



# Installation Guide

## BlackBerry Enterprise Server for IBM Lotus Domino

Version: 4.1 | Service Pack: 6



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# Planning a BlackBerry Enterprise Server installation

# 1

You can install all BlackBerry® Enterprise Server components on one computer, or you can install specific components on separate computers. Consider any impacts on system resources before you decide where to install a component.

Consider installing all components on one computer if you do not plan to activate many BlackBerry devices, if you have determined that the computer can handle the traffic volume for the BlackBerry Enterprise Server components, or if you do not mind that the computer has direct access to the wireless network. For performance information, see *BlackBerry Enterprise Server Performance Benchmarking*.

## Installing all BlackBerry Enterprise Server components on one computer

If you want to set up an evaluation or complete a simple installation of the BlackBerry® Enterprise Server for a small number of users, you can install all the BlackBerry Enterprise Server components on the same computer.

During the installation process, you can choose to install all BlackBerry Enterprise Server components, including the BlackBerry MDS Integration Service, on the same computer. The BlackBerry MDS Integration Service is only required if you want to use enterprise applications on BlackBerry devices.

## Installing the BlackBerry Attachment Service

The BlackBerry® Attachment Service converts supported attachments into a format that users can view on their BlackBerry devices.

The BlackBerry Attachment Service might use increased system resources when it processes numerous conversion requests at the same time. If you want to increase the number of conversion requests that can occur concurrently without impacting message delivery, you can install the BlackBerry Attachment Service on a separate computer.

You can connect multiple instances of the BlackBerry® Enterprise Server to a single BlackBerry Attachment Service.

If you install the BlackBerry Attachment Service on a separate computer, you install the BlackBerry Attachment Service and the BlackBerry Controller. The BlackBerry Controller monitors the BlackBerry Attachment Service and restarts it if it stops responding.

## Installing the BlackBerry Collaboration Service

The BlackBerry® Collaboration Service provides an encrypted connection between your organization's instant messaging server and the collaboration client on the BlackBerry device.

If you want to help maximize the number of available sockets so that the BlackBerry Collaboration Service can respond to more requests, you can install the BlackBerry Collaboration Service by itself on a separate computer.

If you install the BlackBerry Collaboration Service on a separate computer, you install the BlackBerry Collaboration Service and the BlackBerry Controller. The BlackBerry Controller monitors the BlackBerry Collaboration Service and restarts it if it stops responding.

You can connect multiple instances of the BlackBerry® Enterprise Server to a single BlackBerry Collaboration Service.

A different BlackBerry Collaboration Service exists for each instant messaging environment. For example, a BlackBerry Collaboration Service exists for Windows® Messenger, and a different BlackBerry Collaboration Service exists for IBM® Lotus® Sametime®. You can install only one BlackBerry Collaboration Service in your environment. Users can use only one type of collaboration client on their BlackBerry devices.

## Installing the BlackBerry Manager

The BlackBerry® Manager allows administrators to manage a BlackBerry® Domain. A BlackBerry Domain consists of single BlackBerry Configuration Database and all BlackBerry® Enterprise Server instances that use it.

You can install the BlackBerry Manager with other BlackBerry Enterprise Server components or by itself on administrator computers. Install the BlackBerry Manager on administrator computers if you have many administrators or if administrators cannot access the BlackBerry Enterprise Server computers.

## Installing the BlackBerry MDS Connection Service

The BlackBerry® MDS Connection Service provides users with access to online content and applications on the corporate intranet or the Internet.

The BlackBerry MDS Connection Service might use increased system resources when it processes content requests. If you want to minimize the impact on message delivery, you can install the BlackBerry MDS Connection Service by itself on a separate computer.

You can connect multiple instances of the BlackBerry® Enterprise Server to a single BlackBerry MDS Connection Service.

If you install the BlackBerry MDS Connection Service on a separate computer, you install the BlackBerry MDS Connection Service and the BlackBerry Controller. The BlackBerry Controller monitors the BlackBerry MDS Connection Service and restarts it if it stops responding.

## Installing the BlackBerry MDS Integration Service

The BlackBerry® MDS Integration Service provides connectivity between the BlackBerry MDS Runtime Application on BlackBerry devices and enterprise applications.

The BlackBerry MDS Integration Service might use increased system resources when it processes content requests. If you want to minimize the impact on message delivery, you can install the BlackBerry MDS Integration Service by itself on a separate computer.

You can connect multiple instances of the BlackBerry® Enterprise Server to a single BlackBerry MDS Integration Service.

If you install the BlackBerry MDS Integration Service on a separate computer, you install the BlackBerry MDS Integration Service and the BlackBerry Controller. The BlackBerry Controller monitors the BlackBerry MDS Integration Service and restarts it if it stops responding.

The BlackBerry MDS Integration Service requires the BlackBerry MDS Application Repository, which the setup application installs on your database server during the installation process. Each BlackBerry MDS Integration Service instance supports one BlackBerry MDS Application Repository.

## Installing the BlackBerry Router

The BlackBerry® Router connects to the wireless network and routes data to and from BlackBerry devices.

You can install the BlackBerry Router with other BlackBerry® Enterprise Server components or by itself on a separate computer. Install the BlackBerry Router on a separate computer if you want to set it up in the DMZ, or to install several standby instances of the BlackBerry Router as failover components in case your primary BlackBerry Router becomes unavailable.

You can connect multiple instances of the BlackBerry® Enterprise Server to a single BlackBerry Router.

If you install the BlackBerry Router on a separate computer, you install the BlackBerry Router and the BlackBerry Controller. The BlackBerry Controller monitors the BlackBerry Router and restarts it if it stops responding.

## Installing the Hosted BlackBerry Enterprise Server

The Hosted BlackBerry® Enterprise Server allows you to make the BlackBerry® Enterprise Server available to other organizations (for example, small or medium-sized businesses). When you configure the Hosted BlackBerry Enterprise Server in your corporate environment, one or multiple organizations can subscribe to your service.

If you want to install the Hosted BlackBerry Enterprise Server, the installation process and requirements are identical to those for the BlackBerry Enterprise Server. The Hosted BlackBerry Enterprise Server includes all of the components of the BlackBerry Enterprise Server, but it uses a different licensing model.

