BlackBerry Enterprise Server for Microsoft Exchange

Version 4.0

Installation Guide

BlackBerry Enterprise Server Version 4.0 for Microsoft Exchange Installation Guide

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Determining the setup type

During installation, you must choose one of four possible setup types. You might decide to install all BlackBerry Enterprise Server™ components on one server, or to install certain components on separate servers. See the *BlackBerry Enterprise Server Feature and Technical Overview* for information on deployment considerations.

Setup type	Description
BlackBerry Enterprise Server	Installs all BlackBerry Enterprise Server components, including: • BlackBerry® Attachment Service • BlackBerry Manager • BlackBerry Router • BlackBerry Mobile Data Service • BlackBerry Synchronization Service • BlackBerry Alert • BlackBerry Policy Service • Command line utilities
Attachment Service	Installs the Attachment Service and configuration tool on a remote computer. The Attachment Service connects to the BlackBerry Enterprise Server that you define when you configure the Attachment Service.
BlackBerry Manager	Installs the BlackBerry Enterprise Server administration tools for remote administration.
BlackBerry Router	Installs the BlackBerry Router, which supports wireless network bypass to handhelds. It can also connect to the wireless network on behalf of BlackBerry Enterprise Servers.

Preparing your environment

Use the checklist to verify that your environment meets the BlackBerry Enterprise Server requirements. See the *BlackBerry Enterprise Server Quick Start Guide* located on the product CD for information on hardware requirements.

> **Note:** The most current service pack is recommended for each Microsoft® product. Minimum required service packs are applicable where noted.

BlackBerry Enterprise Server

Component		Requirement	
Environment	☐	Do not put the BlackBerry Enterprise Server in the DMZ zone.	
Software		**Operating system**	**Microsoft Exchange compatible versions**
	☐	Microsoft Windows® 2000 (Server or Advanced Server editions)	Microsoft Exchange 5.5 SP4 or later messaging and collaboration server environment *or*
			Microsoft Exchange 2000 SP2 or later messaging and collaboration server environment *or*
			Microsoft Exchange 2003 messaging and collaboration server environment (on a computer without Microsoft Exchange installed)
	☐		On the same computer as the BlackBerry Enterprise Server service:
			Microsoft Exchange 5.5. System Administrator *or*
			Microsoft Exchange 2000 System Manager *or*
			Microsoft Exchange 2003 System Manager
	☐	Microsoft Windows Server™ 2003	Microsoft Exchange 2003 messaging and collaboration server environment (on a computer without Microsoft Exchange installed)
	☐		On the same computer as the BlackBerry Enterprise Server service:
			Microsoft Exchange 2003 System Manager
	☐	Microsoft Internet Explorer 6.0 or later	
		Note: The online Help requires Microsoft Internet Explorer 4.0 or later with Java™ or JavaScript™ enabled as the default system browser.	
	☐	To view the user guides, you must have Adobe® Acrobat® Reader 3.0 or later.	

Component		Requirement
Microsoft Exchange infrastructure notes	☐	Microsoft Exchange 5.5 native environment *or*
		Microsoft Exchange 2000 native environment *or*
		Microsoft Exchange 2003 native environment *or*
		Mixed environment (any combination of Microsoft Exchange 5.5 and, or Microsoft Exchange 2000 and, or Microsoft Exchange 2003)
	☐	Any Microsoft Exchange Service Packs that are installed on your messaging and collaboration server must also be installed on the BlackBerry Enterprise Server computer.
	☐	Microsoft Outlook® must *not* be installed on the computer on which you install the BlackBerry Enterprise Server.
	☐	Appropriate CDO.dll hot fix installed and registered to C:\Program Files\Exchsrvr\BIN\ on the BlackBerry Enterprise Server computer to obtain the correct Messaging API (MAPI) version.
	☐	BlackBerry Enterprise Server is in the same Microsoft Exchange domain as your messaging and collaboration server.
Configuration Database	☐	Configuration information for the BlackBerry Enterprise Server is stored in a Microsoft-compliant database. One of these database engines must be installed and available to the computer on which you are installing the BlackBerry Enterprise Server: • MSDE 2000 *or* • SQL Server 2000 **Note:** During installation, if an existing SQL Server 2000 instance is not already available, then MSDE 2000 is installed.
	☐	You must use only one database per organization.
	☐	Download Microsoft Data Access Components (MDAC) 2.8 from http://www.microsoft.com/data/download.htm and install it on the BlackBerry Enterprise Server computer and on the server where the configuration database is located.

Component		Requirement	
Permissions		**Component**	**Permission**
See " Configuring required permissions" on page 13 for more information.	☐	Configuration Database	To create a new database: • **SQL Server role**: serveradmin • **Database role**: db_create To populate a new, empty database during install: • **SQL Server role**: serveradmin • **Database role**: db_owner **Note:** Upgrade of the database using the BlackBerry Configuration Panel is supported only with an existing version 4.0 or later database, or an empty database.
	☐	BlackBerry Configuration Panel	• **Windows:** administration account • **Exchange:** service account and mailbox (for example, **BESAdmin**) with administrative permissions used during installation • **SQL Server role**: serveradmin • **Database role**: db_owner **Note:** If the Configuration Panel is being used to change to a non-existent configuration database, db_create permissions are required to create the database.
	☐	BlackBerry Manager	• **Windows**: administration account • **Exchange**: service account and mailbox (for example, **BESAdmin**) with administrative permissions used during installation • **Database role**: rim_db_bes_server
Firewall	☐	The firewall settings must allow the BlackBerry Enterprise Server computer to initiate a TCP/IP connection to an external server on port 3101.	
	☐	Your corporate firewall must be able to resolve Internet addresses using the Domain Name System (DNS).	
	☐	If using a proxying firewall, the proxy must be transparent.	
Terminal Services	☐	**Windows Server 2003**: Do not install; select Remote Desktop mode on the System Properties Remote tab. **Windows Server 2000**: If installed, select Remote Administration mode. **Warning:** Application Server mode is not recommended. Additional screens will appear during the BlackBerry Enterprise Server installation and might cause unpredictable results.	
Multilanguage Support	☐	Enable support in the BlackBerry components for Simplified and Traditional Chinese in the **Windows Control Panel** > **Regional Options** > **Advanced**. When you select a new code page conversion table, you are prompted for a Windows install source or CD.	
	☐	Download the Microsoft Internet Explorer multilanguage support pack and adjust the encoding to view Chinese Simplified [GB2312] and/or Chinese Traditional [Big5].	

Component		Requirement
USB Hub	☐	If running a USB hub, make sure that the driver supports USB 1.1 compliant hubs.

BlackBerry Attachment Service remote installation

Component		Requirement
Software	☐	Windows 2000 SP4 *or*
		Windows Server 2003 *or*
		Windows XP (SP 2)
	☐	Microsoft Internet Explorer 6.0
		Note: The online Help requires Microsoft Internet Explorer 4.0 or later with Java or JavaScript enabled as the default system browser.
	☐	To view the user guides, you must have Adobe Acrobat Reader 3.0 or later.
Multilanguage Support	☐	Enable support in the BlackBerry components for Simplified and Traditional Chinese in the **Windows Control Panel** > **Regional Options** > **Advanced**. When you select a new code page conversion table, you are prompted for a Windows install source or CD.
	☐	Download the Microsoft Internet Explorer multilanguage support pack and adjust the encoding to view Chinese Simplified [GB2312] and/or Chinese Traditional [Big5].

