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Revision History

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<td>February 2016</td>
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Release Notes

Steel-Belted Radius Release 6.2

These release notes accompany Release 6.2 of the Steel-Belted Radius software. Before you install or use your new software, you should read these release notes in their entirety, especially the “Known Problems and Limitations” section on page 8.

If the information in these release notes differs from the information found in the product documentation, follow these release notes.

You can find these release notes in Adobe Acrobat (PDF) format on the Pulse Secure Technical Publications Web page, which is located at: http://www.pulsesecure.net/techpubs.

Product information for Steel-Belted Radius can be found at https://www.pulsesecure.net/products/steel-belted-radius/.

System Requirements

SBR Administrator

The web-deployed SBR Administrator can co-exist with previous versions of the SBR Administrator software. They do not affect one another.

Note: SBR 6.2 does not support Solaris versions.

Linux

The Steel-Belted Radius for Linux server software package includes the server daemon, various dictionary and database files to support authentication, and the SBR Administrator application, which provides an administration user interface.

Operating Systems

- ✔ RedHat Enterprise Linux ES 6.0
- ✔ RedHat Enterprise Linux ES 7.0
- ✔ SUSE Linux 12

Note: Release 6.2 drops support for RedHat Linux ES/AS version 5.x and SuSE Linux 11.x.
Supported Browsers

The SBR Administrator configuration application can be launched from the following browsers:

- Mozilla Firefox 41.0.1
- Mozilla Firefox 42.0b6
- Microsoft Internet Explorer IE 8 (8.0.7601.17514)
- Microsoft Internet Explorer IE 11 (11.0.9600.17416)

Java Runtime Environment (JRE) 1.7 or newer is required for all browsers, and is available from [http://www.oracle.com/technetwork/java/javase/downloads/jre7-downloads-1880261.html](http://www.oracle.com/technetwork/java/javase/downloads/jre7-downloads-1880261.html).

To view an audit log, use the following browsers:

- Mozilla Firefox 41.0.1
- Mozilla Firefox 42.0b6
- Microsoft Internet Explorer IE 8 (8.0.7601.17514)
- Microsoft Internet Explorer IE 11 (11.0.9600.17416)

Windows

The Steel-Belted Radius for Windows server software package includes the server software, various dictionary and database files to support authentication, and the SBR Administrator application, which provides an administration user interface.

Operating Systems

- Windows Server 2012
- Windows Server 2008
- Windows Server 2003
- Windows 10
- Windows 8.1
- Windows 8
- Windows 7

Supported Browsers

The SBR Administrator configuration application can be launched from the following browsers:

- Mozilla Firefox 41.0.1
- Mozilla Firefox 42.0b6
- Microsoft Internet Explorer IE 8 (8.0.7601.17514)
- Microsoft Internet Explorer IE 11 (11.0.9600.17416)
Java Runtime Environment (JRE) 1.7 or newer is required for all browsers, and is available from http://www.oracle.com/technetwork/java/javase/downloads/jre7-downloads-1880261.html.

To view an audit log, use the following browsers:

- Mozilla Firefox 41.0.1
- Mozilla Firefox 42.0b6
- Microsoft Internet Explorer IE 8 (8.0.7601.17514)
- Microsoft Internet Explorer IE 11 (11.0.9600.17416)

Database Servers

The following databases are recommended for use with the Steel-Belted Radius server running on Linux using JDBC or running on Windows using ODBC:

- Oracle 11G ODBC Connection instantclient-basic-win-x86-64-11.2.0.1.0.zip
- Oracle 11G JDBC Connection oracle-instantclient11.2-basic-11.2.0.1.0-1.x86_64.rpm
- MS-SQL 2014 ODBC Connection ODBC Driver 11 for the SQL Server
- MS-SQL 2014 JDBC Connection sqljdbc_4.1.5605.100_enu.tar

Database Clients

- If you use Oracle stored procedures on a Steel-Belted Radius server running Windows, choose the Oracle 9i client.

