

Solution
Brief



Traffic Management Solution: *Allot NetEnforcer and Juniper Networks Session and Resource Control (SRC) Platform*

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Introduction

This document describes the solution for broadband traffic management using the Allot NetEnforcer and the Juniper Networks Session and Resource Control (SRC) portfolio. This solution, delivered within the Juniper Networks J-Partner Alliance Program, reflects an integral offering for intelligent management of IP traffic riding over the network infrastructure.

The joint solution combines the power of advanced traffic identification with dynamic service policy creation and management. Juniper Networks is the leader in enabling secure and assured communications over a single IP network. The company's purpose-built, high performance IP platforms enable customers to support many different services and applications at scale. Service providers, enterprises, governments and research and education institutions worldwide rely on Juniper Networks to deliver products for building networks that are tailored to the specific needs of their users, services and applications.

Allot specializes in IP service optimization solutions through deep packet inspection (DPI), the foremost technology for identifying and authenticating protocols and applications (IP flows or sessions in general) conveyed by IP, examining Layers 4-7. The company's line of NetEnforcer devices apply DPI technology to transform broadband pipes into smart networks. This creates the visibility and control vital to manage applications, services and subscribers, guarantee quality of service, contain operating costs and maximize revenue.

The Allot-Juniper joint solution ensures reliable, high quality delivery of value-added IP services in broadband networks. This allows subscribers and application providers to deliver the full value of broadband applications, while enabling carriers and service providers to introduce innovative and revenue-generating services without increasing operational and capital costs, as well as set the appropriate QoS policies.

This comprehensive solution for intelligent broadband traffic management integrates Allot's state-of-the-art leadership in DPI technology with Juniper's SRC portfolio – specifically, either the SDX-300 Service Deployment System or the combination of the SRC-Policy Engine, SRC-Advanced Services Gateway and C-Series Controllers. This gives service providers complete and dynamic control over the services they offer and the way they deliver them to subscribers. The solution offers service providers a highly cost-effective, DPI-based traffic management system built on a Juniper network infrastructure.

Solution Components

Allot NetEnforcer

The Allot NetEnforcer uses Layer 7 DPI technology to identify and classify subscribers and applications and communicate this information to the SRC platform.

Juniper Session and Resource Control Portfolio

Juniper Networks SRC Portfolio is a carrier grade policy and control solution that integrates third party platforms and applications to enable the end-to-end delivery of high value differentiated services across multi-vendor network infrastructures, and to provide a non-disruptive migration to next generation Cable, 3GPP IMS and ETSI TISPAN network architectures.

Juniper Routing Platforms

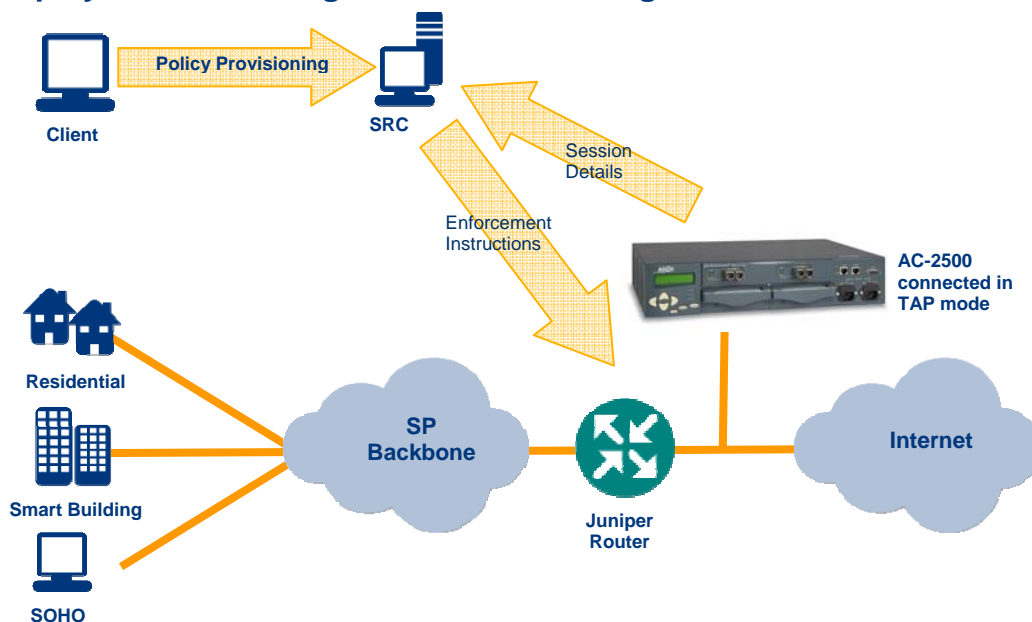
The Juniper routers use inherent QoS capabilities to provide the QoS enforcement engine that can apply the requested QoS per IP flow according to SRC requests.