BlackBerry Manager remote installation

In this configuration, the BlackBerry Manager is installed on an administration-only computer, separate from the BlackBerry Enterprise Server.

Component		Requirement	
Software		Windows 2000 (Server or Advanced Server editions) *or*	
	☐	Windows Server 2003 *or*	
		Windows XP	
	☐	Microsoft Exchange 5.5. Administrator *or*	
		Microsoft Exchange 2000 System Manager (not supported on Windows Server 2003 or Windows XP) *or*	
		Microsoft Exchange 2003 System Manager *or*	
		Microsoft Outlook 2000 (Corporate or Workgroup installation)	
		Microsoft Outlook 2003 (Corporate or Workgroup installation)	
		Microsoft Outlook XP (Corporate or Workgroup installation)	
	☐	The online Help requires Microsoft Internet Explorer 4.0 or later with Java or JavaScript enabled as the default system browser.	
	☐	To view the user guides, you must have Adobe Acrobat Reader 3.0 or later.	
Configuration Database	☐	Download Microsoft Data Access Components (MDAC) 2.8 from http://www.microsoft.com/data/download.htm and install it on the Server where the BlackBerry Manager is located.	
	☐	Configuration information for the BlackBerry Enterprise Server is stored in a Microsoft-compliant database. One of these database engines must be available to the computer where you are installing the BlackBerry Enterprise Server: • MSDE 2000 *or* • SQL Server 2000	
Permissions		**Component**	**Permission**
See " Configuring required permissions" on page 13 for more information.	☐	BlackBerry Configuration Panel	• **Windows**: administration account • **Exchange**: service account and mailbox (for example, **BESAdmin**) with administrative permissions used during installation • **SQL Server role**: serveradmin • **Database role**: db_owner
	☐	BlackBerry Manager	• **Windows:** administration account • **Exchange:** service account and mailbox (for example, **BESAdmin**) with administrative permissions used during installation • **Database role**: rim_db_bes_server

Component		Requirement
Multilanguage Support	☐	You can enable additional languages in the **Windows Control Panel** > **Regional Options** > **Advanced** to support unicode on the BlackBerry Manager. When you select a new code page conversion table, you are prompted for a Windows install source or CD.
USB Hub	☐	If running a USB hub, make sure that the driver supports USB 1.1 compliant hubs

BlackBerry Router remote installation

Component		Requirement	
Environment	☐	The BlackBerry Router can be located in the DMZ zone.	
Software	☐	Windows 2000 (Server or Advanced Server editions) *or* Windows Server 2003	
	☐	The online Help requires Microsoft Internet Explorer 4.0 or later with Java or JavaScript enabled as the default system browser.	
	☐	To view the user guides, you must have Adobe Acrobat Reader 3.0 or later.	
Permissions		**Component**	**Permission**
See " Configuring required permissions" on page 13 for more information.	☐	BlackBerry Configuration Panel	• **Windows**: administration account • **Exchange**: service account and mailbox (for example, **BESAdmin**) with administrative permissions used during installation • **SQL Server role:** serveradmin • **Database role:** db_owner

Configuring required permissions

Configure Microsoft SQL

The service accounts that you use to install and use the BlackBerry Enterprise Server must also have permissions on the SQL Server and the configuration database.

Assign server roles

1. In the SQL Server Enterprise Manager, expand the **SQL Server Group**, and then click the server on which to locate the configuration database.

2. Expand **Security**.

3. Right-click **Logins**, and then click **New Login**.

4. Type the name of the user, or retrieve the information from your network directory.

5. Define the authentication method.

> **(i)** **Note:** Research In Motion recommends using SQL authentication with a password.

6. Click the **Server Roles** tab, and then click the required roles.

7. Click **OK**.

Assign database roles

1. In the SQL Server Enterprise Manager, expand the **SQL Server Group**, and then click the server on which to locate the configuration database.

2. Expand **Databases**.

3. Expand the configuration database.

4. Right-click **Users**, and then click **New Database User**.

5. From the drop-down list, select the **Login name**.

6. Click the database role.

7. Click **OK**.

Configure MSDE 2000

By default, MSDE 2000 is installed with network protocols turned off. If you want to use a remote BlackBerry Manager, you must edit the MSDE 2000 setup before installation so that a connection can be made.

1. On the installation CD, open the **setup.ini** file.

2. In the **Config** section, add the following values:
   - DISABLENETWORKPROTOCOLS=0
   - SAPWD=<system administrator password>

3. Save and close the file.

Configure Microsoft Exchange

You must create and configure a service (user) account and mailbox for the BlackBerry Enterprise Server Software and the BlackBerry Manager so that these services can be authenticated on the Microsoft Exchange server.

Create a service account and mailbox

Note: If these components are installed on separate computers, they each require a user account. However, they can share the same mailbox.

1. Log in to the Microsoft Exchange Server as a user with Microsoft Exchange permissions.
2. On the taskbar, click **Start** > **Programs** > **Microsoft Exchange** > **Active Directory Users and Computers**.
3. In the Tree view, expand the list.
4. Right-click the **User** folder, and then click **New User**.
5. Complete the following screens:

Screen	Value	Action
User identity	First name Last name Full name Login name Domain	▸ Type a login name for the service account (for example, **BESAdmin**).
User credentials	Password Confirm Password Security options • User must change password at next login • User cannot change password • Password never expires • Account is disabled	▸ Create and confirm the password.
User location	Create an Exchange mailbox Alias Server Mailbox Store	1. Make sure that the **Create an Exchange mailbox** check box is selected. 2. Edit default values if necessary.
Wizard summary	Summary of information supplied	▸ Review the user details, and then click **Finish**.

6. Initialize the new mailbox by sending a test message.

⚡ **Warning:** You might not be able to see this account to confirm that it has been created.

Set account permissions

After the accounts are created, determine the appropriate permissions.

Permission type	BlackBerry Enterprise Server account	BlackBerry Manager account (remote installation only)
Log on locally with local permissions	Optional; useful for troubleshooting	Optional; useful for troubleshooting
Log on as a service	Enabled	Disabled
Local administrator	Enabled	Enabled
Microsoft Exchange 5.5 Service Account Admin	Enabled; set on both Site and Configuration containers	Enabled; set on both Site and Configuration containers
Microsoft Exchange 2000/2003 View Only Administrator	Enabled; minimum access level is Administrative Groups	Enabled; minimum access level is Administrative Groups
Microsoft Exchange 2000/2003 Administer Information store, Send as, and Receive as	Enabled; set at Mailbox store level or Microsoft Exchange server level	Enabled; set at Mailbox store level or Microsoft Exchange server level

ℹ **Note:** The service account used by the Mobile Data Service to access the database (the BlackBerry Enterprise Server service account), requires read/write access on the database.

Assign local permissions

ℹ **Note:** Permission to log on locally might be granted to the service account by default. Complete this procedure only if permissions have not been granted.

1. Using an account with administrative Windows 2000/2003 and Microsoft Exchange permissions, log in to the computer on which you plan to install the BlackBerry Enterprise Server.

2. On the taskbar, click **Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Local Security Policy**.

3. Expand the **Local Policies** object.

4. Click **User Rights Assignment.**

5. In the Policy list, double-click **Log on locally**.

6. Click **Add**.

7. In the Select Users or Groups window, click the name of the service account.

8. Click **Add**.

9. Click **OK.**

10. Click **OK** again.

 Note: Domain level settings listed under Effective Policy Settings might override Local Policy Settings.