Depending on how you configure your hosted environment, you might require additional configurations after the installation.



## System requirements

## 2

For information about calculating hardware requirements, visit [www.blackberry.com/go/serverdocs](http://www.blackberry.com/go/serverdocs) to see the *BlackBerry Enterprise Server Capacity Calculator* and *BlackBerry Enterprise Server Performance Benchmarking*.

### System requirements: BlackBerry Enterprise Server

Item	Requirement
operating system	Any of the following operating systems: <ul style="list-style-type: none"> <li>Windows® 2000 SP4 Server or Advanced Server</li> <li>Windows Server® 2003 or later</li> <li>Windows Server 2003 or later (64-bit)</li> <li>Windows Server 2003 R2 SP2</li> <li>Windows Server 2003 R2 SP2 (64-bit)</li> </ul>
messaging server	Any of the following messaging servers installed physically close to where you plan to install the BlackBerry® Enterprise Server: <ul style="list-style-type: none"> <li>IBM® Lotus® Domino® version 5.0.12</li> <li>IBM Lotus Domino version 6.0.4 or later</li> <li>IBM Lotus Domino version 6.5.1 or later</li> <li>IBM Lotus Domino version 7.0 or later (version 7.0.2 or later required for HTML email)</li> <li>IBM Lotus Domino version 8.0 and 8.0.1</li> <li>IBM Lotus Domino Express version 7.0</li> <li>IBM Lotus Domino Express version 8.0</li> </ul>
notes.ini file	A notes.ini file with the following conditions: <ul style="list-style-type: none"> <li>read/write permissions</li> <li>SERVERKEYFILENAME value set to the server.id name</li> </ul>
messaging server application	Any of the following applications installed on the computer that hosts the BlackBerry Enterprise Server: <ul style="list-style-type: none"> <li>IBM Lotus Domino version 5.0.12 or later</li> <li>IBM Lotus Domino version 6.0.1 Critical Fixpack 2 or later with a primary Domain Directory</li> </ul>

Item	Requirement
	<ul style="list-style-type: none"> <li>• IBM Lotus Domino version 6.5.4 or later with a primary Domain Directory</li> <li>• IBM Lotus Domino version 7.0 with a primary Domino Directory (version 7.0.2 or later required for Windows Server 2003 (64-bit))</li> <li>• IBM Lotus Domino version 8.0 with a primary Domino Directory</li> <li>• IBM Lotus Domino Express version 7.0</li> <li>• IBM Lotus Domino Express version 8.0</li> </ul>
partitioning of the messaging client	a nonpartitioned messaging client
permissions for the messaging server application	<p>A messaging server application with the following permissions:</p> <ul style="list-style-type: none"> <li>• membership in the LocalDomainServers group</li> <li>• manager-level access to the mail files for BlackBerry device user accounts</li> </ul>
email application	<p>Any of the following email applications for your organization's users:</p> <ul style="list-style-type: none"> <li>• IBM® Lotus Notes® version 5.0.12 or later</li> <li>• IBM Lotus Notes version 6.0 or later</li> <li>• IBM Lotus Notes version 6.5 or later</li> <li>• IBM Lotus Notes version 7.0 (to support encrypted message display when the user.id file is stored in BlackBerry® Desktop Manager version 4.1)</li> <li>• IBM Lotus Notes version 8.0</li> </ul>
database management system	<p>Any of the following database management systems:</p> <ul style="list-style-type: none"> <li>• MSDE 2000</li> <li>• Microsoft® SQL Server® 2000 SP4</li> <li>• Microsoft SQL Server 2005 or later Professional, Enterprise, or Express</li> <li>• Microsoft SQL Server 2005 or later (64-bit)</li> <li>• IBM® DB2® UDB version 8.2 Express or Enterprise Fixpack 5</li> </ul>
collation setting	<p>To support Microsoft SQL Server, the following conditions on the database server:</p> <ul style="list-style-type: none"> <li>• collation setting is default case-insensitive</li> <li>• BlackBerry Configuration Database collation setting is default case-insensitive</li> </ul>
remote database conditions	named pipes and TCP/IP network protocols turned on
data access components	<p>Any of the following data access components on the computers that host the BlackBerry Enterprise Server or the BlackBerry Configuration Database:</p> <ul style="list-style-type: none"> <li>• MDAC version 2.8 with Security Patch MS04-003 (version 2000.85.1025.00)</li> </ul>

Item	Requirement
	<ul style="list-style-type: none"> <li>• MDAC version 2.8.2 (version 2000.86.1830.00), included with Windows Server 2003 SP1</li> </ul>
database conditions for the BlackBerry MDS Integration Service	<p>A database server with the following conditions:</p> <ul style="list-style-type: none"> <li>• host for the BlackBerry Configuration Database</li> <li>• support for mixed-mode authentication</li> </ul>
Microsoft® .NET Framework	to support languages other than English, localized version of Microsoft .NET Framework version 1.1 SP1
instant messaging server	<p>Any of the following instant messaging servers:</p> <ul style="list-style-type: none"> <li>• IBM® Lotus® Sametime® version 6.5.1 Community Server (version 6.5.1 or later required to support dormant mode)</li> <li>• IBM Lotus Sametime version 7.0 Community Server</li> <li>• IBM Lotus Sametime version 7.5 Community Server</li> <li>• IBM Lotus Sametime version 8.0 Community Server</li> <li>• Microsoft® Office Live Communications Server 2005 (SP1 required to support Microsoft® Office Communicator and dormant mode)</li> <li>• Microsoft® Office Communications Server 2007 Standard or Enterprise</li> <li>• Novell® GroupWise® Messenger version 2.0.1 or later</li> </ul>
browser	<p>Microsoft® Internet Explorer® with the following settings:</p> <ul style="list-style-type: none"> <li>• Java® or JavaScript® turned on</li> <li>• language preferences configured to display encoded web pages</li> </ul>
media player	to support audio attachments, Windows Media® Player version 9 or later
network proximity	high-speed, switched connection between the BlackBerry Enterprise Server and the messaging servers
firewall	<p>A firewall or proxy firewall with the following conditions:</p> <ul style="list-style-type: none"> <li>• support for the BlackBerry Enterprise Server to initiate an outgoing, two-way TCP/IP connection to an external server on port 3101</li> <li>• support for the resolution of Internet addresses using DNS</li> <li>• transparency of the proxy server for proxy firewalls</li> </ul>

