



# **BlackBerry Enterprise Mobility**

## Server Release Notes

2022-01-28Z

## Contents

What's new in BEMS 3.3.11.14	4
Fixed issues	4
Known issues	4
What's new in BEMS 3.3.10.13	5
Fixed issues	
Known issues	5
What's new in BEMS 3.3.4.4	
Fixed issues	
Known issues	7
Legal notice	

## What's new in BEMS 3.3.11.14

- The log4j2 library was upgraded to version 2.17.0 to address security vulnerabilities. For more information, visit the following:
  - https://logging.apache.org/log4j/2.x/security to read the Apache Log4j security vulnerabilities.
  - support.blackberry.com/community to read article 90708.
  - The Common Vulnerabilities and Exposures (CVE) to read CVE-2021-44228.

#### Supported upgrades

- BEMS 3.3 > BEMS 3.3.11.14
- BEMS 3.2 > BEMS 3.3.11.14
- BEMS 3.1 > BEMS 3.3.11.14

### **Fixed issues**

There are no fixed issues in this release.

### **Known issues**

There are no known issues in this release.

## What's new in BEMS 3.3.10.13

• Bug fixes

#### Supported upgrades

- BEMS 3.3 > BEMS 3.3.10.13
- BEMS 3.2 > BEMS 3.3.10.13
- BEMS 3.1 > BEMS 3.3.10.13

## **Fixed issues**

The jndilookup.class was removed from the log4j2 library and pax logging and the message format lookups were disabled to address security vulnerabilities. For more information, visit the following:

- support.blackberry.com/community to read article 90708.
- The Common Vulnerabilities and Exposures (CVE) to read CVE-2021-44228.

(G3SERVER-10854, G3SERVER-10855)

After installing BEMS using the Java version 8u301, the BEMS Dashboard didn't open as expected. For more information, see support.blackberry.com/community to read article 84381. (GEMSS-10200, G3SERVER-10781)

### **Known issues**

There are no known issues in this release.

## What's new in BEMS 3.3.4.4

- Software requirements: BEMS no longer supports the following:
  - Skype for Business Online. For more information, visit support.blackberry.com/community to read article 73967.
  - Cisco Unified Communications Manager IM and Presence Service 11.x and earlier.
- Active Directory password expiration warning message: You can configure a warning message that appears when the Active Directory password is about to expire for Active Directory users and groups that use the PSO (Password Settings Object) method to set the maximum password age. This feature requires that LDAP is configured in your environment. This feature requires BlackBerry Work 3.8 or later.
- Conversation History UI updates: The Microsoft Exchange 2010 and Microsoft Exchange 2010 SP options
  no longer display when you enable Conversation history in the BEMS Dashboard. For more information about
  supported versions of Microsoft Exchange, see the BEMS Compatibility Matrix.
- Support for BEMS Lookout Tool: BEMS no longer supports the BEMS Lookout Tool. You can use the following
  monitoring tools to monitor the health and status of your BEMS instances. For more information on these
  monitoring tools, see the Monitoring and reporting content.
  - · Java Management Extensions (JMX)-compliant monitoring tools and the Health service servlet
  - Health service servlet

#### Supported upgrades

- BEMS 3.2 > BEMS 3.3.4.4
- BEMS 3.1 > BEMS 3.3.4.4

### **Fixed issues**

When you tried to upload SSL certificates that included more than one level (for example, an intermediate or full certificate chain) using the BEMS Dashboard, you received a validation failed message and the upload failed. For more information, visit support.blackberry.com/community to read article 83525. (FIRST-17684, G3SERVER-10780)

Users were unable to send encrypted S/MIME messages if the email included two or more recipients. For more information, visit support.blackberry.com/community to read article 81428. (FIRST-17656)

Users experienced delayed email notifications when the Exchange session cookie had a short expiration time (for example, two minutes). (FIRST-17649, G3SERVER-10779)

After updating the Java version to OpenJDK 292b10 or ZuluJDK292b10, the uploaded .pfx files couldn't be saved. The BEMS log files logged the error message **unrecognized algorithm name: PBEWithSHA1AndDESede**. For more information, visit support.blackberry.com/community to read article 79384. (G3SERVER-10674)

**Resolution:** Install the appropriate OpenJDK version. For more information, visit Oracle Java Bug Database JDK-8266929.