Assign log on as a service permissions
1. Using an account with administrative Windows 2000/2003 and Microsoft Exchange permissions, log in to the computer on which plan to install the BlackBerry Enterprise Server.
2. On the taskbar, click **Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Local Security Policy**.
3. Expand the **Local Policies** object, and then click **User Rights Assignment**.
4. In the Policy list, double-click **Log on as a service**.
5. Click **Add**.
6. In the Select Users or Groups window, click the name of the service account.
7. Click **Add**.
8. Click **OK**.
9. Click **OK** again.

Assign local administrator permissions
1. Log in to the BlackBerry Enterprise Server machine using an administrator account.
2. On the taskbar, click **Start** > **Settings > Control Panel > Administrative Tools > Computer Management**.
3. Expand the **System Tools** object, and then click **Local Users and Groups**.
4. Click **Groups**.
5. Double-click the **Administrators** group.
6. In the Administrators Properties dialog box, click **Add**.
7. From the **Name** list, select the service account.
8. Click **Add**.
9. Click **OK**. The name appears in the **Members** list as confirmation that it was added to the Administrators group.
10. Click **OK** to return to the main Computer Management window.

Set service account administrator permissions
1. Open Microsoft Exchange 5.5 Administrator.
2. Click the **Site** container for the service account to which to assign permissions.

3. On the **File** menu, click **Properties**.

4. On the **Permissions** tab, assign **Service Account Admin** permissions to the **Site** container.

5. Repeat steps 2 through 4 for the **Configuration** container.

Set view only administrator permissions on a service account

1. Open Microsoft Exchange 2000/2003 System Manager.

2. Right-click an administrative group folder, and then click **Delegate control**.

3. Click **Next**.

4. Click **Add**.

5. Click **Browse**.

6. In the **Select Users, Computers or Groups** dialog box, click the correct service account.

7. Click **OK**.

8. In the **Delegate Control** dialog box, under **Role**, from the drop-down list, select **Exchange View Only Administrator**.

9. Click **OK**.

10. Click **Next**.

11. Click **Finish**.

Set administer information store permissions

1. Open Microsoft Exchange 2000/2003 System Manager.

2. Right-click a Microsoft Exchange Server, and then select **Properties**.

3. On the **Security** tab, click the service account.

4. In the Permissions pane, select the **Allow** check box to enable administer information store permissions.

5. Assign **Send as** and **Receive as** permissions to the service account.

6. Click **OK**.

Install and register the cdo.dll hot fix

For wireless calendar synchronization to work, a cdo.dll file must be located in C:\Program Files\Exchsrvr\BIN\ on the BlackBerry Enterprise Server computer before you install and register the cdo.dll hot fix.

The correct cdo.dll hot fix is based on the MAPI version on your messaging and collaboration server, as determined by the Microsoft Exchange administration tool version on your BlackBerry Enterprise Server, and by the Microsoft Outlook version running on your handheld users' desktops.

Determine the appropriate hot fix using the following table:

Microsoft Exchange administration tool	Microsoft Outlook 2002 (XP) or earlier	Microsoft Outlook 2003
Microsoft Exchange 5.5 Administrator	**CDO version:** 5.5.2655.79 **Download:** http://www.microsoft.com/downloads/release.asp?ReleaseID=38967&area=search&ordinal=1,	**CDO version:** 5.5.2657.55 **Download:** http://www.microsoft.com/downloads/details.aspx?FamilyID=b106c749-71f8-44cc-86cf-ab5cda169127&displaylang=en,
Microsoft Exchange 2000 System Manager	**CDO version:** 6.0.5770.16 **Download:** http://www.microsoft.com/downloads/release.asp?ReleaseID=38952&area=search&ordinal=2,	**CDO version:** 6.0.6487.2 **Download:** http://www.microsoft.com/downloads/details.aspx?FamilyId=22DD4E2D-E061-401F-B091-6FDC400AB66E&displaylang=en
Microsoft Exchange 2003 System Manager	**CDO version:** 6.5.6944.0 This version is installed automatically with Microsoft Exchange 2003.	**CDO version:** 6.5.6980.3 **Download:** http://www.microsoft.com/downloads/details.aspx?FamilyId=CA4DFFB9-4937-4DE4-B66F-9990F75C908E&displaylang=en,

1. Verify that you are logged in to the BlackBerry Enterprise Server computer as the Administrator.

2. If Microsoft Outlook is currently installed, remove it.

3. Install the **cdo.dll** hot fix in C:\Program Files\Exchsrvr\BIN\ or in the directory in which the Microsoft Exchange administration tool is installed.

> **ℹ** **Note:** Make sure that the cdo.dll version matches the version of MAPI on your messaging and collaboration server.

Enable MAPI profiles

▸ To initialize the MAPI subsystem, open the Microsoft Exchange 2000/2003 System Manager.

If MAPI is not present after completing this step, you might need to run a utility that enables the BlackBerry Enterprise Server installation to facilitate MAPI profile creation and editing.

1. On the BlackBerry Enterprise Server Software CD, open the **Tools** folder.

2. Run the **Fixmapisvc.exe** utility. A DOS screen appears briefly on the screen. The mapisvc.inf file is automatically installed in C:\winnt\system32\ or C:\windows\system32\.

Installation Guide

Installing the BlackBerry Enterprise Server

- **Install the BlackBerry Enterprise Server**
- **Install the Attachment Service on a remote computer**
- **Install the BlackBerry Manager on a remote computer**
- **Install the BlackBerry Router on a remote computer**

Install the BlackBerry Enterprise Server

⚠️ **Warning:** If you install the server using Terminal Services, stop all BlackBerry-related services before you start the BlackBerry Enterprise Server setup program.

ℹ️ **Note:** If you are installing some components on remote computers, you should complete those installations first and then install the BlackBerry Enterprise Server. Connections to those remote computers are established when configuring the BlackBerry Enterprise Server.

1. Log in using the service account (with the appropriate server administrator and database permissions).

2. Double-click the **setup.exe** file.

3. Complete the following pre-installation screens:

Screen	Value	Action
Welcome	—	—
Setup Type	BlackBerry Enterprise Server BlackBerry Manager Attachment Service BlackBerry Router	▶ Click **BlackBerry Enterprise Server**.
MSDE Option	Install MSDE 2000 Yes, install MSDE 2000 locally No, I want to use a remote SQL server	▶ Click the software to support the configuration database. **Note:** This screen appears only when a required version of database software is not already installed on the computer.
Pre-Installation Complete	—	▶ Click **Next** to start the setup program.

4. Complete the following setup screens:

Screen	Value	Action
Welcome	—	—
Customer Information	User Name Organization Country	▶ Type your information.
License Agreement	I accept the terms in the license agreement I do not accept the terms in the license agreement	▶ Read the license agreement.
Server Name	BlackBerry Server Name	▶ Type a name for this BlackBerry Enterprise Server.
Destination Folder	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\	▶ Set the target folder for the installation.
Log File Location	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\Logs\	▶ Set the location for the log files.
Windows Login Information	Account Password	▶ Type the password to the account under which the BlackBerry services are installed.
Ready to install BlackBerry Enterprise Server	Summary of current settings	▶ Review your settings, and then click **Install**.
Installation Complete	—	▶ Click **Finish**.

