



# allot Smart CSP Use Cases

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## INTRODUCTION

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Allot is a leading global provider of innovative network intelligence and security solutions for service providers, helping you to provide enhanced value to your customers. Our solutions, deployed globally, deliver network and application analytics, traffic control and shaping, and network-based security services.

The use cases in this booklet focus on the Allot Smart solution suite. Powered by inline DPI technology, Allot Smart generates insightful intelligence that empowers our customers to optimize, innovate, and capitalize on every service opportunity. By analyzing every packet of network, user, application and security data, Allot Smart cost-effectively enables the highest Quality of Experience (QoE) for our customers' end-users. Using Allot Smart, our customers have lowered access bandwidth costs by 10%, deferred capacity expansions by 1-2 years and reduced revenue leakage by 15%.

The choice may be simple, but the path is complex. An experienced, knowledgeable and innovative partner can make the difference in meeting customer expectations.

*Allot is your partner for delivering high quality network intelligence and security solutions. services.*

The Service Provider Use Cases are organized into the following domains:

- Network Visibility
- Traffic Management
- Policy Control & Charging
- Regulatory Compliance

## NETWORK VISIBILITY

When you truly know what's happening on your network, you can make better business decisions. Allot gives you complete visibility of all application and user traffic in granular detail, viewed through built-in dashboards or custom reports that you create on demand. Optional export of rich data records enhances the insight you gain from external BI and big data systems.



### Key Benefits

- Gain deeper understanding of customer online activity and preferences
- Increase ARPU through better targeting of services/promotions
- Reduce churn with “stickier” services

### Identify subscriber interests and usage patterns

- Analyze data usage patterns of subscribers, applications, and devices
- Segment subscribers based on areas of interest and usage patterns
- Target promotions and opt-in adverts tailored to each segment
- Leverage segmentation profiles to attract advertisers and other revenue opportunities

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- NetXplorer
- ClearSee
- Subscriber Management Platform

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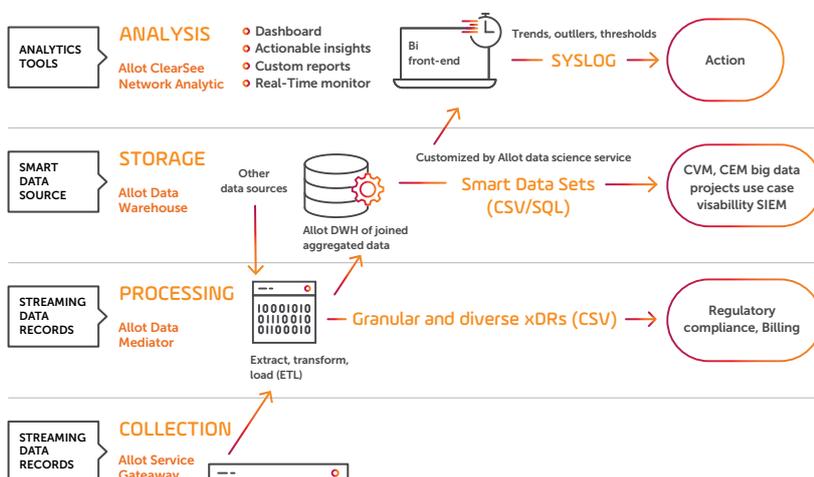
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## NETWORK VISIBILITY CUSTOMER SEGMENTATION

The ability to identify subscriber interests and usage patterns enables service providers to introduce targeted promotions and to benefit from other revenue generating opportunities. For example, one user segment may be characterized as having an interest in gadgets, while the subscribers in another segment are music lovers. By identifying these interest segments - along with other attributes such as usage patterns and type of device – the operator can launch effective promotions that offer subscribers relevant products and services such as new or additional devices or personalized service plans. Subscriber segmentation also offers abundant opportunities for revenue generation from advertising.

### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



## NETWORK VISIBILITY OPTIMIZE CUSTOMER CARE

Every interaction with your customer is critical. The right kind of usage and activity analytics can assist Customer Care personnel in resolving customer issues. For example, customers may complain that their handset battery requires frequent recharging and is running out of juice after only a few hours of use. While the usual suspect may be the battery, the customer’s usage history points to a recent download of one or more bandwidth-intensive applications as well as frequent use of that application. The history may also show that the downloaded application works better with a later version of the device’s operating system. Armed with this usage history and analysis, support personnel could recommend using an alternative application that is easier on the battery, upgrading the device OS, or upgrading the battery, or all three options. With so many factors affecting data service, customers value a service provider who is knowledgeable and can resolve problems quickly.

### Key Benefits

- Reduce trial and error in resolving customer complaints
- Improve your Customer Care service
- Enhance your brand image

### Customer Care Optimization in Action

- Customer contacts Call Center with complaint
- Call Center rep consults customer profile and recent activity
- Profile analysis assists in pinpointing the problem
- Call Center resolves the problem faster and better

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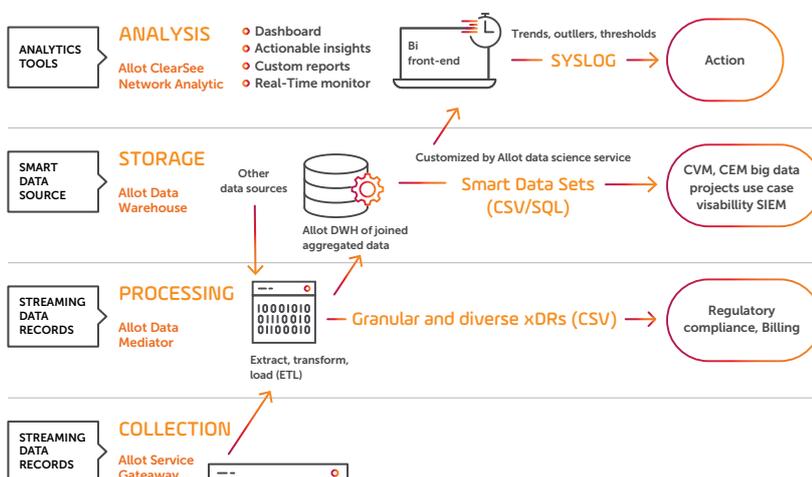
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## GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



### Key Benefits

- o Reduce trial and error in resolving customer complaints
- o Improve your Customer Care service
- o Enhance your brand image

### Identify Potential Churners in Action

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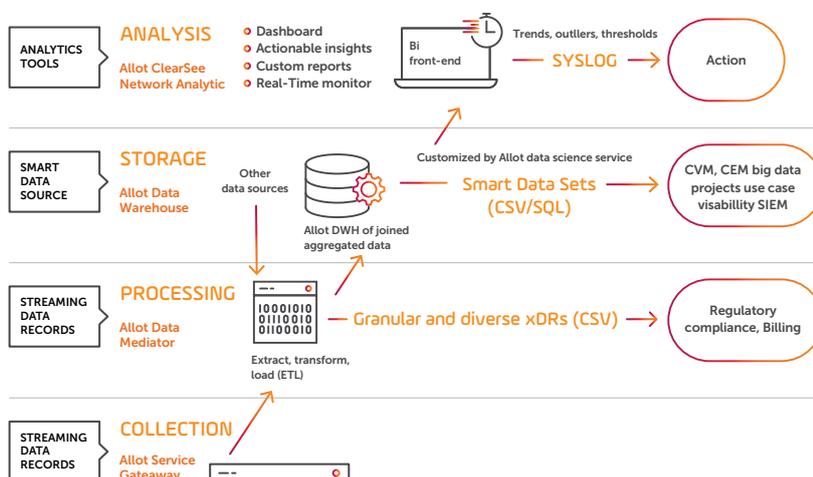
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## NETWORK VISIBILITY IDENTIFY POTENTIAL CHURNERS

It is estimated that it costs 7 times as much to win new customers as to keep existing ones. Using advanced analytics capabilities, it is possible to craft reports that identify high risk churners based on a combination of activities such as reduced activity, visits to competitor sites and poor QoE. One can then reach out to such customers with attractive, personalized offers and care to win back their loyalty

### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC





### Key Benefits

- o Understand technology utilization trends
- o Plan for new technology
- o Migrate on time/on budget

### Technology Version Awareness in Action

- o Analyze trends in technology utilization
- o Create well-founded migration plan
- o Implement efficiently

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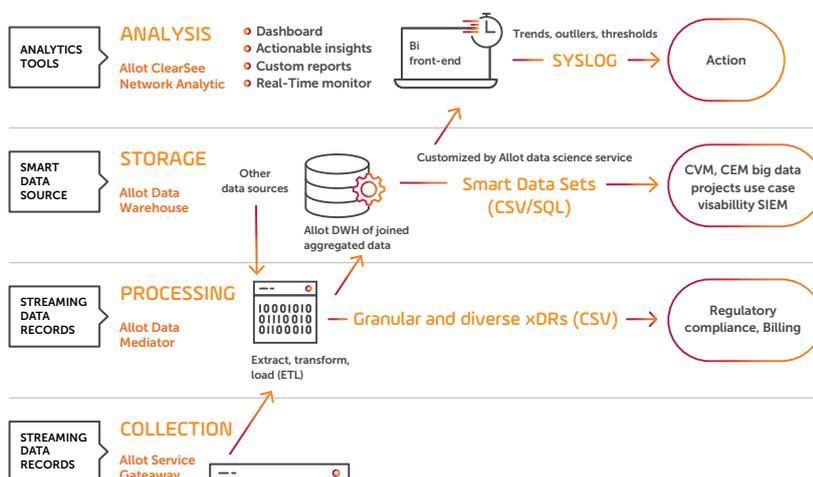
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## NETWORK VISIBILITY TECHNOLOGY VERSION AWARENESS

Keeping up with new technologies can be quite costly. With constant pressure to stay ahead of changes, service providers may be tempted to overspend early in the curve - earlier than they need to. By gaining clear visibility into actual usage trends within their customer base, they can plan "just in time" migrations and keep CAPEX and OPEX as low as possible

### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



## NETWORK VISIBILITY NETWORK RESOURCE PLANNING

Network planning relies on accurate and meaningful information regarding congestion episodes on the network, why they occur, and their effect on subscriber Quality of Experience (QoE).. For example, real-time analytics can show which subscribers, applications and devices are consuming the bandwidth in a temporarily congested cell, while historical analysis can be used to identify the usage patterns that make a cell chronically congested. The effects of congestion may be felt keenly by video consumers who experience more stalls, stutters and long load times. Analyzing QoE per subscriber, application and device in congested cells can help operators identify problem areas and better plan around them. For example, expedited forwarding and video optimization may alleviate most of the QoE problems, rather than bandwidth expansion.