### **Known issues**

BEMS 3.2 has deprecated the "BEMS Presence Keystore File Location" field in Presence service. For more information, see What's new in BEMS 3.2.7.8. In a Cisco Unified Communications Manager IM and Presence service environment, when the environment is configured with a custom certificate keystore, and you upgrade from a BEMS version earlier than 3.1, the Presence service in the BEMS Dashboard test fails and displays the error message "untrusted connection to CUP server". (FIRST-17507, GEMSS-9709)

**Workaround**: Copy the Java certificates from a custom certificate keystore to the BEMS JAVA\_Home keystore. For more information, visit support.blackberry.com/community to read article 73128.

The Connect and Presence services aren't uninstalled after a silent uninstall of BEMS software installed on a drive other than the C drive. (FIRST-17391)

**Workaround**: Add the USER\_INSTALL\_DIR=<*BEMS path>* property to the GoodServerSetup.properties file and then run the silentinstall.bat file or in a command prompt, type <BEMS Installer> LAX\_VM "%JAVA\_HOME %\bin\java.exe" -i silent -f

- 1. In a text editor, open the GoodServerSetup.properties file.
- 2. Locate the existing entry "USER\_INSTALL\_DIR1=C:\\Program Files\\BlackBerry\\BlackBerry Enterprise Mobility Server".
- 3. Add the following property after the USER\_INSTALL\_DIR1 enter USER\_INSTALL\_DIR=<BEMS path>. For example, if BEMS is installed on the E drive, typeUSER\_INSTALL\_DIR=E:\\Program Files\\BlackBerry\\BlackBerry Enterprise Mobility Server
- 4. Save the file.

In BEMS System Settings > Troubleshooting > Upload Log Credentials, the BlackBerry Online Portal link redirects to an incorrect webpage. (FIRST-15579)

Workaround: Manually open a browser and use the login credentials for https://account.blackberry.com/.

After a new silent installation of BEMS, you can't uninstall BEMS or a BEMS component from the control panel. For more information, visit support.blackberry.com/community to read article 82384. (G3SERVER-10400)

Workaround: Uninstall the BEMS component using the user interface or command prompt.

- Using the user interface
  - 1. On the computer that hosts BEMS, open a command prompt and navigate to the Good Installation folder. By default the folder is located at <drive>:\Program Files\BlackBerry\BlackBerry Enterprise Mobility Server\Good Server Installation
  - 2. Type the folder name of the component folder that you want to uninstall. For example, if you want to uninstall the Connect service, type cd GEMS-Connect\_installation
  - 3. Type, "Change BlackBerry Enterprise Mobility Server Connect Installation.exe" -i gui
  - 4. Press Enter.
  - 5. Follow the onscreen steps.
  - Using the command prompt
  - 1. On the computer that hosts BEMS, open a command prompt and navigate to the Good Installation folder.
  - 2. Type the folder of the component or BEMS folder that you want to uninstall. For example, if you want to uninstall the Connect service, type cd GEMS-Connect\_installation
  - **3.** Type "Change BlackBerry Enterprise Mobility Server <name of component that you are uninstalling>" -DUSER\_INPUT\_USERNAME=<BEMS account> DUSER\_UPDATED\_PASSWORD=<password> -DUSER\_INPUT\_DOMAIN=<domain>

For example, "Change BlackBerry Enterprise Mobility Server - Connect Installation.exe" -DUSER\_INPUT\_USERNAME=BEMSadmin -DUSER\_UPDATED\_PASSWORD=password -DUSER\_INPUT\_DOMAIN=example.net

- 4. Press Enter.
- 5. Follow the onscreen steps.