5. When prompted to restart the computer, click **Yes**.

⚠ **Warning:** The BlackBerry Configuration Panel must be run and the screens completed by the same service account (with server administrator and db_owner permissions) that was used to complete the setup program.

6. Complete the following configuration screens:

Screen	Value	Action
Welcome	—	—
Database Information	SQL Server Name Database Name Database Authentication • Windows (Trusted) or • SQL Authentication Backup the existing database to the default location before performing database updates.	1. Provide the information required for the configuration database connections. 2. If prompted, click **Yes** to create the database. 3. Leave the database backup check box selected unless you are performing a manual backup.
License	License Key	▶ Type the license key printed on your installation CD or provided by your software vendor.

Screen	Value	Action
Router Connection	SRP Host	1. Specify the name or IP address of the host through which to connect to the wireless network. 2. Confirm that the SRP host is the one closest to the physical location of your users.
Wireless Network Connection	SRP Authentication Information • SRP Identifier • SRP Authentication Key • Host Routing Information	‣ Perform one of the following actions: • Use the SRP Authentication Information provided with your software. • Click **Import SRP Information** if you have an .srp file available to populate the SRP fields. **Note:** Set host routing information only if it is provided with your software.
MAPI Profile	Microsoft Exchange server Mailbox	‣ Create or edit the MAPI profile to configure the connection of the BlackBerry Enterprise Server to the Microsoft Exchange server.
Setup Completed	—	1. Leave the **Start Services** check box selected. 2. Click **Finish**.

Install the Attachment Service on a remote computer

1. Log in using the service account.

2. Double-click the **setup.exe** file.

3. Complete the following pre-installation screens:

Screen	Value	Action
Welcome	—	—
Setup Type	BlackBerry Enterprise Server	▶ Click **Attachment Service**.
	BlackBerry Manager	
	Attachment Service	
	BlackBerry Router	
Pre-Installation Complete	—	▶ Click **Next** to start the setup program.

4. Complete the following setup screens:

Screen	Value	Action
Welcome	—	—
Customer Information	User Name	▶ Type your information.
	Organization	
	Country	
License Agreement	I accept the terms in the license agreement	▶ Read the license agreement.
	I do not accept the terms in the license agreement	
Destination Folder	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\	▶ Set the target folder for the installation.
Log File Location	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\Logs\	▶ Set the location for the log files.
Review Settings	Summary of current settings	▶ Review your settings, and then click **Install**.
Installation Complete	—	▶ Click **Finish**.

5. When prompted to restart the computer, click **Yes**.

⚠ **Warning:** The BlackBerry Configuration Panel must be run and the screens completed using the same service account that was used to complete the setup program.

6. Complete the following configuration screens:

Screen	Value	Action
Welcome	—	—
Setup Complete	Start Services	1. Leave the **Start Services** check box selected.
		2. Click **Finish**.

Install the BlackBerry Manager on a remote computer

1. Log in using the service account (with the appropriate server administrator and database permissions).

2. Double-click the **setup.exe** file.

3. Complete the following pre-installation screens:

Screen	Value	Action
Welcome	—	—
Setup Type	BlackBerry Enterprise Server	▶ Click **BlackBerry Manager**.
	BlackBerry Manager	
	Attachment Service	
	BlackBerry Router	
Pre-Installation Complete	—	▶ Click **Next** to start the setup program.

4. Complete the following setup screens:

Screen	Value	Action
Welcome	—	—
Customer Information	User Name	▶ Type your information.
	Organization	
	Country	
License Agreement	I accept the terms in the license agreement	▶ Read the license agreement.
	I do not accept the terms in the license agreement	
Destination Folder	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\	▶ Set the target folder for the installation.

Screen	Value	Action
Review Settings	Summary of current settings	▸ Review your settings, and then click **Install**.
Setup Complete	Start Services	▸ Click **Finish**.

5. When prompted to restart the computer, click **Yes**.

⚡ **Warning:** The BlackBerry Configuration Panel must be run and the screens completed using the same service account that was used to complete the setup program.

6. Complete the following configuration screens:

Screen	Value	Action
Welcome	—	—
Database Information	SQL Server Name Database Name Database Authentication • Windows (Trusted) or • SQL Authentication Backup the existing database to the default location before performing database updates.	1. Provide the information required for the configuration database connections. 2. If the database does not already exist, create the database using the CreateDB.exe utility. See " Create or upgrade the configuration database" on page 41 for more information. 3. Leave the database backup check box selected if you are performing a manual backup.
Setup Complete	Start Services	1. Leave the **Start Services** check box selected. 2. Click **Finish**.

Install the BlackBerry Router on a remote computer

1. Log in using the service account (with the appropriate server administrator and database permissions).

2. Double-click the **setup.exe** file.

3. Complete the following pre-installation screens:

Screen	Value	Action
Welcome	—	—
Setup Type	BlackBerry Enterprise Server BlackBerry Manager Attachment Service BlackBerry Router	▶ Click **BlackBerry Router**.
Pre-Installation Complete	—	▶ Click **Next** to start the setup program.

4. Complete the following setup screens:

Screen	Value	Action
Welcome	—	—
Customer Information	User Name Organization Country	▶ Type your information.
License Agreement	I accept the terms in the license agreement I do not accept the terms in the license agreement	▶ Read the license agreement.
Destination Folder	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\	▶ Set the target folder for the installation.
Log File Location	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\Logs\	▶ Set the location for the log files.
Windows Login Information	Account Password	▶ Type the password to the account under which the BlackBerry services are installed.
Review Settings	Summary of current settings	▶ Review your settings, and then click **Install**.
Installation Complete	—	▶ Click **Finish**.

5. When prompted to restart the computer, click **Yes**.

⚠ **Warning:** The BlackBerry Configuration Panel must be run and the screens completed using the same service account that was used to complete the setup program.

6. Complete the following configuration screens:

Screen	Value	Action
Welcome	—	—
Router Connection	SRP Host	1. Specify the name or IP address of the host through which to connect to the wireless network.
		2. Confirm that the SRP host is the one closest to the physical location of your users.
Setup Complete	Start Services	1. Leave the **Start Services** check box selected.
		2. Click **Finish**.

Upgrading the BlackBerry Enterprise Server

- **Planning to upgrade the BlackBerry Enterprise Server**
- **Upgrade the database**
- **Upgrade scenarios**
- **Upgrading from Microsoft Exchange 5.5 administration extensions to BlackBerry Manager**
- **Upgrade the BlackBerry Enterprise Server**
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Planning to upgrade the BlackBerry Enterprise Server

Notes: When upgrading to the BlackBerry Enterprise Server 4.0, there is no provision in the installation program to perform a rollback of the installation. If you need to return to a previous version, you must remove the BlackBerry Enterprise Server version 4.0 installation and reinstall the previous version. See "Restore configuration database and users" on page 44 for more information.

Research In Motion recommends that you back up the configuration database in the event that you need to return to the previous version of the BlackBerry Enterprise Server and restore the configuration database and users.

Warnings: You can currently upgrade from the BlackBerry Enterprise Server version 2.1.5, 3.5.2, 3.6.3, and later releases only. If any instances of BlackBerry Enterprise Server version 3.6.3 or later exist that have never been added to the BlackBerry Manager, you must add them or uninstall them before starting the upgrade procedure. If servers exist that have not been added to the BlackBerry Manager, the database update cannot be completed and the upgrade process fails.

