Pulse Secure®

SBR Enterprise Series Steel-Belted Radius Servers

Data Sheet

Product Overview

Today, global enterprises, government agencies, and their respective networks face many obstacles. Chief among these obstacles is keeping the enterprise network secure while authenticating and managing thousands of users who require local and remote network access on a daily, if not continual basis. In many instances, these global organizations and their networks are handling more users daily or even hourly than many of the world's busiest telecom operators and service providers. To address these monumental challenges, it is critical for global organizations to select and deploy the most powerful, reliable AAA/RADIUS authentication solution available. Pulse Secure SBR Enterprise Series Steel-Belted Radius Servers accomplish this, significantly enhancing the security and manageability of enterprise and government networks.

Your ideas. Connected.™

Product Description

AAA/RADIUS is vital to an organization's core ability to manage local, remote, and wireless LAN (WLAN) users. AAA/RADIUS dictates and manages secure access to the enterprise network, as well as controlling how users connect to and what resources they can access on the enterprise network. It also aids in accounting for users' actions while they are connected to the enterprise network. For small through large organizations and government agencies worldwide, the robust and reliable Pulse Secure® SBR Enterprise Series Steel-Belted Radius Servers deliver the ideal AAA/RADIUS solution.

SBR Enterprise Series servers have been deployed and are operational around the clock in many of the busiest networks in the world. These time- and industry-tested AAA/RADIUS servers demonstrate, day in and day out, the reliability, flexibility, and interoperability necessary to authenticate, manage, and account for tens of thousands of users. SBR Enterprise Series servers control and record network access, and manage users on wired or WLANs deploying the IEEE 802.1X standard from a single administration interface.

Pulse Secure's dependable, standards-based SBR Enterprise Series Steel-Belted Radius Servers—SBR Enterprise Edition and SBR Global Enterprise Edition—significantly enhance the security and manageability of enterprise and government networks. SBR Enterprise Series Servers deliver scalable authentication control, robust access policy management, and centralized configuration management with the performance needed to tackle tens of thousands of concurrent users.

SBR Enterprise Edition is the market-leading AAA/RADIUS server for small to mid-sized enterprises. SBR Global Enterprise Edition leverages the breadth of capabilities of SBR EE, with organizations also enjoying many additional features designed specifically to address deployment in the world's largest, most active networks.

These features—ensuring reliable uptime, flexibility, and powerful user management, in addition to compatibility with virtually any network environment—allow organizations to safely implement SBR GE as the centerpiece of their network security and access control architecture.

No other AAA/RADIUS products offer the robust functionality and dependability of Pulse Secure SBR Enterprise Series Steel-Belted Radius Servers.

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Key Components and Architecture

SBR Enterprise Series Steel-Belted Radius Servers deliver:

Capability	Description
Network security	• Standardizes and enforces unified authentication and security • Implements robust controls on users and their network access • Determines and aids in enforcing who can connect to the network, when, and for how long
Unparalleled reliability	• Extremely reliable performance with a minimum of downtime and productivity loss, increasing ROI
Current and future network investment protection	• Standards-based and vendor-agnostic, interfacing seamlessly with network access equipment from different vendors simultaneously to protect existing network equipment investments • Designed for compatibility and interoperability, supporting current and future network configurations • Instantly accommodates new employees and legacy systems
Easy deployment, administration, and maintenance	• Saves support staff time and expense while increasing productivity through dynamic reporting and statistics, as well as comprehensive, granularly detailed log files • Decreases administrative time, load, and cost while limiting administration and configuration errors via centralized administration and management features, and automated or customized configuration tools and processes
Increased network control	• Empowers administrators with enhanced security controls • Provides unsurpassed business logic controls that allow administrators to determine what levels of authentication and authorization they require based on the access being requested by the user • Offers virtually anytime/anywhere administration
Comprehensive support	• Delivers cross-platform (Windows, Solaris, Linux), multivendor, multiple authentication method support • Supports all popular stores of user credentials (Microsoft Active Directory, LDAP, SQL, Token, Proxy Radius)

