

Allot Analytics Solutions

Allot ClearSee

Data Source



**Providing a Breakthrough Data Source for
Telcom Analytics**



The Source of Telco Business Intelligence

Allot ClearSee Data Source is a breakthrough solution for telco analytics. It allows digital lifestyle providers to capture a rich variety of application, subscriber, device and Quality of Experience (QoE) data from their own networks, and to turn that source data into the valuable business intelligence they need to drive subscriber satisfaction and service profitability.

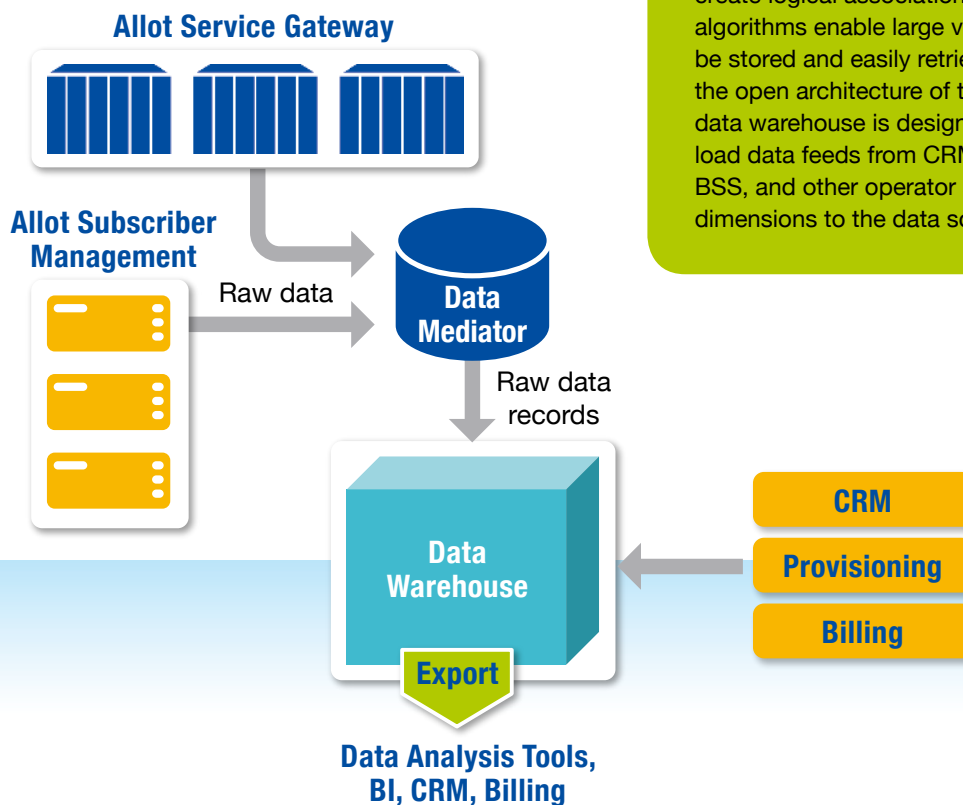
Allot ClearSee collects a rich variety of raw data from the network and from operator business systems and loads it into a cutting-edge data warehouse where it is transformed into modeled business objects that are easy to understand and work with. This valuable source data can then be exported to external analytics tools and other business applications.

Rich Modeled Data

In the Allot ClearSee system, modeled data is represented in the form of semantic business objects (dimensions and metrics) that are intuitively understood and relevant to different stakeholders. They also enable fast and easy integration of modeled data into a variety of analytics and business systems that treat data very differently.

For example, all the streaming video records generated by a single subscriber over a day or month can be represented by a business object called “popular video sites” which includes metrics detailing video volume consumed, total minutes watched, stalls, response time, and overall QoE for each of the subscriber’s popular sites.

In the warehouse, various calculations on the data add valuable metrics to the business objects. Likewise, data correlation algorithms create logical associations while optimization algorithms enable large volumes of data to be stored and easily retrieved. In addition, the open architecture of the Allot ClearSee data warehouse is designed to accept and load data feeds from CRM, ERP, OCS, OSS, BSS, and other operator systems, adding new dimensions to the data source.