A BlackBerry Enterprise Server installed on a Window NT 4.0 computer cannot be upgraded to version 4.0. This upgrade path is currently not supported.

If you are upgrading multiple BlackBerry Enterprise Server instances on a single computer, during the upgrade, users are assigned automatically to a BlackBerry Messaging Agent, which connects to the Microsoft Exchange messaging and collaboration server. The SRP identifier does not correspond to a specific BlackBerry Enterprise Server instance, although multiple SRPs are still recognized.

When upgrading from a previous version with multiple instances, the BlackBerry Enterprise Server setup program uses the name of the first server instance by default and migrates all users to that server instance and its SRP identifier. All other services, files, and registry information for the other instances are deleted.

Warning: BlackBerry Enterprise Server instances that have different SRP addresses cannot be merged onto one server. Server instances that connect to different SRP addresses must be moved to separate computers before the upgrade.

The BlackBerry Enterprise Server continues to make connections using the old SRP identifiers even after all users are migrated to the new SRP. If a user is associated with an old SRP, that user is disabled.

After upgrade, the users are migrated to a single SRP identifier gradually. For handhelds that do not have Handheld Software version 4.0 installed, users must connect their handhelds to the desktop computer for the handheld to recognize the new SRP identifier and receive new service book information. For handhelds with Handheld Software version 4.0 installer, the SRP identifier and service book information are sent wirelessly to the handheld.

Note: Handhelds still function normally using the old SRP identifier before they receive the new SRP identifier and service book information.

If you have multiple versions of the BlackBerry Enterprise Server running in your environment, your Mobile Data Service push server must be the BlackBerry Enterprise Server running version 4.0. The Mobile Data Service push server capabilities are not supported on a BlackBerry Enterprise Server that is not running version 4.0 when a BlackBerry Enterprise Server version 4.0 exists in the same environment.

Warnings: Some Mobile Data Service ports have changed in this release. If you have custom Mobile Data Service applications that use the following ports shown below, verify that the correct values are used:

- Mobile Data Service host Port: 3200
- Web Server Listen Port: 8080
- Web Server SSL Listen Port: 8443

After you complete the database upgrade and the user migration, if you make changes to a user on a BlackBerry Enterprise Server before it is upgraded, those changes are lost when the BlackBerry Enterprise Server is upgraded.

Upgrade the database

The database upgrade occurs during the BlackBerry Enterprise Server setup. If a database already exists, all information in the database is automatically backed up. A new table structure is created, and the data is migrated into the new table structure. The BlackBerry Enterprise Server versions 2.1.5, 3.5.2, 3.6.3, or later table schema can co-exist with the version 4.0 table schema in a single database.

Warning: If you are using MSDE 7.0 for your configuration database, you must upgrade to MSDE 2000 before upgrading to BlackBerry Enterprise Server version 4.0. See " Upgrade scenarios" on page 31 for more information.

Tips: If you are using MSDE 2000, Research In Motion recommends that you back up the configuration database using the BlackBerryDBBackup.exe utility before performing the upgrade. See the *BlackBerry Enterprise Server Maintenance Guide* for more information on MSDE backup and restore.

If you perform a restore from an old backup of the database, users should back up their handheld data in case synchronization information from the database is lost.

To upgrade, you must be the database owner (be assigned the db_owner database role) and have server administrator privileges on the SQL Server. To run the BlackBerry Configuration Panel (required after installation or upgrade to complete database changes), the serveradmin and db_owner authorities must be assigned. After installation, to restrict a BlackBerry Enterprise Server administrator to writing to the database only, remove serveradmin, db_owner, and db_creator authorities and assign only the rim_db_bes_server authority.

You can upgrade the database when it is located on a remote computer that does not have a BlackBerry Enterprise Server installed or when it is located on a computer on which a BlackBerry Enterprise Server is also installed. See " Upgrade the configuration database on a remote or shared computer" on page 32 for more information.

Note: Once you upgrade the database, you must use the BlackBerry Manager to administer all (version 4.0 and earlier) versions of the BlackBerry Enterprise Server.

Upgrade scenarios

This document recommends approaches to upgrading from several possible configurations of the BlackBerry Enterprise Server and the configuration database in your environment.

Upgrade MSDE 7.0 to MSDE 2000

If you are using MSDE 7.0 for your configuration database, you must upgrade to MSDE 2000 before upgrading to the BlackBerry Enterprise Server version 4.0. Research In Motion recommends that you back up all data before upgrading to MSDE 2000. After the MSDE upgrade, you can restore any data that might have been lost during the upgrade.

MSDE 2000 is provided on the BlackBerry Enterprise Server Installation CD, in the Tools folder.

To upgrade to MSDE 2000, visit the Microsoft® MSDN site at http://msdn.microsoft.com/library/default.asp?url=/library/en-us/distsql/distsql_71b9.asp for upgrade instructions.

Complete database moves and MSDE 2000 to SQL Server upgrades

If you are upgrading from MSDE 2000 to SQL Server, visit the Microsoft Support site at http://support.microsoft.com/default.aspx?scid=kb;EN-US;325023 for upgrade instructions.

You might choose to upgrade on the same server, or install SQL Server and the database on a new computer.

Note: An upgrade of the database using the BlackBerry Configuration Panel is supported only with an existing version 4.0 or later database, or an empty database.

If the existing database is manually backed up and restored to a new computer, you must complete the following procedure to prevent database failure:

1. On the taskbar, click **Start** > **Programs** > **BlackBerry Enterprise Server** > **BlackBerry Server Configuration**.
2. On the **Database Connectivity** tab, click **Change Database**.
3. Click **Yes**.
4. Complete the BlackBerry Configuration Wizard screens.

Running a manual backup before the upgrade does not back up all parts of the schema. You might also need to complete the preceding steps if the database is on the BlackBerry Enterprise Server computer, but the database tool (SQL Server/MSDE) was uninstalled in between the backup and restore operations.

Upgrade the configuration database on a remote or shared computer

In the following scenarios, the configuration database should be upgraded using tools that correspond to its location in the BlackBerry Enterprise Server environment.

Scenario 1

The database is installed on a remote computer that does not have a BlackBerry Enterprise Server installed.

1. Configure **BESMgmt.cfg** to install or upgrade a version 4.0 database.
2. Run **CreateDB.exe** on the database computer.

Scenario 2

The database is installed on a computer on which a BlackBerry Enterprise Server is installed.

1. Run the BlackBerry Enterprise Server Installation and Upgrade tool.

2. When the Database Upgrade step completes, click **Cancel**, and the exit the tool.

Upgrade one BlackBerry Enterprise Server

In the following scenario, the BlackBerry Enterprise Server computer has multiple server instances with multiple SRP connections. The only option for centralized BlackBerry Enterprise Server version 4.0 deployments is to have different physical computers pointing to different SRPs (SRP 1 and SRP 2 in this document).

At upgrade, the user's association to a specific SRP identifier is maintained until the handheld receives new service books that contain the new SRP information. This association is not visible or modifiable. One SRP is designated and all new users are added to it. You can view this SRP in the BlackBerry Configuration Panel and change it by entering another SRP. When the handheld receives the new SRP information, the user is migrated to the single SRP. Before migrating to the new SRP, the user's handheld continues to function properly using the old SRP.

