BlackBerry Device Service and BlackBerry Mobile Fusion Studio

Installation and Configuration Guide

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Document revision history

1

Date	Description
21 February 2012	Initial version

Related resources

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To read the following guides, visit www.blackberry.com/go/serverdocs.

Resource	
BlackBerry Device Service Feature and Technical Overview	• Architecture diagrams • Description of features and components • Data flows
BlackBerry Administration Service Help and *BlackBerry Device Service Administration Guide*	• Instructions for creating user accounts, groups, roles, administrator accounts, and so on • Instructions for activating BlackBerry PlayBook tablets • Instructions for creating and sending IT policies and profiles • Instructions for sending and managing applications on tablets
BlackBerry Web Desktop Manager User Guide	• User instructions for activating tablets • User instructions for protecting a lost tablet
BlackBerry Device Service and BlackBerry PlayBook Tablet Security Technical Overview	• Description of the security maintained by the BlackBerry Device Service, BlackBerry Infrastructure, and tablet to protect data and connections • Description of the BlackBerry Tablet OS • Description of how work data is protected on tablets when you use the BlackBerry Device Service
BlackBerry Bridge App and BlackBerry PlayBook Tablet Security Technical Overview	• Description of how work data is protected on tablets when you use the BlackBerry Bridge app • Description of how work data is protected when it is in transit between a tablet and a BlackBerry smartphone • Description of attacks that the BlackBerry Bridge pairing process is designed to prevent
BlackBerry PlayBook Tablet Print To Go Security Note	• Description of how data is protected when using Print To Go • Instructions for preventing the use of Print To Go
BlackBerry Device Service Policy Reference Guide	• Description of available IT policy rules and profile settings

Resource	
BlackBerry Device Service Release Notes	• Description of known issues and potential workarounds
BlackBerry Mobile Fusion Studio Feature and Technical Overview	• Architecture diagrams • Description of features and components
BlackBerry Mobile Fusion Studio Administration Guide	• Instructions for creating and managing user accounts in multiple MDM domains • Instructions for managing multiple BlackBerry devices for each user account
BlackBerry Mobile Fusion Studio Release Notes	• Description of known issues and potential workarounds

Installing the BlackBerry Device Service 3

About the BlackBerry Device Service

The BlackBerry Device Service permits you to manage the work perimeter on BlackBerry PlayBook tablets that run BlackBerry Tablet OS 2.0 or later.

The BlackBerry Device Service allows you to:

- control the connections the tablet makes to your organization's environment, including connections to your organization's Wi-Fi networks and Microsoft ActiveSync
- install and manage your organization’s applications on tablets
- protect your organization’s data and applications on tablets

You can install the BlackBerry Device Service with the BlackBerry Mobile Fusion Studio. The BlackBerry Mobile Fusion Studio provides a simplified administrative console for your organization's helpdesk administrators.

You can download the BlackBerry Device Service from www.blackberry.com/support/downloads.

Planning a BlackBerry Device Service installation

You must install the BlackBerry Device Service on a computer that does not already host a BlackBerry Enterprise Server instance or BlackBerry Enterprise Server Express instance. You can install the BlackBerry Device Service on the same computer that you install BlackBerry Mobile Fusion Studio on.

The setup application installs all BlackBerry Device Service components on one computer. The BlackBerry Device Service stores data in its own BlackBerry Configuration Database and you can connect only one BlackBerry Device Service to the BlackBerry Configuration Database.

Requirements: BlackBerry Device Service

Hardware requirements: BlackBerry Device Service

The following guidelines apply to the computer that you install the BlackBerry Device Service and BlackBerry Device Service components on, including the BlackBerry Configuration Database. Disk space requirements are for the BlackBerry Device Service and approximately 1 month of log files.

The size of log files for the BlackBerry Device Service and BlackBerry Device Service components varies based on the number of users in your organization's environment and the level of user activity. It is a best practice to monitor and control the amount of disk space that the BlackBerry Device Service log files take up. For more information about configuring logging, visit www.blackberry.com/go/serverdocs to read the *BlackBerry Device Service Administration Guide*.

If you install the BlackBerry Device Service on the computer that hosts BlackBerry Mobile Fusion Studio, you must also consider the memory and disk space requirements for BlackBerry Mobile Fusion Studio.

Note: The BlackBerry Device Service hardware requirements are lower when BlackBerry PlayBook tablets connect to a VPN or work Wi-Fi network.

Requirements for 1 to 500 users

Environment	Requirement
Email messages and application downloads (VPN or work Wi-Fi network)	• One processor, 1.6 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 3 GB of available memory • 10 GB of disk space
Email messages only	• One processor, 1.6 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 3 GB of available memory • 10 GB of disk space
Email messages and 2 MB application downloads per user	• One processor, 2 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 4 GB of available memory • 10 GB of disk space
Email messages and 10 MB application downloads per user	• One processor, 2.33 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 4 GB of available memory • 10 GB of disk space

Requirements for 500 to 2000 users

Environment	Requirement
Email messages and application downloads (VPN or work Wi-Fi network)	• One processor, 2 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 3 GB of available memory • 15 GB of disk space

Environment	Requirement
Email messages only	• One processor, 2 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 4 GB of available memory • 15 GB of disk space
Email messages and 2 MB application downloads per user	• One processor, 2.66 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 4 GB of available memory • 25 GB of disk space
Email messages and 10 MB application downloads per user	• One processor, 2.5 GHz Intel Xeon 5400 Series (Quad Core) • 5 GB of available memory • 25 GB of disk space

Requirements for 2000 to 5000 users

Environment	Requirement
Email messages and application downloads (VPN or work Wi-Fi network)	• One processor, 2 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 4 GB of available memory • 30 GB of disk space
Email messages only	• One processor, 2 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core) • 5 GB of available memory • 30 GB of disk space
Email messages and 2 MB application downloads per user	• One processor, 2.5 GHz Intel Xeon 5400 Series (Quad Core) • 5 GB of available memory • 50 GB of disk space
Email messages and 10 MB application downloads per user	• One processor, 2.53 GHz Intel Xeon 5500 Series (Quad Core) • 6 GB of available memory

