

allot

Allot Smart





- CSP Challenges
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- Summary

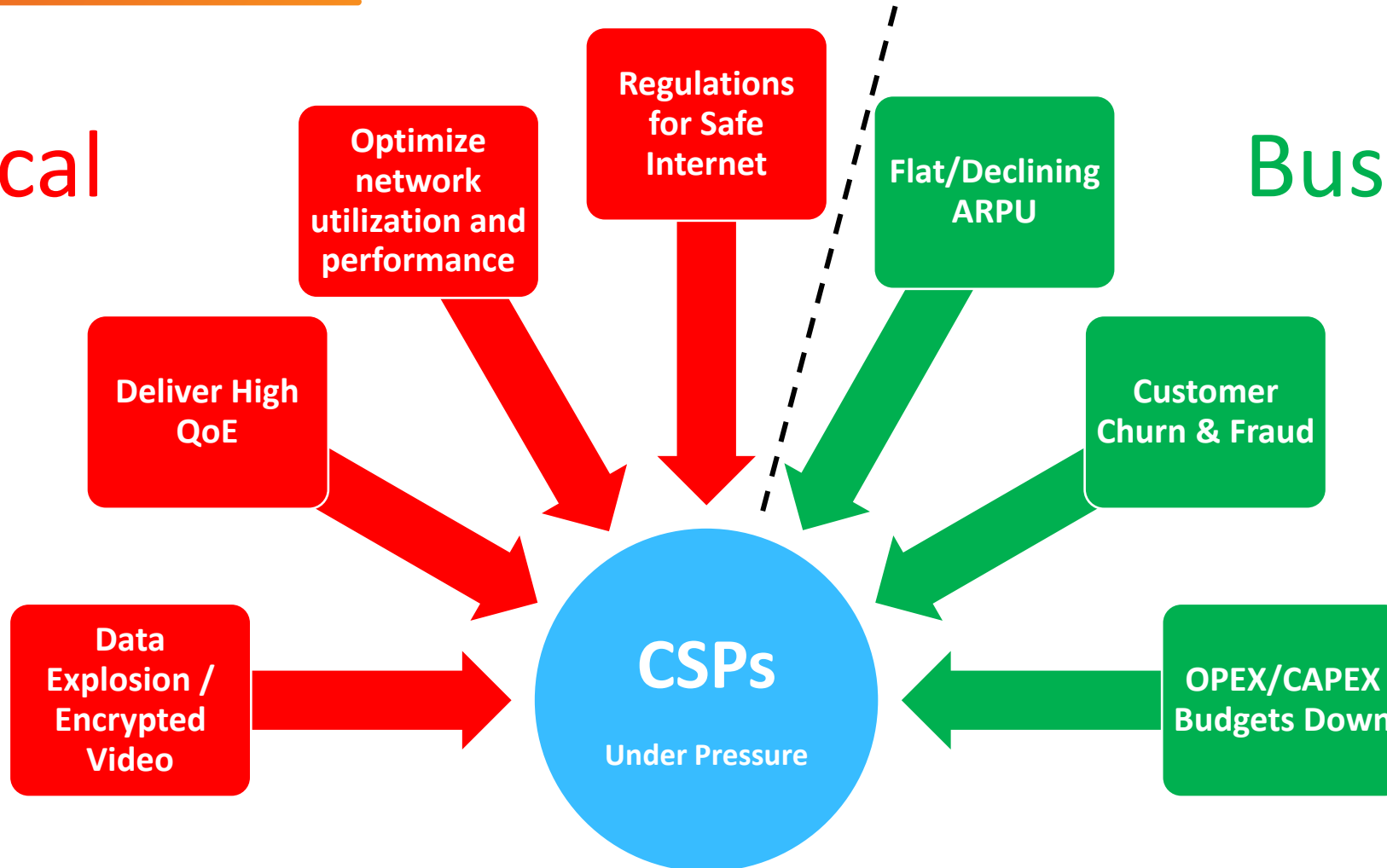
Allot Smart Network Intelligence meets Market Needs



Service Providers face technical and business challenges

Technical

Business



Turn Granular Visibility into Actionable Intelligence that Solves CSP Pain Points & Optimizes End-User QoE