After upgrading to the latest JRE and restarting BEMS, the Good Technology Common Services doesn't start. For more information, visit support.blackberry.com/community to read article 48312. (G3SERVER-9828)

Workaround: Run the installer and select Repair for the installation type.

When installing a new BEMS, administrators can't log in to the BEMS Dashboard and the following error message is displayed: **Invalid username and password**. For more information, visit support.blackberry.com/ community to read article 60037. For more information, visit support.blackberry.com/community to read article 60037. (G3SERVER-9827)

Workaround: Install Microsoft Visual C++ 2010 SP1 Redistributable Package (x64) on the computer.

- Download Microsoft Visual C++ 2010 SP1 Redistributable Package (x64). To download the file, visit www.microsoft.com/download and search for ID=13523.
- 2. Restart the computer.
- 3. Log in to the BEMS Dashboard.

When upgrading BEMS, the certificate authority (CA) certificates are not available in all of the BEMS instances dashboard (BEMS System Settings > BEMS Configuration > Dashboard Administrators). (G3SERVER-9709)

**Workaround**: After uploading the certificates, wait at least five minutes before logging in to additional instances using certificate-based authentication.

When upgrading to BEMS 2.12 or later and your environment uses Microsoft SQL Server 2012 or 2014 and SSL encryption is enabled for the SQL Server instance, the BEMS Dashboard can't be accessed and displays the error message: **HTTP ERROR 404 Problem accessing /dashboard. Reason: Not Found**. For more information, visit support.blackberry.com/community to read article 56865. (G3SERVER-9441)

Workaround: Upgrade the Microsoft SQL Server to support TLS 1.2.

When you upgrade an existing BEMS instance and the existing instance is running JRE 8u192 or earlier, the following message appears and BEMS isn't upgraded: Failed to validate AD user: *<BEMS admin accountname>*. The BEMS log files log the following error message: java.security.InvalidAlgorithmParameterException: Prime size must be multiple of 64, and can only range from 512 to 2048 (inclusive). (G3SERVER-9373)

**Workaround:** Upgrade the JRE to a supported version that is later than 8u192 before you upgrade the BEMS instance. For more information, visit support.blackberry.com/community to read article 57245.

After you upgrade from BEMS 2.10.4.8 to 2.12 or later and the BEMS log file compression is enabled, the last BEMS log file remains in a .txt format instead of a zipped format in c:\blackberry\bemslogs. For more information, visit support.blackberry.com/community to read article 57410. (G3SERVER-9317)

When BEMS is configured to use Client Certificate based authentication for Autodiscover and EWS, the IIS Server log files log an HTTP Status 413. (G3SERVER-8009)

For more information, visit support.blackberry.com/community to read article 57420.

BEMS installation and upgrade becomes corrupt if the uninstall fails because it can't remove the install folder due to locks such as a command prompt open to the installation folder bin directory. (G3SERVER-7392)

**Note:** Close all connections to the installer folder before performing a removal or upgrade of the BEMS instance.

The Badge Count might display incorrectly if your environment is running in mixed mode, where one node is running a new version of BEMS and another node is running an older version of BEMS, and Mail settings in the BlackBerry Work app is set to New Mail. For more information, visit support.blackberry.com/community to read article 55396. (G3SERVER-7102)

**Note:** BlackBerry does not recommend running BEMS in a mixed mode.

After installing BEMS using the Java version 8u301, the BEMS Dashboard doesn't open as expected. (GEMSS-10200, G3SERVER-10781)

**Workaround**: If you use Oracle's Java or an OpenJDK JRE, install a version earlier than 8u301. For more information, visit support.blackberry.com/community to read article 84381.

