

# Subscriber Management Platform

Per-Subscriber Visibility and Control of Broadband Services



## Building Intelligent, Subscriber-Aware Networks

The challenge for today's fixed and mobile broadband service providers is to build an intelligent network that knows how to deliver the quality of experience that each subscriber expects, while retaining control over network usage. Allot Subscriber Management Platform (SMP) can help service providers achieve this goal. The powerful subscriber-application awareness provided by Allot SMP is the key to customizing service offerings and maximizing service revenues.

### Subscriber Visibility

By mapping dynamically allocated IP addresses to the individual subscribers using them, Allot SMP provides the visibility that is needed to monitor and understand subscriber usage and to control service and application performance for each subscriber.

### Subscriber Service Tiering

Per-subscriber policy control facilitates the rapid deployment of services that are tailored to user demands and in tune with market trends. Allot SMP makes it easy to create tiered subscriber service plans and to provision different Quality of Service (QoS) policies that enforce how each subscriber's traffic is treated.

### Subscriber Quota Management

Allot SMP makes it easy for providers to implement quota-based service plans that allow providers to meter and control individual use of bandwidth resources. Usage allowances based on volume or time may be applied to the subscriber's overall usage or to the use of specific applications, with options for automatic QoS adjustment and/or redirection when quota limits are exceeded.



# Getting a Clear Picture of Subscriber Service Usage



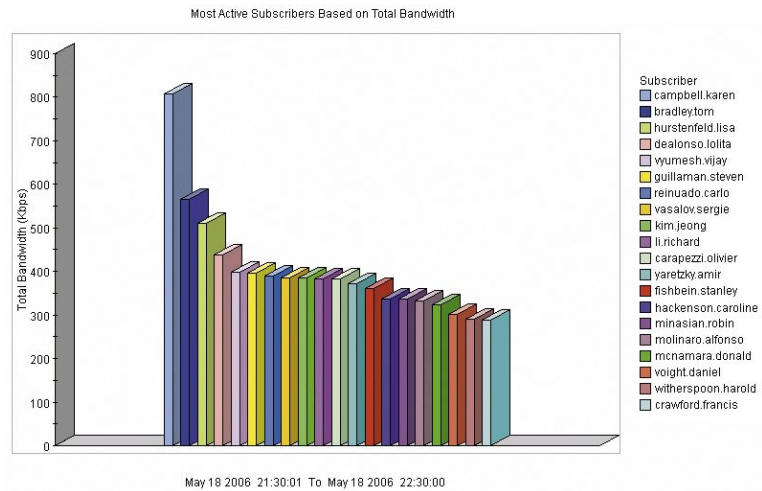
Understanding subscriber behavior is the first step to identifying ARPU opportunities and creating profitable service plans. Allot SMP provides real-time and long-term reports detailing individual usage patterns, most popular services, top users, and other usage statistics. These give service providers the network intelligence they need to analyze subscriber behavior and direct their broadband resources toward more profitable revenue plans.

## Insightful Reporting

Allot SMP monitoring reports help service providers to:

- Identify the most popular applications and top users
- Analyze application usage per subscriber
- Create subscriber profiles based on usage patterns
- Deploy customized service plans for individuals and groups
- Track and evaluate the performance of deployed service plans
- Track subscriber use within network topology areas such as individual mobile cells
- Troubleshoot customer problems quickly

Allot SMP is fully integrated with the reporting function of Allot NetExplorer management system, adding a full complement of subscriber-based statistics to its utilization, distribution, most active, and popularity reports.



# Increase ARPU with Tiered Services and Quota Management

The subscriber-application awareness provided by Allot SMP creates unlimited opportunity for innovative service packaging and pricing. Allot SMP is at the core of Allot services and solutions for subscriber traffic management.

## Allot TierManager

Allot TierManager allows providers to define competitive service plans with different SLAs, and then assign individual subscribers to the plans.

## Allot QuotaManager

With Allot QuotaManager, providers can further differentiate their service offering by including time and volume allowances in the service plan.

### Controlling Service Usage:

Allot QuotaManager lets service providers set a usage allowance per subscriber, meter actual service consumption, and adjust QoS based on content, volume, and/or time elapsed.

### Facilitating Flexible Charging:

Allot QuotaManager facilitates a variety

of new and flexible charging models by metering and enforcing usage-based service plans. For example, a quota plan could provide up to 5 GB of data uploads/downloads per month at a base rate, with a number of chargeable options once the quota is reached.

### Chargeable Options:

Whenever a quota has been reached, subscribers may be redirected to a dedicated landing page where they can “top-up” their quota, upgrade their service plan, or other possibilities. Allot SMP also supports “turbo buttons” that will boost an application’s performance for a limited period of time.



