

Juniper Networks **Steel-Belted Radius® / Mobile IP Module**

RADIUS/AAA Server for CDMA Operators

SBR/Mobile IP Module meets the AAA service requirements of 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, built on Juniper's SBR/SP – the market's leading RADIUS/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, give you a significant edge as you manage customers in your CDMA network.

Features	Benefits
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 and service delivery on CDMA networks	Facilitates seamless roaming by supporting inter-PDSN handoffs Supports new-session hotlining for redirection to a portal or forced-landing page Dynamic HA assignment lets you flexibly configure connections and distribute MIP-tunneled traffic across multiple Home Agent devices
Supports latest requirements	Delivers IS-835 B,C & D support for CDMA 1x RTT networks, as the Home AAA server Supports HRPD network specifications for EV-DO services as the Access-Network AAA server Intuitive service differentiation controls allow SBR/MIM to function as both HAAA and AN-AAA with a single deployment

Network Access & IP Address Management

One primary advantage of the cdma2000® architecture is 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's SBR/MIM is an essential element of the cdma2000® architecture that lets you easily manage your mobile sessions. SBR/MIM

SBR/MIM plays several crucial roles in a 3G wireless infrastructure. By managing IP resources for 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-

- Provides 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.
- Provides scriptable and extensible control of packet data session information (attributes) to address complex authorization requirements for cdma2000 1x RTT and EV-DO services.
- Generates and manages session and IKE keys as requested by the PDSN to provide IP security of the FA/HA tunnel for Mobile IP traffic.
- Provides and maintains a single IP address for the duration of each subscriber's packet data session, and identifies the appropriate Home Agent device the Mobile IP user's traffic is to be routed through.
- Facilitates inter-PDSN handoffs in support of seamless mobility as subscribers move throughout the network.

The result is seamless, secure, and assured service.

The Best Choice for CDMA Networks

The robust functionality of Juniper's 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 HA and PSDN 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 HA assignment according to IS-835 B & 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 AAA 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 Mobile IP services.
 - Access-Network 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 & 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.

System Requirements

SBR/MIM supports the Solaris 8, 9 and 10 operating systems running on Sun UltraSPARC hardware.



**CORPORATE HEADQUARTERS
AND SALES HEADQUARTERS
FOR NORTH AND SOUTH AMERICA**
Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, CA 94089 USA
Phone: 888-JUNIPER (888-586-4737)
or 408-745-2000
Fax: 408-745-2100
www.juniper.net

EAST COAST OFFICE
Juniper Networks, Inc.
10 Technology Park Drive
Westford, MA 01886-3146 USA
Phone: 978-589-5800
Fax: 978-589-0800

**ASIA PACIFIC REGIONAL
SALES HEADQUARTERS**
Juniper Networks (Hong Kong) Ltd.
Suite 2507-11, 25/F
ICBC Tower
Citibank Plaza, 3 Garden Road
Central, Hong Kong
Phone: 852-2332-3636
Fax: 852-2574-7803

**EUROPE, MIDDLE EAST, AFRICA
REGIONAL SALES HEADQUARTERS**
Juniper Networks (UK) Limited
Juniper House
Guildford Road
Leatherhead
Surrey, KT22 9JH, U. K.
Phone: 44(0)1372-385500
Fax: 44(0)1372-385501

Copyright 2006, Juniper Networks, Inc. All rights reserved. Juniper Networks and the Juniper Networks logo are registered trademarks of Juniper Networks, Inc. in the United States and other countries. All other trademarks, service marks, registered trademarks, or registered service marks in this document are the property of Juniper Networks or their respective owners. All specifications are subject to change without notice. Juniper Networks assumes no responsibility for any inaccuracies in this document or for any obligation to update information in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.