**Resolution**: If you use an OpenJDK JRE, install OpenJDK 8u302.

When you upgrade BEMS and the upgrade rolls back, if a secure certificate is bound to port 8082, the rollback process unbinds the certificate. (GEMSS-10105)

**Workaround**: Perform the upgrade again and then bind the secure certificate. For more information about binding the secure certificate, see 'Configure the Connect service to receive SSL communications for a new installation' in the Configuring the BlackBerry Connect service content.

After you upgrade BEMS, the Docs, the Connect, or the Presence service might not display in the dashboard. (GEMSS-9962, GEMSS-9965)

Workaround: Run the installer and select Repair for the installation type.

In a Cisco Unified Communications Manager IM and Presence service environment when FIPS is enabled in the BEMS Dashboard, and you upgrade BEMS from an earlier version, the users' presence status might stop working. (GEMSS-9959)

Workaround: Restart the Good Technology Common Services.

If you uninstall only the Docs service, the BEMS Dashboard might not be available after the service is uninstalled. (GEMSS-9957)

Workaround: Restart the Good Technology Common Services.

After uninstalling BEMS, the Good Technology folder isn't removed from the following registry location: HKEY\_LOCAL\_MACHINE\SOFTWARE\. (GEMSS-9886)

**Workaround**: Manually remove the Good Technology folder. **Important**: Make a backup of the registry before making any changes.

The BlackBerry Connect service fails to start and the Connect log files log the following error message: **Initialization failed**. (GEMSS-9783)

**Workaround**: Use friendly names for certificates and add the certificate friendly name to the BlackBerry Connect server configuration file. For more information, visit support.blackberry.com/community to read article 63178.

Accessing the Docs Self-Service web console using Mozilla Firefox Private Windows is not supported. (GEMSS-9654)

After force-closing the BlackBerry Work app and then opening the app, user statuses did not update. (G3ANDROID-20438)

Workaround: Complete one of the following actions:

- Move the BlackBerry Work app to the background and then to the foreground.
- Wait a few minutes to allow user statuses to update.

After enabling FIPS and restarting the Good Technology Common Services in a Cisco Unified Communications Manager IM and Presence service environment, users can't view other user's Presence status. The BEMS log files log the following error message: **Invalid session key Ensure the user is logged in or try logging in the user again**. (GEMSS-9365)

Workaround: Stop and then start the Good Technology Common Services twice.

In environments configured for Skype for Business on-premises using not-trusted application mode, BlackBerry Connect users might not see the presence status of other users. (GEMSS-9177)

Workaround: Move the BlackBerry Connect app to the background and then to the foreground.

After enabling FIPS in a Cisco Unified Communications Manager IM and Presence Service environment that is already configured with the BEMS-Presence service, the Presence status of users disappears in the BlackBerry Work app. For more information, visit support.blackberry.com/community to read article 58255. (GEMSS-9158, GEMSS-9018)

Workaround: Complete the following steps:

- 1. In the BEMS dashboard, enable FIPS.
- 2. On the computer that hosts BEMS, open the com.good.gcs.jabber.presenceprovider.config.impl.JabberPresenceProviderConfigImpl.cfg file. By default, the file is located at C:\Program Files\BlackBerry\BlackBerry Enterprise Mobility Server\Good Server Distribution\gems-quickstart-<version>\etc.
- 3. Search for jabber.application.user.password and delete the value.
- 4. Save the file.
- 5. In the Windows Service Manager, restart the Good Technology Common Services service.
- 6. In the BlackBerry Enterprise Mobility Server Dashboard, under BlackBerry Services Configuration, click Presence.
- 7. Click Jabber.
- 8. In the Application Password field, enter the password.
- 9. Click **Test** to verify the fields are completed. The test does not verify that the information in the fields is accurate.

10.Click Save.

- **11.**In the Windows Service Manager, restart the Good Technology Common Services service.
- 12. Close the BlackBerry Work app. Start the BlackBerry Work app.