## System requirements: BlackBerry Attachment Service

The following system requirements apply when installing the BlackBerry® Attachment Service on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: <ul style="list-style-type: none"> <li>Windows® 2000 SP4 (Server or Advanced Server)</li> <li>Windows Server® 2003 or later</li> <li>Windows Server 2003 or later (64-bit)</li> <li>Windows Server 2003 R2 SP2</li> <li>Windows Server 2003 R2 SP2 (64-bit)</li> <li>Windows® XP Professional SP2</li> </ul>
media player	To support audio attachments, Windows Media® Player version 9 or later
browser	Microsoft® Internet Explorer® with the following settings: <ul style="list-style-type: none"> <li>Java® or JavaScript® turned on</li> <li>language preferences configured to display encoded web pages</li> </ul>

## System requirements: BlackBerry Manager

The following system requirements apply when installing the BlackBerry® Manager on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: <ul style="list-style-type: none"> <li>Windows® 2000 SP4 (Server, Advanced Server, or Professional)</li> <li>Windows Server® 2003 or later</li> <li>Windows Server 2003 or later (64-bit)</li> <li>Windows Server 2003 R2 SP2</li> <li>Windows Server 2003 R2 SP2 (64-bit)</li> <li>Windows® XP Professional SP2</li> </ul>
notes.ini file	A notes.ini file with the following conditions: <ul style="list-style-type: none"> <li>read/write permissions</li> </ul>

Item	Requirement
messaging server application	<ul style="list-style-type: none"> <li>• the SERVERKEYFILENAME value set to the server.id name</li> </ul> Any of the following applications: <ul style="list-style-type: none"> <li>• IBM® Lotus® Domino® version 5.0.12 or later</li> <li>• IBM Lotus Domino version 6.0.1 Critical Fixpack 2 or later with the primary Domino Directory</li> <li>• IBM Lotus Domino version 6.5.4 or later with the primary Domino Directory</li> <li>• IBM Lotus Domino version 7.0 with the primary Domino Directory (version 7.0.2 or later required for Windows Server 2003 (64-bit))</li> <li>• IBM Lotus Domino version 8.0 with a primary Domain Directory</li> <li>• IBM Lotus Domino Express version 7.0</li> <li>• IBM Lotus Domino Express version 8.0</li> <li>• IBM® Lotus Notes® version 5.0.12 or later</li> <li>• IBM Lotus Notes version 6.0 or later</li> <li>• IBM Lotus Notes version 6.5 or later</li> <li>• IBM Lotus Notes version 7.0 (required to support encrypted message display when the user.id file is stored in BlackBerry® Desktop Manager version 4.1)</li> </ul>
partitioning of the messaging server application	a nonpartitioned messaging server application
permissions for the messaging server	A messaging server with the following permissions: <ul style="list-style-type: none"> <li>• membership in the LocalDomainServers group</li> <li>• permissions to run the agent</li> <li>• manager-level access to the mail files for BlackBerry device user accounts</li> </ul>
Microsoft® .NET Framework	To support languages other than English, localized version of Microsoft .NET Framework version 1.1 SP1
browser	Microsoft® Internet Explorer® with the following settings: <ul style="list-style-type: none"> <li>• Java® or JavaScript® turned on</li> <li>• language preferences set to display encoded web pages</li> </ul>
data access components	Any of the following data access components: <ul style="list-style-type: none"> <li>• MDAC version 2.8 with Security Patch MS04-003 (version 2000.85.1025.00)</li> <li>• MDAC version 2.8 SP2 (version 2000.86.1830.00)</li> </ul>
printer and file sharing	To support BlackBerry device implementation, printer and file sharing turned on

Item	Requirement
USB hub	To support BlackBerry device implementation that uses a hub, a USB driver that supports USB 1.1-compliant hubs

## System requirements: BlackBerry MDS Connection Service

The following system requirements apply when installing the BlackBerry® MDS Connection Service on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: <ul style="list-style-type: none"> <li>Windows® 2000 SP4 (Server, Advanced Server, or Professional)</li> <li>Windows Server® 2003 or later</li> <li>Windows Server 2003 or later (64-bit)</li> <li>Windows Server 2003 R2 SP2</li> <li>Windows Server 2003 R2 SP2 (64-bit)</li> <li>Windows® XP Professional SP2</li> </ul>
RSA® Authentication Agent	To support enhanced network authentication, RSA Authentication Agent version 5.0 for Windows

## System requirements: BlackBerry MDS Integration Service

The following system requirements apply when installing the BlackBerry® MDS Integration Service on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: <ul style="list-style-type: none"> <li>Windows® 2000 SP4 (Server or Advanced Server )</li> <li>Windows Server® 2003 or later</li> <li>Windows Server 2003 or later (64-bit)</li> <li>Windows Server 2003 R2 SP2</li> <li>Windows Server 2003 R2 SP2 (64-bit)</li> <li>Windows® XP Professional SP2</li> </ul>

Item	Requirement
database conditions	A database server with the following conditions: <ul style="list-style-type: none"> <li>• host for the BlackBerry Configuration Database</li> <li>• to support IBM® DB2® UDB, mixed-mode authentication turned on</li> </ul>

## System requirements: BlackBerry Router

The following system requirements apply when installing the BlackBerry® Router on a computer separate from the BlackBerry® Enterprise Server.