	SmartVisibility	➔	• Customer Usage Segmentation • Detect performance/quality issues • Plan capacity expansion • Analytics as a Service for Enterprise • Identify high-risk potential churners
	SmartTraffic QoE	➔	• Reduce fixed/mobile congestion & optimize QoE • Prioritize bandwidth sensitive apps • Allocate bandwidth to enforce caps • Steer selected traffic to VAS • Multi-tenant visibility & control for Enterprise
	SmartPCC	➔	• Rapidly deploy differentiated services • Application/volume Based Charging • Monetize or block Tethering • HTTP header enrichment • Detect & block fraudulent data traffic
	SmartRegulator	➔	• URL filtering to block inappropriate web sites • Support regulatory quality testing • Record web transactions for analysis • Prevent dark web activity • Control social media during unrest

allot Smart^{NW} Overview & Benefits

- A suite of network intelligence solutions for Communications Service Providers
- Turns network visibility into actionable intelligence to optimize NW performance & customer QoE
- 5G ready; available as fully virtualized, ETSI compliant NFV deployments or on scalable COTS hardware





Allot Smart Solutions		Multi-service platform that delivers:	
	SmartVisibility	Granular, big data visibility into network, user, application, device behavior	
	SmartTraffic QoE	Traffic & bandwidth management including • QoE-based congestion control • Traffic Steering and optimization	
	SmartPCC	Flexible policy and charging control through TDF/PCEF and PCRF integration: • Application based charging & Tiered data services • Tethering control	
	SmartRegulator	Regulatory compliance: • Blocking illegal content and applications • Retaining detailed data records	



SmartVisibility - Main Use Cases

Customer Usage 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

Detect performance/quality issues

Measure and understand in detail factors, such as time, location, device, etc., that influence performance issues related to browsing and video consumption.

Plan capacity expansion

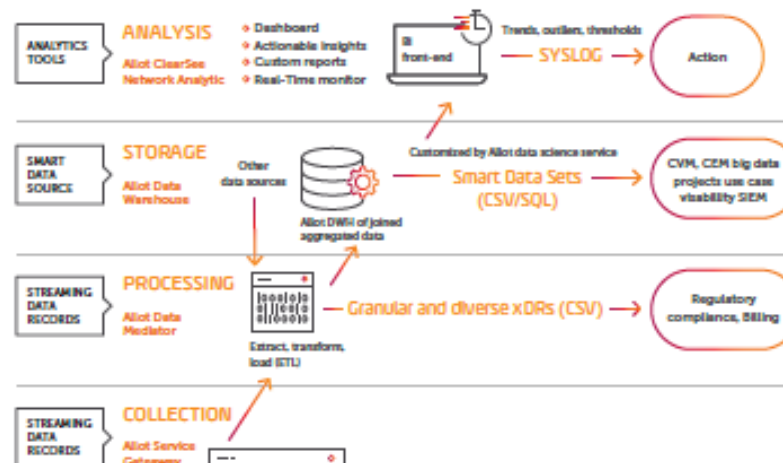
Leverage congestion visibility to optimize network expansion to exactly fit current and projected needs—avoiding unnecessary spending, saving both CAPEX and OPEX

Identify High risk Churners

Proactively combat churn after identifying at risk users, based on a combination of factors such as reduced activity, visits to competitor sites and poor QoE.

Analytics as a Service for Enterprise

Provide enterprise customers with detailed visibility into business critical service performance issues.





SmartVisibility - Business Benefits

Gain Better Understanding of the Network	Pinpoint Causes of Network Congestion	Customer Segmentation
• Identify problems for faster resolution • Optimize network bandwidth and contain costs • Identify high bandwidth consuming applications	• Understand usage trends and better predict/prevent congestion • Save on CAPEX and OPEX through accurate capacity planning	• Gain deeper understanding of customer online activity and preferences • Increase ARPU through better targeting of services/promotions • Increase loyalty with “stickier” services
Proactive Churn Prevention	Fraud Detection/Prevention	Improve Customer Care
• Profile high risk potential churners • Identify profile matching customers • Proactively engage via customer care to resolve/retain	• Identify fraudulent activity • Close security loopholes • Assure revenue per usage	• Correlate customer issues with network activity • Reduce trial and error in resolving customer complaints • Enhance your brand image