In some environments configured for Skype for Business on-premises using non-trusted application mode, a user's contacts presence status disappears from BlackBerry Work. For more information, visit support.blackberry.com/community to read article 57489. (GEMSS-8815, GEMSS-8924)

**Workaround**: Restart the Good Technology Common Services after you modify the Presence service the first time in the BEMS Dashboard.

For more information, visit support.blackberry.com/community to read article 57489.

When you run a diagnostic report in the BlackBerry Work app, the Out of office setting isn't displayed, might display <*empty*>, or Not determined in the Presence section of the report. (GEMSS-8319)

When enabling proxy support for the Connect service, if you do not enter the same Web Proxy information for the Connect service (BlackBerry Services Configuration > Connect > Web Proxy) and the BEMS System Settings (BEMS Configuration > Web Proxy), the proxy settings might not work as expected. For more information, visit support.blackberry.com/community to read article 56355. (GEMSS-7122)

Workaround: You must enter the Web Proxy settings in both locations of the BEMS Dashboard.

Users in an Microsoft Office Web Apps (OWA) or Office Online Server environment cannot to view or edit Microsoft Office files in BlackBerry Access. The Office Online Server log files display **Could not create SSL/TLS secure channel**. (GEMSS-7056)

Workaround: Complete the following steps:

- 1. On the computer hosting Microsoft Office Web Apps or Office Online Server, open the registry and navigate to HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\.NETFramework\v4.0.30319.
- 2. Right-click the version, click New > DWORD (32-bit) Value.
- 3. In the Value name field, type SchUseStrongCrypto.
- 4. In the Value data field, type 1.
- 5. In the Base section, select Hexadecimal.
- 6. Click OK.
- 7. Restart the Microsoft Internet Information Services server.

Sometimes when users upload a file to a group discussion the upload fails and the Connect log files log the message **Exception while writing file to temp dir**. (GEMSS-6969, GEMSS-7753)

In an on-premises Skype for Business with the Connect service configured for non-trusted mode, users do not receive a notification to indicate that they are logged in to more then one BlackBerry Connect app. (GEMSS-6834)

In an on-premise Skype for Business environment that is configured for non-trusted mode, a contact's work phone number is not displayed. (GEMSS-6527)

In an on-premises Skype for Business environment with the Connect service configured for non-trusted application mode, users can't log in to BlackBerry Connect when users' email addresses are different than their login name. (GCC-7752)

**Workaround**: In the BlackBerry UEM management console, enable "Use explicit UPN" in the BlackBerry Dynamics global properties before users log in to BlackBerry Connect. For more information, see "Configure BlackBerry Dynamics properties" in the BlackBerry UEM Configuration content.

## Legal notice

©2022 BlackBerry Limited. Trademarks, including but not limited to BLACKBERRY, BBM, BES, EMBLEM Design, ATHOC, CYLANCE and SECUSMART are the trademarks or registered trademarks of BlackBerry Limited, its subsidiaries and/or affiliates, used under license, and the exclusive rights to such trademarks are expressly reserved. All other trademarks are the property of their respective owners.

This documentation including all documentation incorporated by reference herein such as documentation provided or made available on the BlackBerry website provided or made accessible "AS IS" and "AS AVAILABLE" and without condition, endorsement, guarantee, representation, or warranty of any kind by BlackBerry Limited and its affiliated companies ("BlackBerry") and BlackBerry assumes no responsibility for any typographical, technical, or other inaccuracies, errors, or omissions in this documentation. In order to protect BlackBerry proprietary and confidential information and/or trade secrets, this documentation may describe some aspects of BlackBerry technology in generalized terms. BlackBerry reserves the right to periodically change information that is contained in this documentation; however, BlackBerry makes no commitment to provide any such changes, updates, enhancements, or other additions to this documentation to you in a timely manner or at all.