Item	Requirement
operating system	Any of the following operating systems: <ul style="list-style-type: none"> <li>• Windows® 2000 SP4 (Server or Advanced Server)</li> <li>• Windows Server® 2003 or later</li> <li>• Windows Server 2003 or later (64-bit)</li> <li>• Windows Server 2003 R2 SP2</li> <li>• Windows Server 2003 R2 SP2 (64-bit)</li> <li>• Windows® XP Professional SP2</li> </ul>
firewall	A firewall or proxy firewall with the following conditions: <ul style="list-style-type: none"> <li>• support for the BlackBerry Router to initiate an outgoing, two-way TCP/IP connection to an external server on port 3101</li> <li>• support for the resolution of Internet addresses using DNS</li> <li>• transparency of the proxy server for proxy firewalls</li> </ul>

## System requirements for optional environments and features

Item	Description
virtual environment	The BlackBerry® Enterprise Server and its components support the following virtual environments: <ul style="list-style-type: none"> <li>• VMware® ESX Server version 2.5.2 or later</li> <li>• VMware ESX Server version 3.0.1</li> <li>• VMware ESX Server version 3.5</li> </ul>

Item	Description
Windows® Messenger	The BlackBerry Collaboration Service supports Windows Messenger if MSMQ version 3.0 is installed. If installed separately from Windows Server® 2003, the default Microsoft® Active Directory® Integration and Triggers subcomponents must be cleared, and only the Common subcomponent must be selected.
Windows Messenger with TLS	<p>The BlackBerry Collaboration Service supports Windows Messenger with TLS if one of the following certificates is installed on the computer that hosts the BlackBerry Collaboration Service:</p> <ul style="list-style-type: none"> <li>• if your organization's instant messaging server is Microsoft® Office Live Communications Server 2005, an MTLS certificate</li> <li>• if your organization's instant messaging server is Microsoft Office Live Communications Server 2005 SP1, a server authentication certificate for the computer account</li> </ul>
IBM® Lotus® Sametime®	The BlackBerry Collaboration Service supports IBM Lotus Sametime when you add the IP address of the computer that hosts the BlackBerry Collaboration Service to the CommunityConnectivity document on the IBM Lotus Sametime server.
Novell® GroupWise® Messenger	The BlackBerry Collaboration Service supports Novell GroupWise Messenger when SSL authentication is turned on for the Novell GroupWise Messenger agents on the Novell GroupWise Messenger server.
Microsoft® Office Communicator Web Access server with TLS	<p>The BlackBerry Collaboration Service supports the Microsoft Office Communicator Web Access server with TLS if one of the following certificates is installed on the computer that hosts the BlackBerry Collaboration Service:</p> <ul style="list-style-type: none"> <li>• if your organization's instant messaging server is Microsoft Office Live Communications Server 2005 or Microsoft Office Communications Server 2007, an MTLS certificate</li> <li>• if your organization's instant messaging server is Microsoft Office Live Communications Server 2005 SP1, a server authentication certificate for the computer account</li> </ul>
Microsoft Office Communicator Web Access 2007 and AJAX Service	<p>The BlackBerry Collaboration Service supports the Microsoft Office Communicator Web Access 2007 server and the AJAX Service if you have installed a virtual server on your organization's Microsoft Office Communicator Web Access server, with the following conditions:</p> <ul style="list-style-type: none"> <li>• all IP addresses must be unassigned</li> </ul>

Item	Description
	<ul style="list-style-type: none"> <li>• optionally, support for an HTTPS browser connection</li> <li>• internal access only</li> </ul>
Microsoft Office Communicator Web Access 2005 server and AJAX Service	<p>The BlackBerry Collaboration Service supports the Microsoft Office Communicator Web Access 2005 server and the AJAX Service, with the following conditions:</p> <ul style="list-style-type: none"> <li>• the following Microsoft hotfixes from <a href="http://support.microsoft.com">http://support.microsoft.com</a> installed: <ul style="list-style-type: none"> <li>• 911996 on your organization's Microsoft Office Live Communications Server</li> <li>• 915066 on your organization's Microsoft Office Communicator Web Access server</li> </ul> </li> <li>• a virtual server installed on your organization's Microsoft Office Communicator Web Access server, with the following conditions: <ul style="list-style-type: none"> <li>• all IP addresses must be unassigned</li> <li>• forms-based authentication only</li> <li>• optionally, support for an HTTPS browser connection</li> <li>• an ISAPI filter for the cwaauth.dll file and the ajax.dll file</li> <li>• internal access only</li> </ul> </li> </ul>
enhanced network authentication	<p>The BlackBerry Enterprise Server and its components support RSA® Authentication Agent version 5.0 for Windows®.</p>
multiple IBM® Lotus® Domino® domains	<p>The BlackBerry Messaging Agent supports multiple IBM Lotus Domino domains with the following conditions:</p> <ul style="list-style-type: none"> <li>• IBM Lotus Domino server installed on the computer that hosts the BlackBerry Enterprise Server with the following conditions: <ul style="list-style-type: none"> <li>• connection documents from the IBM Lotus Domino servers in the domains that the server replicates from</li> <li>• membership in the LocalDomainServers group in all the domains in your organization's environment</li> </ul> </li> <li>• cross-certification established between the messaging servers and directory servers in other domains</li> </ul>
native notes encryption	<p>The BlackBerry Enterprise Server supports native notes encryption with IBM Lotus Domino server version 8.0.1.</p>

Item	Description
remote searching for email messages	The BlackBerry Enterprise Server supports remote searching for email messages when the mail files are full-text indexed. For more information, visit <a href="http://www.blackberry.com/support">www.blackberry.com/support</a> to read article KB15161.
searching for free and busy times in calendar	The BlackBerry Enterprise Server supports searching for free and busy times in the calendar when you install the Calendar Connector service (ncalconn.exe) on the computer.
SNMP monitoring	The BlackBerry Enterprise Server and its components support the SNMP service.
remote access	The BlackBerry Enterprise Server and its components support remote access using any of the following applications: <ul style="list-style-type: none"> <li>Terminal Services for use with Windows Server 2000, installed using Remote Administration mode</li> <li>Microsoft® Remote Desktop Connection for use with Windows Server 2003</li> </ul>

## Unsupported environments

Item	Description
DMZ	The BlackBerry® Enterprise Server and its components, with the exception of the BlackBerry Router, do not support installation in a DMZ.
email application	The BlackBerry Enterprise Server and its components do not support the installation of email applications on the same computer.
IBM® DB2® UDB	The BlackBerry Enterprise Server and its components do not support the installation of IBM DB2 UDB on a mainframe computer.
Microsoft® SQL Server® 2005 Express database	The BlackBerry MDS Integration Service databases do not support the Microsoft SQL Server 2005 Express database.

