

# Smart Data Source

## Your Source for Network Business Intelligence

Allot Smart Data Source is a breakthrough solution for service providers to obtain valuable business intelligence to drive subscriber satisfaction and service profitability. As Allot Service Gateways monitor every packet on your network, Allot Smart Data Source collects and exports rich network usage records to your BI systems, enabling you gain deeper insight about subscribers and the way they use your network services. Allot data scientists can help you filter and combine relevant data so you can analyze the data sets that matter most to your business goals.

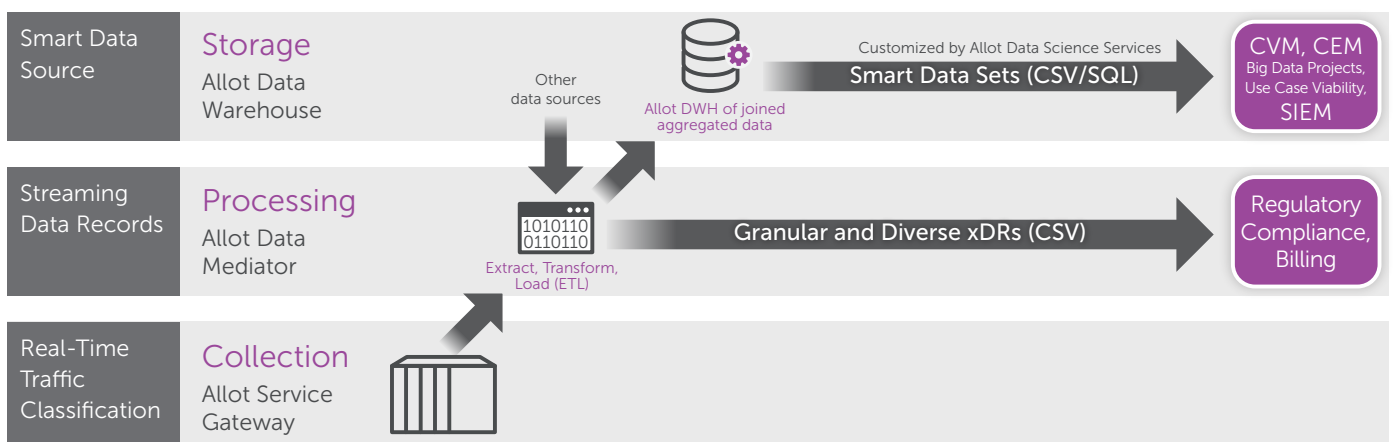
Service providers also use Allot Smart Data Source to comply with data retention requirements and to provide customize data record types and formats as required by regulators.

### Rich Data Sets

With Allot Smart Data Source, data sets are represented in the form of semantic business objects (dimensions and metrics) that are intuitively understood and relevant to different stakeholders. Smart data sets can be easily integrated 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 favorite sites.

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 Smart Data Source 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 Smart Data Source delivers exceptionally rich, accurate, and easily customized data usage records for telco analytics

## Turning Network Big Data into Valuable Data

### Broad Data Collection

Allot Smart Data Source collects network usage data in real time from Allot multiservice platforms as well as control plane elements, such as Allot Subscriber Management Platform. This usage data may be further enriched by data feeds from operator CRM, BSS and other business systems. The system is built to handle large volumes and variety of data coming in at very high velocities.

### High-Resolution Data Records

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

WEB	Web usage statistics based on HTTP, and HTTPS transaction level metadata extracted from web traffic enriched with DPI app classification.
SESSIONS	Session statistics that detail subscriber behavior in the control plane, such as log-in/out, location, device, roaming and many other metrics.
APPLICATIONS	Flow statistics from real-time IP application flows, providing a complete view of network, subscriber, application, and device activity.
POLICY	Usage statistics based on classification of traffic by Allot in-line platforms. Provides statistics per Allot hierarchical policy elements.
VOIP & IM	Usage data from OTT VoIP and Instant Messaging applications including minutes-of-use.
VIDEO	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.
SECURITY	Security events identified by Allot Web filters.