Solution Overview

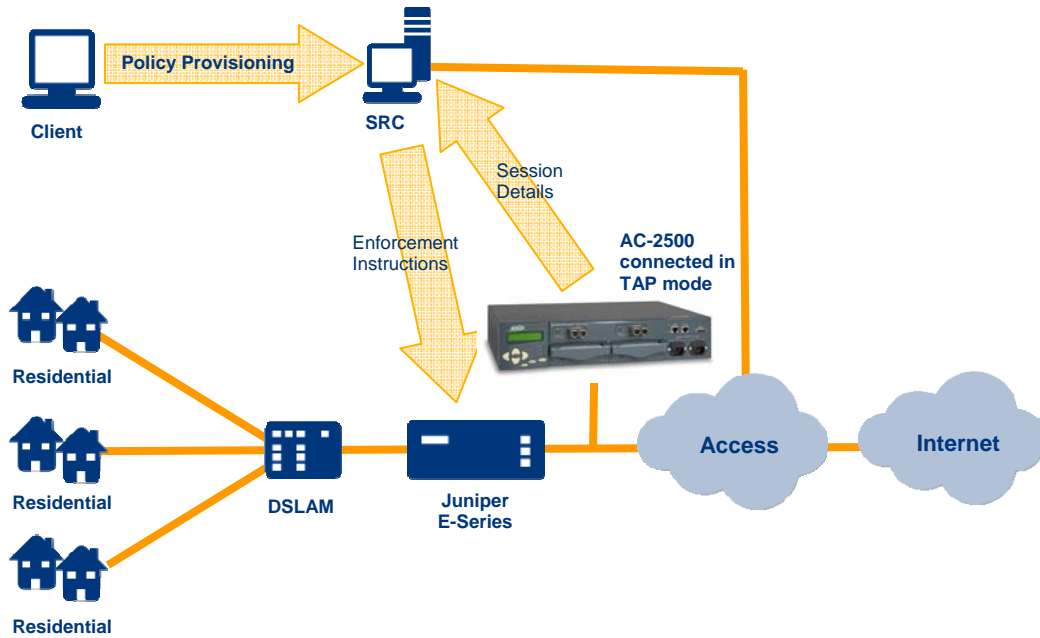
When deploying the SRC solution with the Allot NetEnforcer, the NetEnforcer DPI engine identifies the traffic flows per subscriber and per application in real time. This information is communicated to the SRC platform, which in turn instructs the Juniper routers to apply the correct policy for the flow. Policies for different types of flows are managed and defined using the SRC platform.

Solution Architecture

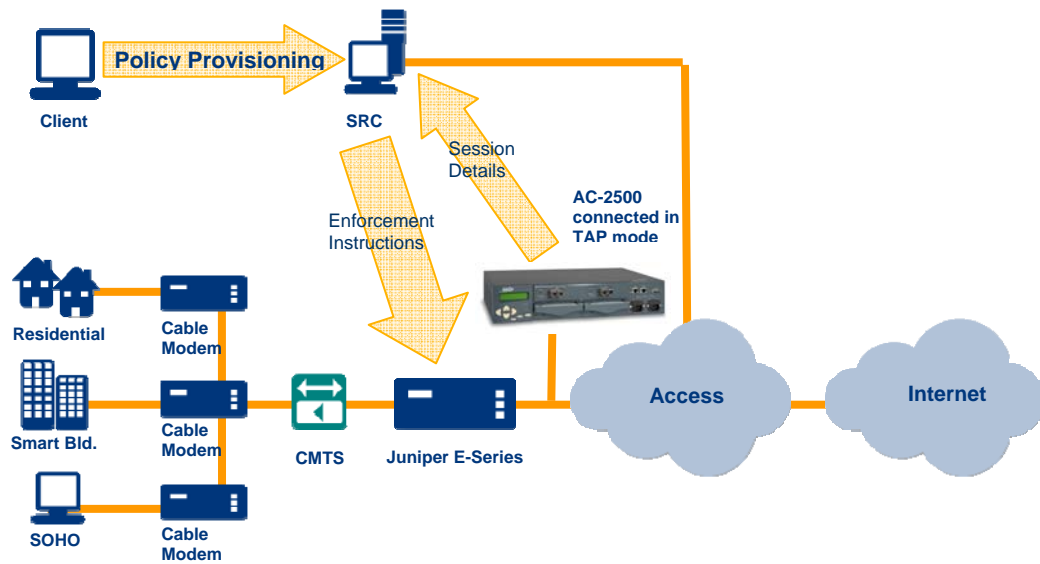
Deployment at Peering Point: Traffic Management