Centrally Manage and Secure Network Authentication

When combined with the enterprise-built, 802.1X-compatible Pulse Secure Odyssey Access Client, SBR Enterprise Series servers provide a complete, seamless network security and access solution. SBR Enterprise Series servers and OAC combine to ensure that only authorized users access the network; that user connections are configured correctly, whether the user is connecting via WLAN, remote/VPN, wired 802.1X, or other method; and that user and network credentials and data remain secure. Together, OAC and SBR Enterprise Series servers deliver powerful network access policy management, robust user authentication, and durable network security—with incomparable network control, usability, and deployment speed.
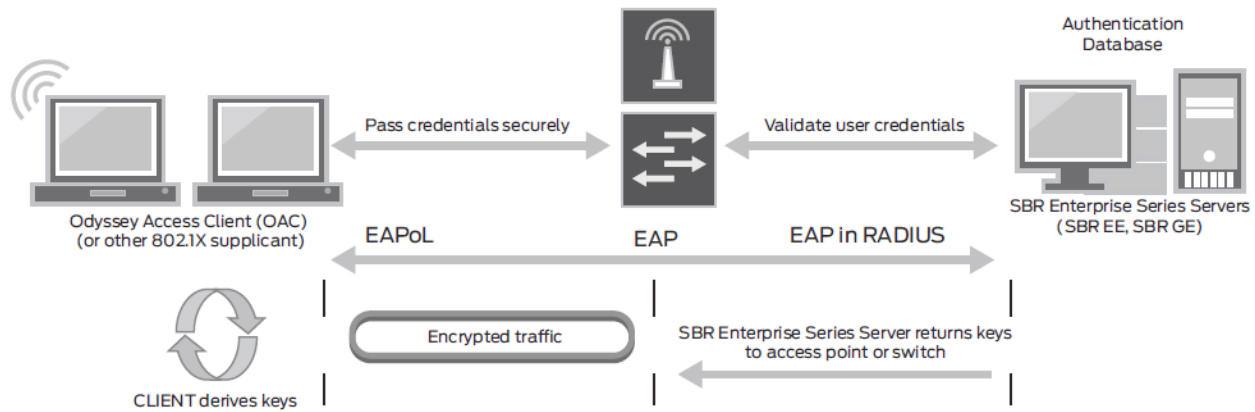
Figure 1: SBR Enterprise Series Steel-Belted Radius Servers in an 802.1X network environment

SBR Enterprise Edition - Features and Benefits

SBR Enterprise Edition works with whatever network access equipment you've chosen for your network, regardless of vendor. It supports heterogeneous networks, easily interfacing with network access equipment from different vendors by automatically communicating with each device in the language it understands, based on customized dictionaries that describe each vendor's and device's extensions to the RADIUS protocol. Whether you've set up WLAN, remote/VPN, wired 802.1X, dial-in, outsourced, or any other form of network access in any combination, SBR EE can manage the connection of all users regardless of access method.

 SBR EE logs all authentication transactions, so you'll be able to view the entire history of authentication requests and the resulting responses. If your access device supports RADIUS accounting, you'll also be able to track how long each user stays connected and even be able to see exactly who's connected at any time and on which port. With SBR EE, all of the information you need on RADIUS activity is at your fingertips.

Table 1: SBR Enterprise Edition Features and Benefits

Feature	Feature Description	Benefits
Standards-based	Strictly adheres to the RADIUS standard and provides complete AAA coverage.	Standards-based and vendor-agnostic, SBR Series Servers interface with network access equipment from different vendors simultaneously, effortlessly integrating and interoperating in heterogeneous network environments.

Table 1: Government-Certified Security

Feature	Feature Description	Benefits
Cross-platform, multivendor support, including: · Customized dictionaries · Proxy realms	• Works seamlessly with a variety of network access equipment, in virtually any combination. • Customized dictionaries describe each vendor's extensions to the RADIUS protocol, supporting 100+ vendor-specific dictionaries, with updates or additions to the dictionaries easily accomplished. • As an option, can direct RADIUS requests to another AAA server.	• Offers best-in-class AAA control for virtually all deployment types and vendor products. • Seamlessly operates in a heterogeneous network environment, simplifying deployment and day-today operations. • Leverages your existing network equipment, saving you deployment time and additional expense.
Secure network access	Supports most authentication protocols, including: • EAP-TTLS • EAP-PEAPv0/v1 • EAP-TLS • EAP-FAST and LEAP • EAP-POTP • EAP-MD5 • PAP • CHAP • MS-CHAP • MS-CHAPv2	Delivers support for the authentication protocol or protocols that best fit your deployment.
Supports multiple authentication methods	Authenticate your users against virtually any authentication method or combination of methods, including: • A native database of up to 20,000 users and their passwords. • Microsoft Windows Domains and UNIX security systems, including Microsoft Active Directory (with full support for MS-CHAP extensions to support change of expired passwords). • Extensible Authentication Protocol-Transport Layer Security (EAP-TLS) and Active Directory (AD) accounts, enabling Machine Authentication with EAP-TLS and User Authentication with EAPTLS with AD. • UNIX local users and groups, and Solaris Network Information Services+. • Token-based authentication systems, such as RSA Security Authentication Manager (RSA SecurID). • LDAP directories, including Novell eDirectory, Sun Java System Directory Server, and open LDAP. • SQL databases, including MySQL and Oracle, with support for the Oracle 10g client for SQL authentication and accounting provided via the Native Oracle client (Solaris version only); JDBC (Linux and Solaris versions only); and ODBC (Windows version only). • Any ODBC- or JDBC-compliant database. • TACACS+ authentication. • Other RADIUS servers, for proxy authentication.	• Saves time and cost by allowing you to use your existing authentication database or data store to authenticate LAN, WLAN, remote/VPN, and wired 802.1X users. • Authentication is not limited to just user name/ password queries. • Take full advantage of the power of an LDAP directory to manage your users.