Ultimately, usage data records are loaded into the Allot data warehouse where they are filtered, aggregated and joined into smart data sets that are relevant to the use cases you want to analyze. The frequency and triggers for usage data export are configurable parameters set according to operator requirements. In case of disconnect during streaming data transfer, Allot Smart Data Source stores all data files until connection is re-established and transfer can resume.

### Cutting-Edge Data Warehouse

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

### Data Science Services

While Allot Smart Data Source helps you extract rich usage data from your network, our Professional Services experts help you identify and obtain the right data sets quickly and efficiently, for the specific use cases that you want to address. They will guide you through big and small projects alike, starting with problem definition, through proof of concept, to implementation of the most suitable and cost-efficient data source solution, so you can save time and money on your big data projects. At each step of the way, Allot Professional Services experts speed your data sourcing projects along with expert customization of data records and data sets.

### Data Privacy and Security

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

- Access Authentication controls login permissions
- Functional Privileges control Allot 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 data warehouse

Allot Smart Data Source software and hardware packages may be purchased in node configurations designed to support data collection and export for a wide range of different projects: from small projects of 10,000 subscribers up to huge projects with 1 million subscribers, or unlimited numbers. Allot Smart Data Source 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 up-to 100,000 Data Subscribers

This standalone configuration for Allot Smart Data Source provides a single server to host both the data warehouse and the business intelligence application for up to 100,000 subscribers. When only streaming data records are required please contact an Allot representative.

Minimum Specifications for Allot Smart Data Source Basic Node	
Hardware	Lenovo x3550 M5 1U server Intel Xeon Processor E5-2620 v3 6C 2.4GHz 15MB Cache 1866MHz 85W Additional Intel Xeon Processor E5-2620 v3 6C 2.4GHz 15MB 1866MHz 85W 64 GB, DDR41866MHz 2.4 TB of server storage on 8 x 300 GB disks
Supported Operating System	CentOS Linux 6.6 64-bit x 86 (English only)

## Enhanced Node for up-to 1 Million Data Subscribers

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

Minimum Specifications for Allot ClearSee Enhanced Node	
Hardware	Lenovo x3650 M5 2U server Intel Xeon Processor E5-2640 v3 8C 2.6GHz 20MB Cache 1866MHz 90W Additional Intel Xeon Processor E5-2640 v3 8C 2.6GHz 20MB 1866MHz 90W 128 GB, DDR41866MHz 7.8 TB server storage via: <ul style="list-style-type: none"> <li>• 2 x 300GB 15K 12Gbps SAS 2.5" G3HS 512e HDD</li> <li>• 12 x 600GB 10K 12Gbps SAS 2.5" G3HS 512e HDD</li> </ul> System x 900W High Efficiency Platinum AC Power Supply 2 x 1 GbE copper connectivity (extra link for redundancy)
Supported Operating System	CentOS Linux 6.6 64-bit x 86 (English only)

## Cluster Node for Unlimited Data Subscribers

This cluster configuration for Allot Smart Data Source provides modular, expandable nodes to host the data warehouse and the 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	Lenovo x3650 M5 2U server Intel Xeon Processor E5-2640 v3 8C 2.6GHz 20MB Cache 1866MHz 90W Additional Intel Xeon Processor E5-2640 v3 8C 2.6GHz 20MB 1866MHz 90W 128 GB, DDR41866MHz 7.8 TB of server storage via: <ul style="list-style-type: none"> <li>• 2 x 300 GB</li> <li>• 12 x 600 GB disks</li> </ul> System x 900W High Efficiency Platinum AC Power Supply
Cluster BI Server Hardware	Lenovo x3550 M5 1U server Intel Xeon Processor E5-2620 v3 6C 2.4GHz 15MB Cache 1866MHz 85W Additional Intel Xeon Processor E5-2620 v3 6C 2.4GHz 15MB 1866MHz 85W 64 GB, DDR41866MHz 1.2 TB of server storage 8 x 300 GB disks System x 750W High Efficiency Platinum AC Power Supply 6 x 1 GbE copper connectivity (extra links for redundancy and H/A)
Supported Operating System	CentOS Linux 6.6 64-bit x 86 (English only)