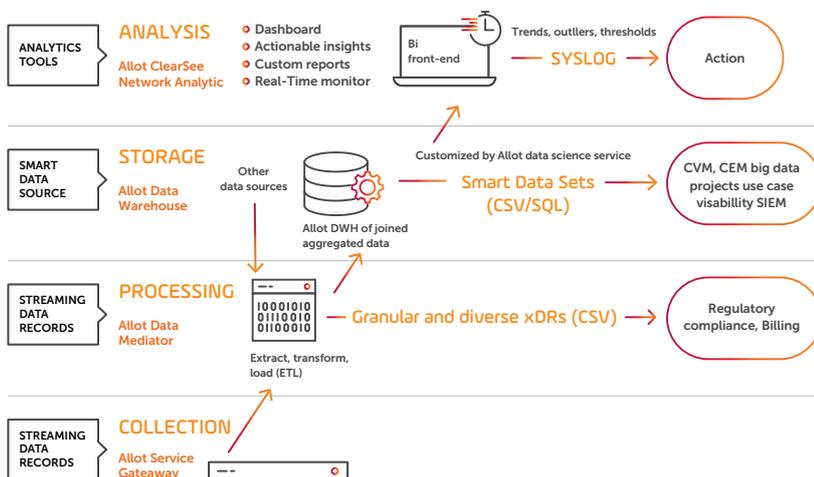
### Key Benefits

- Pinpoint the causes of network congestion
- Understand usage trends and better predict congestion
- Save on resource CAPEX and OPEX through accurate planning

### Network Resource Planning in Action

- Collect and warehouse real-time session and usage data per sub, application, device, cell
- Identify congestion episodes and their causes
- Analyze the effects of congestion on application QoE and SLA deviations
- Evaluate solutions to manage and reduce congestion versus bandwidth expansion

### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



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### Key Benefits

- o Gain better understanding of NW performance
- o Improve user satisfaction
- o Reduce churn

### Network/Web QoE in Action

- o Analyze network performance and traffic bottlenecks
- o Implement pin-pointed network enhancements
- o Improve user QoE

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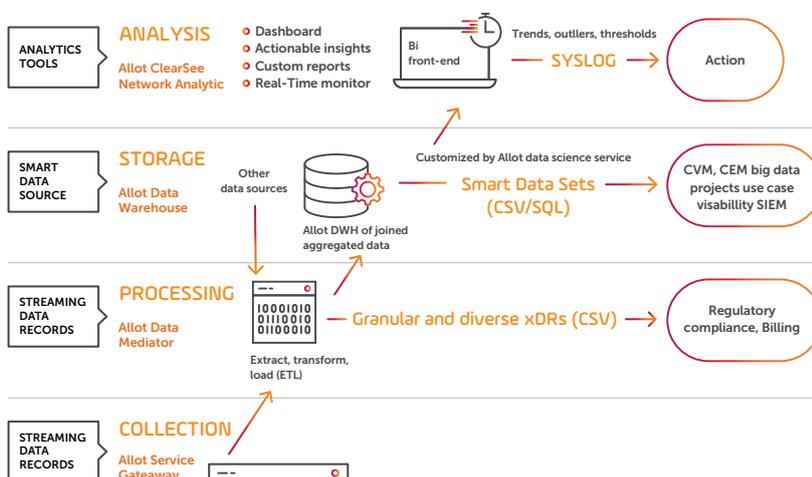
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## NETWORK VISIBILITY CUSTOMER QoE

To ensure high customer QoE, one must measure and understand in detail the factors that influence performance issues related to browsing and video consumption. By analyzing in detail where, when and why congestion is impacting user experience, service providers can optimize network expansion to exactly fit current and projected needs—avoiding unnecessary spending, saving both CAPEX and OPEX.

### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



# NETWORK VISIBILITY

## PREPAID BEHAVIOR ANALYSIS

Prepaid customers comprise a significant segment of users in mobile data networks. However, their activity and preferences are mostly unknown. This limited relationship makes it easier for them to churn. Prepaid Behavior Analysis allows service providers to change the nature of the relationship by providing valuable insight into the online activity of prepaid customers. Usage trends regarding popular applications, time-of-day patterns, device, and other parameters help service providers identify different profiles within the prepaid community so they can target the right kind of value to this important segment. For example, behavior analysis can be used to incentivize users of bandwidth-intensive applications to increase the amount of their regular top-up, or move up to a higher-tier prepaid package. It can also assist in targeting relevant ad campaigns to prepaid customers.

### Key Benefits

- Elevate your relationship with prepaid customers
- Reduce the risk of prepaid churn
- Increase opportunities for revenue generation

### Prepaid Behavior Analysis in Action

- Track prepaid usage per application, volume, and device
- Combine usage data with location, point of sale, and other known parameters
- Analyze prepaid behavior and segment accordingly
- Prepaid Behavior Analysis in Action Target prepaid segments with more appealing packages

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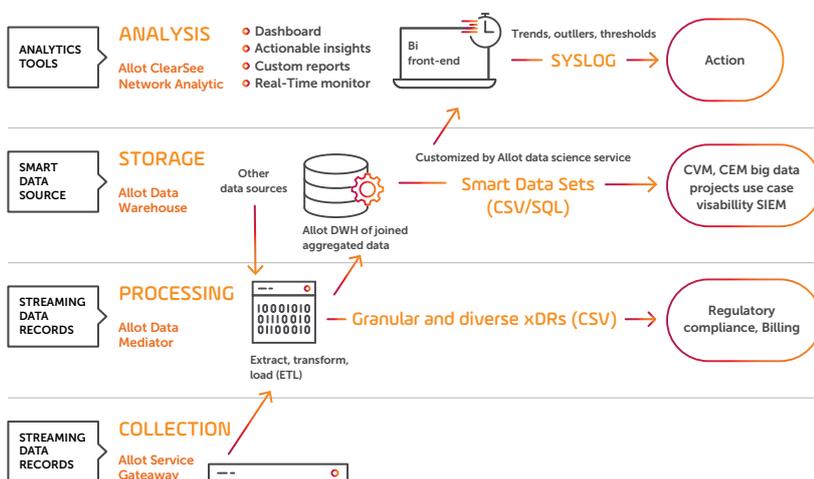
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## GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



### Key Benefits

- o Identify fraudulent activity
- o Close security loopholes
- o Assure revenue per usage

### Revenue Impact Analysis and Fraud Detection in Action

- o Establish baseline application behavior
- o Monitor and detect anomalous behavior patterns
- o Alert service providers to implement mitigation

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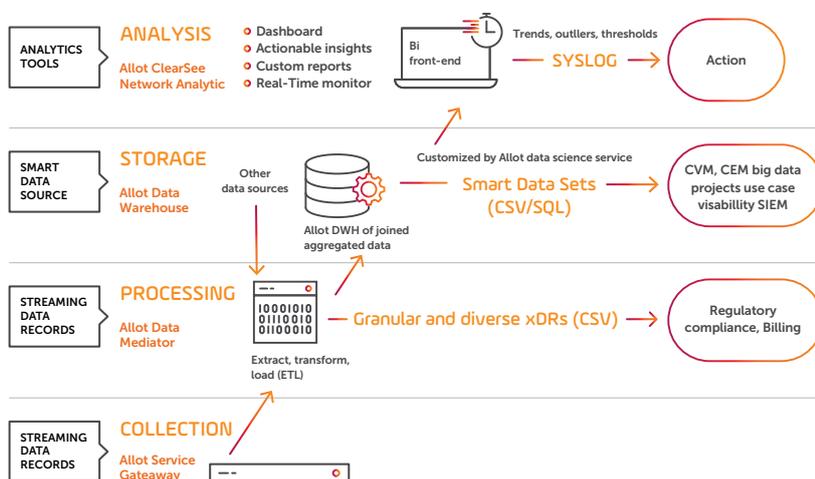
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## NETWORK VISIBILITY REVENUE IMPACT ANALYSIS AND FRAUD DETECTION

It has been estimated that service providers lose 10-20% of potential revenue to fraudulent activity that bypasses usage quotas and avoids payment for data consumption. This clearly impacts the bottom line and may also contribute to congestion and unnecessary network expansion if unchecked. By identifying these activities and taking steps to block them, service providers can ensure they are properly compensated for all network usage.

### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



# NETWORK VISIBILITY SECURITY ANALYSIS

Studies indicate that many mass market subscribers want their service provider to solve their connectivity security issues on their behalf. By correlating users who have experienced security issues with demographics of customers that pay for security Value Added Services, SPs can target specific value-added security services to likely candidate customers

## Key Benefits

- Increase uptake of security VAS
- Increase ARPU
- Gain positive publicity

## Segment Failure Notification in Action

- Analyze customer security issues
- Identify likely needs
- Promote security VAS

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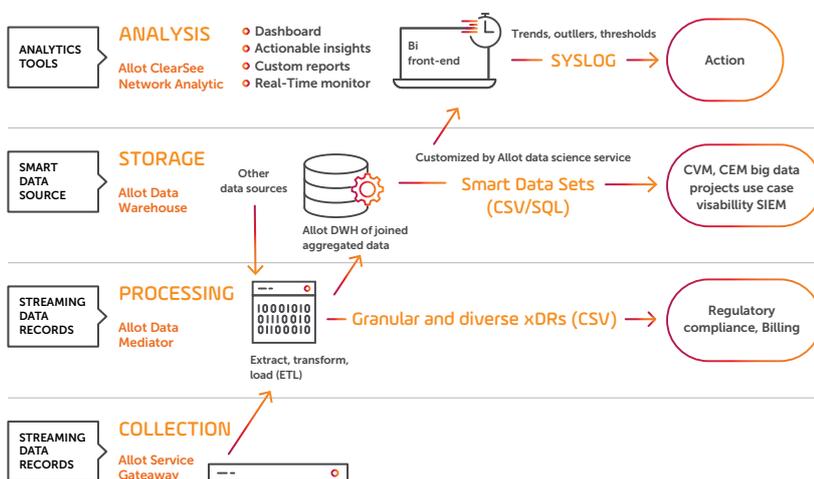
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### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



### Key Benefits

- o Understand how each plan is used
- o Update plans and offers
- o Increase ARPU thru better package fit

### Service Plan Evaluation in Action

- o Analyze response to different plans and updates
- o Target users who are likely to upgrade their plans
- o Promote new plans

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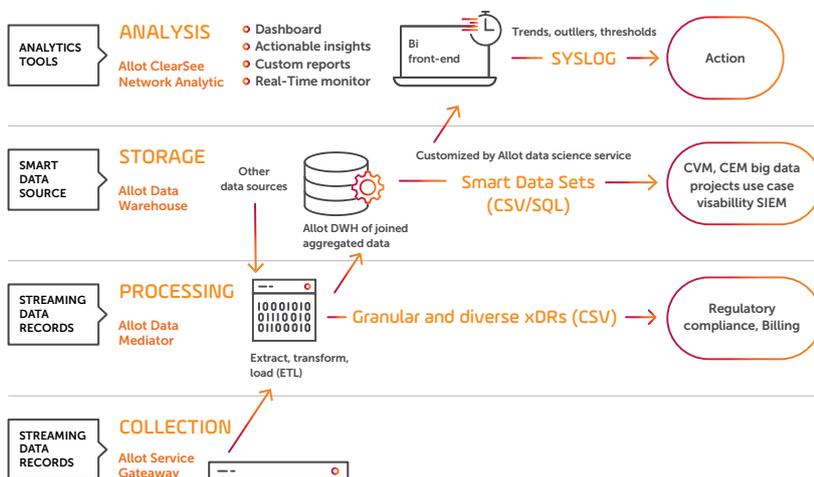
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## NETWORK VISIBILITY SERVICE PLAN EVALUATION

Tiered plans and service bundles do not always get utilized as expected by operators. Granular visibility into correlation between user demographics, device types and package utilization enable the service provider to fine-tune offerings to match customer segments, thereby increasing network usage and customer ARPU.

### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



## NETWORK VISIBILITY SEGMENT FAILURE NOTIFICATION

Granular visibility into network segment (e.g. DSLAM, CVC, eNodeB, Sector) failure can help CSPs repair service affecting problems more quickly. Shorter time to repair ensures that customers suffer less from the outage, increasing their overall QoE.

### Key Benefits

- Centralized, granular view of network health
- Shortened time to repair
- Enhanced customer satisfaction

### Segment Failure Notification in Action

- Baseline normal traffic per segment
- Monitor network traffic levels, per segment
- Notify NOC upon threshold crossing drop of per segment traffic

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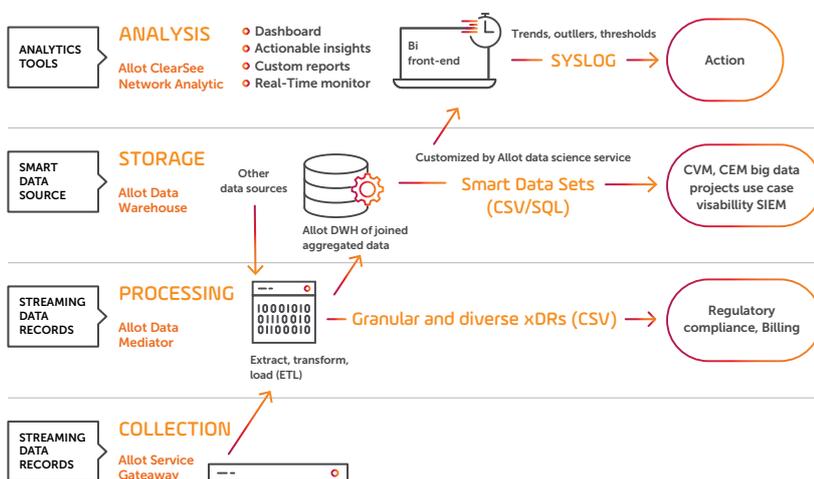
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## GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



### Key Benefits

- o Satisfied roamers
- o Shortened time to repair

### Roaming Analytics in Action

- o Collect and correlate signaling and data plane traffic
- o Measure and correlate QoE metrics per application/subscriber
- o Generate reports and notifications of QoE levels and problems

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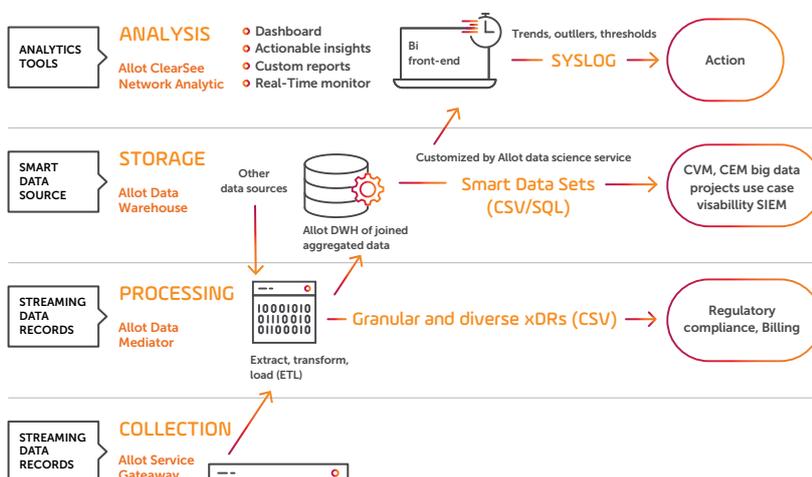
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## NETWORK VISIBILITY ROAMING ANALYTICS

CSPs are challenged to measure the QoE of inbound and outbound roamers. Correlation of signaling and data plane traffic at the subscriber level makes it possible to collect per-subscriber web usage and QoE analytics. This enables monitoring of roamer application QoE, and identification of potential network problems when QoE drops.

### GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



## POLICY CONTROL & CHARGING (PCC)

Maximize customer lifetime value by leveraging application-based and usage-based plans that cater to the unique and dynamic needs of pre-paid, post-paid, business and IoT customers. Allot's SmartPCC solution integrates seamlessly with authentication, provisioning and charging systems to assure fast service roll-out and time-to-revenue.

## Key Benefits

- Increase ARPU
- Enhance customer choice and increase loyalty
- Differentiate your service offering
- **Application-based Charging in Action**
- Customer opts-in to "Social Mingler" plan
- Plan based on data cap with unlimited use of social networking apps
- Exclude Facebook, Twitter, WhatsApp, Instagram, LinkedIn from data cap
- Send monthly usage report in customer bill indicating "free" data volume used

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## Departments

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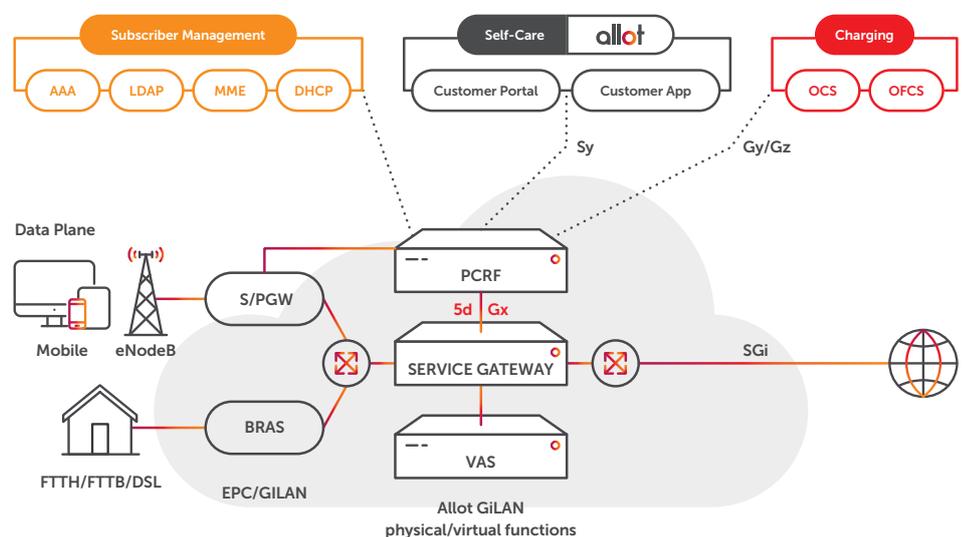
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## POLICY & CHARGING CONTROL APPLICATION-BASED CHARGING

The ability to identify applications at Layer-7 allows operators to differentiate their offering with a range of unique service plans based on gaming, social networking, streaming video, basic email, and other popular applications. For example, operators may identify many customers who are "Social Minglers" meaning they are heavy users of social networks. This segment can be offered zero-rating on popular social networking apps so that usage is not counted against their data cap. Similarly, frequent gamers would be attracted to a plan that offers guaranteed quality of service for World of Warcraft, Call of Duty, and other interactive games.

## DIFFERENTIATED OFFERINGS AND PERSONALIZED CUSTOMER EXPERIENCE



## POLICY & CHARGING CONTROL HTTP HEADER ENRICHMENT

Service providers seek ways to leverage customer information to improve and personalize their online experiences. By forwarding anonymized customer information to OTT and Content provider web sites, these partners can in turn provide personalized responses/content that improves the end user experience, driving improved business models for the Service Provider.

### Key Benefits

- Increase ARPU
- Improve User Experience/ increase loyalty
- Strengthen OTT partnerships

### HTTP Header Enrichment in Action

- Offer personalized services
- Partner with OTT and Content Providers
- Enrich HTTP headers of customer requests
- Deliver personalized services

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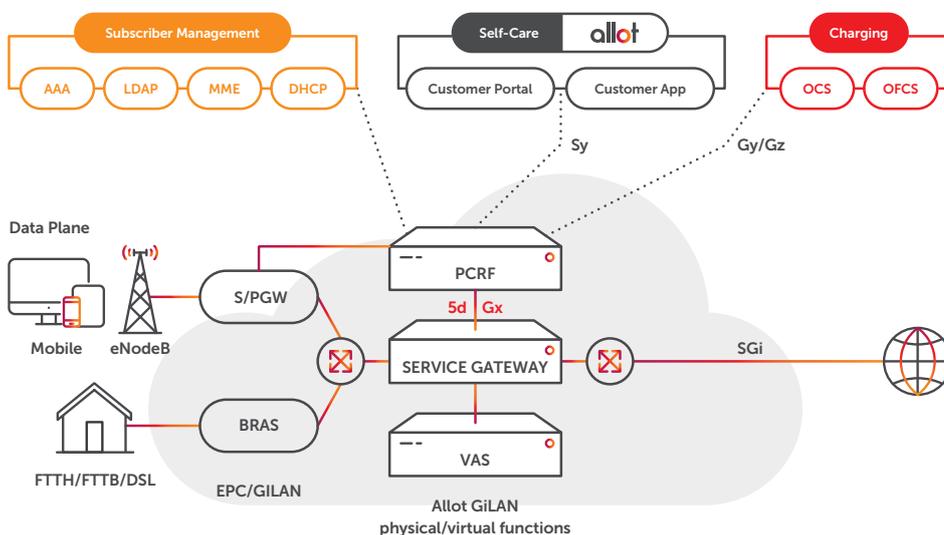
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### DIFFERENTIATED OFFERINGS AND PERSONALIZED CUSTOMER EXPERIENCE



## Key Benefits

- Create new sources of revenue together with OTT content providers
- Differentiate your service offering
- Reduce churn

## HTTP Header Enrichment in Action

- Service bundles with various combinations of OTT content/services
- Provision QoS, volume cap, and charging rules for each bundle
- Track and share usage statistics for targeted advertising
- Provide unified billing for all services

