STEEL-BELTED RADIUS MOBILE IP MODULE

RADIUS/AAA Server for CDMA Operators

Service Overview

The Steel-Belted Radius Mobile IP Module meets the AAA service requirements of Code Division Multiple Access (CDMA) wireless operators who are transitioning to next-generation 3G/Mobile IP-based networks. With improved speeds and the promise of lucrative premium service offerings, widespread deployment of the 3G services is underway worldwide.

SBR MIM plays several crucial roles in a 3G wireless infrastructure. By managing resources for mobile users as they move throughout the network, and by providing flexible access to subscriber databases coupled with support for 3GPP2-defined authorization controls,

SBR MIM makes possible the delivery of premium wireless services such as m-commerce, on-demand delivery of personalized content, and location-based advertising.

Product Description

Juniper Networks® Steel-Belted Radius Mobile IP Module (SBR MIM), built on our SBR Service Provider Edition (SBR SP)—the market's leading RADIUS/Authentication, Authorization and Accounting (AAA) server—combines 3G/Mobile IP subscriber management with the most flexible authentication options, broadest multi-vendor support, and most advanced proxy RADIUS capabilities in the industry. This innovative, standards-based technology, with proven carrier-class performance, gives you a significant edge as you manage customers in your CDMA network.

Architecture and Key Components

Mobility in CDMA2000 networks is achieved by using Mobile IP. With Mobile IP, a subscriber requesting access to packet data services is issued a single IP address for the duration of the session—wherever the user moves on the network. The wireless subscriber can now be targeted for such services as real-time stock updates, personalized content, m-commerce, and location-specific advertising.

Juniper Networks SBR MIM is an essential element of the CDMA2000 architecture that lets you easily manage your mobile sessions. With SBR MIM you can:

· Provide secure, RADIUS-based authentication of user credentials against your subscriber database. With integrated, flexible database hooks, SBR MIM provides fault-tolerant access to your subscriber and service databases. Our solution adapts to your database architecture, not the other way around.
· Provide scriptable and extensible control of packet data session information (attributes) to address complex authorization requirements for CDMA2000 1x RTT and EV-DO (revA) services.
· Generate and manage session and IKE keys as requested by the PDSN to provide IP security of the FA/HA tunnel for Mobile IP traffic.
· Provide and maintain mobility resources for the duration of each subscriber's packet data session, and identify the appropriate home agent device the Mobile IP user's traffic is to be routed through.
· Facilitate inter-PDSN handoffs in support of seamless mobility as subscribers move throughout the network.

The result is seamless, secure, and reliable service.

Features and Benefits

The robust functionality of Juniper Networks SBR MIM simplifies the management and control of access to tiered services while adhering to the many 3GPP2-defined requirements for AAA services.

SBR MIM is your best choice for managing RADIUS/AAA services in a CDMA2000 environment. The solution:

- Offers the best multi-vendor support, interfacing with all major access equipment vendors, including home agent and packet data serving node (PDSN) devices from UTStarcom, Nortel, Starent Networks and others. This interoperability permits you to mix and match equipment within your own network as well as communicate with network devices from roaming partners or corporate clients whose wireless networks you may be hosting.
- Differentiates between requests from home agents and PDSNs, performing the unique operations required by both types of network access device.
- Differentiates between CDMA2000 1x RTT RADIUS traffic and EV-DO RADIUS traffic through request packet examination of 3GPP2 VSAs.
- Handles dynamic home agent assignment according to IS-835 B and C requirements, supporting the various options for identifying the home agent device for a user's session, as well as understanding the static, semi-static and dynamic scenarios which surround IP address assignment for the session.
- Functions as a:
  - Visited AAA server. An integrated, carrier-grade proxy engine allows RADIUS traffic to be appropriately routed directly to roaming partners or through CDMA roaming exchanges.

  - Home Authentication, Authorization, and Accounting (HAAA) server. Support for the 3GPP2 IS-835 series of specifications allows our solution to interface with PDSN and home agent devices in support of CDMA2000 1x RTT and EV-DO revA Mobile IP services.
  - Access-Network AAA (AN-AAA) server. Support for 3GPP2 HRPD specifications allows our solution to interface with the Access Network's Packet Control Function in support of the A12 interface for terminal authentication as required by EV-DO services.
- Supports DMU (Dynamic Mobile Update) when subscriber data is stored in SQL databases.
- Permits differentiation of service levels by granting network access based on criteria such as time of day, connectivity time limits, and through support for new-session hotlining.
- Supports duration or volume-based prepaid packet data services as defined in IS-835 C and D through integrated plug-ins which identify and process RADIUS requests from PDSN devices that support operation as a prepaid client. This AAA plug-in architecture also interfaces with external Prepaid Server (PPS) systems via Parlay.
- Pushes connection information to devices such as WAP gateways, enabling them to deliver personalized, location-specific content and real-time information such as stock quotes.
- Integrates seamlessly with your billing systems through SQL interfaces, proxy RADIUS, CSV file storage, custom extensions or a combination of these methods.

Table 1: Features and Benefits

FEATURE	FEATURE DESCRIPTION
Full-function RADIUS/AAA server with proven reliability and scalability	• Extends AAA functionality to support 3GPP2-defined requirements for CDMA operators. • High-performance operation to handle even the busiest networks. • Reliably manages IP addresses for Mobile IP services.
Manages authentication, mobility and service delivery on CDMA networks	• Supports full mobile IP based mobility. Manages mobile sessions throughout their lifetime, by supporting inter-PDSN handoffs. • Dynamic HA assignment lets you flexibly configure connections and distribute MIP-tunneled traffic across multiple home agent devices. • Supports new-session hotlining for redirection to a portal or forced-landing page.
Supports latest requirements	• Delivers IS-835 B,C and D support for CDMA 1x RTT networks, as the HAAA server. • Supports HRPD network specifications for EV-DO revA services as the AN-AAA server. • Intuitive service differentiation controls allow SBR MIM to function as both HAAA and AN-AAA with a single deployment.

Specifications

SBR MIM supports the Solaris 9 operating system running on Sun UltraSPARC hardware.

Juniper Networks Service and Support

Juniper Networks is the leader in performance-enabling services and support, which are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to bring revenue-generating capabilities online faster so you can realize bigger productivity gains and faster rollouts of new business models and ventures. At the same time, Juniper Networks ensures operational excellence by optimizing your 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	DESCRIPTION
SBR-MIM-SPE-UN	Steel-Belted Radius Service Provider Edition (SBR SP) Mobile IP Module Solaris (license key only)

About Juniper Networks

Juniper Networks, Inc. is the leader in high-performance networking. Juniper offers a high-performance network infrastructure that creates a responsive and trusted environment for accelerating the deployment of services and applications over a single network. This fuels high-performance businesses. Additional information can be found at **www.juniper.net**.

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