⚠ **Warning:** The BlackBerry Enterprise Server continues to make connections using the old SRP identifiers even after all users are migrated to the new SRP. If a user is associated with an old SRP, that user is disabled.

ℹ **Notes:** There is no indication when all users are on a single SRP.

Handhelds that do not have Handheld Software version 4.0 installed must be connected to the user's computer for the association to the new SRP to take effect.

Scenario 1

To make moving the users easier, perform the following steps:

1. Install the BlackBerry Enterprise Server version 4.0 on a new computer, setting the BlackBerry Enterprise Server version 4.0 to use the same database as the BlackBerry Enterprise Server version 2.1.5, 3.5.2, 3.6.3, or later.

    ℹ **Note:** If you are moving from using MSDE to using SQL, perform that migration first. If this involves moving the database to a new server, complete the database move using the BlackBerry Configuration Panel Change Database option. See " Complete database moves and MSDE 2000 to SQL Server upgrades" on page 32 for more information.

2. In the BlackBerry Manager, move the SRP 2 users to the new BlackBerry Enterprise Server.

3. Upgrade the BlackBerry Enterprise Server, which now contains only the SRP 1 users.

Upgrade two BlackBerry Enterprise Servers, running single instances

In the following scenarios, one BlackBerry Enterprise Server instance acts as a standby (in case of failover) for the other instance. The instances might use the same database or different databases.

Scenario 1

The servers are on the same database, moving to one database.

1. Turn off the active BlackBerry Enterprise Server (server 1).
2. Turn on the standby BlackBerry Enterprise Server (server 2).
3. Upgrade the active BlackBerry Enterprise Server (server 1).
4. Turn off the standby BlackBerry Enterprise Server (server 2).
5. Turn on the active BlackBerry Enterprise Server (server 1).
6. Configure the standby BlackBerry Enterprise Server (server 2) to use a different database.

Scenario 2

The servers are on different databases.

1. Turn off the active BlackBerry Enterprise Server (server 1).
2. Upgrade the active BlackBerry Enterprise Server (server 1).
3. Upgrade the standby BlackBerry Enterprise Server (server 2).
4. Turn on the active BlackBerry Enterprise Server (server 1).
5. Merge the databases into a single database and point both servers to the single database.

Upgrade two BlackBerry Enterprise Servers, running multiple instances

In the following scenario, multiple BlackBerry Enterprise Server computers have multiple server instances running.

Scenario 1

In this scenario, one computer is configured as a standby for the other. Both servers can reside on the same database, or different databases. This configuration is often referred to as *knife-edge cutover.*

1. Turn off the active BlackBerry Enterprise Server (server 1).

2. Upgrade the active BlackBerry Enterprise Server (server 1).

3. Upgrade the standby BlackBerry Enterprise Server (server 2).

4. Turn on the active BlackBerry Enterprise Server (server 1).

Upgrade BlackBerry Enterprise Server where no previous database exists

Scenario 1

In this scenario, a configuration database does not exist for a BlackBerry Enterprise Server version 2.1.5, and the Microsoft Exchange 5.5 administration extensions are used to administer the server. See " Upgrading from Microsoft Exchange 5.5 administration extensions to BlackBerry Manager" on page 36 for more information.

Warning: A BlackBerry Enterprise Server installed on a Window NT 4.0 computer cannot be upgraded to version 4.0. This upgrade path is not supported.

1. Export system information from the Microsoft Exchange 5.5 administration extensions.

2. On the BlackBerry Enterprise Server computer, insert the BlackBerry Enterprise Server 2.1.5 installation CD.

3. On the CD, open the **BESManMMC** folder.

4. Double-click the **setup.exe** file.

5. Create the configuration database during the installation process.

   Note: If you encounter problems creating the configuration database, you can run the CreateDB.exe utility that was installed with the BlackBerry Enterprise Server version 2.1.5 to manually create the database. CreateDB.exe is located on the BlackBerry Enterprise Server Management computer at C:\Program Files\Research In Motion\BlackBerry Enterprise Server Management\Database\CreateDB.exe.

6. Import the system information to the BlackBerry Enterprise Server Management version 2.1.5 console.

7. Remove the adminstration extensions.

   Note: You are now running a BlackBerry Enterprise Server version 2.1.5 with a configuration database.

8. Upgrade the BlackBerry Enterprise Server.

Upgrading from Microsoft Exchange 5.5 administration extensions to BlackBerry Manager

⚠️ **Warning:** BlackBerry Enterprise Server version 3.6 or later does not support Microsoft Exchange 5.5 administration extensions. If you are upgrading to BlackBerry Enterprise Server version 4.0 and previously used only the Microsoft Exchange 5.5 administration extensions, you must upgrade to the BlackBerry Manager or the administration extensions data is lost.

Complete the following procedure before upgrading to BlackBerry Enterprise Server 4.0:

1. Export the system information from the Microsoft Exchange 5.5 administration extensions. See " Export system information from the Microsoft Exchange 5.5 administration extensions" on page 36 for more information.

2. Install the BlackBerry Enterprise Server Management administration console and configuration database. See " Upgrade BlackBerry Enterprise Server where no previous database exists" on page 35 for more information.

3. Import the system information to BlackBerry Enterprise Server Management. See " Import system information" on page 37 for more information.

4. Remove the BlackBerry Enterprise Server administration extensions. See " Remove BlackBerry Enterprise Server administration extensions" on page 37 for more information.

5. Upgrade the BlackBerry Enterprise Server. See " Upgrade the BlackBerry Enterprise Server" on page 38 for more information.

Export system information from the Microsoft Exchange 5.5 administration extensions

1. Open the Microsoft Exchange Administration window.

2. In the **Configuration** container, double-click **BlackBerry Servers**.

3. In the **Server Config** list, click **Export**.

4. Browse to the desired directory location, and then click **Save**. A text file, which contains configuration information for each BlackBerry Enterprise Server in the site, is saved to the defined location.

The generated text file contains a line for each BlackBerry Enterprise Server in the site. The information includes server name, server mailbox display name, server Domain Name (DN), and the BlackBerry Enterprise Server DN.

Import system information

Import server information (for example, server name, administrator mailbox, and so on) to BlackBerry Enterprise Server Management.

1. In the Tree view, right-click **BlackBerry Server Management**, and then click **Import**.

2. Browse to the directory location of the system information text file, and then click **Open**.

3. Review the information that is imported.

4. Click **OK**.

Remove BlackBerry Enterprise Server administration extensions

If you previously used Microsoft Exchange 5.5 administration extensions to manage BlackBerry Enterprise Server, you should remove the administration extensions. You must remove the extensions before you upgrade to BlackBerry Enterprise Server version 4.0.

⚡ **Warning:** If you upgraded from BlackBerry Enterprise Server version 2.1 or earlier, the WinBBinstaller.exe was automatically removed. The WinBBinstaller.exe is required to remove the Microsoft Exchange 5.5 administration extensions after upgrading and importing any system information. Contact technical support to obtain a copy of the WinBBinstaller.exe.

1. Verify that you exported all server information from the administration extensions, installed BlackBerry Enterprise Server Management, and imported the server information to BlackBerry Enterprise Server Management before you remove the administration extensions.

2. On the local computer, log in using an account with administrative privileges (typically, **BESAdmin**).

3. On the taskbar, click **Start** > **Programs** > **BlackBerry Enterprise Server** > **Uninstall Administration Extensions**.