Environment	Requirement
	• 50 GB of disk space

Requirements for 5000 to 10,000 users

Environment	Requirement
Email messages and application downloads (VPN or work Wi-Fi network)	• One processor, 2.5 GHz Intel Xeon 5400 Series (Quad Core) • 5 GB of available memory • 60 GB of disk space

Related information

Hardware requirements: BlackBerry Mobile Fusion Studio, 29

System requirements: Your organization's environment

Item	Requirement
Directory service	Microsoft Active Directory that is running at a domain functional level that is set to Windows Server 2003 or later
Firewall	To configure a firewall or proxy firewall, the following conditions: • Exclusive use of port 3101 to open and maintain an outbound, bidirectional TCP/IP connection to an external server • Use of port 8081 and 8444 to permit connections to the Enterprise Management Web Service for enrollment • Support for resolving Internet addresses that use DNS • Transparency of the proxy server for proxy firewalls

System requirements: VPN hardware

If your organization's environment includes VPNs, you can configure a BlackBerry PlayBook tablet to authenticate with the VPN so that it can access your organization's network. The BlackBerry MDS Connection Service is used when the tablet is not connected to a VPN or work Wi-Fi network.

The BlackBerry Tablet OS 2.0 supports the following IPsec VPN hardware:

- Any gateway from Check Point
- Cisco VPN 3000 Series Concentrator
- Cisco PIX Firewall

- Cisco IOS Easy VPN
- Any appliance in the Cisco ASA Series
- Any gateway in the Juniper SRX Series
- Any gateway in the Juniper NetScreen Series
- Any Windows Server with RRAS and IPsec configured that supports IKEv2
- Any VPN server that supports IKEv2

The BlackBerry Tablet OS 2.0 supports the following SSL VPN hardware:

- Any gateway in the Juniper SA Series
- Any gateway in the Juniper MAG Series

For more information, visit www.blackberry.com/go/kbhelp to read article KB28128.

Software requirements: BlackBerry Device Service and components

Software requirements: BlackBerry Device Service

To install the BlackBerry Device Service, any of the following operating systems:

- Windows Server 2008 SP2 (64-bit)
- Windows Server 2008 R2
- Windows Server 2008 R2 SP1

Software requirements: Database server

Item	Requirement
Database management system	Any of the following database management systems: • Microsoft SQL Server 2008 SP2 (32-bit or 64-bit) • Microsoft SQL Server 2008 R2 (32-bit or 64-bit) • Microsoft SQL Server 2008 R2 SP1 (32-bit or 64-bit) • Microsoft SQL Server 2008 Express SP1 (32-bit or 64-bit) • Microsoft SQL Server 2008 R2 Express (32-bit or 64-bit) • Microsoft SQL Server 2008 R2 SP1 Express (32-bit or 64-bit)
Collation setting	To configure collation settings, the following conditions: • Database server collation configured to default case-insensitive

Item	Requirement
	• BlackBerry Configuration Database collation configured to default case-insensitive • Default collations are suggested but non-default collations are supported (for more information, visit www.blackberry.com/go/kbhelp to read articles KB04785 and KB15534)
Database connectivity	TCP/IP network protocols turned on
Database transactional replication	To support database transactional replication for the BlackBerry Configuration Database, the following conditions: • Database server must be Microsoft SQL Server 2008 SP2 or Microsoft SQL Server 2008 R2 • Database server that hosts the replicated database must use the same version and build as the database server that hosts the primary database

Software requirements: Browser

The following requirements apply to the browser that you use to log in to the BlackBerry Administration Service and BlackBerry Web Desktop Manager.

Item	Requirement
Browser	• Windows Internet Explorer 8.0 and 9.0 (32-bit) • Mozilla Firefox 6.0 or later • Google Chrome 12 or later • Safari 5 for Mac or later Windows Internet Explorer 8 or later provides optimal support for BlackBerry Web Desktop Manager features and BlackBerry Administration Service features. You must use Windows Internet Explorer to activate your BlackBerry PlayBook tablet.
Browser settings for Windows Internet Explorer	To support browser access, you must configure the following settings: • Language preferences that display encoded web pages • Microsoft hotfix 955839 is installed on the users' computers to make sure that the correct time zones are displayed • If you are using Windows XP (64-bit), Microsoft hotfix 968730 is installed on the computer

Item	Requirement

	• Verify that the Windows firewall does not block incoming connections to RIMProxy.exe
	• To support Microsoft ActiveX, the following settings are enabled:
	  • Automatic prompting for Microsoft ActiveX controls
	  • Download signed Microsoft ActiveX controls
	  • Run Microsoft ActiveX controls and plug-ins
	  • Script Microsoft ActiveX controls marked safe for scripting
	• Support for JavaScript
	• Cookies turned on
	• Support for TLS or SSL
	• The SSL certificate is installed to permit trusted connections to the BlackBerry Administration Service
	• If you do not configure single sign-on authentication for the BlackBerry Administration Service, the BlackBerry Web Desktop Manager and BlackBerry Administration Service websites are assigned to the local intranet or trusted websites zone
	• If you configure single sign-on authentication for the BlackBerry Administration Service
	  • The BlackBerry Web Desktop Manager and BlackBerry Administration Service websites are assigned to the local intranet zone
	  • Enable Integrated Windows Authentication is selected
	• If you are using Windows Vista, the BlackBerry Administration Service web address is added as a trusted website and Enable protected mode is cleared

Browser settings for Firefox, Google Chrome, and Safari	To support browser access, you must configure the following settings: • Support for JavaScript • Cookies turned on • Support for TLS or SSL • The SSL certificate is installed to permit trusted connections to the BlackBerry Administration Service

Item	Requirement
	Single sign-on authentication for the BlackBerry Administration Service is not supported by Google Chrome.

Software requirements: Email, Calendar, and Contacts applications

To allow users to use the Email application, Calendar application, and Contacts application to connect to your organization's messaging server, you can enable Microsoft ActiveSync for any of the following messaging servers that support Microsoft ActiveSync.