SmartVisibility - Highlights

- Granular view of network, application, user and security data, enables you to
 - **Prioritize** and **control** traffic to **optimize** end-user experience
 - **Mitigate** congestion and accurately **plan** capacity expansions
 - **Segment users** by usage trends for targeting marketing
- SmartVisibility provides:
 - **Network Analytics** - aggregated and near real-time analytical insights into network/application performance, utilization, and subscribers' perceived QoE, including Encrypted Video QoE
 - **Real-time Monitors** - 5-15 sec resolutions, into what is actually happening in the network - for operational monitoring and RT troubleshooting
 - **Self-service Customizable Reports** – turn any business query into actionable insights
 - **Smart Data Source** – GDPR compliant export of formatted network, service, application, user and security data to enrich external 3rd party BI reporting solution



SmartTraffic QoE - Business Benefits

Traffic Management and QoS Assurance	Automated, QoE-based Congestion Management	Selective Steering and Service Chaining
• Optimize utilization of existing infrastructure • Enforce fair usage • Improve network performance • Defer CAPEX expansion • Save OPEX thru leased bandwidth optimization	• Increase customer satisfaction • Improve brand strength through superior performance of priority applications • Lower OPEX through automation	• Efficient delivery of value-added services • Improve brand strength through cost-effective VAS offerings • Drive improved customer satisfaction



SmartTraffic QoE - Main Use Cases

Reduce congestion & optimize QoE in fixed & mobile networks

Combine real-time monitoring of critical QoE indicators with policy-driven congestion control to maximize the quality of experience your deployed network can deliver

Prioritize bandwidth sensitive applications and services

Ensure that performance sensitive services are prioritized over background applications that do not require real-time traffic flow – to ensure customer QoE from critical applications.

Allocate bandwidth to enforce caps

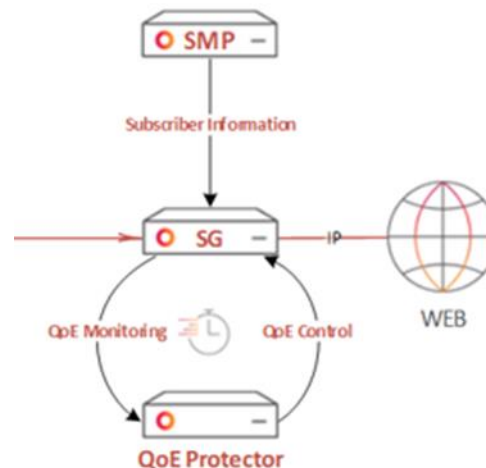
Enforce “Fair Use” management and data caps to ensure that no individual subscriber disrupts the service provided to others. Ensure service availability even under congestion.

Steer selected traffic for innovative Value Added Services

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.

Multi-tenant visibility & control for Enterprise customers

Generate revenue by helping enterprises save money and increase worker efficiency through implementation of automated priority-based policies





SmartTraffic QoE - Highlights

- Control the traffic in your network to ensure top Quality of Experience via
 - QoS enforcement to meet preconfigured policies for different services
 - Congestion management to optimize traffic flow during peak conditions
 - Traffic Steering to selectively deliver traffic flows to value-added services
- SmartTraffic QoE provides:
 - **Static enforcement of QoS** policies to favor business-critical and real-time applications
 - **Dynamic end-user QoE Optimization** via ML/AI driven management of congested bandwidth in Mobile, CMTS or DSL networks
 - **Value-added Services delivery** via efficient, balanced steering and chaining of selective traffic to corresponding internal or external servers



SmartPCC - Business Benefits

Rapid Rollout of Attractive Services	Easy integration with PCRF, OCS, OFCS
• Increase ARPU • Differentiated service offering • Tiered data plans • Enhance customer choice and increase loyalty	• Upsell to more lucrative data plans • Fast time to market for Application Based Charging • Enable data caps and volume based charging • Enforce fair use to improve customer experience
Increase Revenue	Protect Revenues
• Upsell to high data users • Upsell tethering support for added revenue • HTTP header enrichment monetization	• Identify fraudulent activity • Close security loopholes • Assure revenue per usage • Block tethered data abuse



SmartPCC - Main Use Cases

Rapidly Deploy Differentiated Services

Cater to the unique and dynamic needs of pre-paid, post-paid, business and IoT customers via seamless integration to provisioning and charging systems

Application/Volume Based Charging

Precise identification of applications at Layer-7 allows CSPs to differentiate their offering based on targeted service bundles. Granular metering enables volume based charging.