# Configuring your messaging environment

# 3

## Create a group for BlackBerry Enterprise Server administrators

You must configure the IBM® Lotus® Domino® messaging environment to permit access to specific databases from both the BlackBerry® Enterprise Server and the BlackBerry Manager. The BlackBerry Enterprise Server can be administered and managed only by the groups and users included in the BlackBerryAdmins group.

**Before you begin:** Verify that the LocalDomainServers group includes the server you plan to install the BlackBerry Enterprise Server on.

1. On a computer hosting the IBM Lotus Domino administration console, in the administration server directory, create an IBM Lotus Domino group with the following properties:
  - **Name:** BlackBerryAdmins
  - **Group type:** Access Control List only
  - **Description:** Users who can add, delete, and change settings for BlackBerry device users
  - **Members:** LocalDomainServers, any groups or users who might administer the BlackBerry Enterprise Server
2. On the server on which you plan to install the BlackBerry Enterprise Server, replicate the group in the IBM Lotus Domino Directory.

## Configure the server document to allow users to move within a BlackBerry Domain

1. Open the server document for the IBM® Lotus® Domino® server on which you plan to install the BlackBerry® Enterprise Server.
2. Perform one of the following actions:
  - To configure permissions on an IBM Lotus Domino server Version 6 or later, in the **Run unrestricted methods and operations** field, add the **LocalDomainServers** group.
  - To configure permissions on an IBM Lotus Domino server Version 5, in the **Run unrestricted Java/Javascript/COM** field, add the **LocalDomainServers** group.



## Setting up the database connection

## 4

The BlackBerry® Enterprise Server can connect to the BlackBerry Configuration Database on the Microsoft® SQL Server® using Microsoft® Windows® authentication or database authentication. If you use Microsoft Windows authentication, the BlackBerry Manager logs in to the BlackBerry Configuration Database using the Microsoft Windows account that you used to complete the installation.

If you use database authentication with Microsoft SQL Server, the BlackBerry Manager authenticates to the database using the database credentials that the administrator provides.

If you install the BlackBerry Configuration Database on an IBM® DB2® UDB, the BlackBerry Enterprise Server can connect to the database using Microsoft Windows authentication only. The BlackBerry Manager logs in to the BlackBerry Configuration Database using the Microsoft Windows account that you used to complete the installation.

### Specifying permissions when connecting to the BlackBerry Configuration Database using Microsoft Windows authentication

During the BlackBerry® Enterprise Server installation process, if you choose to connect to the BlackBerry Configuration Database using Microsoft® Windows® authentication, the Microsoft Windows account that you use must have permissions on the database server. The type of permissions depends on the BlackBerry Enterprise Server setup option that you choose, and on whether you create the BlackBerry Configuration Database on the same computer as the BlackBerry Enterprise Server or on another database server.

### Specifying MSDE 2000 permissions for the Microsoft Windows account

If you install MSDE 2000 during the BlackBerry® Enterprise Server installation process, you do not need to specify additional permissions. When you select Microsoft® Windows® authentication during the BlackBerry Enterprise Server installation process, the setup application automatically assigns the required permissions to the Microsoft Windows account that you are using to complete the installation.

### Assign Microsoft SQL Server permissions to the Microsoft Windows account

- > Perform one of the following actions:
  - If you create the BlackBerry® Configuration Database on the same computer as the BlackBerry® Enterprise Server, or if you install the BlackBerry MDS Integration Service, assign the system administrator permission to the Microsoft® Windows® account that you are using to complete the installation.
  - If you create the BlackBerry Configuration Database on another computer, assign server administrator and database creator permissions to the Microsoft Windows account that you are using to complete the installation. If you are using Microsoft® SQL Server® 2005, assign the system administrator permission, or each of the following roles: SQLAgentUserRole, SQLAgentReaderRole, and SQLAgentOperatorRole.

## Assign IBM DB2 UDB permissions to a local system account

1. On the database server, create a local system account with a password that does not expire.
2. Assign the account to the database administrator (DB2ADMN) group.

## Configuring authentication to the BlackBerry MDS Integration Service database

If you install the BlackBerry® MDS Integration Service on a Microsoft® SQL Server®, the setup application uses the same authentication method and account that you specified for the BlackBerry Configuration Database. The account requires the same permissions for the BlackBerry MDS Integration Service database as it requires for the BlackBerry Configuration Database.

If you install the BlackBerry MDS Integration Service database on an IBM® DB2® UDB, the BlackBerry MDS Integration Service can connect to the database using database authentication only.

## Configuring the local system account

### Configure the local system account for Microsoft Windows authentication

Perform this task if you want to use a local system account to access the BlackBerry® Enterprise Server, install the BlackBerry Configuration Database on a separate computer, and use Microsoft® Windows® authentication to connect to the BlackBerry Configuration Database.

- > In the Microsoft® SQL Server® Enterprise Manager or the Microsoft SQL Server Management Studio, create a new user with the following properties:
  - user name set to the name of the BlackBerry Enterprise Server computer, using the format *<Domain>\<computer\_name>*
  - authentication configured to Microsoft Windows authentication
  - roles assigned that are necessary to change the BlackBerry Configuration Database

### Configuring the local system account for database authentication

If you want to use a local system account for the BlackBerry® Enterprise Server, install the BlackBerry Configuration Database on a computer separate from the BlackBerry Enterprise Server, and use database authentication to connect to the BlackBerry Configuration Database, perform one of the following actions:

- add the user name and password for the database account to the Microsoft® Windows® registry
- for IBM® DB2® UDB environments only, add the user name and password for the database account to the ODBC data source

### Configure the local system account for database authentication by changing the registry

1. On the computer on which you plan to install the BlackBerry® Enterprise Server software, open the Registry Editor.
2. In HKEY\_USERS\DEFAULT\Software\Research In Motion\BlackBerry Enterprise Server\Database, create the following string values for a database account that has the required permissions:
  - **Login**
  - **Password**

### Configure the local system account for database authentication by changing the ODBC data source

This task applies to IBM® DB2® UDB environments only.