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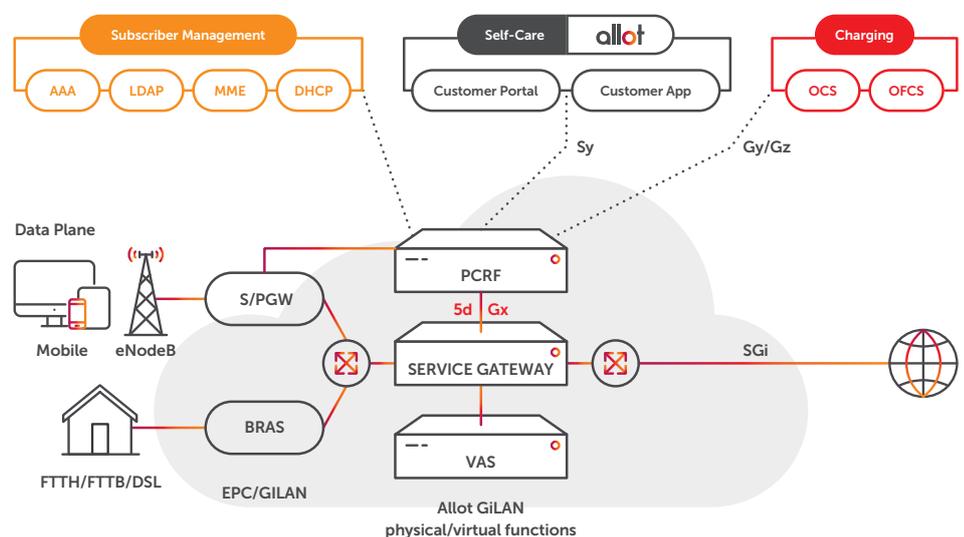
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# POLICY & CHARGING CONTROL OTT CONTENT BUNDLING

Over-the-top content is an integral part of the digital lifestyle. One of the ways service providers can capitalize on this phenomenon is by generating and sharing revenue through tiered bundles of popular OTT content and services. For example, service providers can partner with local content providers to bundle their music, games, movies, video, and social networking applications into a variety of tiered packages aimed at different customer segments. Bundled applications may be loaded onto smartphones at the point of sale, together with usage caps, overage policy, and unified billing by the service provider for pay-for-use content.

The bundle may include content caching or video optimization to ensure great QoE. It may also offer options for targeted advertising based on in-depth analysis of subscriber behavior and bundle popularity. With so many kinds of local and global content coming online all the time, service providers have unlimited opportunity to launch new business ventures with OTT providers and share the revenue.

## DIFFERENTIATED OFFERINGS AND PERSONALIZED CUSTOMER EXPERIENCE





## Key Benefits

- o Differentiate your offering to high-end customers
- o Expand revenue-share business
- o Increase ARPU

## HTTP Header Enrichment in Action

- o Create tiered packages for delivery and charging of premium OTT content/services
- o Share revenue with OTT providers from new customer acquisitions
- o Track and share usage statistics for targeted advertising
- o Provide unified billing for all services

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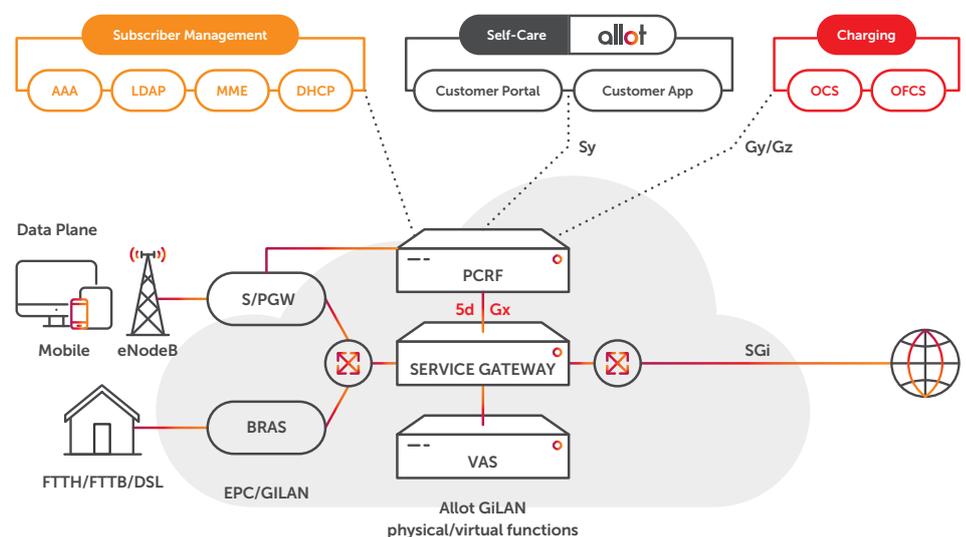
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# POLICY & CHARGING CONTROL OTT PREMIUM CONTENT

While most over-the-top content is free, many content providers also offer premium Internet content and services for a fee.

Service providers can capitalize on this growing phenomenon by leveraging their unique ability to enable access, shape the user experience and to track and analyze OTT usage. For example, service providers can help popular music-, video-, or TV-on-demand providers to expand their pay-for-use business by bundling the OTT service together with smartphone acquisition, high-speed access, guaranteed QoE, and unified billing in a premium package. The premium-content relationship may share revenue and also offer options for targeted advertising based on analysis of subscriber behavior and application usage.

## DIFFERENTIATED OFFERINGS AND PERSONALIZED CUSTOMER EXPERIENCE



## POLICY & CHARGING CONTROL SERVICE TIERING

Data service providers use service tiering to tailor competitive service plans to specific market segments and subscriber preferences. Service plans may be tiered according to different speeds (Mbps, Gbps), QoS, usage allowances, Happy Hours, fair use provisions, application-based SLAs and more. For example, a basic tier could offer high speed but low monthly data cap, while a premium tier offers high speed, unlimited data volume, and expedited forwarding for Streaming Video and Gaming applications. Tiered plans can be rolled out for specific devices as well. In this way, operators can target each customer with the right service plan at the right price.

### Key Benefits

- Increase revenue and upsell opportunities
- Differentiate your service offering
- Enhance customer satisfaction

### Service Tiering in Action

- Create policy rules for each tiered service plan
- Assign customers to the tiered plan of their choice
- Automatically enforce tier speed, QoS, data cap, etc. on subscriber traffic in real-time
- Automatically enforce tier charging rules and create charging records

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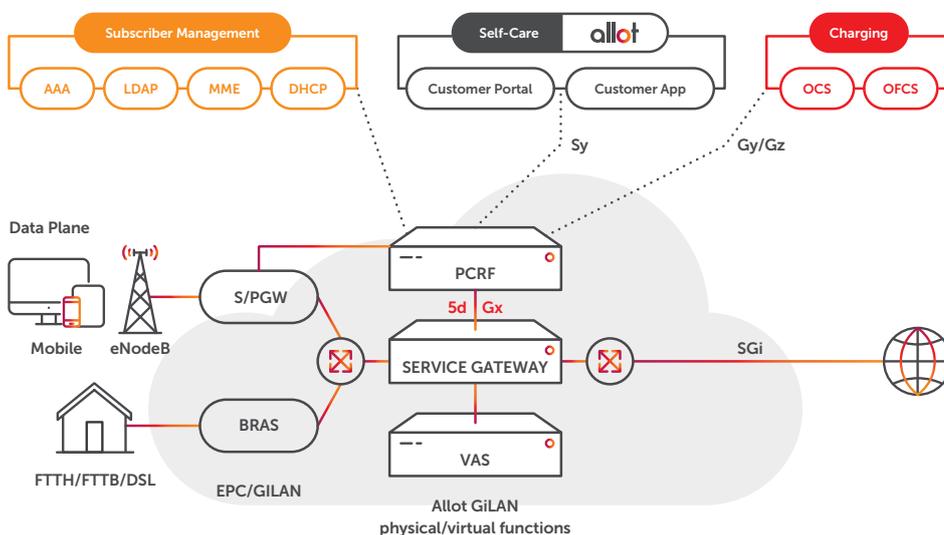
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### DIFFERENTIATED OFFERINGS AND PERSONALIZED CUSTOMER EXPERIENCE



## Key Benefits

- Increase ARPU through optional tethering plans
- Increase customer satisfaction
- Block illegal tethering

## Service Tiering in Action

- Offer premium plans that include tethering
- Detect tethering in real-time
- Apply premium charging and block unpaid for tethering attempts

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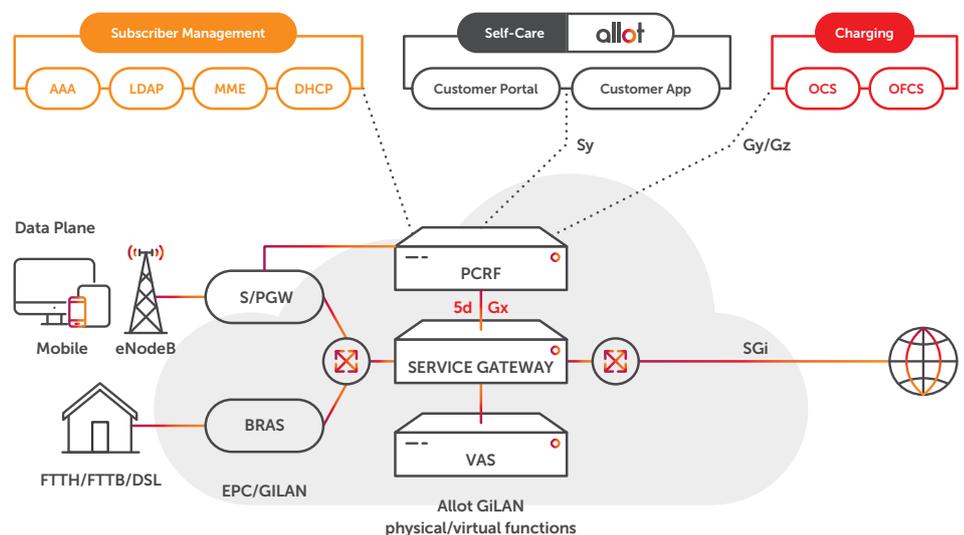
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# POLICY & CHARGING CONTROL TETHERING DETECTION

In many geographies, mobile broadband is the most accessible broadband option available and some customers exploit tethering to enable secondary users to ride for free on their data plans. Tethering is difficult to detect but if detected, it can be offered as an upsell and blocked when it has not been paid for.

## DIFFERENTIATED OFFERINGS AND PERSONALIZED CUSTOMER EXPERIENCE



## POLICY & CHARGING CONTROL TURBO BOOST

Broadband subscribers typically sign up for the data plan that best suits their digital lifestyle. But there are always those moments when an extra boost of bandwidth is desired. For example, when snapping and sending photos from a sports venue with thousands of people doing the same, the data experience could be poor. Likewise, when streaming a full movie or downloading large files, real-time bandwidth-on-demand (BoD) comes in handy. The ability to obtain an on-demand speed upgrade for a limited duration is something many subscribers want and are willing to pay for.