**Note:** Oracle 10 typically requires a patch for Oracle bug 4516865 to correct the installed Oracle file access modes.
New Features and Enhancements

Evolving malware and threats along with the growing need of anytime access to enterprise applications and data has created new network vulnerabilities. To address this, Pulse Secure Steel-Belted Radius, version 6.2, released the following features:

**Support for SHA-2 for LDAP/AD**

- SBR communicates with backend LDAP & AD servers using LDAP protocol to fetch the user credentials
- The LDAP protocol supports storing passwords in the encrypted format on the LDAP server and SBR LDAP module supports only SHA1 encryption
- The feature supports SHA-2 encryption for LDAP external authentication

**Support for SHA256, SHA512**

- SBR uses the Linux OS user groups and login accounts, as one of the authentication methods
- Support user passwords stored in OS DB are limited to MD5 and Blowfish algorithms only
- The feature is to support SBR GUI authentication with stronger encryption (SHA256 and SHA512)
- Support user passwords stored in OS DB using SHA256 & SHA512 encryption

**Update to OpenSSL libraries**

- OpenSSL upgrade feature: The OpenSSL version used in SBR upgraded OpenSSL 1.0.0s to support features like SHA2 and to fix various vulnerabilities reported.

**Update to OpenLDAP libraries**

- OpenLDAP upgrade feature: The LDAP libraries used in SBR is migrated to OpenLDAP on Linux and the MS LDAP SDK on Windows.
Known Problems and Limitations

The following issues have been identified in the Steel-Belted Radius release 6.2 software. The PRS identifier in brackets is the tracking number in our bug database.

- **PRS-332208 Invalid Shared Secret Request Log’s file shows empty** – When SBR receives authentication request with invalid shared secret, an empty record is inserted in authlog reports.

- **PRS-332202 OnNotFound=accept, SBR should send access-accept for LDAP users** – When external LDAP authentication is configured and if OnNotFound=accept is configured in ldapauth.aut file, SBR is not sending Access-Accept, if searched user is not found in external LDAP server.

- **PRS-331654 EAP-PEAP fails with a message "client issued alert 'client closed the session before handshake was completed'"** – When SBR is configured to use EAP-PEAP authentication, SBR rejects authentication citing client certificate error reasons. This happens sporadically.

- **PRS-331360 SBR Admin GUI is not launching on 64-bit linux machines** – SBR Admin GUI is not launching on RHEL 7 64-bit Linux machines – SBR Admin GUI cannot be launched in RHEL 7 Linux machines. However SBR Admin GUI can be launched on RHEL 6 and SUSE 12 machines.

- **PRS-327904 Unexpected error while trying to save Auth reports in SBR** – While saving auth reports in SBR Admin, error is observed sporadically.

  **Note:** **PRS-331654** is being actively worked upon and will be fixed in the immediate patch or maintenance release.

- **Key for directed realms appears to be for older version**—When a key for additional directed realms is entered through the Administrator, a popup will appear warning that the license is for an older version. However, the key is valid and will take effect upon restart of SBR. (PRS-261257)

- **Using filters with multiple realms**—Since realm filters are cumulative, they will be applied to successive accounting realms. As a workaround, use the Block = 0 option in the realms’ .profiles. (PRS-247515)

- **Changing Primary status with SBR Administrator**—If the SBR Administrator is used to modify the configuration, the Primary status does not reflect the modification until the configuration is published. (PRS-247862)
• **Editing record types on Replicas**—Although it appears you can modify the Replica configuration using the SBR Administrator, Replica configuration changes are overwritten by the Primary when the Primary configuration is published. (PRS-247873)

• **Browsing UNIX groups with SBR Administrator**—When browsing UNIX groups, in the users list using the SBR Administrator, not all groups are listed if one group is particularly large. The workaround for this issue is to add groups manually and to use multiple smaller groups. (PRS-247925)

• **Conflicting attribute values in dictionaries**—Values displayed for attributes may not be consistent if they are defined in multiple dictionaries. If this happens, delete or modify one of the conflicting dictionaries. (PRS-249476)

• **Creating Replica servers with no name**—If a Replica server is created without a Name, it cannot be edited, enabled, or deleted. When creating Replica servers through the SBR Administrator, always enter a server name in the Name field. (PRS-249531)

• **SNMP get issue**—SNMP gets no longer function if TcpControlAddress is changed in radius.ini. Do not modify this setting for CCM if you are using SNMP. (PRS-257797)

• **Using the MasterDictionary feature may add/allow unknown attributes**—If you specify MasterDictionary=1 in radius.ini, two of your vendor-specific dictionaries associate a particular attribute number with different types (such as string and int). Therefore, the attribute value that Steel-Belted Radius sends may be incorrect. It is recommended that you specify MasterDirectionary=0. (PRS-248476)