1. On the computer on which you plan to install the BlackBerry® Enterprise Server, click **Start > All Programs > Administrative Tools > Data Sources (ODBC)**.
2. Click the **System DSN** tab.
3. Open the properties for your database server.
4. Type the user name and password for the database account with the required permissions.
5. Select **Save password**.

The user name and password are saved in the db2cli.ini file.

**After you finish:** Restrict access to the db2cli.ini file.

## Create Microsoft Windows groups for administrators in an IBM DB2 UDB environment

If you use IBM® DB2® UDB, you cannot create BlackBerry® Enterprise Server administrator accounts by using the BlackBerry Manager. You must create Microsoft® Windows® groups on the database server for each BlackBerry Enterprise Server administrative role.

1. On your database server, open the Microsoft Windows Computer Management console.
2. Create the following Microsoft Windows groups:
  - rim\_db\_admin\_audit\_enterprise
  - rim\_db\_admin\_audit\_handheld
  - rim\_db\_admin\_audit\_jr\_helpdesk
  - rim\_db\_admin\_audit\_sr\_helpdesk
  - rim\_db\_admin\_enterprise
  - rim\_db\_admin\_handheld
  - rim\_db\_admin\_jr\_helpdesk
  - rim\_db\_admin\_sr\_helpdesk

## Configure authentication to the BlackBerry Configuration Database in an IBM DB2 UDB environment

- > On your database server, in the IBM® DB2® UDB Control Center, configure the database to perform the following actions:
  - control authentication at the client
  - trust the client authenticating at the server
  - search locally for the Microsoft® Windows® groups that you created

## Persistent socket connections for the BlackBerry Collaboration Service

# 5

Instant messaging environment	BlackBerry Collaboration Service requirements
Microsoft® Office Live Communications Server 2005 or Microsoft® Office Communications Server 2007, and TLS communication protocol	one persistent socket connection for each instant messaging session
Microsoft Office Live Communications Server 2005 or Microsoft Office Communications Server 2007, and TCP communication protocol	three persistent socket connections for each instant messaging session
Microsoft Office Live Communications Server 2005 or Microsoft Office Communications Server 2007, and HTTPS communication protocol	one persistent socket connection and multiple sequential socket connections for each instant messaging session
IBM® Lotus® Sametime®	three persistent socket connections to create one TCP connection; all instant messaging sessions use that TCP connection
Novell® GroupWise® Messenger	one persistent socket connection for each instant messaging session



# Installing the BlackBerry Enterprise Server software

# 6

## Applications installed with the BlackBerry Enterprise Server components

Item	Version	Components with which this item is installed
J2SE™ Runtime Environment	5.0 update 9	All
JRE™	1.6	<ul style="list-style-type: none"> <li>BlackBerry® MDS Connection Service</li> <li>BlackBerry Collaboration Service</li> </ul>
Microsoft® XML Parser	4.0 SP2	<ul style="list-style-type: none"> <li>BlackBerry Messaging Agent</li> <li>BlackBerry Attachment Service</li> <li>BlackBerry Manager</li> <li>BlackBerry Router</li> </ul>
Microsoft® .NET Framework	1.1 or 1.1 SP1	<ul style="list-style-type: none"> <li>BlackBerry Messaging Agent</li> <li>BlackBerry Manager</li> <li>BlackBerry Collaboration Service</li> </ul>
MSDE database	2000	BlackBerry® Enterprise Server
IBM® DB2® UDB Runtime Client Lite (in an IBM DB2 UDB environment only)	8.2	<ul style="list-style-type: none"> <li>BlackBerry MDS Integration Service</li> <li>BlackBerry Manager</li> </ul>

## Prerequisites: Installing the BlackBerry Enterprise Server

Item	Requirement
IBM® Lotus® Domino®	If the IBM Lotus Domino server is newly installed, start it and stop it.
IBM® DB2® UDB	In an IBM DB2 UDB environment, create the database user account before you install the BlackBerry® MDS Integration Service.
MAPI profile	In a Microsoft® Exchange 5.5, a Microsoft Exchange 2000, or a Microsoft Exchange 2003 environment, start the MAPI subsystem by opening the Microsoft Exchange System Manager.
credentials from the BlackBerry® Enterprise Server installation media	<ul style="list-style-type: none"> <li>CAL key</li> <li>SRP identifier</li> </ul>

Item	Requirement
	<ul style="list-style-type: none"> <li>• SRP key</li> <li>• SRP host</li> </ul>
installation credentials from your environment	<ul style="list-style-type: none"> <li>• computer name and port number of the instant messaging server (use the virtual server name and port number where the AJAX Service is installed, if applicable)</li> <li>• computer name and port number of the proxy server (optional)</li> </ul>
allowed lists for anti-virus and anti-spam software applications	Add the blackberry.net domain to the allowed lists in the anti-virus and anti-spam software applications that the messaging server or gateway uses.

## Install the BlackBerry Enterprise Server software

The installation process includes a restart of the computer.

If you use a .pac file to configure the connection to the proxy server, you can specify that file after you complete the installation process.

1. Log in to the computer using an administrative account with the appropriate database permissions.
2. Stop the IBM® Lotus® Domino® server and change the startup type to manual.
3. In the BlackBerry® Enterprise Server installation media, double-click the **setup.exe** file.
4. Complete the instructions on the screen.
5. When prompted to restart the computer, click **Yes**.
6. Log in to the computer using the same account that you used in Step 1 to start the setup application.
7. Complete the instructions on the screen.

**After you finish:** Complete the following actions:

- If you installed the BlackBerry Collaboration Service, download the collaboration client from [www.blackberry.com/support/downloads](http://www.blackberry.com/support/downloads) and install it.
- If you installed MSDE 2000, update the sa account password. For more information, visit [www.support.microsoft.com](http://www.support.microsoft.com) to read article 322336.
- If you configured the BlackBerry Configuration Database on a Microsoft® SQL Server® during installation, ensure the BlackBerry Configuration Database collation setting is set to default case-insensitive.