Allot ClearSee provides an exceptionally rich, accurate, and accessible Data Source for telco analytics

Turning Big Data into Usable Data

Broad Data Collection

Allot ClearSee collects raw data in real time from data plane elements in the network, including Allot Service Gateway and Allot NetEnforcer platforms, as well as control plane elements, including Allot Subscriber Management Platform. This raw data can be further enriched by offline data feeds from operator CRM, BSS and other business systems. The Allot ClearSee system is built to handle large volumes and variety of data coming in at very high velocities.

High-Resolution Data Records

As raw data is collected, it is processed into high-resolution data records detailing HTTP, Video, VoIP, Instant Messaging, Session, Subscriber, and Policy activity and IP flow statistics.

CONV	Application Flow Record	Flow statistics from real-time IP application flows, providing a complete view of network, subscriber, application, and device activity.
HDR	HTTP Data Record	Web usage statistics based on HTTP, HTTPS, SPDY transaction level data extracted from web traffic.
VDR	Video Data Record	Video session quality metrics such as number/duration of stalls, response time, and overall QoE, as well as video attributes including format, duration, resolution, name, domain, etc.
SDR	Session Data Record	Session statistics that detail subscriber behavior in the control plane, such as log-in/out, AAA, location and many other metrics.
UDR	User Data Record	Subscriber-application usage metrics.
VC	VC Policy Record	Usage statistics based on classification of traffic by Allot in-line platforms. Provides statistics per Allot hierarchical policy elements.
CDR	Chat Data Records	Usage data from OTT VoIP and Instant Messaging applications, including minutes-of-use.

Ultimately, these raw data records are loaded into the Allot ClearSee data warehouse where they are transformed into modeled data objects. The frequency and triggers for raw data export are configurable parameters set according to operator requirements. In case of disconnect during raw data transfer, Allot ClearSee stores all data files until connection is re-established and transfer can resume.

Cutting-Edge Data Warehouse

Allot ClearSee employs a cutting-edge data warehouse designed for fast look-up, processing, and export. The data warehouse features a columnar structure and uses massive parallel processing (MPP) to handle big data with extreme efficiency. In addition, Allot optimization algorithms reduce the warehouse storage space required without losing information. Its modular node architecture is designed for seamless capacity expansion and data synchronization, which allows the data warehouse to scale both up (add more instances of a function within a node) and out (add more nodes) in both virtualized and non-virtualized environments.

Efficient Source Data Export

Allot ClearSee efficiently exports modeled source data in standard formats or in customized file formats to external analytics applications and to other business intelligence systems. Export and refresh frequency is a configurable parameter. Likewise, as modeled data is loaded into the warehouse, it becomes immediately available for analysis via the Allot ClearSee Analytics application.

Raw data records may be exported directly from the Allot ClearSee data mediator when this type of data source is required. The modular design of Allot ClearSee is able to accommodate a wide range of data source requirements.

Data Privacy

Allot ClearSee performs obfuscation and encryption of raw data records in compliance with data privacy regulations.

Tight Security

Data privacy and integrity is a top concern for network operators. Allot ClearSee provides robust security settings that allow administrators to control access to the system as well as use/view privileges to the data and export tools. The system administrator controls the following security settings:

- Access Authentication controls login permissions
- Functional Privileges control the ClearSee functions that each user/group may use
- Object Permissions control the business objects that each user/group may use
- Data Security filters control which data each user/group may access or view
- Database Security controls direct access to the Allot ClearSee Data Warehouse



Allot ClearSee Data Source software and hardware packages may be purchased in node configurations designed to support data collection and export for 100,000 subscribers, 1 million subscribers, and an unlimited number of subscribers. Allot ClearSee software may also be installed on operator equipment

that meets the following minimum requirements. Additionally, the software may be installed on virtual machines. Individual sizing and installation requirements should be verified with an Allot representative.