Deployment at Access Point: Subscriber Management



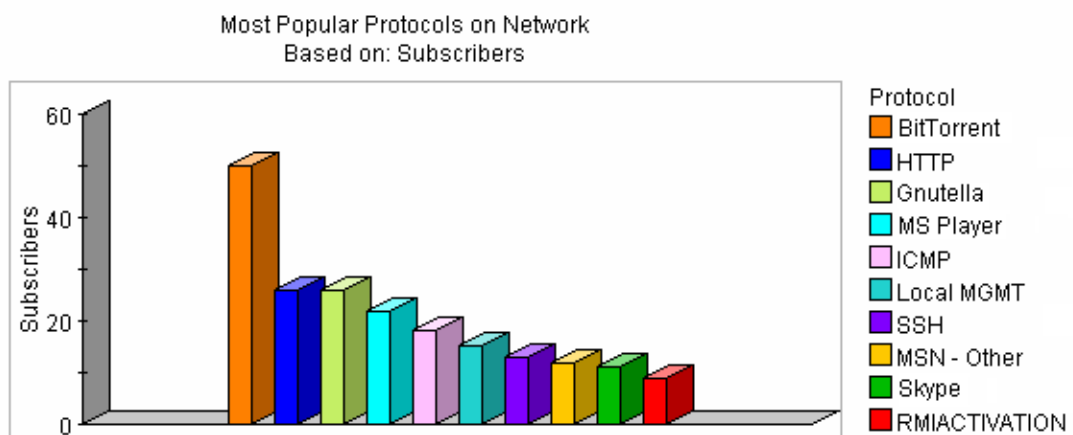
Deployment at Access Point: Cable/MSO



Integrating Allot's DPI with Juniper's SRC/SD

The integration of Allot's DPI engine will add an essential, key capability to the SRC system - network visibility. The data obtained from this visibility can then be used with Allot's range of collection tools (short term and long term) and customized GUI, offering statistical analyses which will facilitate:

- Monitoring and reporting of network and subscriber level traffic statistics (see figure below)
- Analysis of trends for capacity planning
- Detection of abnormal network behavior



Example of a graphical output visualizing a specific network utilization scenario

After gathering the required information, network operators can employ traffic shaping means to design, impose and enforce specific service plans on either a subscriber level or on an application level. In the case of subscriber level control, each subscriber will be controlled independently by defining specific service parameters, such as bandwidth and priority, for each expected service and application. In the case of application level control, application behavior will be controlled independent of the subscriber which originated its use.

Such a complete, integrated platform will allow network operators to maintain overall, superior QoE of a mixture of services and applications while reaching higher oversubscription rates.

How the Solution Works

This joint solution uses the following QoS enforcement steps:

1. The NetEnforcer device is connected in the Tap mode (non-intrusive) at either the Internet links (peering point) or at the BRAS links (access point).
2. New policies are defined in the SRC policy repository to allow different QoS for different applications (such as VoIP or P2P policies) and/or subscribers.
3. Using its Layer-7 DPI capabilities, the NetEnforcer identifies whenever a new session is created and detects the subscriber using the application and the application used for the session e.g., VoIP, P2P, Web.

4. Once an application session is detected, the NetEnforcer sends the session and application details to the SRC platform via the standard SOAP interface provided by the Advanced Service Gateway module.
5. The SRC receives the session and the application details and instructs the connected Juniper E-series routing platform to enforce the predefined set of policy rules for the connection.
6. The Juniper E-series acknowledges the request and enforces the correct policy for the session.
7. Once the NetEnforcer detects the termination of a session, it sends the session details to the SRC platform and instructs it to remove the session from its repository, thereby freeing network resources.

Benefits and Advantages

The joint Allot-Juniper solution offers a series of benefits and advantages:

- **Seamless integration:** The Allot NetEnforcer seamlessly integrates with the existing network infrastructure and does not require investment in additional or upgraded elements.
- **Rapid deployment:** Easy integration with existing network elements guarantees rapid deployment and operation.
- **Superior DPI technology:** Allot is the leading pure player in Layer-7 DPI technology.
- **Policy-based QoS:** The QoS capabilities of Juniper routers allow for the creation and enforcement of QoS policies in relation to each application and/or user.
- **Passive activity:** The Allot NetEnforcer is positioned in the Tap mode and therefore ensures risk-free integration without interfering with network activity and traffic.
- **Reduced maintenance costs:** Since the Allot–Juniper solution is built on an existing network infrastructure and managed via the SRC management system, it does not require investment in additional resources, network elements or training.
- **Centralized management system:** Management is provided by the SRC management system, which is used for QoS and provisioning services. This use of an existing infrastructure with no additional configuration or equipment changes makes service creation and provisioning fast and easy.

Summary

The joint Allot-Juniper solution enables service providers to ensure high priority transmission for latency-sensitive applications such as VoIP, streaming video and gaming while controlling excessive bandwidth consumption from P2P file sharing. Integrating Allot's leading DPI capabilities with Juniper's robust broadband platforms, it is a reliable and cost-effective response to the aggressive adoption of new, value-added services by users and efforts by service providers to provide such services.



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