### Key Benefits

- Increase bandwidth upsell opportunities
- Increase incremental ARPU through opt-in services
- Enhance your brand with services for the Digital Lifestyle

### Turbo Boost in Action

- Operator detects QoE status and sends SMS offering turbo boost
- Subscriber selects BoD option via SMS or from operator portal
- BoD policy is applied for the specified time period
- Restore regular service plan when BoD time expires and send charge notification

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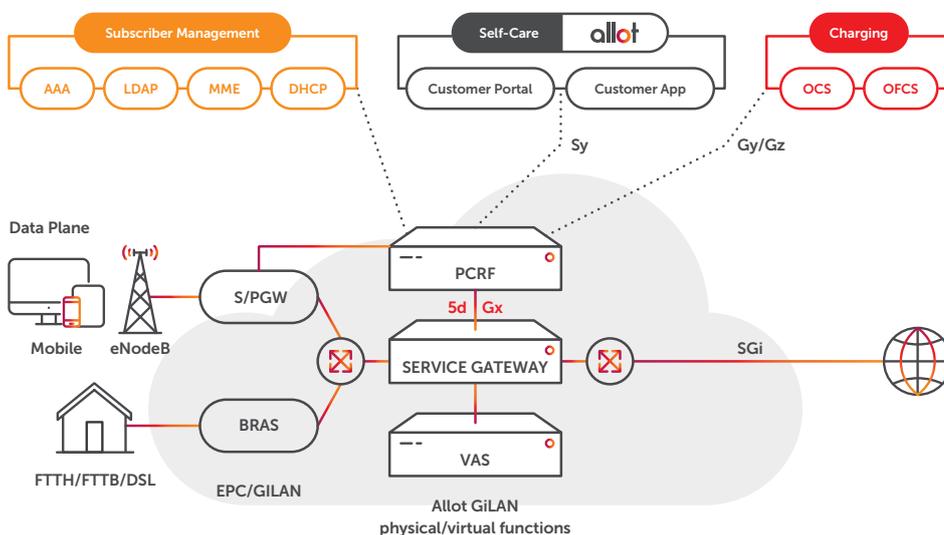
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### DIFFERENTIATED OFFERINGS AND PERSONALIZED CUSTOMER EXPERIENCE



## Key Benefits

- Increase ARPU
- Close the gap between network usage and revenues
- Promote fair use and predictable utilization

## Volume-based Charging in Action

- Meter subscriber usage in real-time
- Notify when usage approaches volume limit and redirect to top-up portal
- Customer may buy extra volume, upgrade service plan, or agree to overage fee
- Data cap automatically reset at end of billing period

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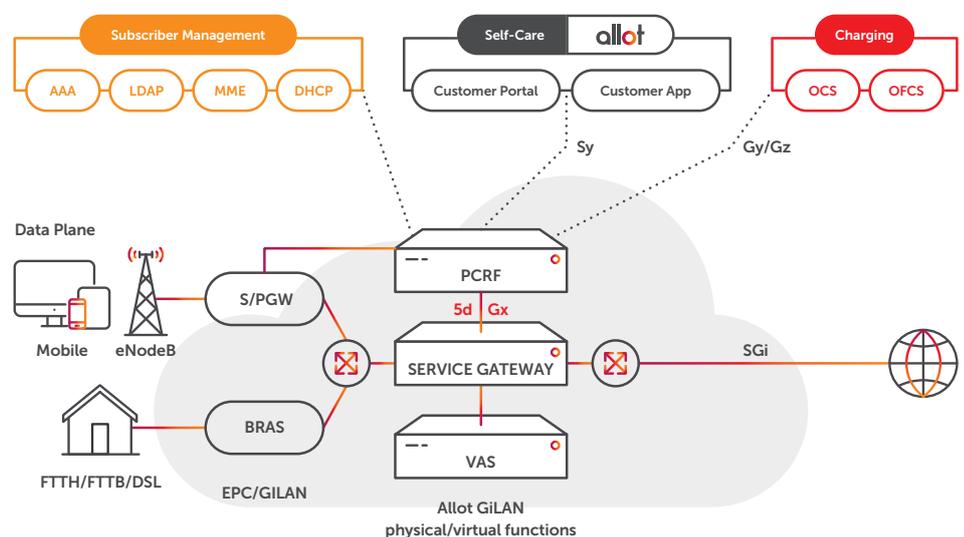
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# POLICY & CHARGING CONTROL VOLUME-BASED CHARGING

Volume-based charging translates increased usage into proportional revenue growth for data service providers. It also helps them better regulate network utilization. For example, operators can offer a choice of data plans with megabyte or gigabyte caps priced according to the volume of data traffic allowed during a one-month period. Subscribers gain complete transparency regarding their actual data consumption plus the ability to control monthly costs. Further monetization opportunities open up when customers who are approaching their cap limit are notified and given the option to “top-up” their data cap for a fee, or to upgrade to higher usage plan. Volume-based charging also promotes fair use, as heavy users are no longer subsidized at the expense of others.

## DIFFERENTIATED OFFERINGS AND PERSONALIZED CUSTOMER EXPERIENCE



## TRAFFIC MANAGEMENT

Your brand is built on Quality of Experience (QoE). In the era of encrypted traffic, maintaining and improving QoE has become even more critical. Allot's SmartTraffic QoE enables intelligent and automated control of subscriber QoE; minimizing congestion and removing DDoS traffic. As a result, you save significantly on infrastructure costs, while delivering your network's best QoE every time, everywhere.

### Key Benefits

- Optimize utilization of existing infrastructure
- Improve customer experience
- Defer CAPEX expansion

### QoE-based Congestion Management in Action

- Analyze network segment congestion
- Detect congested segments impacting QoE
- Implement prioritized congestion management policy
- Monitor and restore default policies when resolved

### Powered by Allot Service Gateway

- [NetXplorer](#)

### Departments

Engineering/Operations/  
Marketing

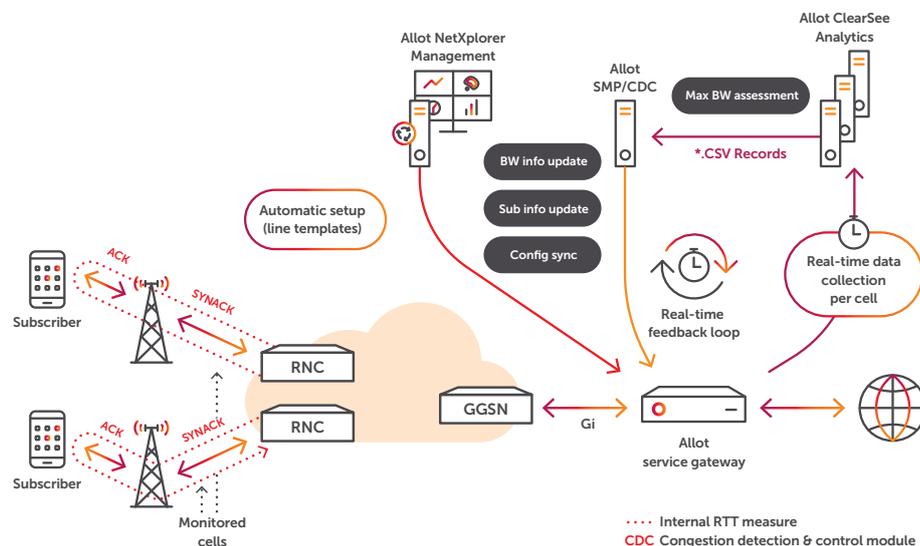
### Technology

Fixed, Mobile, Converged

## TRAFFIC MANAGEMENT QoE-BASED CONGESTION MANAGEMENT

Allot combines real-time monitoring of critical QoE indicators with policy-driven congestion control to maximize the quality of experience your deployed network can deliver at any given moment. When QoE indicators drop, our solution automatically shapes consumption while re-allocating available bandwidth according to your QoS or service plan policy. When the congestion is alleviated, the changes are rolled back to restore pre-configured settings

### ENSURE QoS THROUGH TRAFFIC CLASSIFICATION AND OPTIMIZATION



## TRAFFIC MANAGEMENT VISIBILITY, CONTROL AND SECURITY FOR GOVERNMENT AGENCIES

Ensure reliable communications for federal agency employees. Prioritize mission-critical applications & devices and measure & enforce real-time application QoE. Secure the network from botnet and DDoS attacks.

### Key Benefits

- o Differentiate offering to government agencies
- o Widen government customer base
- o Increase revenues

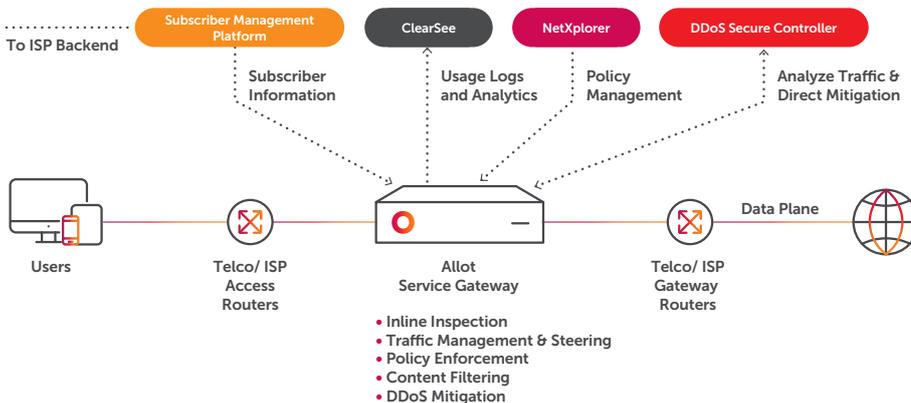
### Visibility, Control and Security for Government Agencies in Action

- o Monitor & report on network traffic and performance
- o Implement prioritization policies
- o Improve NW utilization, business critical application performance
- o Secure enterprise connectivity

### Powered by Allot Service Gateway

- o [NetXplorer](#)
- o [ClearSee](#)
- o [Subscriber Management Platform](#)
- o [DDoS Secure](#)

## RELIABLE COMMUNICATIONS FOR FEDERAL AGENCIES



### Departments

Security/Engineering/  
Operations/Marketing

### Technology

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## Key Benefits

- Improve QoE for priority applications
- Improve resource utilization, save on CAPEX
- Save on OPEX by retiring other, more labor intensive, steering vendors
- Compliant with any VAS type; proxy, nonproxy, transparent, nontransparent

## Layer 7 Steering for VAS Integration in Action

- Define Layer 7 steering policies
- Steer appropriate application traffic to or away from VAS delivery infrastructure
- Optimize network and application performance

## Powered by Allot Service Gateway

- [NetXplorer](#)

## Departments

Engineering/Operations/  
Marketing

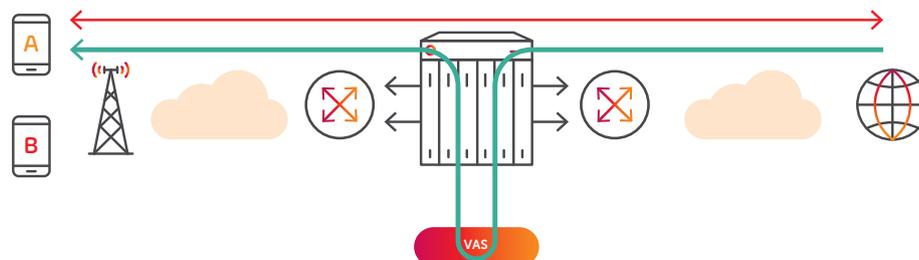
## Technology

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# TRAFFIC MANAGEMENT LAYER 7 STEERING FOR VAS INTEGRATION

As service providers struggle to differentiate their services and improve their bottom line, optimizing resource utilization and improving customer QoE are increasingly important. The ability, for example, to automatically steer all incoming video traffic to a video optimization subsystem allows CSPs to deliver higher QoE at optimal network utilization and operational efficiency. Superior visibility and granular steering means only the traffic that needs to be steered will be steered, thereby minimizing the required VAS infrastructure and saving additional CAPEX.