Item	Requirement
Microsoft Exchange	For Microsoft Exchange, any of the following messaging servers: • Microsoft Exchange Server 2003 • Microsoft Exchange Server 2007 (Microsoft ActiveSync enabled by default) • Microsoft Exchange Server 2010 (Microsoft ActiveSync enabled by default) For more information, visit technet.microsoft.com to read *Managing an Exchange ActiveSync Server*.
IBM Lotus Domino	For Lotus Domino, any messaging server that supports IBM Lotus Notes Traveler. For more information, visit www.ibm.com/support to read about IBM Lotus Notes Traveler.

Installation considerations

Supported features and environments

Item	Description
Virtual environment	For more information about supported virtual environments, visit www.blackberry.com/go/kbhelp to read article KB29661.
IP	BlackBerry Device Service components support only IPv4 for TCP/IP connections.
Remote access	The BlackBerry Device Service and BlackBerry Device Service components support remote access by administrators who use Remote Desktop Connection.

Unsupported environments

Item	Description
DMZ	The BlackBerry Device Service and BlackBerry Device Service components do not support installation in a DMZ. For information about configuring the BlackBerry Device Service to connect to an existing BlackBerry Router, visit www.blackberry.com/go/kbhelp to read article KB29748.
Email application	The BlackBerry Device Service and components do not support installation on computers that host email applications such as Microsoft Outlook. Email applications use data files that can cause conflicts with the BlackBerry Device Service components. As a result, the BlackBerry Device Service components might not function as expected.
Remote Desktop Services or Terminal Services	The BlackBerry Device Service and components do not support installation on a computer that you installed Remote Desktop Services or Terminal Services on.
Mixed environment	You cannot connect the BlackBerry Device Service and the BlackBerry Enterprise Server or BlackBerry Enterprise Server Express to the same BlackBerry Configuration Database. To run the BlackBerry Device Service and the BlackBerry Enterprise Server or BlackBerry Enterprise Server Express in the same organization, you can configure one BlackBerry Configuration Database for the BlackBerry Device Service, and another BlackBerry Configuration Database for the BlackBerry Enterprise Server instances or BlackBerry Enterprise Server Express instances.

Preinstallation tasks: BlackBerry Device Service

Configure permissions for the service account

On the computer that you want to install the BlackBerry Device Service on, you must configure permissions for the Windows account that you want to use to install the BlackBerry Device Service and run the services for the BlackBerry Device Service.

Without the correct permissions, the BlackBerry Device Service cannot run.

Before you begin: If your organization's environment includes the BlackBerry Enterprise Server, you can use the BlackBerry Enterprise Server service account to install the BlackBerry Device Service. If you do not have a BlackBerry Enterprise Server service account, in Microsoft Active Directory, create a Windows account that you name BDSAdmin.

1. On the taskbar, click **Start** > **Administrative Tools** > **Computer Management**.
2. In the left pane, expand **Local Users and Groups**.

3. Navigate to the **Groups** folder.
4. In the right pane, double-click **Administrators**.
5. Click **Add**.
6. In the **Enter the object names to select** field, type the name of the service account (for example, BESAdmin or BDSAdmin).
7. Click **OK**.
8. Click **Apply**.
9. Click **OK**.
10. On the taskbar, click **Start** > **Administrative Tools** > **Local Security Policy**.
11. Configure the following permissions for the service account:
    - Allow log on locally (if not assigned by default)
    - Log on as a service

Configuring connections for the BlackBerry Configuration Database

You create the BlackBerry Configuration Database when you install the BlackBerry Device Service or when you run the CreateDB executable. The BlackBerry Device Service can connect to the BlackBerry Configuration Database on the database server using Windows authentication or Microsoft SQL Server authentication. By default, the BlackBerry Device Service logs in to the BlackBerry Configuration Database using the service account that you use to complete the installation process or the Microsoft SQL Server account that you specify during the installation process.

Specifying database permissions to create the BlackBerry Configuration Database

Depending on the database option and the type of authentication that you select, you might need to assign database creator permissions to the service account that you use to complete the installation process or the Microsoft SQL Server account that you specify during the installation process. You can configure database permissions using Microsoft SQL Server roles.

Database option	Database permission
Install Microsoft SQL Server Express during the BlackBerry Device Service installation process	• If you choose Windows authentication, the setup application automatically assigns the required database permissions to the service account • If you choose Microsoft SQL Server authentication, you must add the Microsoft SQL Server account to the dbcreator server role
Use an existing Microsoft SQL Server in your organization's environment	• You must add the service account or Microsoft SQL Server account to the dbcreator server role

Create a BlackBerry Configuration Database

If the security that is required by your organization does not allow applications to have permissions to create or upgrade databases, you can run the CreateDB executable on the database server to create the BlackBerry Configuration Database instead of using the setup application. After you create or upgrade the BlackBerry Configuration Database using the

CreateDB executable, you can run the setup application using a service account that has minimum permissions on the database server.

To permit the setup application to use the BlackBerry Configuration Database that you create, you must navigate to the BlackBerry Device Service installation files and run setup.exe /r when you install the BlackBerry Device Service software.

Before you begin: Verify that you configured the correct permissions on the database server.

1. Log in to the computer that hosts the database server. If you use a Windows account to create the BlackBerry Configuration Database, you must log in to the computer using a Windows account that has database creator permissions.
2. Copy the BlackBerry Device Service installation files to the database server that you want to configure as the host server for the BlackBerry Configuration Database.
3. Extract the contents to a folder on the computer.
4. Navigate to <*extracted_folder*>\Database.
5. Open the **BDSMgmt.cfg** file in a text editor.
6. Change the file to include information that is specific to your organization's environment.
7. Save and close the file.
8. Open a command prompt window.
9. Change the directory to <*extracted_folder*>\Database.
10. Type **CreateDB.exe BDSMgmt.cfg**.