Upgrade the BlackBerry Enterprise Server

You must have either the BlackBerry Enterprise Server Management console or the Mobile Data Service installed on the BlackBerry Enterprise Server computer before you upgrade to version 4.0. You must also upgrade a BlackBerry Enterprise Server in your environment before you install the BlackBerry Manager on a remote computer to administer users.

Perform an automated upgrade

The BlackBerry Enterprise Server Installation and Upgrade tool runs the pre-installation steps of the database upgrade and user migration before starting the setup program to complete the upgrade to version 4.0. Research In Motion recommends following this procedure for environments with less than 200 users. Environments with more than 200 users should perform a phased upgrade procedure. See " Perform a phased upgrade" on page 41 for more information.

> **Tip:** If you encounter errors during the upgrade, you can upgrade the BlackBerry Enterprise Server in a phased procedure to verify that each step completes successfully. See "Perform a phased upgrade" on page 41 for more information.

1. Close the BlackBerry Enterprise Server Management console.

2. Click the **setup.exe** file.

3. Complete the following pre-installation screens:

Screen	Value	Action
Welcome	—	—
MSDE Option	Install MSDE 2000 Yes, install MSDE 2000 locally No, I want to use a remote SQL server	▸ Click the software to support the configuration database. **Note:** This screen appears only when a required version of database software is not already installed on the computer. **Warning:** A configuration database using MSDE 7.0 cannot be upgraded to a version 4.0 database table schema. You must upgrade to MSDE 2000 or SQL Server before upgrading the BlackBerry Enterprise Server.
Pre 3.6 Upgrade	—	**Note:** This screen only appears if the tool has detected that the BlackBerry Enterprise Server version 2.1.5 is installed.

Screen	Value	Action
Database Information	SQL Server Name Database Name Data Directory Backup Directory Database Authentication • Windows (Trusted) or • SQL Authentication	The information required for database connections appears by default. Do not change this information unless you are moving the database to a new server during the upgrade. **Note:** The database upgrade backs up the entire database.
Database Upgrade	—	**Note:** A database is created if a database does not exist.
User Migration	—	**Note:** If any users fail during the user migration, an error message will display the users that failed to migrate. **Warning:** If users fail during the user migration and you click **Ignore Errors**, and then click **Yes** to continue, the users are removed from the BlackBerry Enterprise Server. Click **Close** to cancel the user migration.
Install	—	▸ Click **Next** to start the setup program.

4. Complete the following configuration screens:

Screen	Value	Action
Welcome	—	—
Customer Information	User Name Organization Country	▸ Confirm or type your information.
License Agreement	I accept the terms in the license agreement I do not accept the terms in the license agreement	▸ Read the license agreement.
Server Name	BlackBerry Server Name	▸ Do not change the default server name. **Notes:** If you are upgrading from an installation with multiple server instances, a primary BlackBerry Enterprise Server is assigned during the upgrade. The primary SRP is assigned randomly during the upgrade. You can change the primary SRP in the BlackBerry Configuration tool after the installation process is complete.

Screen	Value	Action
Destination Folder	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\	▸ Accept the default location for the installation. **Note:** You cannot change the destination folder for software during an upgrade.
Log File Location	C:\Program Files\Research In Motion\BlackBerry Enterprise Server\Logs\	▸ Accept the default location for the log files. **Note:** You cannot change the destination folder for log files during an upgrade.
Windows Login Information	Account Password	▸ Type the administration account credentials under which the BlackBerry services are installed. **Note:** You must type the same password as defined in the previous version.
Ready to upgrade BlackBerry Enterprise Server	Summary of current settings	▸ Review your settings, and then click **Upgrade**.
Setup Completed	—	▸ Click **Finish**.

Note: Wait for the setup program to complete, and then click **Finish** before completing the BlackBerry Configuration Panel screens. When prompted to restart the computer, click **Yes**.

Warning: If the computer is restarted after the installation completes, the BlackBerry Configuration Panel must be run and the screens completed by the same login account (with server administrator and db_owner permissions) that was used to complete the setup program.

5. Complete the following configuration screens:

Screen	Value	Action
Welcome	—	—
Database Information	SQL Server Name Database Name Database Authentication • Windows (Trusted) or • SQL Authentication	The information required for database connections appears by default. Do not change this information unless you are moving the database to a new server during the upgrade.
Router Connection	SRP Host	▸ Confirm that the name or IP address is correct by clicking **Test Network Connection**.
Wireless Network Connection	SRP Authentication Information • SRP Identifier • SRP Authentication Key • Host Routing Information	The SRP identifier and SRP authentication key of the BlackBerry Enterprise Server designated during the upgrade appear by default. Do not change this information. ▸ Click **Validate SRP Key and ID**.
MAPI profile	Microsoft Exchange server Mailbox	▸ Confirm that the MAPI profile is correct.

Screen	Value	Action
Setup Completed	Start Service(s)	1. Leave the **Start Services** check box selected. 2. Click **Finish**.

Perform a phased upgrade

If you have an environment of 200 or more users, Research In Motion recommends using command line tools to upgrade the BlackBerry Enterprise Server. Commonn line tools allow you to verify each stage of the upgrade. The upgrade tools are provided on the BlackBerry Enterprise Server installation CD in the tools and Database folders. You can also use the command lines tools to create or upgrade a database that is installed on a remote computer.

Create or upgrade the configuration database

1. On the BlackBerry Enterprise Server installation CD, open the **Database** folder.

2. Open the **BESMgmt.cfg** file.

3. Perform one of the following actions.

Action	Procedure
Create a new database.	▸ Verify that the CMD option defined is **Install**.
Upgrade a previously existing database.	▸ Change the CMD option to **Migrate**.

4. Modify the desired values.

Command	Procedure
Database_name	▸ Type the database name.
CMD	▸ Specify the type of database action to perform, using one of the following: • Install (default) • Migrate • Restore
Verbose	▸ Set to **True** to include information and error messages in the log file.
Version	▸ Specify the database version to create or migrate to, using one of the following: • 3.5 • 3.6 • 4.0 (default)
Create	▸ Set to **False** if no database should be created. By default, this is set to **True**. **Note:** This setting is ignored in a database migration.
Backup	▸ Set to **True** to backup the existing database. By default, this is set to **False**.

Command	Procedure
Drop	▸ Set to **True** to drop the existing database. By default, this is set to **False**. **Note:** This setting is ignored in a database migration.
Server	▸ Specify the server on which to install the database. By default, this is set to **Local**.
Stop	▸ Specify if the process should stop if an error is encountered. By default, this is set to **True**.
Script_root	▸ Specify the path to the DBInstallScripts directory. By default, is same root as createdb.exe.
Log_dir	▸ Specify the path to the directory in which to create the log files. By default, this is the same root as createdb.exe.
Timestamp	▸ Set to **False** to remove timestamp (HHMMSS) from log files. By default, this is set to **True**.
DBMS	▸ Specify which database management system is used. By default, this is set to **SQL**.
Db_file_dir	▸ Specify the directory in which to save the database files. This directory must already exist. By default, is the same root as createdb.exe.
Backup_dir	▸ Specify the directory in which to save the database backup. This directory must already exist. By default, this is the same root as createdb.exe.
Restore_filename	▸ Specify the file to use for a database restore. By default, this is *<database location>*\DatabaseNameBKUP.dat. **Note:** If more than one backup file exists, the most current version is used.
Generate_execute	▸ Set to **False** to generate, but not execute, the SQL files. By default, this is set to **True**.