Feature	Feature Description	Benefits
Supports multiple operating systems Supports multiple operating systems	Includes support for: • Microsoft Windows ((Windows XP (all 32-bit editions); Windows Server 2003 (all 32-bit editions)). • Solaris (Solaris 9 or 10 running on SPARC or UltraSPARC). • Linux (32-bit versions of Red Hat Enterprise Linux ES or AS 4.0 and Red Hat Enterprise Linux ES or AS 4.5).	Delivers robust cross platform support capabilities.
Location-based profiles for individual users	• Allows a default profile to be assigned to an individual user gaining network access via a particular RADIUS client; will be used as the default profile if no attributes or other profiles exist for the user. • Enables the user device to determine the nature of the access provided for proper authentication. • As an option, on a client-by-client basis, can allow an administrator to ignore a user's profile and/ or attributes in favor of a profile and/or attributes associated with the RADIUS client. • Also available as an option, enables an administrator to choose which attributes— user or client profile—will take precedence if normal profile merge rules apply.	Fine-tunes business policies, allowing specific authentication and access policies to be applied to individuals based on their location at the time network access is attempted.
Dynamic statistics and reports	• View entire history of authentication requests and responses. • Track length of user connections with RADIUS accounting. • View statistics on authentication, accounting proxied requests, and more. • Compile information into informative, searchable reports. • Accounting records can be saved locally to a comma separated values (CSV) file or recorded to SQL.	• Simplifies diagnostics and troubleshooting. • Decreased problem diagnosis time = decreased support costs. • Sophisticated logging, auditing, and report features make it easy to view network and user activities from a variety of perspectives; they also enhance your ability to address and comply with industry and government regulations.
Administration audit logs	• Empowers administrators to track who logged onto or disconnected from an SBR Enterprise Series server and when, and what changes were made to the server. • Supports local storage of audit logs to the server being administered, in an administrator-definable directory with retention for an administratordefined time period.	• Ensures a high level of administrative accountability. • Supplies a substantive audit trail and peace of mind to your operations team. • Also helps address compliance with regulatory requirements.

Feature	Feature Description	Benefits
• Quick, easy provisioning, administration, and maintenance • Web-delivered administration user interface • Centralized administration via Java-based administration program • RADIUS clients via IP address range	• Enables administrative operation from any supported platform accessible through any supported Web browser (Internet Explorer, Netscape Navigator, Firefox). • Manage multiple SBR Enterprise Series servers from the same user interface. • An easy-to-use LDAP Interface is available for most SBR Enterprise Series administrator functions.	• Simplifies administration and maintenance. • Delivers multi-platform administrative support. • Allows for the administration of SBR Enterprise Series servers from virtually any machine, at any location. • Drives administrative costs down through the use of automated and/or customized configuration tools and processes. • Diminishes administrative workload.
Centralized configuration management (CCM)	Allows you to centrally configure and manage multiple SBR Enterprise Series servers from a single station.	• Enables you to quickly and simply address increased traffic and distributed authentication, and prevents the modification of certain SBR Enterprise Series servers. • Significantly reduces the time needed to bring devices and users online. • Eases server configuration and deployment.
Simple cut-and-paste server configuration settings	Copy server configurations simply and quickly.	Limits opportunities for administration and/or configuration errors.
Filter management in administrator user interface	Filters are a commonly used feature, particularly in 802.1X environments. SBR Enterprise Series enables you to: • Create, modify, and delete filters • View existing filters • Locate specific filters given a set of criteria Data can be replicated across multiple SBR Enterprise Series servers.	Saves cost by reducing the time spent viewing and making changes to configurations.
Manage EAP configurations via SBR Enterprise Series administrator user interface	• Manage and configure all available EAP types. • Manage server certificates. • Create an administrator-configurable certificate expiration warning. • Provides the option of allowing users to replicate the server certificate. • Supplies the means to create a certificate signing request (CSR) that may be saved to a file for submission to a Certificate Authority (CA). • Manage trusted root certificates.	View configuration details at a glance and easily replicate these settings across multiple SBR Enterprise Series servers.
IP address assignment via locally managed IP pool	• An IP address is assigned from one of the poolsassociated with the RADIUS client.	Easily and seamlessly integrates into any network environment, supporting and leveraging an existing data infrastructure.
Daylight savings time support	• Supports automatic adjustment of system clock for daylight savings time (DST). Also offers a choice between local time and UTC (coordinated universal time) for timestamps in the event log file.	Helps to ensure that the system clock and log file timestamps are correct and appropriate.