HTTP Header Enrichment

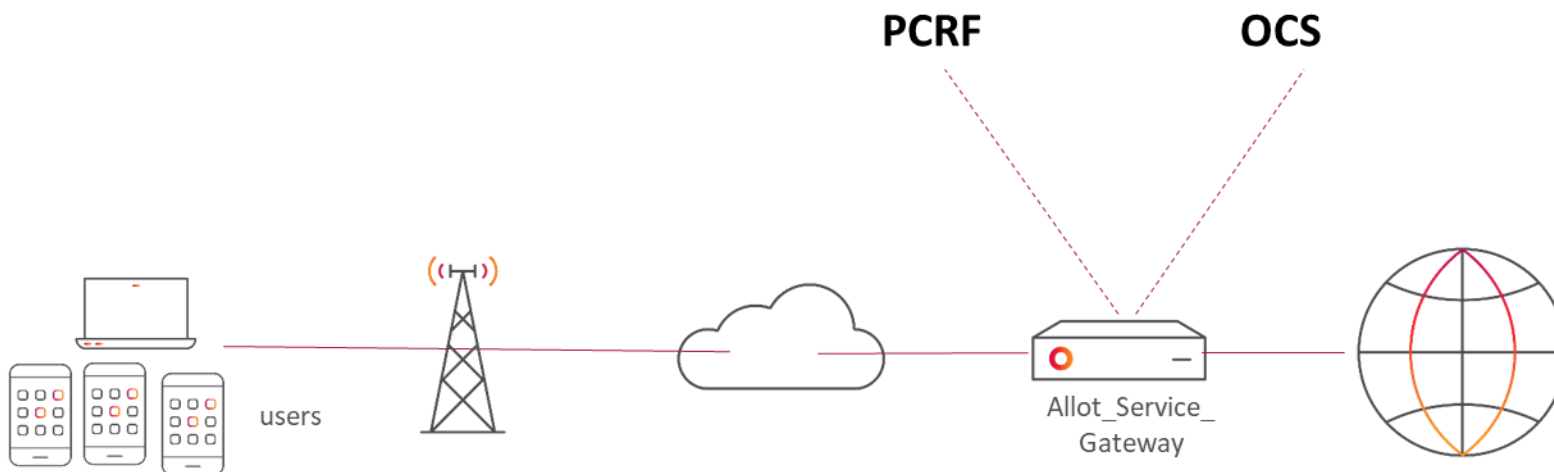
Leverage customer information to improve and personalize their online experiences by forwarding anonymized customer information to OTT and Content provider web sites.

Monetize or Block Tethering

Block or upsell tethering to drive/protect revenue by preventing abuse of mobile broadband

Detect & block fraudulent data traffic

Identify and block fraudulent data usage that attempts to bypass usage quotas and avoid payment for data consumption.





SmartPCC - Highlights

- Seamless integration with operator authentication, provisioning, and charging functions enables fast service rollout and time-to-revenue. SmartPCC can
 - Provide intelligent PCEF/TDF function that supplies real-time subscriber identification to the PCRF and receives enforcement instructions
 - Convey real-time usage data to online charging systems (OCS) and manages the charging process
 - Provide post-session summary records to offline charging systems (OFCS)
- SmartPCC supports:
 - Diameter SD, Gx, Gy and Gz interfaces and has an optional pre-integrated 3rd party PCRF module
 - Captive Portal redirection, Header enrichment, Tethering prevention/enablement



SmartRegulator- Business Benefits

Comply with Regulatory Requirements

- Protect citizens, including minors by restricting access to inappropriate/illegal web content
- Support quality testing
- Predefined and customizable short and long term reporting for regulatory analysis
- Prevent dark web activity
- Monitor, block or limit selected traffic without impacting network performance



SmartRegulator- Main Use Cases

URL filtering to block inappropriate web sites

Carrier class URL filtering service (black/white listing) gives you the flexibility to proactively provide a safer and more protected Internet environment for your customers

Support regulatory quality testing

Leverage SmartVisibility's granular data sets to comply with periodic regulatory Quality of Service testing.