BDSMgmt.cfg properties

Property	Description
CMD	This property specifies the type of action that the CreateDB executable must complete (for example, whether to install or upgrade the BlackBerry Configuration Database).
DATABASE_NAME	This property specifies the name of the BlackBerry Configuration Database.
SERVER	This property specifies the name of the database server that hosts the BlackBerry Configuration Database. If a database instance hosts the BlackBerry Configuration Database, follow the format *database_server_name* *database_instance_name*.
USERID	If you use database authentication, this property specifies the username for the database account that has database creator permissions.
PASSWORD	If you use database authentication, this property specifies the password for the database account.
SCRIPT_ROOT	This property specifies the path to the DBInstallScripts folder. By default, this folder is in the same root folder that the CreateDB.exe file is located in.

Property	Description
LOG_DIR	This property specifies the path to the folder that you can create log files in. By default, this folder is in the same root folder that the CreateDB.exe file is located in.
DBMS	This property specifies the database management system that your organization uses.
DB_FILE_DIR	This property specifies an existing folder that you can save the database files in. By default, this folder is the same folder that the Microsoft SQL Server tempdb file is located in.
BACKUP_DIR	This property specifies an existing folder that you can save the database backup in. By default, this folder is the same folder that the Microsoft SQL Server database files are located in.
BES_TYPE	For the BlackBerry Device Service, this property must be set to BPAS.

Applications that are installed with the BlackBerry Device Service

You can use the BlackBerry Device Service installation process to install the following third-party applications:

- JDK 6 Update 18 with JRE
- Microsoft XML Core Services 6.0 SP2
- Microsoft SQL Server 2008 R2 Express (if it is selected during the installation process)

If you want to install Microsoft SQL Server 2008 R2 Express on a computer that does not host the BlackBerry Device Service, you can copy the BlackBerry Device Service installation files to the computer that you want to install Microsoft SQL Server 2008 R2 Express on, navigate to the Tools folder and run the Sqlexpr.exe file (32-bit or 64-bit).

Installing the BlackBerry Device Service software

Prerequisites: Installing the BlackBerry Device Service software

Verify that you have the following system information available:

- For the BlackBerry Device Service software:
  - BlackBerry Client Access License key
  - SRP host

  - SRP identifier
  - SRP authentication key

- If your organization uses a proxy server for Internet access, the computer name, port number, and credentials for the proxy server

Verify the following items on the computer that you use to install the BlackBerry Device Service:

- Verify that the computers that host the BlackBerry Device Service and BlackBerry Configuration Database are not separated by a WAN bridge.
- If you perform the installation process on a computer that has more than one NIC, verify that the production NIC is first in the bind order in the Windows network settings.
- Verify that the computer has access to www.blackberry.com (optional).

Install the BlackBerry Device Service software

During the BlackBerry Device Service installation process, you might need to restart the computer.

Before you begin: Verify that the service account that you use to install the BlackBerry Device Service software has local administrator permissions on the computer that you perform the installation process on.

1. Log in to the computer that you want to install the BlackBerry Device Service on using the service account that you created and that has correct permissions. The service account runs the BlackBerry Device Service services.
2. In the BlackBerry Mobile Fusion installation files, double-click **Autorun.exe**. If a Windows message appears and requests permission for Autorun.exe to make changes to the computer, click **Yes**.
3. On the BlackBerry Mobile Fusion installation screen, perform one of the following actions:
   - To install both the BlackBerry Device Service and BlackBerry Mobile Fusion Studio, click **Full Install**. The setup application installs the BlackBerry Device Service software first, followed by the BlackBerry Mobile Fusion Studio software.
   - To install only the BlackBerry Device Service, click **Custom Install**. On the next screen, click **Install Now** for the BlackBerry Device Service software.
4. In the **License agreement** dialog box, perform the following actions:
   a. In the **Customer information** section, specify information for your organization and select your country or region.
   b. In the **License agreement** section, read the license agreement. If you want to accept the license agreement, select **I accept the terms in the license agreement**.
   c. Click **Next**.
5. In the **Setup information** dialog box, review the BlackBerry Device Service components that the setup application installs on the computer. Click **Next**.
6. In the **Preinstallation checklist** dialog box, read and verify the information. Click **Next**.
7. In the **Database options** dialog box, perform one of the following actions:

- If you do not have a database server in your organization's environment, select **Install Microsoft SQL Server 2008 R2 Express Edition on this computer** to install a local database server and create the BlackBerry Configuration Database on the computer that hosts the BlackBerry Device Service.
- If you want to create the BlackBerry Configuration Database on an existing database server in your organization's environment (local or remote), select **Use a Microsoft® SQL Server® database**.

8. Click **Next**.
9. In the **Accounts and Folders** dialog box, perform the following actions:
   a. In the **Windows® account information** section, in the **Password** field, type the password for the service account that you used in step 1.
   b. In the **BlackBerry Device Service** section, in the **Name** field, type the name of the BlackBerry Device Service that you want the BlackBerry Administration Service to display.
   c. Click **Next**.
10. In the **Summary** dialog box, verify that the information is correct. Click **Install**.
11. If the setup application prompts you to restart the computer, click **Yes**. Otherwise, click **Continue**.
12. If you restart the computer, log in to the computer using the service account that you used in step 1.
13. In the **Database information** dialog box, perform the following actions:
   a. In the **Microsoft® SQL Server® name** field, type the name of the computer that hosts the database server.
   b. In the **BlackBerry Configuration Database name** field, type a name for the BlackBerry Configuration Database.
   c. If you configured the database server to use static ports, select the **Static** option. If the static port number is not 1433, in the **Port** field, type the port number.
   d. By default, the setup application uses Windows authentication to connect to the BlackBerry Configuration Database. If you select **SQL authentication**, specify login information for a Microsoft SQL Server account.
   e. Click **Next**.
14. In the **BlackBerry® CAL and SRP information** dialog box, perform the following actions:
   a. In the **Key** field, type the BlackBerry Client Access License key.
   b. In the **SRP authentication information** section, type the SRP identifier and SRP authentication key.
   c. In the **SRP host** and **SRP authentication information** sections, click **Verify** to verify that the information is correct.
   d. Click **Next**.
15. In the **Administration settings** dialog box, perform the following actions:
   a. In the **BlackBerry Administration Service domain name** section, specify the name that the setup application uses to create the BlackBerry Administration Service web address. The name is either the FQDN of the computer that hosts the BlackBerry Administration Service or the DNS name (if you created a DNS record for the computer that hosts the BlackBerry Administration Service).
   b. In the **Password for the SSL certificate** section, type and confirm a password for the SSL certificate that the BlackBerry Administration Service uses to authenticate with browsers.
   c. Click **Next**.
16. In the **Microsoft® Active Directory® settings** dialog box, perform the following actions:
   a. In the **User password** field, type the password for the Microsoft Active Directory account that the BlackBerry Device Service uses to authenticate with Microsoft Active Directory. By default, the setup application uses the service account that you used in step 1, or you can specify a different username and domain.
   b. Click **Next**.