SBR Global Enterprise Edition – Features and Benefits

The industry-tested SBR Global Enterprise Edition, operational around-the-clock in some of the most active networks in the world, continues to demonstrate the reliability, flexibility, and interoperability required to authenticate, manage, and account for tens of thousands of users.

With SBR GE, organizations can take advantage of the breadth of capabilities available in the SBR Enterprise Edition, while enjoying many additional features designed specifically for the world's largest, most accessed networks. Organizations can safely implement SBR GE as the centerpiece of their network security and access control environment. In addition to the SBR EE features listed above, SBR GE includes specialized features that exceed the unique AAA requirements of global organizations managing thousands of users across multiple sites.

Table 2: SBR Global Enterprise Edition Features and Benefits

Feature	Feature Description	Benefits
LDAP Configuration Interface (LCI)	Allows scripting and easy access to Current Sessions list.	Makes it simple to set up and manage large numbers of users.
Java Scripting for LDAP*	Combines the flexibility of JavaScript with the power of SBR GE's LCI plug-in to deliver a highly customizable solution.	Allows you to address even the most complicated business rules.
JavaScript Realm Selection* and Filter Selection	JavaScript Realm Selection supports: • • Querying and modifying any attribute-value pair (AVP) in the authentication or accounting request during the realm selection process • Querying an LDAP server or an SQL database during the realm selection process • Allowing the continued use of a routed-proxy mechanism for realm selection JavaScript Filter Selection supports: • Querying and modifying any AVP in the authentication or accounting request during the filter selection process • Querying an LDAP server or an SQL database during the filter selection process	• Enables you to configure SBR GE more precisely, allowing for better enforcement of your business requirements. • Provides unparalleled flexibility for changing rules. • Scripting filter rules allow for greater logic to address special cases.
Directed realms	Provides virtualized instances of the server, allowing requests to be managed according to their nature.	Saves administrative and deployment time and cost by not requiring that additional servers be added to your network.
Location-based profiles for groups	• Enables administrators to group RADIUS client objects together as a single object in the SBR GE administrator user interface. • Allows for the association of a profile with a RADIUS client group object, and allows the group to supersede individual clients' profile settings.	Reduces administrative costs by providing a simpler method of defining authorization.

Feature	Feature Description	Benefits
Account lockout and account blacklisting	• Based on failed access attempts and authentication attributes. • Set limits on the number of active connections per user, network access to specific accounts, and concurrent network connections by criteria such as user and group.	• Increases your control over user sessions and connections. • Provides you with additional granular control over who can access your network and how.
Attribute translation and mapping	• Supports attribute translation from one type of network access equipment to another. • Supports the mapping of different attributes with similar information to the same alias.	• Promotes use in heterogeneous environments by easily accommodating different network equipment. • Ensures the appropriate level of AAA enforcement for each network access point.
Flexible user name handling	Handles user names of any format.	Eases the assimilation and integration of data for new or acquired employees.
Proxy filtering	Supports the selective modification of attributes as proxy packets flow to and from the server.	Easily distribute authentication and accounting to the appropriate RADIUS server or appliance.
IP address assignment via locally managed IP or Dynamic Host Configuration Protocol (DHCP) pool	An IP address is assigned from one of the IP pools associated with the RADIUS client; or an address is assigned from a DHCP server for a user-configurable period of time (DHCP lease) when a user connects.	Supports and leverages an existing data infrastructure, and is extensible and flexible for future use, even with network changes.
Systems statistics log file	Provides a snapshot of SBR GE statistics at a given interval, configurable by an administrator.	Further simplifies and provides additional granularity to aid in diagnostics and troubleshooting.
Reliable accounting	Supports the spooling of accounting data for delivery to a central repository.	Provides a vital tool for diagnostics and security, and aids in adherence to government and industry regulations.
Time-of-day and session time limits	Limit network usage based on time-of-day of network access as well as placing time limits on network access sessions.	Delivers additional control over who can access your network, when they can access your network, and for how long.
Round robin authentication and accounting	Authenticates across SQL or LDAP databases and directed realms for redundancy and load balancing.	Ensures that your users will still be authenticated prior to network access, even if your primary SBR GE server is unavailable for any reason; or, in the event of an immediate increase of users attempting network access, such as in merger and acquisition or disaster recovery/business continuity scenarios.
Supports "failover" to backup SQL or LDAP database	If the primary database becomes unavailable, "failover" is invoked to backup SQL or LDAP database.	Guarantees that your users will still be authenticated prior to accessing your network, even if your primary SQL or LDAP authentication store becomes unavailable.

