

Allot Multiservice Platforms

Service Gateway Tera Revision 1



EMPOWERING RAPID DEPLOYMENT OF SERVICE INNOVATION

As a fixed, mobile or converged operator, you want to deliver revenue-generating, value-added services to both consumers and enterprises, more efficiently, securely and profitably. Allot Service Gateway Tera (SG-Tera) is your single point of integration for network intelligence, policy control, traffic management, cyber threat protection and VAS, enabling delivery of high-level service innovation.

BENEFITS

- High performance: up to 480 Gbps in a single chassis; up to 3 Tbps in a chassis cluster
- Seamless, pay-as-you-grow scalability
- Real-time orchestration and traffic steering to value-added services hosted in or out of the chassis
- Superior DPI-based traffic classification enables granular policy and charging control
- Real-time collection of network usage data for any number of connected users and IoT devices

Single Point of Service Integration

Allot Service Gateway Tera (SG-Tera) is an integrated platform for delivering innovative network services with exceptional quality of experience to any subscriber over any access and at any scale. Allot's growing portfolio of value-added services include:

- Allot NetworkSecure (Security as a Service for consumers and businesses)
- Allot ServiceProtector (DDoS protection and anti-bot)
- Allot ContentProtector (regulatory URL filtering)
- Allot SpamOut Protector (anti-spam service)

The platform also supports real-time traffic steering to third-party applications or virtualized services and enables seamless service chaining so your ability to craft differentiated service plans is practically unlimited. As a single point of integration for service delivery, Allot SG-Tera minimizes interoperability and integration issues to facilitate fast and efficient service rollout.

High Performance

With 100 Gigabit Ethernet connectivity and Terabits-per-second of throughput, Allot SG-Tera provides a platform for service providers to satisfy the ever-growing demand for innovative subscriber services and quality of experience.

Future-Proof Scalability

Modular platform architecture lets you start small and expand up (connectivity, throughput) and out (capacity) seamlessly. Pay-as-you-grow deployment reduces initial capital outlay and allows operators to respond quickly to market changes.

- **Capacity:** supports up to 15 million active subscribers (concurrently attached and active), and 360 million concurrent IP flows
- **Connectivity:** up to 4 x 100GE ports or 48 x 10GE ports
- **Throughput:** up to 480 Gbps in a single platform
- **Clustering:** supports up to 8 Allot SG-Tera platforms in a seamless cluster configuration providing aggregate throughput of up to 3 Tbps
- **Management:** centrally configured and managed by Allot NetXplorer Management system, including full integration with Allot Subscriber Management Platform (SMP)

High Availability

The platform is compliant with NEBS Level 3 and provides 1+1 redundancy at the system level, and N+1 blade-level redundancy mechanisms to ensure service continuity with no downtime due to component failure.

Asymmetric Traffic Handling

Allot SG-Tera maintains accurate Layer-7 visibility and control of user-application traffic across multiple platforms even when asymmetric

upstream and/or downstream IP flows are processed by different appliances. Clustering of up to eight platforms utilizes dedicated interfaces with very low synchronization traffic overhead.

Open, Carrier-Grade Architecture

Engineered to AdvancedTCA® standards for off-the-shelf, carrier-grade hardware, while standard software interfaces, protocols, and APIs facilitate rapid integration of third-party value-added services.

Accurate Traffic Visibility and Policy Control

Allot's Dynamic Actionable Recognition Technology (DART) engine, embedded in the platform, gives you granular visibility of application, user, device, quality-of-experience (QoE) and network topology traffic. Allot's extensive signature library accurately identifies hundreds of Internet applications and protocols, and also supports user-defined signatures. Frequent and automated updates to the signature library keep Allot Service Gateways up to date with the latest applications and Internet developments, ensuring accurate traffic detection and classification. Moreover, Allot's flexible and powerful Policy Editor makes it easy for you to provision and enforce real-time Quality of Service (QoS), steering, metering and charging policy with equal granularity.

Encrypted Traffic Classification

Allot's superior traffic classification proactively learns and adapts to the changing tactics of traffic encryption that is widely used by Internet services and data privacy applications. From heuristic analysis of IP flow behavior to peer learning and predictive DPI, Allot's synergy of inspection methods provides highly granular and accurate recognition of encrypted traffic even at maximum speeds and peak loads.