• **Misleading error message when Maximum Open Tunnels value is not set**—When configure a tunnel but do not set Maximum Open Tunnels for the tunnel, you may see the following error message: 04/27/2006 03:11:27 Failed to decrement usage count for CINGULAR.COM as it no longer exists. It is recommended that you set a Maximum Open Tunnels value. You can make this a large value to avoid possible issues. (PRS-248650)

• **Missing Audit Log entries for Replicate Trusted Root Certificate changes**—If you enable auditing and then check or uncheck the Replicate Trusted Root Certificates checkbox in the Trusted Root Certificates panel, the audit log will not contain record of this change. (PRS-249480)

• **Missing Audit Log entries for added license keys**—If you enable auditing and then add a license key using SBR Administrator, the audit log will not contain record of the new license. (PRS-249438)

• **Notify and Publish events are identical**—When you perform a Notify on the Replication panel, the event that is logged appears identical to a Publish event. (You see `<writeEvent object="/CCM/publish/">PUT /CCM/publish/</writeEvent>`.) (PRS-248814)

• **No stored procedures with MySQL**—As of MySQL 5.0 and 5.1, stored procedures are supported by MySQL and can be used with Steel-Belted Radius when using a SQL backend for authentication and accounting. Note that there are known issues with MySQL when using CALL statements such as “SQL= {call rsp_getpword (%username!, %password!o)}”. However, execute statements, such as “SQL= Execute rsp_getpword %username, %password” work fine. See MySQL for further details. (PRS-8130)
Resolved Issues

The following issues have been resolved in the Steel-Belted Radius release 6.2 software. The PRS identifier in brackets is the tracking number in our bug database.

- SBR admin GUI does not work on Windows8
- Enable IPv4-IPv6 address mapping for RSA SecurID authentication
- SHA-2 support on Linux platform (PRS-320984, PRS-327024)
- OpenSSL Vulnerabilities resolved
  - CVE-2014-0224 (PRS-321491)
  - CVE-2015-0235 (PRS-322773)

The following issues have been resolved in the Steel-Belted Radius release 6.2.1 software. The PRS identifier in brackets is the tracking number in our bug database.

- CRL check fails when the LDAP CDP does not contain the server IP address or DNS name (PRS-334439).
- SBR installation on D: drive fails (PRS-335962).
List of Technical Publications

The documentation for Steel-Belted Radius consists of the following manuals, which can be downloaded from the Pulse Secure Technical Publications Web page located at: http://www.pulsesecure.net/techpubs

- Steel-Belted Radius Installation and Upgrade Guide—Describes how to install the Steel-Belted Radius software on a server running the Solaris operating system, the Linux operating system, or the Windows XP/Windows Vista/Windows Server 2003 operating system.
- Steel-Belted Radius Administration Guide—Describes how to configure and administer the Steel-Belted Radius server software.
- Steel-Belted Radius Reference Guide—Describes the configuration files and settings used by Steel-Belted Radius.
- Steel-Belted Radius Scripting Guide—Describes how to use scripts written in the JavaScript programming language to enhance the RADIUS request processing capabilities of the Steel-Belted Radius server.

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the Steel-Belted Radius documentation. You can send your comments to techpubs-comments@pulsesecure.net, or fill out the documentation feedback form at http://www.pulsesecure.net/techpubs/. If you are using email, please be sure to include the following information with your comments:

- Documentation name
- Documentation part number
- Software release version
- Page number

Modified Open-Source Software

Embedded in this version of Steel-Belted Radius is open-source software that Pulse Secure, LLC. has modified. The modified software includes:

- LDAP C SDK from The Mozilla Foundation
- HTTPClient from Ronald Tschalär
- sunmd5.c, from The OpenSolaris Project

You can obtain the source code for the above modifications by requesting them from Pulse Technical Support.
Contacting Pulse Secure Global Support Center

For technical support, open a support case using the Case Manager link at http://www.pulsesecure.net/support/ or call us at 1-844 751 7629 (Toll Free, US).

When you are running SBR Administrator, you can choose Web > Steel-Belted Radius User Page to access a special home page for Steel-Belted Radius users.

When you call technical support, please have the following at hand:

- Your Steel-Belted Radius edition and release number (for example, Steel-Belted Radius/Global Enterprise Edition Release 6.2.1).

- Information about the server configuration and operating system, including any OS patches that have been applied.

- For licensed products under a current maintenance agreement, your license or support contract number.

- Question or description of the problem, with as much detail as possible.

- Any documentation that may help in resolving the problem, such as error messages, memory dumps, compiler listings, and error logs.