Converged core

Supported Technologies
- 5G/4G/3G
- Fixed
- NFV/Virtualization
- Cloud/NFV/Virtualized

Specifications

Centralized Management

Allot NetXplorer and Allot Subscriber Management Platform (SMP) software work in harmony to provide a central vantage point for network-wide configuration and management of all Allot platforms and services, including Allot SG-CE and SG-VE. Allot makes it easy to spin up and provision Virtual Editions on demand, and, when requirements decrease, spin down the Virtual Edition and return it to your license pool for future use. Virtual Edition license pools (based on number of CPU/core processors required) are available in various increments.

Allot Service Gateway Containerized and Virtual Edition

Allot Service Gateway supports popular virtualization platforms, enabling easy public or private cloud deployment. Performance specifications are calculated based on virtual cores, assuming an Intel® Xeon® processor with DPDK/SR-IOV available. Actual throughput performance will be affected by underlying hardware and hypervisor configurations, software licenses, and enabled policies.

	Allot Service Gateway Containerized Edition											
	XS		S		M		L		XL		Storage [GB]	Persistent Storage (Y/N)
Container Name	vCPU	RAM [GB]	vCPU	RAM [GB]	vCPU	RAM [GB]	vCPU	RAM [GB]	vCPU	RAM [GB]		
as-aos	4	10	8	20	16	40	32	80	48	135	100	Y
as-aos-exporter	0.25	0.05	0.25	0.05	0.25	0.05	0.25	0.05	0.25	0.05		N

	Allot Service Gateway Virtual Edition			
Product Name	**SG-VE-04**	**SG-VE-08**	**SG-VE-16**	**SG-VE-32**
Virtual CPUs (threads)	4	8	16	32
Virtual RAM	10 GB	20 GB	40 GB	80 GB
Virtual Storage	100 GB	100 GB	100 GB	100 GB
Deployment mode	BITW/NHR	BITW/NHR	BITW/NHR	BITW/NHR
Hypervisor				
VMware ESXi	VMware vSphere 6.7			
RedHat KVM	RedHat RHEL 7.6			
Cloud OS				
OpenStack	OpenStack Queens and above			
VMware	VMware vCloud 8 and above			
Guest Operating System				
CentOS	Linux CentOS 7, 64-bit x86			
Template				
Template format	QCOW2, VMDK			
Template size	4.2GB QCOW2, 6.1GB VMDK			

Note: vCPU requirements assume Hyper Threading Enabled.

Specifications

Product Specifications:

Parameter	SG-VE-04	SG-VE-08	SG-VE-16	SG-VE-32
Real traffic BW (Gbps)	4	12	24	48
Forwarding only BW (Gbps)	8	16	32	64
100% QoS BW (Gps)	4.8	10	19	38
Real traffic BW (Gbps) [active-active mode]	4	12	24	48
CER	12k	80k	160k	320k
NOC	2M	8M	16M	32M
Active VCs	80k	640k	1.3M	2.6M
Active Pipes	40k	320k	640k	1.3M
Active Lines	512	512	512	512
SMP Updates	60	1300	2600	5200
Registered IP addresses	50k	1.1M	2.2M	4.4M
Monitoring rules	200k	5.4M	10.8M	21.5M
Notification rate	120	3200	6400	12800
Registered subscribers	20k	480k	960k	1.9M
HBAD monitored internal hosts	n/a	130k	260k	520k
Max HDR @ 1sec	3.2k	6.4k	12.8k	25.5k
Max BDR @ 1sec	160	1.3k	2.6k	5.2k
Max UDR @ 1 sec	100	800	1.6k	3.2k
Max MOU@1sec	66	66	66	66
Max total records (VC + conv) per 30s	160k	1.3M	2.6M	5.2M
Max total records (VC + conv) per 300s	320k	2.6M	5.2M	10.4M
Default number of monitored conversations per 300s	40k	300k	600k	1.2M
Default number of export conversations Per 300s	120k	1M	2M	4M
Domains http + https (WebSafe)	70k	625k	625k	625k
Paths (WebSafe)	42k	375k	375k	
Http wildcard URLS (Websafe)	14k	14k	14k	14k
Https wildcard URLS (Websafe)	7k	7k	7k	7k
Enforcer HTTP session redirection rate	100	100	100	100
Max number of dynamic captive portal URL (redirect)	5k	10k	20k	40k

Performance tests were performed in the following conditions:

CER per 1Gbps	3K
Packet size (bytes)	750
Traffic (IP version)	IPv4/IPv6
Packet Drop Rate (No. of packets out of received packets)	Less than 10^-4
DL/UL traffic ratio (%)	50/50
No. of ports connected	12 x vNICs
CPU model	8168 Xeon-SP
DPDK used (Yes/No)	Yes
SR-IOV used (Yes/No)	Yes
Hypervisor type	KVM
Functionality	Normal QoS Service plan High Availability

Note: Actual performance may vary depending upon network conditions (such as packet size, DL/UL ratio, session establishment rate, etc.), the actual configuration of the Service Gateway, and enabled features (QoS, Steering, DDoS, etc.).

Feb 2022