5. Save the **BESMgmt.cfg** file.

> **Note:** Research In Motion recommends that you create a backup of your database before it is upgraded. A backup option can be configured in the BESMgmt.cfg file.

6. At the command prompt, switch to the directory in which the BlackBerry Enterprise Server installation CD is running (*<drive:>*\Database\).

7. Type **CreateDB.exe** *<DB configuration file>* where *<DB configuration file>* is the path to the BESMgmt.cfg file, the default database configuration script file, or to another configuration file.

8. Verify that the database is created or upgraded successfully.

Migrate users to the upgraded database

> **Note:** Research In Motion recommends that you run a preview of the migration first to identify any errors that might occur before you migrate users to the upgraded database.
>
> This tool does not report server errors that might occur. To view server errors, check the installation log. See " Checking the installation log" on page 44 for more information.

1. At the command prompt, switch to the directory in which the BlackBerry Enterprise Server installation CD is running (*<drive:>*\tools\).

2. Type **BESMigration.exe -p -s** *<MAPI profile> <old server> <new server>* **-d** *<DB server name> <DB name>* and specify any other desired commands.

Command	Description
-s *<MAPI profile> <old server> <new server>*	migrates the MAPI profile name, server information, and user information to the new server, and creates the primary server name (specified as *<new server>*)
-r	restores the administration folder, server information, and user information to the original server (specified as *<old server>* in -s option)
	used in conjunction with -s to reverse the direction of the migration
-d *<DB server name> <DB name>*	specifies the database server name and database name to be used for the user migration
-l *<log filename>*	specifies the name of the log file that is generated during the user migration
-t *<status filename>*	specifies the file from which to read status information during the migration
-w	specifies the status and progress information that is written to the registry
-u *<username> <password>*	specifies that the database is using SQL authentication
-p	runs a preview of the user migration without making any changes to the database and displays any user migration errors that will occur
	Note: This option does not check for server errors.
-q	runs the user migration silently

3. Verify that users migrated successfully in the preview step. If user migration errors are displayed, they must be fixed before those users can be successfully migrated when the BlackBerry Enterprise Server is upgraded. See " Checking the installation log" on page 44 for more information.

4. Type **BESMigration.exe -s** *<MAPI profile> <old server> <new server>* **-d** *<DB server name> <DB name>* and any other desired commands.

5. On the BlackBerry Enterprise Server Installation CD, click the **setup.exe** file.

⚠ **Warning:** You must run the setup.exe file and not the BlackBerry Enterprise Server.msi file. Running the BlackBerry Enterprise Server.msi file does not complete the user migration step.

6. Complete the setup screens. See " Perform an automated upgrade" on page 38 for more information.

Upgrade remote components

The setup program detects previously installed components and required software. You can only upgrade the component that is installed. You are not prompted to select a component to install.

Troubleshooting the BlackBerry Enterprise Server upgrade

Restore configuration database and users

If you encounter problems while installing the BlackBerry Enterprise Server and you already upgraded the database and migrated users, you can restore the configuration database to its pre-upgrade state and restore the users. When the configuration database is upgraded during the pre-installation steps of the setup program, a backup is generated automatically.

1. Cancel the BlackBerry Enterprise Server setup program at the pre-installation stage.

2. At the command prompt, switch to the directory in which the BlackBerry Enterprise Server installation CD is running (*<drive:>*\tools\).

3. Type **BESMigration.exe -r -s** *<MAPI profile> <old server> <new server>* -d *<DB server name> <DB name>* and any other commands needed to restore the server configuration and the user mailbox information.

   ⓘ **Note:** This step must be performed on every server that is to be migrated to version 4.0.

4. Restore the database from the automated backup or from your own backup by performing one of the following actions.

   - **SQL:** The BlackBerry Enterprise Server setup program saves a *<DB name>*BKUP.bak file to C:\Program Files\Microsoft SQL Server\MSSQL\Data\. Use this file.

   - **MSDE 2000:** Use the BlackBerryDBRestore.exe utility provided on the BlackBerry Enterprise Server Installation CD if you backed up the database using the BlackBerryDBBackup.exe utility.

   ⓘ **Note:** If you did not back up the database, the setup program saves a *<DB name>*BKUP.bak file to C:\Program Files\Microsoft SQL Server\MSSQL\Data\.

5. Start the previous version of the BlackBerry Enterprise Server used before performing the upgrade.

Checking the installation log

Server errors are not displayed in the pre-installation steps of the setup program while it is running. Server upgrade errors and user migration errors are written to the **UserMigration.log** installation log file.

The database schema installation and upgrade is written to a log file called **DB_InstallV**_**<YYMMDDHHMMSS>**_**.log**, where _<YMMDDHHMMSS>_ specifies the date and time (24-hour clock format) in which the database upgrade occurred.

The default location for these log files is C:\Program Files\Research In Motion\BlackBerry Enterprise Server\Logs\Installer.

Resolving user migration failure

If user failure errors occur when performing a preview of the user migration, perform the following actions:

- Check the installation log to determine the point of failure and attempt to fix it. See " Checking the installation log" on page 44 for more information.

- Remove the users from the BlackBerry Enterprise Server during the upgrade. Wirelessly reactivate the users or instruct the users to connect their handhelds to their computers, which reactivates the handhelds.

Installation Guide

Starting the BlackBerry Enterprise Server

- **Enable services**

Enable services

The installed services start automatically if the **Start Service(s)** check box is selected on the final screen of the setup program. The BlackBerry Database Consistency service starts when the server is enabled as the Mobile Data Service push server and can be manually started and stopped thereafter.

> **Notes:** If you did not reboot the BlackBerry Enterprise Server after completing the installation or upgrade, BlackBerry Enterprise Server performance counters do not appear in the Microsoft Performance Monitor utility.
>
> The BlackBerry Database Consistency Service cannot be started or stopped in the BlackBerry Manager. The BlackBerry Database Consistency Service is automatically disabled after the BlackBerry Enterprise Server installation. The service is enabled and started when the server is set as the Mobile Data Service push server.

Start a service

1. In the BlackBerry Manager, right-click a server.
2. Click **Service Control** > **Start Service** > *<service name>*.

Start the BlackBerry Database Consistency Service

1. On the taskbar, click **Start** > **Programs** > **Administration Tools** > **Services**.
2. From the **Name** list, right-click **BlackBerry Database Consistency Service**, and then click **Start**.

Stop a service

1. In the BlackBerry Manager, right-click a server.
2. Click **Service Control** > **Stop Service** > *<service name>*.

Stop the BlackBerry Database Consistency Service

1. On the taskbar, click **Start** > **Programs** > **Administration Tools** > **Services**.
2. From the **Name** list, right-click **BlackBerry Database Consistency Service**, and then click **Stop**.

Removing the BlackBerry Enterprise Server

- **Uninstall the BlackBerry Enterprise Server**

Uninstall the BlackBerry Enterprise Server

1. On the taskbar, click **Start** > **Settings** > **Control Panel**.

2. Double-click **Add/Remove Programs**.

3. Click **BlackBerry Enterprise Server**.

4. Click **Remove**.

5. Click **Yes** to confirm the removal.

> **Note:** The Java Runtime Environment and Java Web Start are not removed when you remove the BlackBerry Enterprise Server. You can remove these applications manually using the **Control Panel** > **Add/Remove Programs**.

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