Feature	Feature Description	Benefits
IPv6 support	Supports IP version 6 (IPv6).	Important feature and support, particularly for today's government audiences and enterprise networks of the future.

Product Options

SBR Enterprise Edition and Global Enterprise Edition are available as server software.

Table 3: Product Options

Product	Description
SBR Enterprise Edition	Compatible with virtually any network environment, SBR EE server software centrally manages and secures network access and enforces a uniform access security policy across any small to medium sized organization while ensuring reliable uptime, flexibility, and powerful user management.
SBR Global Enterprise Edition	The SBR GE server software extends the robust capabilities of SBR EE, addressing the security and management needs of global organizations and government agencies, with the performance to tackle tens of thousands of remote/VPN or 802.1X-based (wireless or wired) users across multiple sites, serving as the centerpiece of a network security and access control infrastructure.

Specifications

SBR Enterprise Series Steel-Belted Radius Servers— System Requirements

- SBR Enterprise Edition or SBR Global Enterprise Edition for Windows runs on 64-bit versions of Windows Server 2008 R2, 32-bit versions of Windows Server 2008, 32-bit version of Microsoft Windows XP (Service Pack 2), and 32-bit version of Windows Server 2003.

- SBR Enterprise Edition or SBR Global Enterprise Edition for Solaris runs on Sun Solaris 9 (SPARC Platform Edition 8/03 or later) or Sun Solaris 10 (SPARC Platform Edition 3/05 or later) on an UltraSPARC processor.

- SBR Enterprise Edition or SBR Global Enterprise Edition for Linux runs on the 64-bit versions of SuSE Linux 11, 32-bit versions of Red Hat Enterprise Linux ES or AS 4.0 and Red Hat Enterprise Linux ES or AS 4.5, and 32-bit and 64-bit versions of Red Hat Enterprise Linux 5. SBR Enterprise Series servers are administered via a web-based administration program which runs from any supported platform accessible through any supported Web browser (Internet Explorer, Netscape Navigator, Firefox).

Pulse Secure Services and Support

Pulse Secure 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. Pulse Secure ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit **https://www.pulsesecure.net/products/.**

Ordering Information

Model Number	Description
SBR Enterprise Edition	
SBR-NT	SBR Enterprise Edition for Windows – Single Server (License Key only)
SBR-UN	SBR Enterprise Edition for Solaris – Single Server (License Key only)
SBR-LX	SBR Enterprise Edition for Linux – Single Server (License Key only)
SBR Global Enterprise Edition	
SBR-GE-NT	SBR Global Enterprise Edition for Windows – Single Server (License Key only)
SBR-GE-UN	SBR Global Enterprise Edition for Solaris – Single Server (License Key only)
SBR-GE-LX	SBR Global Enterprise Edition for Linux – Single Server (License Key only)
LDAP Configuration Interface (LCI) Module	
SBR-LCI-MOD	SBR EE LCI Module (License Key only)
SBR Java Scripting Module for LDAP	
SBR-JS-NT	SBR Java Scripting Module – Windows Single
SBR-JS-UN	SBR Java Scripting Module – Solaris Single
SBR-JS-LX	SBR Java Scripting Module – Linux Single

For more information about the SBR Enterprise Series, the de facto standard in AAA/RADIUS servers, please contact your Pulse Secure sales representative, Pulse Secure authorized partner, or visit **https://www.pulsesecure.net/products/**

About Pulse Secure

Pulse Secure is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Pulse Secure 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.pulsesecure.net.**