Service Plan		Premium	Advanced	Basic
Total Bandwidth		5 Mbps	2 Mbps	128 Kbps
Monthly quota		10GB	5GB	2GB
P2P	Max Bandwidth	1 Mbps	0.5 Mbps	None
	Daily Quota	2 GB	800 MB	100 MB
HTTP	Max Bandwidth	None	1 Mbps	128 Kbps
	Daily Quota	1 GB	500 MB	80 MB
Gaming	Min Bandwidth	1.5 Mbps	512 Kbps	128 Kbps
	Daily Quota	2 GB	1 GB	100 MB

# Scalable Subscriber Management Solution

Allot Subscriber Management Platform is an integral component in Allot's solution architecture for intelligent IP service optimization in fixed and mobile broadband networks.

## Subscriber Provisioning

Using seamless interfaces to RADIUS and DHCP provisioning systems, Allot SMP maps static and dynamically allocated IP addresses to individual subscribers and their service plans, and transmits this information to NetXplorer, NetEnforcer, and Service Gateway elements. IP mapping is transparent to the network.

- In RADIUS environments, Allot SMP intercepts RADIUS accounting messages and extracts their IP-to-subscriber mapping information. Where available, SMP also extracts IP-to-subscriber-service-level mapping. In mobile networks, the subscriber's SGSN address and cell location is also captured from RADIUS messages.
- In DHCP environments, Allot SMP passively gleanes the IP-to-subscriber mapping from the DHCP protocol. DHCP gleaned is performed directly on the IP allocation system, so there is no dependency on routing schemes to obtain IP mapping and enforce QoS policies.
- Allot SMP can also operate as a DHCP extension, becoming an integral part of the authentication process. As an integrated element, Allot SMP gives the

provider's provisioning system visibility into status, alert, and failure metrics, greatly enhancing troubleshooting and customer support capabilities.

## Mobile Online Charging and Policy Enforcement

Allot SMP provides integration with mobile PCRF servers via a standard 3GPP Gx interface over Diameter protocol to enable online policy enforcement in four flavors:

- Enforcement based on PCRF decisions derived from data in the mobile subscriber profile (SPR).
- Enforcement with volume reporting allows the PCRF to receive usage metrics during the active data session in order to manage volume quotas.
- Enforcement with cell awareness is provided by Allot CellWise – a value-added network service that informs the PCRF about congested or overloaded cells and the active sessions in those cells.
- Enforcement with roaming awareness notifies the PCRF about the session's current SGSN address, indicating whether the subscriber is roaming or local.

## Multiple Integration Interfaces

SMP is integrated easily with existing provisioning, OSS and billing systems, using standard protocols such as:

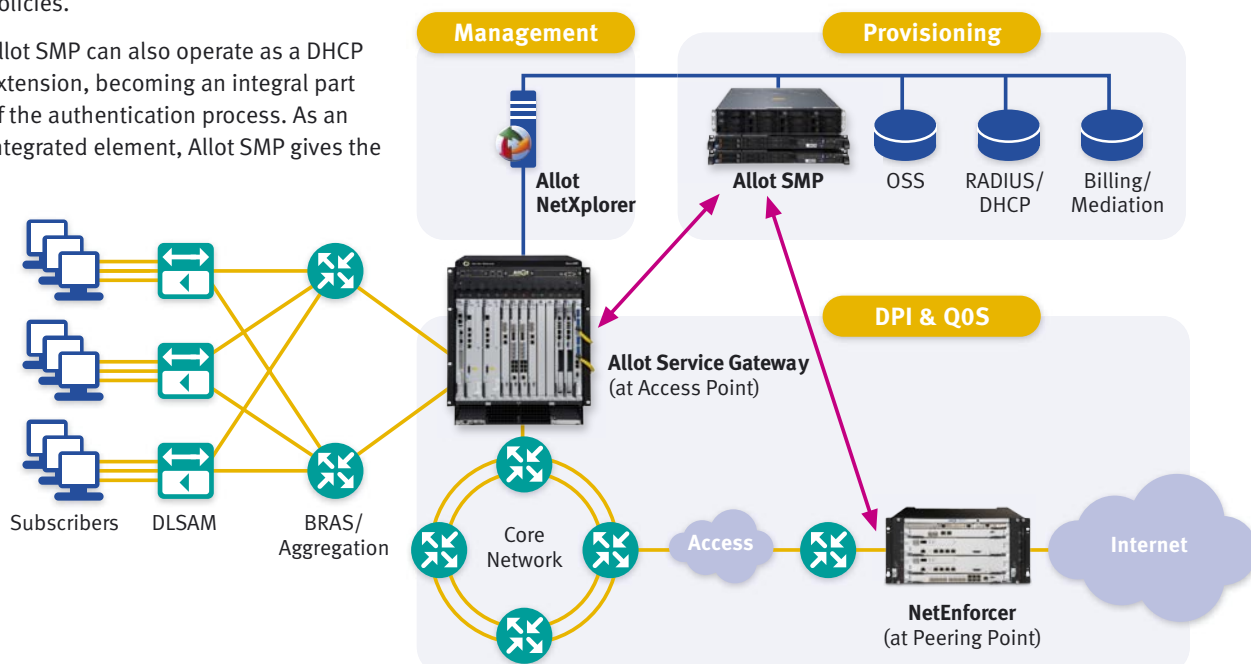
- SOAP
- Diameter Gx
- SNMP
- Text (CSV)
- RADIUS
- CLI

## Health Monitoring

SMP is equipped with system health monitoring capabilities and can report on system and subscriber statuses such as:

- CPU utilization
- Memory utilization
- Number of RADIUS/DHCP message updates per second
- Number of registered subscribers
- Number of active IP sessions
- Subscriber status (associated service plan, used quota, state – active / not active).