17. In the **Advanced administration settings** dialog box, perform one of the following actions:
    - If you select **Use Windows authentication**, you can choose to use the Microsoft Active Directory account that you used in step 16, or you can specify login information for a Microsoft Active Directory administrator.
    - If you select **Use BlackBerry Administration Service authentication**, type and confirm a password for the BlackBerry Administration Service administrator account.

    You use the login information that you specify to log in to the BlackBerry Administration Service for the first time.
18. Click **Next**.
19. In the **Start services** dialog box, click **Start Services**. When all the BlackBerry Device Service services start, click **Next**.
20. In the **Console addresses** dialog box, click **Finish**. By default, the setup application exports the BlackBerry Administration Service and BlackBerry Web Desktop Manager web addresses to a .txt file.

After you finish:

- Verify that the collation setting for the BlackBerry Configuration Database is default case-insensitive.
- If you reinstalled the BlackBerry Device Service, in Windows Internet Explorer, delete the cache.

Related information

Install the BlackBerry Mobile Fusion Studio software, 30

Postinstallation tasks: BlackBerry Device Service

Test the BlackBerry Device Service installation

1. In the Windows Services, verify that the services for the BlackBerry Device Service are running.
2. In the Windows Event Viewer and log files that are located in <*drive*>:\Program Files (x86)\Research In Motion \BlackBerry Device Service\Logs, check for error messages.
3. In the BlackBerry Administration Service, add a test user account.
   If you can add a test user account, the connection from the BlackBerry Device Service to the BlackBerry Configuration Database is open.
4. For the BlackBerry MDS Connection Service, browse to http://<*server_name*>:8080, where <*server_name*> is the name of the computer that hosts the BlackBerry Device Service.
   If the status page appears, the BlackBerry MDS Connection Service is running.

After you finish: For troubleshooting information, visit www.blackberry.com/support.

Best practice: Running the BlackBerry Device Service

Best practice	Description
Do not change the startup type for the BlackBerry Device Service services.	When you install or upgrade the BlackBerry Device Service, the setup application configures the startup type for the BlackBerry Device Service

Best practice	Description
	services as either automatic or manual. For example, the setup application configures the startup type for the BlackBerry Mail Store Service to manual. To avoid errors in the BlackBerry Device Service, do not change the startup type for the BlackBerry Device Service services.
Do not change the account information for BlackBerry Device Service services.	When you install or upgrade the BlackBerry Device Service, the setup application configures the account information for the BlackBerry Device Service services. Do not change the account information for the BlackBerry Device Service unless the BlackBerry Device Service documentation specifies that you can.
Run the BlackBerry Configuration Panel as an administrator.	Consider the following guidelines to run the BlackBerry Configuration Panel: • Log in to the computer with a user account that is in the Administrators group on the Windows Server. • Right-click the BlackBerry Configuration Panel icon and click Run as administrator.

Log in to the BlackBerry Administration Service

To open the BlackBerry Administration Service, you can use a browser on a computer that has access to the computer that hosts the BlackBerry Device Service. You can set an administrator account to use Microsoft Active Directory or BlackBerry Administration Service credentials to log in to the BlackBerry Administration Service.

When you install the BlackBerry Device Service, you specify the credentials that you use to log in to the BlackBerry Administration Service for the first time.

1. In the browser, type **https:**//<***server_name***>/**webconsole**/**login**, where <*server_name*> is the name of the computer that hosts the BlackBerry Administration Service.
2. In the **User name** field, type your user name.
3. In the **Password** field, type your password.
4. Perform one of the following actions:
   - In the **Log in using** drop-down list, click **BlackBerry Administration Service**.
   - In the **Log in using** drop-down list, click **Active Directory** and type the Microsoft Active Directory domain in the **Domain** field.
5. Click **Log in**.
6. Install the RIMWebComponents.cab add-on if you are prompted to do so.

There is a problem with this website's security certificate

Description

This message appears when you try to navigate to the BlackBerry Administration Service using Windows Internet Explorer 8 or later.

Possible solution

Add the web address for the BlackBerry Administration Service to the list of trusted web sites in Windows Internet Explorer, and install the certificate for the BlackBerry Administration Service in the certificate store of your computer.

1. In Windows Internet Explorer, navigate to the BlackBerry Administration Service console.
2. Click **Continue to this website (not recommended)**.
3. On the **Tools** menu, click **Internet Options**.
4. On the **Security** tab, click **Local Intranet**.
5. Click **Sites**.
6. Click **Add** to add the console to the list of trusted web sites.
7. Click **Close**.
8. Click **OK**.
9. In the browser window, on the toolbar, click **Certificate Error**.
10. Click **View certificates**.
11. Click **Install certificate**. The Certificate Import Wizard opens.
12. Complete the instructions in the Certificate Import Wizard. If you are trying to log in to the BlackBerry Administration Service using a computer that runs Windows Vista, perform the following actions in the Certificate Import Wizard:
    a In the **Certificate Store** dialog box, click **Place all certificates in the following store**.
    b Click **Browse**.
    c Click **Trusted Root Certification Authorities**.
    d Click **OK**.
13. Close and reopen the browser.

