

Junos Subscriber Aware

Product Overview

Getting the most value from residential and mobile services requires personalizing the experience for each subscriber. To deliver dynamic user experiences, service providers need to have knowledge of the customer, the application being used, and the state of the network in real time. With this knowledge, providers can deliver value-added services known as context-aware services. Juniper's edge services portfolio, leveraging Junos Subscriber Aware, Junos Application Aware, and Junos Policy Control will allow residential and mobile service providers to customize and tailor services that distinguish them when compared to over-the-top (OTT) applications.

Product Description

To develop context awareness, service providers need to harness the enormous amount of information they have about subscribers, their location, their devices, and the applications they are using. With this awareness, providers have the ability to capitalize on their subscribers' context by being able to create service offerings that fulfill behavioral needs.

To do this successfully, service providers must acquire knowledge of subscriber behaviors, of what applications they use in different locations, through different devices, and under different circumstances. This challenge combines aspects of data collection, analysis, consolidation (according to different perspectives), and reporting, so that the service provider will not only understand but can gradually model the subscriber behaviors in specific offerings. In a word, this challenge is about subscriber-aware analytics.

Juniper Networks® Junos® Subscriber Aware identifies the subscriber's association with a flow and classifies traffic based on subscriber privilege, permitting differentiated services based on subscriber policy by:

- Dynamically redirecting new flows to subscriber identification engine and checking subscriber identity for a policy match
- Configuring forwarding plane to forward, rate limit, mark, or drop packets associated with flow based on policy
- Using Junos Application Aware to correlate application usage with subscriber identity

Architecture and Key Components

Junos Policy Control

Junos Policy Control enables policy enforcement and charging. When combined with Junos Application Aware and Junos Subscriber Aware, it provides dynamic policy and online charging capabilities. Junos Policy Control enables a Gx Diameter interface towards the Policy Charging and Rules Function (PCRF) following the Traffic Detection Function (TDF) model in Third-Generation Partnership Program (3GPP) LTE networks.

Junos Application Aware

Junos Application Aware uses deep packet inspection (DPI) to identify and classify traffic on a per application basis, enabling competitive differentiation based on application-specific services:

- Uses DPI, a signature database, well-known addresses and ports to identify applications associated with a new flow, and then, through Junos Subscriber Aware, checks the application type for a policy match
- Collects statistics on a per application basis in support of operational tasks
- Can be deployed with Junos Subscriber Aware to correlate application usage with subscriber identity

Juniper Networks MX Series 3D Universal Edge Routers

The MX Series portfolio of Ethernet services routers is the industry leader for carrier Ethernet capacity, density, and performance. Optimized for emerging Ethernet network architectures and services, the MX Series is purpose-built for the most demanding carrier and enterprise applications, and it leverages Juniper Networks Junos operating system to enable carriers and enterprises to seamlessly and cost-effectively deploy Ethernet and accelerate their next-generation network deployments. By combining a best-in-class hardware platform with the reliability and service flexibility of Junos OS, the MX Series delivers a combination of features and capabilities previously unattainable in carrier Ethernet deployments.

Multiservices Cards (MS-MPC)

MS-MPCs are next-generation, advanced service modules for the MX Series. They deliver the performance, services, and scalability that are critical to today's advanced Ethernet services edge and broadband edge networks. MS-MPCs are full slot modules that supply hardware acceleration for an array of packet processing-intensive services for the MX2020, MX2010, MX960, MX480, and MX240 3D Universal Edge Routers.

In addition to supporting Junos Application Aware, Junos Subscriber Aware, and Junos Policy Control, these cards offer flexible support for stateful firewall, Network Address Translation (NAT), IPsec, anomaly detection, flow monitoring and accounting, and tunnel services. This wide array of services enables service providers and enterprises to secure their network infrastructure; collect rich statistics for billing, capacity planning, and security purposes; and create new services, all with a single module.

Features and Benefits

Service Integration

Junos Subscriber Aware is integrated with a wide variety of Junos OS software protocols and applications, such as Junos Policy Control, Junos Application Aware, Junos Network Secure, Junos VPN Secure, Junos Address Aware, and Junos Traffic Vision, to name just a few. These Junos OS services can be layered to create an enhanced, customized service experience; for example, the tight coupling of Junos Subscriber Aware and Junos Address Aware enables granular per subscriber application identification, analysis, control, and reporting, as well as the invocation of

policy-based network modification (bandwidth, QoS) based on the dynamically identified presence of an application/subscriber combination. Tight integration with MPLS provides all of the benefits of IP-layer awareness.

Integration with Juniper Networks SRC Series Session and Resource Control Modules provides call admission control (CAC) and traffic engineering based on true network awareness. It permits the dynamic modification of system and network resources in response to real-time changes in the application mix, ensuring the quality of video and voice applications—even as subscribers consume other services over the same physical connection. Additionally, policies restricting subscribers or applications to a maximum number of multicast groups or maximum bandwidth can be created to protect downstream facility bandwidth from oversubscription, while flow- and port-based rate shaping policies can be enforced to deliver an assured traffic rate that is independent of line or service speed.

Specifications and Approvals

For a complete list of supported software features, please consult the Junos OS software documentation at www.juniper.net/techpubs/software/.

Juniper Networks Services and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit www.juniper.net/us/en/products-services.

Ordering Information

Model Number	Name
JSUB	Junos Subscriber Aware
JPC	Junos Policy Control
JAPAW	Junos Application Aware
MS-MPC-128G	MS-MPC with 128 GB of memory (32 GB per NPU); occupies a single slot in MX2020, MX2010, MX960, MX480, and MX240 3D Universal Edge Routers

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.

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