The Allot SMP platform can also report, via SOAP and/or SNMP traps, any failure in the subscriber provisioning process, allowing the operator's OSS to take actions in case of provisioning failures.



# Specifications

Allot Subscriber Management Platform may be purchased in a standard server or a high-availability configuration. The high-availability platform (HAP) comprises a cluster of two SMP server appliances running in active/passive redundancy mode together with an external storage unit.

## Distributed Design

Up to 15 Standard SMP appliances or SMP-HAP configurations can be deployed in the network to support up to 30 million registered subscribers.

## Appliance Specifications

SMP Standard Platform	SMP-HAP: High Availability Platform
<b>Hardware</b>	
<b>1 x IBM System x3550 M2 Server platform (1U) with:</b> <ul style="list-style-type: none"> <li>• 2 x Intel Xeon Processor E5520 4C (2.26 GHz, 8MB, L3 Cache, 1066 MHz)</li> <li>• 6 x 1GB DDR3-1333 1Rx8 LP RDIMM</li> <li>• 4 x IBM 146GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD</li> <li>• 2 x 1 Gb Ethernet ports</li> <li>• 1 x 675W redundant power supply</li> </ul>	<b>2 x IBM System x3550 M2 Server platform (1U) with:</b> <ul style="list-style-type: none"> <li>• 2 x Intel Xeon Processor E5520 4C (2.26 GHz, 8MB, L3 Cache, 1066 MHz)</li> <li>• 6 x 1GB DDR3-1333 1Rx8 LP RDIMM</li> <li>• 2 x IBM 146GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD</li> <li>• 4 x 1 Gb Ethernet ports</li> <li>• 2 x 675W redundant power supply</li> </ul> <b>1 x IBM DS3200 SAS Storage Unit (2U)</b> <ul style="list-style-type: none"> <li>• 5 x HDD 146GB 15K RPM 3.5" SAS</li> </ul>
<b>Size</b>	
Standard 1U in 19" rack	Standard 4U in 19" rack
<b>Operating System</b>	
Linux	
<b>Capacity</b>	
Max RADIUS messages/second per SMP node: 1000	
Max DHCP messages/second per SMP node: 1000	
Max SOAP messages/second per SMP node: 900	
Max RADIUS messages/second with Diameter Gx interface toward PCRF per SMP node: 800	
Actual capacity may vary depending on specific use case and/or network configuration.	
<b>Performance</b>	
Capacity values are based on SMP performance with Allot Service Gateway Sigma version AOS11.1.0	

## About Allot Communications

Allot Communications Ltd. (NASDAQ: ALLT) is a leading provider of intelligent IP service optimization solutions for fixed and mobile broadband operators and large enterprises. Allot's rich portfolio of solutions leverages dynamic actionable recognition technology (DART) to transform broadband pipes into smart networks that can rapidly and efficiently deploy value added Internet services. Allot's scalable, carrier-grade solutions provide the visibility, topology awareness, security, application control and subscriber management that are vital to managing Internet service delivery, enhancing user experience, containing operating costs, and maximizing revenue in broadband networks.

[www.allot.com](http://www.allot.com) [info@allot.com](mailto:info@allot.com)

- **Americas:** 300 TradeCenter, Suite 4680, Woburn, MA 01801 USA · Tel: (781) 939-9300 · Toll free: (877) 255-6826 · Fax: (781) 939-9393
- **Europe:** NCI – Les Centres d'Affaires Village d'Entreprises 'Green Side', 400 Avenue Roumanille, BP309, 06906 Sophia Antipolis Cedex, France · Tel: 33 (0) 4-93-001160 · Fax: 33 (0) 4-93-001165
- **Asia Pacific:** 6, Ubi Road 1, Wintech Centre 6-12, Singapore 408726 · Tel: 65 6841-3020 · Fax: 65 6747-9173
- **Japan:** Kanda Surugadai 4-2-3-301, Chiyoda-ku, Tokyo 101-0062 · Tel: 81 (3) 5297-7668 · Fax: 81(3) 5297-7669
- **Middle East and Africa:** 22 Hanagar Street, Industrial Zone B, Hod-Hasharon, 45240, Israel · Tel: 972 (9) 761-9200 · Fax: 972 (9) 744-3626