## Test the BlackBerry Enterprise Server installation

1. In the Windows® Services, verify that the BlackBerry® Enterprise Server services and the IBM® Lotus® Domino® service are running.

2. In the Windows Event Viewer and in the log files that are located in `<drive>\Program Files\Research In Motion\BlackBerry Enterprise Server\Logs`, check for error messages.  
For troubleshooting information, visit [www.blackberry.com/support](http://www.blackberry.com/support).
3. In the BlackBerry Manager, add a test user account.  
If you added a test user successfully, the connection from the BlackBerry Enterprise Server to the BlackBerry Configuration Database and the messaging server is open.
4. If you installed the BlackBerry MDS Connection Service, browse to `http://<BES_host>:8080`.  
If the status page appears, the BlackBerry MDS Connection Service is running successfully.

## Install the BlackBerry database notification system

The BlackBerry® database notification system helps to reduce the number of database queries that the BlackBerry® Enterprise Server makes to the BlackBerry Configuration Database.

If you create the BlackBerry Configuration Database on the same computer as the BlackBerry Enterprise Server, the BlackBerry database notification system installs automatically.

If you create the BlackBerry Configuration Database on a database server that is installed on a separate computer, you can install the BlackBerry database notification system manually after you complete the BlackBerry Enterprise Server installation.

**Before you begin:** You must have the system administrator role on the database server.

1. On the database server, open the BlackBerry Enterprise Server installation media.
2. In the **Tools\DBNS** folder, copy the **RimEsp.dll** file to `C:\Program Files\Microsoft SQL Server\MSSQL\Binn`.
3. Open the Microsoft® SQL Query Analyzer.
4. Using the console of the Microsoft SQL Query Analyzer, navigate to `Database\DBInstallScripts\SQLServer\4.5` on the BlackBerry Enterprise Server installation media.
5. Open the **NotifyInstall.sql** file and change `<_DATABASENAME_>` to the name of the BlackBerry Configuration Database (for example, `BesMgmt`).
6. Run the script.
7. Confirm that the Microsoft SQL Query Analyzer displays the message "Function `dbo.xp_RIMxxxx` registered."
8. To set up additional BlackBerry Configuration Database instances in your organization's environment, repeat steps 1 through 7.



## Postinstallation tasks

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### Specify the administration email address

Specify the address that the BlackBerry® Manager sends system messages or enterprise activation passwords from.

1. Create an email account on your messaging server.
2. In the BlackBerry Manager, in the left pane, click **BlackBerry Domain**.
3. On the **Global** tab, click **Edit Properties**.
4. In the **Administration** section, double-click **Email Sender Address**.
5. Type the email address that you want the BlackBerry Manager to send messages from.
6. Click **OK**.

### Connecting to a BlackBerry Attachment Service

Complete the following tasks if you have installed the BlackBerry® Attachment Service on a computer separate from the BlackBerry® Enterprise Server. These tasks ensure that other BlackBerry Enterprise Server components can connect to the BlackBerry Attachment Service.

### Connect the BlackBerry MDS Connection Service to a BlackBerry Attachment Service

Complete the following task if you have not installed the BlackBerry® Attachment Service on the same computer as the BlackBerry MDS Connection Service.

1. On the computer that hosts the BlackBerry MDS Connection Service, navigate to C:\Program Files\Research In Motion\BlackBerry Enterprise Server\MDS\Servers\Instance\config.
2. In a text editor, open **rimpublic.property**.
3. Type the following lines at the end of the file:  
**Attachment.Server.host=<attachment\_server\_hostname>**  
**Attachment.Server.port.asp=1900**  
**Attachment.Server.port.rqp=2000**
4. Save and close the file.
5. In the Microsoft® Windows® Services, restart the BlackBerry MDS Connection Service.
6. To connect another BlackBerry MDS Connection Service to the BlackBerry Attachment Service, complete steps 1 through 5.
7. On the computer that hosts the BlackBerry Attachment Service, open the Registry Editor.
8. Navigate to HKEY\_LOCAL\_MACHINE\SOFTWARE\Research In Motion\BBAttachServer\BBAttachBESExtension.

9. Change **AllowRemoteServices** to 1.
10. In the Microsoft Windows Services, restart the BlackBerry Attachment Service.

## Connect the BlackBerry Collaboration Service to a remote BlackBerry Attachment Service

Users can use the BlackBerry® Client for IBM® Lotus® Sametime® to send files to the contacts in their contact lists. To optimize files for viewing on BlackBerry devices, the BlackBerry Collaboration Service must be able to connect to the BlackBerry Attachment Service. If you have not installed the BlackBerry Attachment Service on the same computer as the BlackBerry Collaboration Service, you must connect the BlackBerry Collaboration Service to the BlackBerry Attachment Service.

1. On the computer that hosts the BlackBerry Collaboration Service, navigate to C:\Program Files\Research In Motion\BlackBerry Enterprise Server\BBIM\Servers\*<servername>*\config.
2. In a text editor, open the **rimpublic.property** file.
3. At the end of the file, type the following lines:  
**Attachment.Server.host=<attachmentserverhostname>**  
**Attachment.Server.port.asp=1900**  
**Attachment.Server.port.rqp=2000**
4. Save and close the file.
5. In the Windows® Services, restart the BlackBerry Collaboration Service.
6. To connect another BlackBerry Collaboration Service to the BlackBerry Attachment Service, complete steps 1 through 5.
7. On the computer that hosts the BlackBerry Attachment Service, in the Registry Editor, navigate to HKEY\_LOCAL\_MACHINE\SOFTWARE\Research In Motion\BBAttachServer\BBAttachBESExtension.
8. Change **AllowRemoteServices** to 1.
9. In the Microsoft Windows Services, restart the BlackBerry Attachment Service.

## Connect the BlackBerry Messaging Agent to a BlackBerry Attachment Service

Complete the following task if you have not installed the BlackBerry® Attachment Service on the same computer as the BlackBerry® Enterprise Server.