Configuring database permissions using Microsoft SQL Server roles

The BlackBerry Device Service setup application requires the service account or Microsoft SQL Server account that it uses during the installation or upgrade process to have permissions on the database server to create or upgrade the BlackBerry Configuration Database. After the installation or upgrade process completes, you can change the database permissions for the service account or Microsoft SQL Server account to the minimum permission that the BlackBerry Device Service requires to run.

When you change the database permissions, you can use Microsoft SQL Server security to minimize the operations that the service account or Microsoft SQL Server account can perform on the BlackBerry Configuration Database. The following table describes the Microsoft SQL Server roles that are required by the setup application and the BlackBerry Device Service.

Database role	Description
db_owner	The setup application requires this role to upgrade the BlackBerry Configuration Database. This role is the default permission in Microsoft SQL Server for running the BlackBerry Device Service.
rim_db_bes_server	The setup application or the CreateDB executable creates this role automatically when it creates the BlackBerry Configuration Database. This role is the minimum permission in Microsoft SQL Server for running the BlackBerry Device Service.

Configure minimum database permissions for the service account or Microsoft SQL Server account

You can configure minimum database permissions for the service account or Microsoft SQL Server account that the BlackBerry Device Service uses to connect to the BlackBerry Configuration Database.

Before you begin: Add a different Windows account or Microsoft SQL Server account to the db_owner database role for the BlackBerry Configuration Database.

1. Open the Microsoft SQL Server Management Studio.
2. Expand **Microsoft SQL Server** > **Security** > **Logins**.
3. Right-click the service account or Microsoft SQL Server account and click **Properties**.
4. Click **User Mapping** and select the BlackBerry Configuration Database.
5. In the **Database role membership** section, select **rim_db_bes_server**.
6. Remove all other database role memberships except public.
7. Apply your changes.

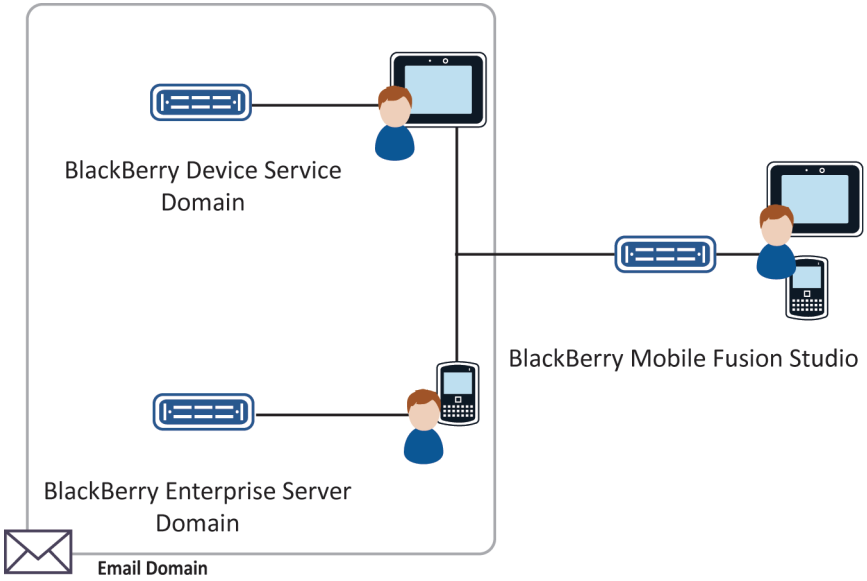
Installing BlackBerry Mobile Fusion Studio 4

Using BlackBerry Mobile Fusion Studio

BlackBerry Mobile Fusion Studio is a web application you can use to do the following:

- Administer BlackBerry smartphones and BlackBerry PlayBook tablets in your organization across multiple MDM domains
- Enable users to activate smartphones and tablets
- Assign user accounts to groups based on common criteria, such as user location, organizational group, or smartphone model and manage the user accounts
- Assign IT policies to user accounts to customize and control what users can do with their smartphones
- BlackBerry Mobile Fusion Studio is designed for administrator accounts assigned either the Senior Helpdesk and Junior Helpdesk roles. Administrators assigned the Senior Helpdesk role can perform all tasks using BlackBerry Mobile Fusion Studio. Administrators assigned the Junior Helpdesk role can perform all tasks in BlackBerry Mobile Fusion Studio except create and delete user accounts, or assign IT policies and software configurations to user accounts. For more information on assigning roles, see the *BlackBerry Enterprise Server Administration Guide*.

You can open BlackBerry Mobile Fusion Studio in a browser on any computer that can access the computer that hosts BlackBerry Mobile Fusion Studio. You can share administrative duties with other administrators who can access BlackBerry Mobile Fusion Studio at the same time.



Planning a BlackBerry Mobile Fusion Studio installation

You can install BlackBerry Mobile Fusion Studio on a separate computer or a computer that hosts one of the following products:

- BlackBerry Device Service
- BlackBerry Enterprise Server
- BlackBerry Enterprise Server Express

You must verify that IP connectivity is available to allow communication between BlackBerry Mobile Fusion Studio and the MDM domains that you want to manage.

The BlackBerry Enterprise Server instances or BlackBerry Enterprise Server Express instances that you want to manage using BlackBerry Mobile Fusion Studio must use the same messaging environment. For example, if your organization uses Microsoft Exchange, all the BlackBerry Enterprise Server instances or BlackBerry Enterprise Server Express instances must belong to the same Microsoft Exchange organization.

Supported MDM domains

You can use BlackBerry Mobile Fusion Studio to manage one or more of the following MDM domains:

- BlackBerry Device Service 6.0 or later
- BlackBerry Enterprise Server 5.0 SP3 or later
- BlackBerry Enterprise Server Express 5.0 SP3 or later

BlackBerry Enterprise Server 5.0.3 MR5 or later is required to send PIN messages, resend IT policies, and access the BlackBerry Administration Service user detail page from BlackBerry Mobile Fusion Studio. BlackBerry Enterprise Server 5.0.3 MR6 or later is required to clear activation passwords. The BlackBerry Enterprise Server Express does not allow you to perform these actions.