This documentation might contain references to third-party sources of information, hardware or software, products or services including components and content such as content protected by copyright and/or third-party websites (collectively the "Third Party Products and Services"). BlackBerry does not control, and is not responsible for, any Third Party Products and Services including, without limitation the content, accuracy, copyright compliance, compatibility, performance, trustworthiness, legality, decency, links, or any other aspect of Third Party Products and Services. The inclusion of a reference to Third Party Products and Services in this documentation does not imply endorsement by BlackBerry of the Third Party Products and Services or the third party in any way.

EXCEPT TO THE EXTENT SPECIFICALLY PROHIBITED BY APPLICABLE LAW IN YOUR JURISDICTION, ALL CONDITIONS, ENDORSEMENTS, GUARANTEES, REPRESENTATIONS, OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY CONDITIONS, ENDORSEMENTS, GUARANTEES, REPRESENTATIONS OR WARRANTIES OF DURABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, MERCHANTABILITY, MERCHANTABLE QUALITY, NON-INFRINGEMENT, SATISFACTORY QUALITY, OR TITLE, OR ARISING FROM A STATUTE OR CUSTOM OR A COURSE OF DEALING OR USAGE OF TRADE, OR RELATED TO THE DOCUMENTATION OR ITS USE, OR PERFORMANCE OR NON-PERFORMANCE OF ANY SOFTWARE, HARDWARE, SERVICE, OR ANY THIRD PARTY PRODUCTS AND SERVICES REFERENCED HEREIN, ARE HEREBY EXCLUDED. YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY BY STATE OR PROVINCE. SOME JURISDICTIONS MAY NOT ALLOW THE EXCLUSION OR LIMITATION OF IMPLIED WARRANTIES AND CONDITIONS. TO THE EXTENT PERMITTED BY LAW, ANY IMPLIED WARRANTIES OR CONDITIONS RELATING TO THE DOCUMENTATION TO THE EXTENT THEY CANNOT BE EXCLUDED AS SET OUT ABOVE, BUT CAN BE LIMITED, ARE HEREBY LIMITED TO NINETY (90) DAYS FROM THE DATE YOU FIRST ACQUIRED THE DOCUMENTATION OR THE ITEM THAT IS THE SUBJECT OF THE CLAIM.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW IN YOUR JURISDICTION, IN NO EVENT SHALL BLACKBERRY BE LIABLE FOR ANY TYPE OF DAMAGES RELATED TO THIS DOCUMENTATION OR ITS USE, OR PERFORMANCE OR NON-PERFORMANCE OF ANY SOFTWARE, HARDWARE, SERVICE, OR ANY THIRD PARTY PRODUCTS AND SERVICES REFERENCED HEREIN INCLUDING WITHOUT LIMITATION ANY OF THE FOLLOWING DAMAGES: DIRECT, CONSEQUENTIAL, EXEMPLARY, INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE, OR AGGRAVATED DAMAGES, DAMAGES FOR LOSS OF PROFITS OR REVENUES, FAILURE TO REALIZE ANY EXPECTED SAVINGS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, LOSS OF BUSINESS OPPORTUNITY, OR CORRUPTION OR LOSS OF DATA, FAILURES TO TRANSMIT OR RECEIVE ANY DATA, PROBLEMS ASSOCIATED WITH ANY APPLICATIONS USED IN CONJUNCTION WITH BLACKBERRY PRODUCTS OR SERVICES, DOWNTIME COSTS, LOSS OF THE USE OF BLACKBERRY PRODUCTS OR SERVICES OR ANY PORTION THEREOF OR OF ANY AIRTIME SERVICES, COST OF SUBSTITUTE GOODS, COSTS OF COVER, FACILITIES OR SERVICES, COST OF CAPITAL, OR OTHER SIMILAR PECUNIARY LOSSES, WHETHER OR NOT SUCH DAMAGES WERE FORESEEN OR UNFORESEEN, AND EVEN IF BLACKBERRY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW IN YOUR JURISDICTION, BLACKBERRY SHALL HAVE NO OTHER OBLIGATION, DUTY, OR LIABILITY WHATSOEVER IN CONTRACT, TORT, OR OTHERWISE TO YOU INCLUDING ANY LIABILITY FOR NEGLIGENCE OR STRICT LIABILITY.