Record web transactions for analysis

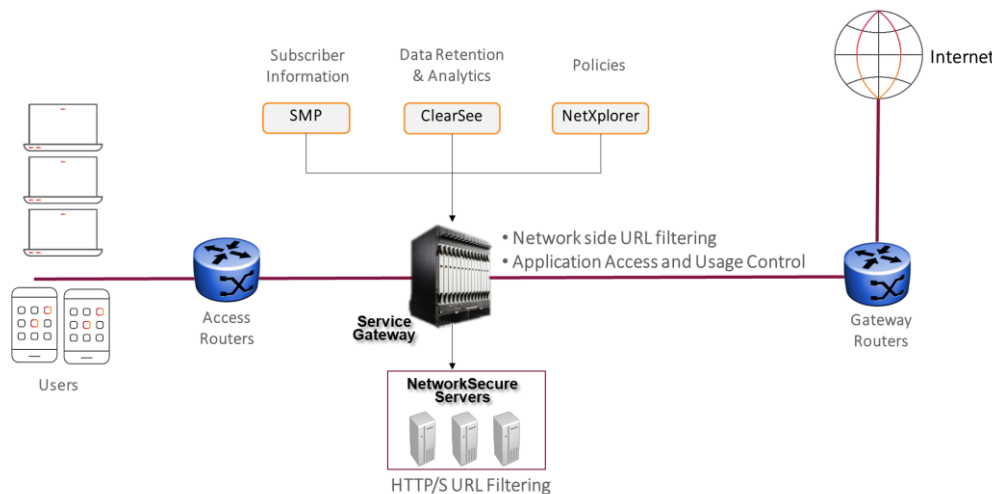
Comply with regulations aimed at protecting the general population via capture, analysis and retention of application usage records

Prevent dark web activity

Block usage of a variety of Dark Web access tools, such as anonymity and VPN services that could be used to hide illegal, harmful activity

Control social media during unrest

Conditional control of application usage, for example, per user, per time frame, per location, to prevent criminal or terrorist activity.





SmartRegulator- Highlights

- Meets government requirements for
 - Content regulation
 - Transaction logging
 - Blocking of dangerous applications
- SmartRegulator's granular, big data visibility into network, user and application behavior, enables
 - Blocking illegal content, such as pornography, violence, drugs, child abuse, fake and untruthful content
 - Unlimited retention of detailed usage records
 - Selective blocking of applications such as VPNs or Social Media to protect public safety



Allot Smart Summary



Case Study: Allot Smart combines SmartVisibility & SmartTraffic QoE to deliver Congestion Management

- Identify key locations and causes of congestion
- Reduced congested cells by **25%** during peak hours
 - Reduced heavily congested cells (PRB > 90%) by **25%** over the day
 - Reduced congested cells by **10%** over the day
- Increased connected users by **5%** during peak hours
- Averaged **25%** improved user throughput
- Reduced Internal RTT across all application – snappier experience
- No significant reduction of overall volume per day or complaints from customers
- **ROI** within months!

Allot Smart Value Proposition

Leverage granular visibility of increasingly encrypted traffic to:

- Optimize network performance & user QoE
 - Save at least 10% of access bandwidth costs
 - Defer capacity expansion by 1-2 years
- Reduce revenue leakage by 15%
- Deliver and enforce differentiated services
- Meet regulatory requirements for safe internet, applications and activity
- Increase efficiency thru automation and flexible operations



Allot Smart – Key Takeaways



SmartVisibility

Gain highly granular **insights** into what's happening on your network, so you can make **better business decisions**

SmartTraffic QoE

Take control of your network to deliver every service with **peak performance, efficiency, and optimal QoE**

SmartPCC

Roll out personalized service plans that cater to the **unique and dynamic needs** of prepaid, postpaid, and business customers.

SmartRegulator

Comply with URL filtering, data retention, application control and GDPR regulations **efficiently and cost-effectively**

Thank You!



SmartVisibility - Main Use Cases

Identify heavy users, popular apps

The ability to identify subscriber interests and usage patterns enables service providers to introduce targeted promotions and to benefit from other revenue generating opportunities

Detect performance/quality issues

To ensure high customer QoE, one must measure and understand in detail factors, such as time, location, device, etc., that influence performance issues related to browsing and video consumption.

Spot bottlenecks, congestion

Enable performance and QoE optimization by detecting where, when and why network performance and congestion are impacting end user satisfaction

Plan capacity expansion

Leverage congestion visibility to optimize network expansion to exactly fit current and projected needs—avoiding unnecessary spending, saving both CAPEX and OPEX.

Analytics as a Service for Enterprise

Provide enterprise customers with detailed visibility into business critical service performance issues.