## ENSURE QOS THROUGH TRAFFIC CLASSIFICATION AND OPTIMIZATION



## TRAFFIC MANAGEMENT FAIR USE MANAGEMENT

Whether providing fixed or mobile connectivity, broadband service providers must constantly struggle to deliver fair and consistent QoE to all network subscribers, while refraining from making further investments in network resources. No single user is to be discriminated against, yet at the same time, none are to be allowed to abuse shared network resources at the expense of others. Fair use management ensures that no individual subscriber disrupts the service provided to others. It does so by managing throughput and subscriber QoE on the basis of congestion thresholds across the entire network.

### Key Benefits

- Reduce network congestion
- Ensure service availability/delivery even when network is congested
- Enhance customer satisfaction and reduce churn

### Fair Use Management in Action

- Congestion threshold automatically triggers fair use policy enforcement
- Operator can rate-limit traffic of all subscribers in that part of network
- OR operator can rate-limit traffic per subscriber SLA
- Automatically restore regular policy when congestion subsides

### Powered by Allot Service Gateway

- NetXplorer

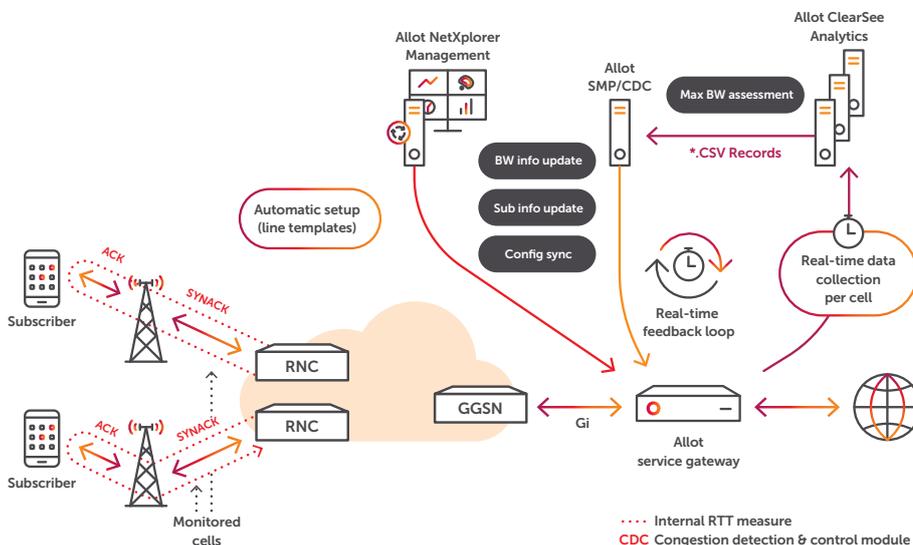
### Departments

Engineering/Operations/  
Marketing

### Technology

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### ENSURE QoS THROUGH TRAFFIC CLASSIFICATION AND OPTIMIZATION



### Key Benefits

- o Differentiate Enterprise offering
- o Widen Enterprise customer base
- o Increase Revenues

### Multi-tenant Solution for Visibility & Control for Enterprise Customers in Action

- o Monitor & report on network traffic and performance
- o Implement prioritization policies
- o Improve NW utilization, business critical application performance
- o Secure enterprise connectivity

### Powered by Allot Service Gateway

- o [NetXplorer](#)

### Departments

Engineering/Operations/Marketing

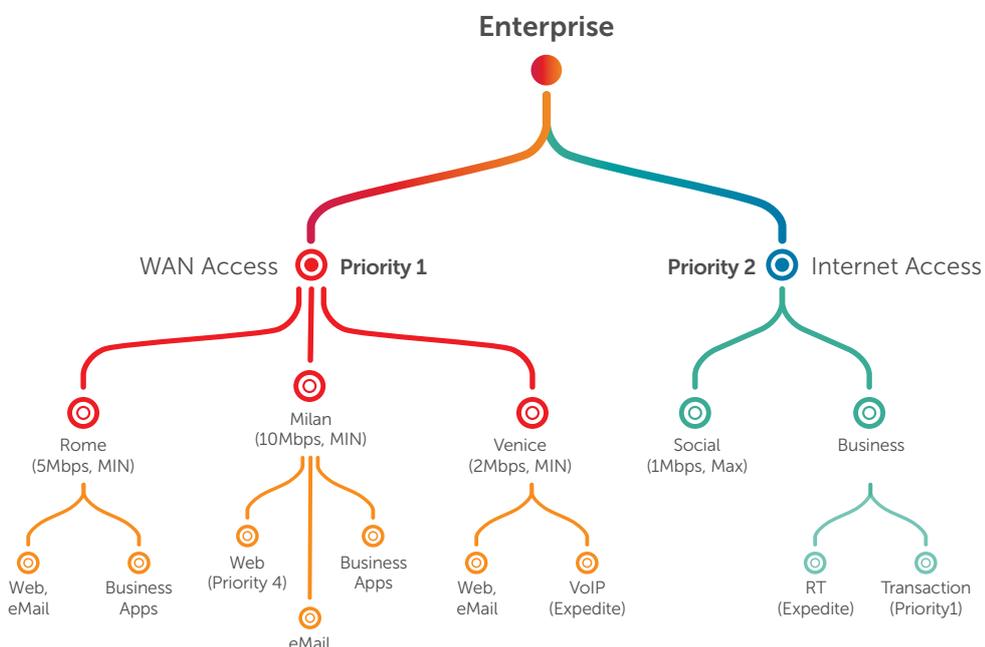
### Technology

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## TRAFFIC MANAGEMENT MULTI-TENANT SOLUTION FOR VISIBILITY & CONTROL FOR ENTERPRISE CUSTOMERS

Enterprise customers are a potential source of significant revenue for CSPs. To better compete in this market, CSPs must offer greater value than just connectivity. By utilizing visibility, control and security through implementation of automated priority-based policies, congestion management and bidirectional security, CSPs can generate revenue by helping enterprises save money and increase worker efficiency.

### TRAFFIC MANAGEMENT & ACCEPTABLE USE POLICY



## TRAFFIC MANAGEMENT OTT VIDEO OPTIMIZATION

Video content providers always try to maximize resolution, even beyond the ability of many end-users to detect the difference in quality. This can put a serious strain on service providers' available bandwidth. At Allot we utilize policy-driven, Layer-7 aware bandwidth shaping to selectively reduce bandwidth availability which in turn triggers the video content providers' adaptive bit rate technology (ABR) to lower the video resolution. We achieve this via our lean, cost-effective, inline DPI solution that detects encrypted video and applies a corresponding bandwidth shaping policy. This powerful, small footprint solution enables SPs to deliver acceptable video quality, while optimizing the available bandwidth for all user and application needs.

### Key Benefits

- Save network bandwidth and contain costs
- Ensure consistently good video QoE
- Increase ARPU with value-added video services

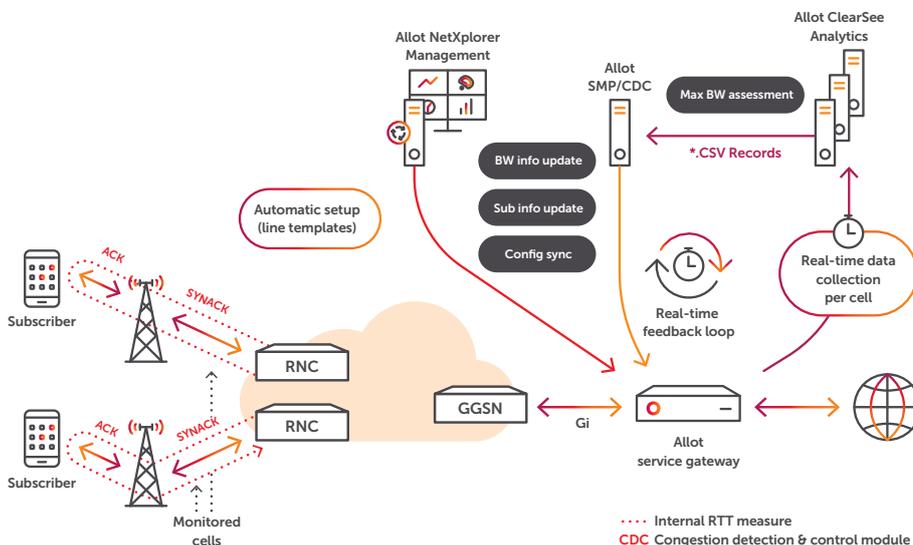
### OTT Video Optimization in Action

- Congestion threshold triggers optimization policy for streaming video content
- Enforce optimization policy for all video sessions, or only opt-in customers
- Shape bandwidth to trigger corresponding adaptive bit rate
- Deliver video stream optimized for receiving device and per SLA

### Powered by Allot Service Gateway

- [NetXplorer](#)

## ENSURE QoS THROUGH TRAFFIC CLASSIFICATION AND OPTIMIZATION



### Departments

Engineering/Operations/  
Marketing

### Technology

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### Key Benefits

- Save CAPEX - optimize capacity utilization by shaping bandwidth based on AS destination
- Save CAPEX by automatically utilizing less costly links
- Save OPEX thru easier policy implementation