Intelligent PCEF/TDF

Compliance with 3GPP standards and interoperability with most PCRF systems enables Allot SG-Tera to provide intelligent Traffic Detection Function (TDF) and Policy and Charging Enforcement Function (PCEF) in mobile data networks. As a result, network operators can leverage Allot's granular traffic classification and metering to enrich the policy decisions of PCRF elements, and to enhance the charging capabilities of online and offline charging systems (OCS, OFCS).

Collecting Network Data Records

From its vantage point in the network, Allot Service Gateway Tera collects and exports a rich variety of high-resolution usage data, including real-time transactions per user, per application, per device, per video session, per VoIP and Instant Messaging session, per Web session, and more. Network data records may be exported in standard formats to business intelligence systems, such as Allot ClearSee Network Analytics, and other operator systems for further manipulation and analysis. Frequency and triggers for data record export are configurable parameters, giving operators ready access to usage data that is critical to their business. The data records coming from Allot SG-Tera are configurable and may be customized by Allot Data Science Services for any destination or use case requirements.

Specifications

Allot Service Gateway Tera Platform

	Allot SG-Tera
Platform Configuration	
Chassis	14-slot, AdvancedTCA (ATCA)
Maximum Available Slots	14
Core Controller (CC) Blade	1 to 10
Switch and Flow Balancer (SFB) Blade	1 to 2
Rear Input/Output (RIO) Blade	1 to 2
Service Blades	Supported for reduced configurations
Capacity	
Throughput per Platform*	480 Gbps
Throughput per Cluster*	3 Terabits/sec using 8 devices
Number of Flows	360 Million (30 Million per Core Controller)
Number of Active Subscribers	15,000,000
Number of Lines / Pipes / Virtual Channels	512 / 4,800,000 / 24,000,000 (400,000 / 2,000,000 per Core Controller)
Interface Types	
Ethernet Interfaces	48 x 10 Gigabit Ethernet 4 x 100 Gigabit Ethernet
Management	2 x 1 Gigabit Ethernet or 2 x 10 Gigabit Ethernet (with 1:1 high availability)
Console	Serial, RJ45 Connector
Availability	
Hardware Bypass	Up to 4 independent, passive bypass units, supporting either 8 fiber-optic ports (4 links), or 16 fiber-optic ports (8 links), or 24 fiber-optic ports (12 links) per unit
High Availability	1+1 system-level redundancy N+1 redundancy of Core Controller blades
Management	Active-Standby HA on management ports
System	Redundancy for PSUs and fans
Dimensions	
Chassis Size	Standard 13U by 19" rack mount height 571.6mm (22.5"), width 482.6mm (19"), depth 506.54 mm (19.942"), with cable trays
Chassis Weight	Up to 80 kg (177 lb)
AC Power Supply Size	External 1U by 19" rack mount, 425x132x557mm 10kg (22.1lb)
Multi-Port Bypass Unit (8 ports)	External 1U 19" rack mount, LxWxH 439.5x130x43.6mm, 2.4kg (5.3lb)
HD-16 Multi-Port Bypass Unit	External 1U 19" rack mount LxWxH 439.5x145x43.6mm, 3kg (6.6lb)
HD-24 Multi-Port Bypass Unit	External 1U 19" rack mount LxWxH 439.5x145x43.6mm, 3kg (6.6lb)
Power Supply	
Input Voltage DC	-48V DC nominal (-40V to -60V DC)
Number of DC inputs per PEM	4
PEM Redundancy	1+1
Input Voltage AC	100 – 240V AC nominal (85V to 265V AC), 50/60Hz
AC Redundancy	2+2 @ 200V AC, 3+1 @ 100V AC, or N+N
Power Consumption	
Full Chassis Platform (2 SFB/RIO + 10 CC)	2230W
Half Chassis Platform (2 SFB/RIO + 5 CC)	1400W