Configuring a BlackBerry Administration Service pool for use with BlackBerry Mobile Fusion Studio

When you add an MDM domain to BlackBerry Mobile Fusion Studio, the setup application acquires the SSL certificate for the BlackBerry Administration Service instance, or if you configured BlackBerry Administration Service high availability, the SSL certificate for the load balancer or a BlackBerry Administration Service instance in the DNS pool. BlackBerry Mobile Fusion Studio might not function correctly if you configured high availability using DNS and all the BlackBerry Administration Service instances do not use the same SSL certificate that uses the pool name.

If you configure a BlackBerry Administration Service pool, you must generate an SSL certificate that uses the name of the BlackBerry Administration Service pool and import the new SSL certificate on each computer that hosts a BlackBerry Administration Service instance. For more information, see "Import a new SSL certificate for the BlackBerry Administration Service and BlackBerry Web Desktop Manager" in the *BlackBerry Enterprise Server Administration Guide*.

Requirements: BlackBerry Mobile Fusion Studio

Hardware requirements: BlackBerry Mobile Fusion Studio

The following requirements apply to the computer that you install BlackBerry Mobile Fusion Studio on.

- One processor, 1.6 GHz Intel Xeon 3000 Series or Intel Xeon 5100 Series (Dual Core)
- 0.5 GB of available memory
- 400 MB of disk space

Related information

Hardware requirements: BlackBerry Device Service, 9

System requirements: BlackBerry Mobile Fusion Studio

To install BlackBerry Mobile Fusion Studio, any of the following operating systems:

- Windows Server 2003 SP2 (32-bit or 64-bit)
- Windows Server 2003 R2 SP2 (32-bit or 64-bit)
- Windows Server 2008 SP2 (32-bit or 64-bit)
- Windows Server 2008 R2
- Windows Server 2008 R2 SP1

System requirements: Browser

The following requirements apply to the browser that you use to log in to BlackBerry Mobile Fusion Studio.

Item	Requirement
Browser	• Windows Internet Explorer 8.0 and 9.0 running in native mode • Mozilla Firefox 6.0 or later • Google Chrome 12 or later • Safari 5 for Mac or later
Browser settings for Windows Internet Explorer	To support browser access, you must configure the following settings: • Language preferences that display encoded web pages

Item	Requirement
	• Microsoft hotfix 955839 is installed on the users' computers to make sure that the correct time zones are displayed • Support for JavaScript • Cookies turned on • Support for TLS or SSL
Browser settings for Firefox, Google Chrome, and Safari	To support browser access, you must configure the following settings: • Support for JavaScript • Cookies turned on • Support for TLS or SSL

Supported features and environments

Item	Description
Virtual environment	For more information about supported virtual environments, visit www.blackberry.com/go/kbhelp to read article KB29661.
IP	BlackBerry Mobile Fusion Studio supports only IPv4 for TCP/IP connections.

Unsupported environments

Item	Description
DMZ	BlackBerry Mobile Fusion Studio does not support installation in a DMZ.
Remote Desktop Services or Terminal Services	BlackBerry Mobile Fusion Studio does not support installation on a computer that you installed Remote Desktop Services or Terminal Services on.
High availability	You can install more than one BlackBerry Mobile Fusion Studio instance in your organization's environment, but you cannot configure a pool of two or more BlackBerry Mobile Fusion Studio instances to enhance the performance of BlackBerry Mobile Fusion Studio.

Install the BlackBerry Mobile Fusion Studio software

Before you begin: If you are performing the installation process on a computer that has more than one NIC, verify that the production NIC is first in the bind order in the Windows network settings.

1. Log in to the computer that you want to install BlackBerry Mobile Fusion Studio on using a Windows account that has local administrator permissions on the computer.
2. In the BlackBerry Mobile Fusion installation files, double-click **Autorun.exe**. If a Windows message appears and requests permission for Autorun.exe to make changes to the computer, click **Yes**.
3. On the BlackBerry Mobile Fusion installation screen, perform one of the following actions:
   - To install both the BlackBerry Device Service and BlackBerry Mobile Fusion Studio, click **Full Install**. The setup application installs the BlackBerry Device Service software first, followed by the BlackBerry Mobile Fusion Studio software.
   - To install only BlackBerry Mobile Fusion Studio, click **Custom Install**. On the next screen, click **Install Now** for the BlackBerry Mobile Fusion Studio software.
4. In the **License agreement** dialog box, perform the following actions:
   a. In the **Customer information** section, specify information for your organization and select your country or region.
   b. In the **License agreement** section, read the license agreement. If you want to accept the license agreement, select **I accept the terms of the license agreement**.
   c. Click **Next**.
5. In the **Installation folders** dialog box, perform the following actions:
   a. In the **Installation folder** section, make sure that there is enough disk space available for you to install the software on the computer. If the value of the amount of remaining disk space is negative, you must clear disk space or specify another location before you continue the installation process.
   b. Click **Next**.
6. In the **Summary** dialog box, verify that the information is correct. Click **Install**.
7. In the **Installation** dialog box, when the installation status is complete for BlackBerry Mobile Fusion Studio and any third-party applications, click **Next**.
8. In the **Configure settings for the BlackBerry Mobile Fusion Studio** dialog box, perform the following actions:
   a. In the **Connection information for the BlackBerry Mobile Fusion Studio** section, in the **Listening port** field, change the port number if necessary. By default, BlackBerry Mobile Fusion Studio uses port number 443.
   b. In the **BlackBerry Mobile Fusion Studio keystore file** section, in the **Keystore password** field, type a new password for the keystore file.
   c. In the **Mobile device management domains** section, click **Add**.
9. In the **Add Mobile Device Management Domain** dialog box, perform the following actions:
   a. In the **Domain label** field, type a unique name for the MDM domain that you want to add. The **MDM Domains** drop-down list in BlackBerry Mobile Fusion Studio displays the domain label that you specify, so you should specify a display name that allows you to easily identify the MDM domain.
   b. In the **Domain URL** field, specify the host address for the BlackBerry Administration Service, or if you configured high availability, specify the BlackBerry Administration Service pool name. The host address or pool name that you specify is case sensitive and must exactly match the Subject or Subject Alternative Name in the certificate for the BlackBerry Administration Service. If the BlackBerry Administration Service is configured to accept SSL connections on a port other than 443, you must include the port number.
   c. Click **OK**.
10. In the **Trust Certificate** dialog box, review the certificate details. If you trust the certificate, click **Yes**.
11. To add another MDM domain, repeat steps 8.c to 10.
12. When you finish adding MDM domains, click **Next**.