### Autonomous Systems-BGP Awareness in Action

- Monitor AS utilization trends and costs
- Implement policies to shape bandwidth in real-time to match next hop capacity
- Implement policies to optimize routing via less costly links
- Expand capacity only when necessary

### Powered by Allot Service Gateway

- [NetXplorer](#)

### Departments

Engineering/Operations/Marketing

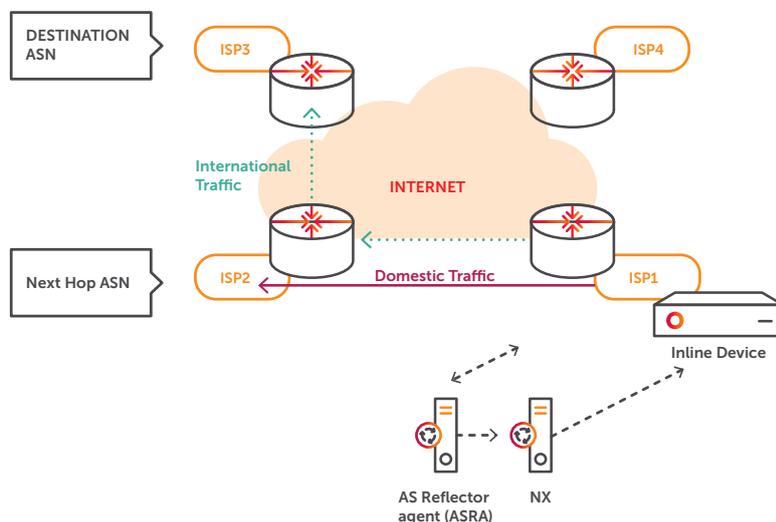
### Technology

Fixed, Mobile, Converged

## TRAFFIC MANAGEMENT AUTONOMOUS SYSTEMS-BGP AWARENESS MANAGEMENT

Optimal utilization of existing capacity as well as preferential utilization of least cost routing can yield significant CAPEX savings. To achieve this without impacting QoE, CSPs must be able to see and classify traffic routing information in real-time and be able to implement optimal rerouting instantly. By optimizing the links used by bandwidth-hogging applications, we prevent them from overwhelming others. Using Allot's AS BGP Awareness enables CSPs to monitor and classify their outgoing traffic and reroute it and optimize its BW to automatically achieve the most cost-effective routing and capacity utilization.

### ENSURE QoS THROUGH TRAFFIC CLASSIFICATION AND OPTIMIZATION



## TRAFFIC MANAGEMENT CONTROL LEASED BANDWIDTH COSTS

As much as 75% of communication service providers (CSPs) around the world lease some of the bandwidth they consume in order to deliver digital services to their customers. Some CSPs lease inter-connect connectivity to reach the internet or international lines and some must lease the “last mile” to reach their corporate customers and end users. In all such cases, it is critical to manage the leased bandwidth in real-time to avoid overage charges and/or decreased Quality of Experience (QoE) from dropped or slow traffic.

### Key Benefits

- Avoid unexpected overage charges
- Defer capacity expansion
- Maintain optimal QoE

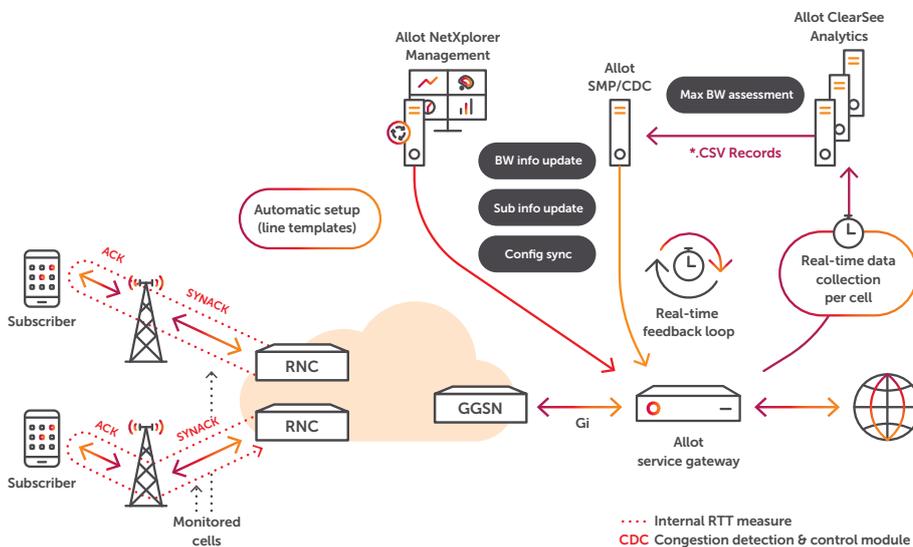
### Control Leased Bandwidth Costs In Action

- Monitor amount and types of traffic
- Monitor subscriber perceived QoE
- Implement prioritized QoE management policy

### Powered by

- Service Gateway
- NetXplorer
- ClearSee
- Subscriber Management Platform

## ENSURE QoS THROUGH TRAFFIC CLASSIFICATION AND OPTIMIZATION



### Departments

Engineering/Operations/  
Marketing

### Technology

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### Key Benefits

- o Understand gaming QoE
- o Drive revenue via guaranteed gaming QoE
- o Strengthen brand

### Online Gaming Assurance In Action

- o Monitor gaming traffic
- o Monitor gamers' perceived QoE
- o Implement prioritized gaming QoE policy

### Powered by

- o Service Gateway
- o NetXplorer
- o ClearSee
- o Subscriber Management Platform

### Departments

Engineering/Operations/  
Marketing

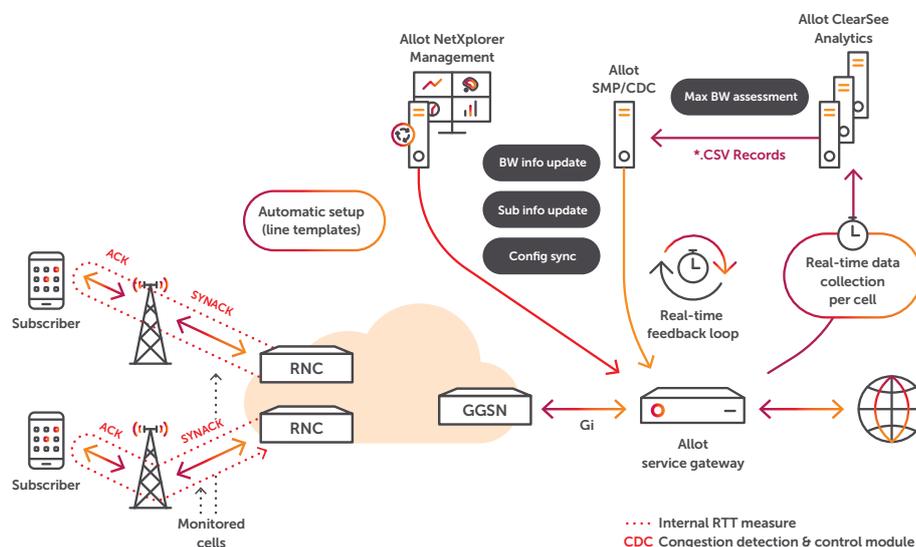
### Technology

Fixed, Mobile, Converged

## TRAFFIC MANAGEMENT ONLINE GAMING ASSURANCE

Online gaming is one of the fastest growing bandwidth-consuming activities. Gaming is very sensitive to delay, and many gaming platforms display quality KPIs (like ping loss, packet loss, latency) so users are very aware of their QoE. CSPs have a big opportunity to differentiate via QoE-assured gaming packages.

### ENSURE QoS THROUGH TRAFFIC CLASSIFICATION AND OPTIMIZATION



## Regulatory Compliance

Increased cyber threats have made regulatory compliance a mission-critical requirement for national authorities and CSPs. With the power to inspect, forward and filter all of the traffic on your network, Allot's SmartSentinel enables you to successfully navigate the changing regulatory landscape in a timely manner.



### Key Benefits

- Get off and stay off spammer blacklists
- Reduce complaints from other operators
- Avoid unnecessary investment in content-based spam filtering solutions

### Anti-spam in Action

- Detect anomalous behavior consistent with spamming
- Quarantine spammer into service plan that blocks, rate-limits, or redirects the spam traffic
- Notify subscriber via SMS and/or email
- Redirect spammer to clean-up portal to remove spambot infection

### Powered by

- [Service Gateway](#)
- [NetXplorer](#)
- [ClearSee](#)

### Departments

Security/Operations

### Technology

Fixed, Mobile, Converged

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## REGULATORY COMPLIANCE

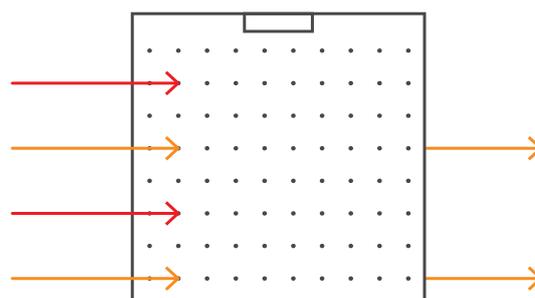
### ANTI-SPAM (BLACKLIST PREVENTION)

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Outbound spam is the primary cause of service provider blacklisting. While DNS blacklists (DNSBL) are widely used as a first line of defense, they are mostly ineffective as they rely solely on the spamming IP address. Consequently, when spam originates from the service provider network the spamming IP is blacklisted, and many innocent subscribers are also impacted, either by having inherited a blacklisted IP (via DHCP) or by sharing the same "public" IP (behind the same NAT IP) as the spammer. Blacklist prevention obviates this problem by detecting the spamming subscriber and automating the process of notification and remediation of infected devices

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### IOT VISIBILITY, SECURITY & CONTROL



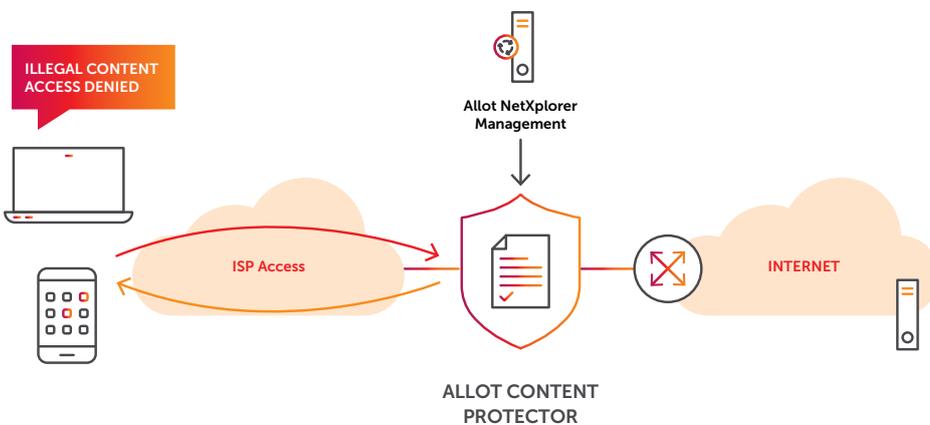
ALLOT SPAM FILTERING

## REGULATORY COMPLIANCE

# BLACKLIST URL FILTERING

When government regulations forbid your network from providing access to illegal or harmful content, Allot's carrier-class URL filtering service gives you the flexibility to comply with regulatory requirements and to proactively provide a safer and more protected Internet environment for your customers. With the power to inspect all traffic on your network, Allot's URL filtering capabilities ensure that blacklisted and illegal Internet sites are blocked in real time.