	Allot SG-Tera
Environment	
Operating Temperature	5 to 40°C (41 to 104°F)
Operating Temperature, short term	-5 to 55°C (23 to 131°F)
Storage Temperature	-40 to 70°C (-40 to 158°F)
Storage Relative Humidity	95%, non-condensing at temperatures of 23 to 40°C (73 to 104°F)
Operating Humidity, nominal	5 to 85% RH
Operating Humidity, short term	5 to 90% RH
Operating Altitude	60 to 1800m (-197 to 5906 ft) at 40°C Max 1801 to 4000m (5909 to 13123 ft) at 30°C
Standards	
NEBS	Designed to meet NEBS Level 3 Telecordia GR-1089-CORE, GR-63-CORE
CE Conformity	2004/108/EC Electromagnetic Compatibility Directive 2006/95/EC Low Voltage Equipment Directive 2011/65/EU RoHS Restriction of the use of certain hazardous substances 2002/96/EC WEEE Union's Wasted Electrical and Electronics Equipment Directive
Safety	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 EN 60825-1:2007 EN 60825-2:2004 + A1:2007 + A2:2010 UL 60950-1:2007 R14.10 CAN/CSA-C22.2 No. 60950-07 + A1:2011 + A2:2014 UL94 CB/TUV
EMC	EN 55022:2010/AC:2011 EN 55024:2010 ETSI EN 300 386 V1.6.1:2012-04 for use in telecommunication canterers EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6 FCC CFR 47 Part 15B Class A Industry Canada ICES-003 Issue 5; C108.8-M1983 Australia ACMA, AS/NZS CISPR 22:2009 + A1:2010 VCCI Class A Technical Requirements, V-3/2013.04
RoHS	EN 50581:2012
Quality System and Environment	Certified to standards ISO 9001, ISO/IEC 90003, ISO 14001, SI ISO 27001

Allot Service Gateway Tera Blades

Switch & Flow Balancer Blades

Switch & Flow Balancer Blades		Switch & Flow Balancer SFB-400 Blade	Switch & Flow Balancer SFB-420 Blade
Capacity	Switching Capacity	720 Gbps	720 Gbps
	Flow Balancing Capacity	160 Gbps	540 Gbps
Interface Types	Console	Serial, RJ45 Connector	Serial, RJ45 Connector
Availability	Hot Swap	Supported	Supported
	Redundancy	1+1	1+1
Dimensions	Size	Standard 1-slot ATCA blade	Standard 1-slot ATCA blade
	Weight	3.44 kg (7.7 lb)	5kg (11 lb)
Standards	AdvancedTCA®	PICMG 3.0 R3.0	PICMG 3.0 R3.0

Core Controller and VAS Blades

Core Controller and VAS Blades		Core Controller CC-400 Blade	NetworkSecure VAS WSP-500 Blade
Capacity	Throughput*	50 Gbps	120 Gbps in 3+1 Redundancy
	Number of Connections/Flows	15,000,000 / 30,000,000	N/A
	Pipes / Virtual Channels	400,000 / 2,000,000	N/A
	Number of Subscribers / PDP Contexts	1,500,000	N/A
Interface Types	Console	Serial, RJ45 Connector	Serial, RJ45 Connector
Availability	Hot Swap	Supported	Supported
	Redundancy	N+1	N+1
Dimensions	Size	Standard 1-slot ATCA blade	Standard 1-slot ATCA blade
	Weight	3.44 kg (7.7 lb)	3.6 kg
Standards	AdvancedTCA®	PICMG 3.0 R3.0	PICMG 3.0 R3.0

Rear I/O Blades

Rear I/O Blades	Rear Input/Output RIO-8C Blade	Rear Input/Output RIO-24C Blade	Rear Input/Output RIO-102CF Blade
Interface Types			
Ethernet Interfaces (Max per blade)	8 x 10GBASE-SR/LR/ER/ZR or 8 x 1000BASE-T/SX/LX/ZX and 12 x 10GBASE-SR/LR	24 x 10GBASE-SR/LR	2 x 100GBASE-SR4/LR4 4 x 10GBASE-SR/LR
Management	2 x 10GBASE-SR/LR or 2 x 1000BASE-T/SX/LX	2 x 10GBASE-SR/LR or 2 x 1000BASE-T/SX/LX	2 x 10GBASE-SR/LR or 2 x 1000BASE-T/SX/LX
Availability			
Hot Swap	Supported	Supported	Supported
Dimensions			
Size	ATCA RTM blade	ATCA RTM blade	ATCA RTM blade
Weight	1.1 kg (3.3lb)	1.42 kg (3.1lb)	1.3 kg (2.9lb)
Standards			
AdvancedTCA®	PICMG 3.0 R3.0	PICMG 3.0 R3.0	PICMG 3.0 R3.0
Supported SFB Blades			
Compatible with	SFB-400	SFB-420	SFB-420

* Actual throughput and performance metrics depend on enabled features, policy configuration, traffic mix, and other deployment characteristics.

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