13. In the **Start services** dialog box, the BlackBerry Mobile Fusion Studio services start automatically. Click **Next**.
14. In the **Console addresses** dialog box, click **Finish**. By default, the setup application exports the BlackBerry Mobile Fusion Studio web address to a .txt file.

Related information

Install the BlackBerry Device Service software, 21

Postinstallation tasks: BlackBerry Mobile Fusion Studio

Logging into BlackBerry Mobile Fusion Studio

Before you begin: To perform this task, your administrator must provide you with the web address for BlackBerry Mobile Fusion Studio, a username, a password (if necessary), a domain name (for example, the Windows domain in your organization's environment) and an authentication method.

1. Navigate to the BlackBerry Mobile Fusion Studio web address that you received from your system administrator.
2. In the **User name** field, type your username.
3. In the **Password** field, type your password.
4. If the domain name is not displayed in the **Domain** field, type the domain name.
5. In the **Log in using** drop-down list, select the authentication method that you received from your system administrator.
6. Click **Log in**.

Changing the domain label for an MDM domain

BlackBerry Mobile Fusion Studio displays the domain label that you specified for each MDM domain during the BlackBerry Mobile Fusion Studio installation process. The domain label should be a display name that allows you to easily identify the different MDM domains in your organization's environment. If you want to change the domain label for an MDM domain after you complete the installation process, you can use the setup application. When you run the setup application, you must remove the MDM domain that you want to rename, then add it again and specify the new domain label that you want to use.

Add, remove, or recertify an MDM domain

You can use the setup application to add or remove an MDM domain from BlackBerry Mobile Fusion Studio. If the certificate for an MDM domain is expired or corrupt, you can use the setup application to recertify the MDM domain. You cannot access BlackBerry Mobile Fusion Studio until the installation process is complete and you restart the BlackBerry Mobile Fusion Studio services.

Note: The setup application stops and restarts the BlackBerry Mobile Fusion Studio services during the installation process.

1. Log in to the computer using the Windows account that you used to install BlackBerry Mobile Fusion Studio.

2. In the BlackBerry Mobile Fusion installation files, double-click **Autorun.exe**. If a Windows message appears and requests permission for Autorun.exe to make changes to the computer, click **Yes**.
3. On the BlackBerry Mobile Fusion installation screen, click **Custom Install**.
4. On the next screen, click **Install Now** for the BlackBerry Mobile Fusion Studio software.
5. In the **License agreement** dialog box, perform the following actions:
   a. In the **License agreement** section, read the license agreement. If you want to accept the license agreement, select **I accept the terms of the license agreement**.
   b. Click **Next**.
6. In the **Installation folders** dialog box, click **Next**.
7. In the **Summary** dialog box, verify that the information is correct. Click **Install**.
8. In the **Installation** dialog box, when the installation status is complete for BlackBerry Mobile Fusion Studio and any third-party applications, click **Next**.
9. In the **Configure settings for the BlackBerry Mobile Fusion Studio** dialog box, in the **Mobile device management domains** section, complete one of the following tasks:

Task	Steps
Add an MDM domain	1. Click **Add**. 2. In the **Add Mobile Device Management Domain** dialog box, perform the following actions: a In the **Domain label** field, type a unique name for the MDM domain that you want to add. The **MDM Domains** drop-down list in BlackBerry Mobile Fusion Studio displays the domain label that you specify, so you should specify a display name that allows you to easily identify the MDM domain. b In the **Domain URL** field, specify the host address for the BlackBerry Administration Service, or if you configured high availability, specify the BlackBerry Administration Service pool name. The host address or pool name that you specify is case sensitive and must exactly match the Subject or Subject Alternative Name in the certificate for the BlackBerry Administration Service. If the BlackBerry Administration Service is configured to accept SSL connections on a port other than 443, you must include the port number. c Click **OK**. 3. In the **Trust Certificate** dialog box, review the certificate details. If you trust the certificate, click **Yes**.
Remove an MDM domain	1. In the **Domain label** column, click the MDM domain that you want to remove. 2. Click **Remove**.

Task	Steps
Recertify an MDM domain	1. In the **Domain label** column, click the MDM domain that you want to recertify. 2. Click **Recertify**. 3. In the **Trust Certificate** dialog box, review the certificate details. If you trust the certificate, click **Yes**.

10. To add, remove, or recertify another MDM domain, repeat step 9.
11. When you finish adding, removing, or recertifying MDM domains, click **Next**.
12. In the **Start services** dialog box, the BlackBerry Mobile Fusion Studio services start automatically. Click **Next**.
13. In the **Console addresses** dialog box, click **Finish**. By default, the setup application exports the BlackBerry Mobile Fusion Studio web address to a .txt file.

Glossary

5

BlackBerry CAL	A BlackBerry Client Access License (BlackBerry CAL) limits how many users you can add to the BlackBerry Device Service.
BlackBerry MDS	BlackBerry® Mobile Data System
DMZ	A demilitarized zone (DMZ) is a neutral subnetwork outside of an organization's firewall. It exists between the trusted LAN of the organization and the untrusted external wireless network and public Internet.
DNS	Domain Name System
FQDN	fully qualified domain name
IKE	Internet Key Exchange
IP	Internet Protocol
IPsec	Internet Protocol Security
JDK	Java® Development Kit
JRE	Java® Runtime Environment
LAN	local area network
MDM	mobile device management
NIC	network interface card
RRAS	Routing and Remote Access service
SRP	Server Routing Protocol
SSL	Secure Sockets Layer
TLS	Transport Layer Security
VPN	virtual private network
WAN	wide area network
XML	Extensible Markup Language

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