### BLOCK UNDESIRABLE SITES



### Key Benefits

- o Comply with Regulations
- o Enhance reputation by protecting users from malicious content
- o Support millions of users without impacting performance

### Blacklist URL Filtering in Action

- o Integrate with authorized blacklists such as Internet Watch Foundation (IWF)
- o Automate blacklist updates ensure constant compliance
- o Easily integrate additional blacklists

### Powered by

- o Service Gateway
- o NetXplorer
- o ClearSee

### Departments

Security/Operations

### Technology

Fixed, Mobile, Converged



## REGULATORY COMPLIANCE USAGE RECORDS STORE & RETRIEVE

Regulatory compliance has become mission critical for national authorities and service providers due to increased cyber threats such as offensive, criminal or unethical online activities, and attacks on communications infrastructure. Regulations aimed at protecting the general population often require network operators to capture, analyze and retain records of application usage.

Law enforcement and homeland security agencies rely on service providers to lawfully intercept, block and record dangerous traffic to help mitigate internal and external criminal and security threats.

### Key Benefits

- Comply with Regulations

### Usage Records Store & Retrieve Action

- Lawfully intercept and block dangerous traffic
- Filter out illegal and harmful URLs
- Record and store per-user online activity records in Big Data database
- Provide interface for information lookup

### Powered by

- Service Gateway
- NetXplorer
- ClearSee

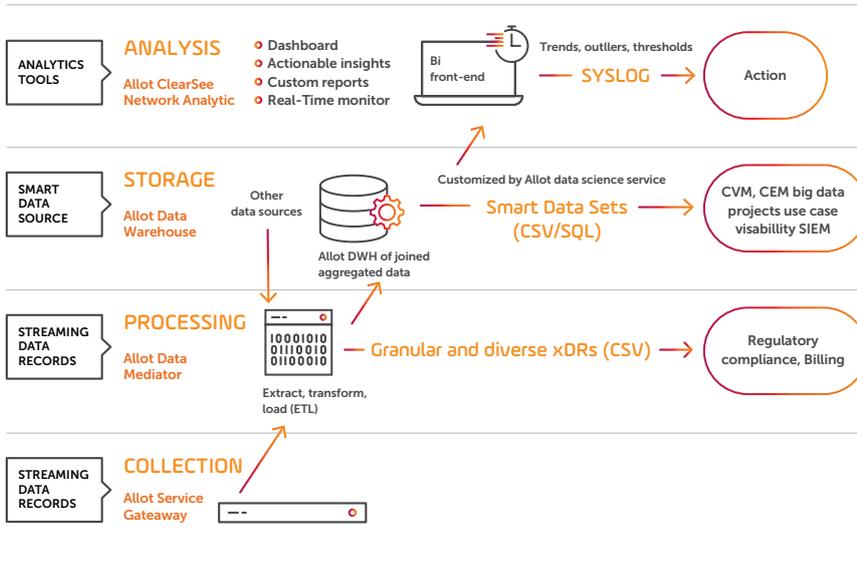
### Departments

Security/Operations

### Technology

Fixed, Mobile, Converged

## GRANULAR VISIBILITY INTO ALL APPLICATION AND USER TRAFFIC



## Key Benefits

- Comply with regulations
- Increase customer satisfaction and loyalty
- Generate additional revenue via new upsell opportunities

## Bill Shock in Action

- Detect roaming when data session is initiated and redirect to operator portal
- **Option 1:** Purchase a package that blocks certain content when roaming
- **Option 2:** Acknowledge additional charges and continue under current service plan
- **Option 3:** Purchase a discounted data roaming package for a limited time

## Powered by

- [Service Gateway](#)
- [NetXplorer](#)
- [ClearSee](#)
- [Subscriber Management Platform](#)

## Departments

Security/Operations

## Technology

Mobile, Converged

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# REGULATORY COMPLIANCE

## BILL SHOCK PREVENTION

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When faced with an unexpected high charge for data roaming services, customers are likely to be in for a shock. Valid or not, they often contest the charges claiming they were not informed by the operator. Hoping to keep customer satisfaction and retention high, operators may end up waiving the extra charges and pick up the tab themselves, resulting in significant revenue loss. This phenomenon has resulted in legislation and regulations to prevent bill shock. Bill shock prevention service enables operators to notify roaming subscribers of data session costs in real time, and require that they acknowledge these charges before establishing a connection. Customers feel more in control when charging schemes are transparent and known up front.

## REGULATORY COMPLIANCE

# NATIONWIDE DDoS PROTECTION

Distributed Denial of Service attacks are a growing worldwide phenomenon. Traditionally, they are viewed as impacting CSPs, their enterprise customers, and their end-users. In all cases, the CSPs suffer as the attack traffic goes through their networks, harming their services, their customers, and their reputation - even when they are not the direct target. They also pose a threat to national infrastructure resources, which may be targeted by criminals, terrorists and hostile nation states - and are a governmental concern.

### Key Benefits

- Protect NW assets automatically
- Ensure consistent QoE even under attack
- Acquire comprehensive threat intelligence

### Nationwide DDoS Protection In Action

- Detect known and unknown attacks in real time; both incoming and outgoing
- Mitigate within seconds
- Preserve legitimate traffic

### Powered by

- Service Gateway
- NetXplorer
- DDoS Secure
- Subscriber Management Platform

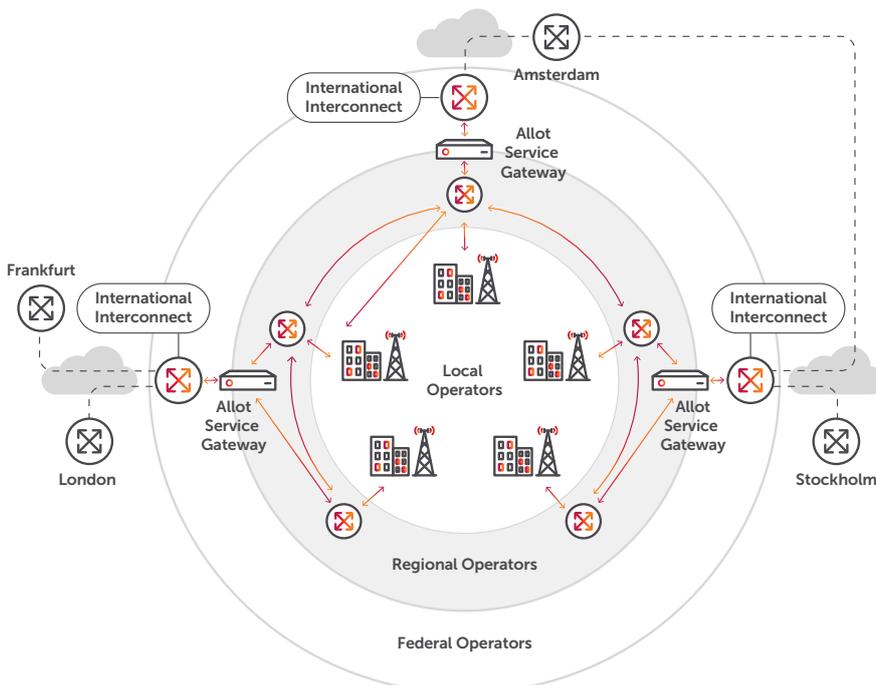
### Departments

Security/Engineering/  
Operations/Marketing

### Technology

Fixed, Mobile, Converged

### NATIONWIDE PERIMETER DDoS DEFENSE





Law enforcement must adapt to this ever-changing criminal environment in order to effectively protect our communities in the cyber domain.

Craig Jones, Interpol's Director of Cybercrime, Oct 2019

# ARTICLES AND WEBINARS

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## Articles

[From the Flu to DDoS – an Epidemic of Epidemics!](#)

[Data Privacy: Five Ways to Ensure You Comply with GDPR](#)

[DDoS & 5G: The Bigger the Pipe, the Stronger the Threat](#)

[Is TV Piracy a Problem or an Opportunity for Service Providers?](#)

[Don't be a Dumb Pipe! You CAN Analyze](#)

[Encrypted Video Traffic](#)

[5G: Big CSP "Security as a Service" Opportunity](#)

[Closed-Loop Automation: What it means for CSPs | Allot](#)

## Webinars

[5G. Why Should Your Customers Care?](#)

[How to Gain Maximum Value from Closed Loop Automation \(CLA\)](#)

[Case Studies in NFV Deployment](#)

[Frost & Sullivan: Optimize QoE and Operations with Automated Intelligence](#)

[5G promises massive scale. But the bigger the pipe, the stronger the DDoS threat!](#)



## ABOUT ALLOT

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Allot is a leading provider of innovative network intelligence and security solutions that empower communications service providers (CSPs) and enterprises worldwide to enhance the value they bring to their customers. With over 20 years of proven success, our solutions turn network, application, usage and security data into actionable intelligence that make our customers' networks **smarter** and their users more **secure**.

**Allot Secure**, our network-based security platform, disrupts the security industry by positioning CSPs as leading Security-as-a-Service providers with market penetration exceeding 50% and protecting over 20 million subscribers worldwide. Recently introduced modules, IoTSecure and HomeSecure, enable service providers to secure enterprise and consumer IoT deployments at the network layer, in both fixed and mobile networks. Allot Secure delivers anywhere, any device any threat protection and generates value-added-service revenue of 10-15% on top of pure connectivity.

Our **Allot Smart** solution suite, powered by inline DPI technology, generates insightful intelligence that empowers our customers to optimize, innovate, and capitalize on every service opportunity. By analyzing every packet of network, user, application and security data, Allot Smart cost-effectively enables the highest Quality of Experience (QoE) for our customers' end-users. Using Allot Smart, our customers have lowered access bandwidth costs by 10%, deferred capacity expansions by 1-2 years and reduced revenue leakage by 15%.

Allot's multi-service platforms are deployed globally, in the most demanding environments, by over 500 mobile, fixed and cloud service providers and over a thousand enterprises. We support evolving network architectures by offering the most flexible platforms in the market, including COTS hardware, software only and field-proven, fully NFV compliant solutions.

For more information, visit: <https://www.allot.com/service-providers/>