THE LIMITATIONS, EXCLUSIONS, AND DISCLAIMERS HEREIN SHALL APPLY: (A) IRRESPECTIVE OF THE NATURE OF THE CAUSE OF ACTION, DEMAND, OR ACTION BY YOU INCLUDING BUT NOT LIMITED TO BREACH OF CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR ANY OTHER LEGAL THEORY AND SHALL SURVIVE A FUNDAMENTAL BREACH OR BREACHES OR THE FAILURE OF THE ESSENTIAL PURPOSE OF THIS AGREEMENT OR OF ANY REMEDY CONTAINED HEREIN; AND (B) TO BLACKBERRY AND ITS AFFILIATED COMPANIES, THEIR SUCCESSORS, ASSIGNS, AGENTS, SUPPLIERS (INCLUDING AIRTIME SERVICE PROVIDERS), AUTHORIZED BLACKBERRY DISTRIBUTORS (ALSO INCLUDING AIRTIME SERVICE PROVIDERS) AND THEIR RESPECTIVE DIRECTORS, EMPLOYEES, AND INDEPENDENT CONTRACTORS.

IN ADDITION TO THE LIMITATIONS AND EXCLUSIONS SET OUT ABOVE, IN NO EVENT SHALL ANY DIRECTOR, EMPLOYEE, AGENT, DISTRIBUTOR, SUPPLIER, INDEPENDENT CONTRACTOR OF BLACKBERRY OR ANY AFFILIATES OF BLACKBERRY HAVE ANY LIABILITY ARISING FROM OR RELATED TO THE DOCUMENTATION.

Prior to subscribing for, installing, or using any Third Party Products and Services, it is your responsibility to ensure that your airtime service provider has agreed to support all of their features. Some airtime service providers might not offer Internet browsing functionality with a subscription to the BlackBerry<sup>®</sup> Internet Service. Check with your service provider for availability, roaming arrangements, service plans and features. Installation or use of Third Party Products and Services with BlackBerry's products and services may require one or more patent, trademark, copyright, or other licenses in order to avoid infringement or violation of third party rights. You are solely responsible for determining whether to use Third Party Products and Services and if any third party licenses are required to do so. If required you are responsible for acquiring them. You should not install or use Third Party Products and Services until all necessary licenses have been acquired. Any Third Party Products and Services and are provided "AS IS" with no express or implied conditions, endorsements, guarantees, representations, or warranties of any kind by BlackBerry and BlackBerry assumes no liability whatsoever, in relation thereto. Your use of Third Party Products and Services shall be governed by and subject to you agreeing to the terms of separate licenses and other agreements applicable thereto with third parties, except to the extent expressly covered by a license or other agreement with BlackBerry.

The terms of use of any BlackBerry product or service are set out in a separate license or other agreement with BlackBerry applicable thereto. NOTHING IN THIS DOCUMENTATION IS INTENDED TO SUPERSEDE ANY EXPRESS WRITTEN AGREEMENTS OR WARRANTIES PROVIDED BY BLACKBERRY FOR PORTIONS OF ANY BLACKBERRY PRODUCT OR SERVICE OTHER THAN THIS DOCUMENTATION.

BlackBerry Enterprise Software incorporates certain third-party software. The license and copyright information associated with this software is available at .https://www.blackberry.com/us/en/legal/third-party-software

BlackBerry Limited 2200 University Avenue East Waterloo, Ontario Canada N2K 0A7

BlackBerry UK Limited Ground Floor, The Pearce Building, West Street, Maidenhead, Berkshire SL6 1RL United Kingdom

Published in Canada