Basic Node for 100,000 Data Subscribers

This standalone configuration for Allot ClearSee provides a single server to host both the data warehouse and the modeled data export function for up to 100,000 subscribers.

Minimum Specifications for Allot ClearSee Basic Node	
Hardware	IBM x3550 M4 1U server 2 x Intel Xeon with 6 cores running at 2.0Ghz 64 GB RAM 2 TB of server storage via 2 x 146 GB and 6 x 300 GB disks Dual AC/DC 750W power supply 2 x 1 GE copper connectivity (extra link for redundancy)
Supported Operating System	CentOS Linux 6.4 64-bit x 86 (English only)

Enhanced Node for 1 Million Data Subscribers

This enhanced configuration for Allot ClearSee provides a single server to host both the data warehouse and the modeled data export function for up to 1 million subscribers.

Minimum Specifications for Allot ClearSee Enhanced Node	
Hardware	IBM x3650 M4 2U server 2 x Intel Xeon with 8 cores running at 2.0Ghz 128 GB RAM 7.3 TB of server storage via 2 x 146 GB and 12 x 600 GB disks Dual AC/DC 750W power supply 2 x 1 GE copper connectivity (extra link for redundancy)
Supported Operating System	CentOS Linux 6.4 64-bit x 86 (English only)

Cluster Node for Unlimited Data Subscribers

This cluster configuration for Allot ClearSee provides separate, expandable nodes to host the data warehouse and the modeled data export function respectively. Cluster nodes support many millions of subscribers with effectively unlimited scalability.

Minimum Specifications for Allot ClearSee Cluster Nodes	
Cluster Data Warehouse Hardware	IBM x3650 M4 2U server 2 x Intel Xeon with 8 cores running at 2.0Ghz 128 GB RAM 7.3 TB of server storage via 12 x 600 GB disks Dual AC/DC 750W power supply 2 x 1 GE copper connectivity and 2 x 10 GE SFP+connectivity (extra links for redundancy)
Cluster BI Server Hardware	IBM x 3550 M4 1U server 2 x Intel Xeon with 6 cores running at 2.0Ghz 64 GB RAM 1.2 TB of server storage via 4 x 300 GB disks Dual AC/DC 750W power supply 6 x 1 GE copper connectivity (extra links for redundancy and H/A)
Supported Operating System	CentOS Linux 6.4 64-bit x 86 (English only) for both

About Allot Communications

Allot Communications Ltd. (NASDAQ: ALLT) is a leading global provider of intelligent broadband solutions that put mobile, fixed and enterprise networks at the center of the digital lifestyle. Allot's DPI-based solutions identify and leverage the business intelligence in data networks, empowering operators to shape digital lifestyle experiences and to capitalize on the network traffic they generate. Allot's unique blend of innovative technology, proven know-how and collaborative approach to industry standards and partnerships enables service providers worldwide to elevate their role in the digital lifestyle ecosystem and to open the door to a wealth of new business opportunities. For more information, please visit www.allot.com.

sales@allot.com

Americas: 300 TradeCenter, Suite 4680, Woburn, MA 01801 USA Tel: +1 (781) 939-9300 Fax: +1 (781) 939-9393 Toll free: 877-255-6826 • **Europe:** NCI – Les Centres d'A_laires Village d'Entreprises 'Green Side', 400 Avenue Roumanille, BP309, 6906 Sophia Antipolis Cedex, France Tel: +33 (0) 4-93-001160, Fax: +33 (0) 4-93-001165 • **Asia Pacific:** 25 Tai Seng Avenue, #03-03, Scorpio East Building, Singapore 534104 Tel: +65 67490213 Fax: +65 68481015 • **Japan:** 4-2-3-301 Kanda Surugadai, Chiyoda-ku, Tokyo 101-0062 Tel: +81 (3) 5297-7668 Fax: +81(3) 5297-7669 • **Middle East and Africa:** 22 Hanagar St., Industrial Zone B, Hod-Hasharon, 45240, Israel, Tel: +972 (9) 761-9200, Fax: +972 (9) 744-3626

www.allot.com info@allot.com

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