1. On the computer that hosts the BlackBerry Enterprise Server, on the taskbar, click **Start > Programs > BlackBerry Enterprise Server > BlackBerry Server Configuration**.
2. On the **Attachment Server** tab, in the **Configuration Option** drop-down list, click **Connector Configuration**.
3. In the **Server** field, type the name or IP address of the computer that hosts the BlackBerry Attachment Service.
4. In the **Server Submit Port** field, type the TCP/IP port number (between 1024 and 65,535) that the attachment connector uses to send the requests for attachment data to the BlackBerry Attachment Service.

5. In the **Server Result Port** field, type the TCP/IP port number (between 1024 and 65,535) that the BlackBerry Enterprise Server uses to query and retrieve the converted data from the BlackBerry Attachment Service.
6. In the **Polling Time(s) (seconds)** field, type the interval (between 10 and 300 seconds) that the BlackBerry Enterprise Server uses between querying the BlackBerry Attachment Service for when the conversion of large attachments is complete and the attachment is available for delivery.
7. Click **OK**.
8. In the Microsoft® Windows® Services, restart the BlackBerry Dispatcher.

## Connect a remote BlackBerry Attachment Service to the BlackBerry Messaging Agent

Complete the following task if you have not installed the BlackBerry® Attachment Service on the same computer as the BlackBerry® Enterprise Server.

**Before you begin:** Open the BlackBerry Configuration Panel on the BlackBerry Enterprise Server and record the port information for the Server Submit Port and the Server Result Port that the BlackBerry Enterprise Server uses.

1. On the computer that hosts the BlackBerry Attachment Service, on the taskbar, click **Start > Programs > BlackBerry Enterprise Server > BlackBerry Server Configuration**.
2. On the **Attachment Server** tab, in the **Configuration Option** drop-down list, click **Attachment Server**.
3. In the **Submit Port** field, type the same port number that you typed in the **Server Submit Port** field on the BlackBerry Enterprise Server.
4. In the **Result Port** field, type the same port number that you typed in the **Server Result Port** field on the BlackBerry Enterprise Server.
5. In the **Configuration Port** field, type the TCP/IP port number (between 1024 and 65,535) that the administrative console should use.
6. Click **OK**.
7. In the Microsoft® Windows® Services, restart the BlackBerry Attachment Service.

## Verify that the BlackBerry Collaboration Service can connect to Microsoft Office Communications Server 2007 or Microsoft Office Live Communications Server 2005

After you install the BlackBerry® Enterprise Server with the BlackBerry Collaboration Service, you can verify that the BlackBerry Collaboration Service can connect to your organization's instant messaging server.

1. Browse to the Microsoft® Office Communicator Web Access web client using a web address in the following format: `<protocol>://<cwahostcomputername>.< domainname>:<portnumber>`. (For example, `https://server01.test.rim.com:444`) Use the same host name, transport protocol, and port number that you specified for the instant messaging server when you installed the BlackBerry Collaboration Service. The port number might be optional if your organization's instant messaging server uses port 80 or port 443.

2. Log in to the Microsoft Office Communicator Web Access web client.

If you log in to the Microsoft Office Communicator Web Access web client successfully, the BlackBerry Collaboration Service can connect to your organization's instant messaging server.

## Authenticating the BlackBerry MDS Integration Service to the BlackBerry Manager and web services

After you install the BlackBerry® MDS Integration Service, you must install a digital certificate for the BlackBerry MDS Integration Service in the key store on the same computer. This certificate allows server-authenticated communication between the BlackBerry MDS Integration Service and the BlackBerry Manager.

You can install a self-signed certificate for the BlackBerry MDS Integration Service, or you can get a signed root certificate from a certificate authority and install it in the key store using the Java® keytool. You can replace the self-signed certificate with a signed root certificate at any time, but you should install the certificate that you want to use immediately after you install the BlackBerry MDS Integration Service and before you allow authentication with the BlackBerry Manager or web services using that certificate.

You can also export the certificate for the BlackBerry MDS Integration Service to allow client authentication with external web services.

For more information about using the Java keytool, visit [java.sun.com/javase/6/docs/technotes/tools/windows/keytool.html](http://java.sun.com/javase/6/docs/technotes/tools/windows/keytool.html).

## Allow the BlackBerry MDS Integration Service to communicate with the BlackBerry Manager

When the BlackBerry® Manager connects to the BlackBerry MDS Integration Service for the first time after installation, the BlackBerry Manager prompts you to view and install the BlackBerry MDS Integration Service self-signed certificate. This certificate allows server-authenticated communication between the BlackBerry MDS Integration Service and the BlackBerry Manager.

**Before you begin:** Perform this task immediately after you install the BlackBerry MDS Integration Service.

1. In the BlackBerry Manager, in the left pane, click a BlackBerry MDS Integration Service.
2. In the certificate installation dialog box, click **View Certificate**.
3. Review the certificate information.
4. Click **Install Certificate**.
5. Complete the instructions on the screen. Accept the default settings.
6. When prompted, click **Cancel**.

## Allow client authentication between the BlackBerry MDS Integration Service and web services

The self-signed certificate for the BlackBerry® MDS Integration Service allows client authentication between the BlackBerry MDS Integration Service and web services hosts. If the BlackBerry® MDS Runtime Applications in your organization's environment use HTTPS to communicate with web servers to receive application data and application updates, you must export the certificate for the BlackBerry MDS Integration Service to the web services hosts. This allows BlackBerry MDS Runtime Applications that use web services to authenticate to the web services and access them.

### Before you begin:

- Contact your organization's application developers for information about the web services that the BlackBerry MDS Runtime Applications in your environment use.
  - If you replaced the self-signed certificate for the BlackBerry MDS Integration Service with a signed root certificate from a certificate authority, the web services must trust the root certificate authority to authenticate to the BlackBerry MDS Integration Service.
1. Using Microsoft® Internet Explorer®, export the self-signed certificate for the BlackBerry MDS Integration Service from the trusted root certificate authorities area of the computer's key store.
  2. Send the self-signed certificate to the web services servers that the BlackBerry MDS Runtime Applications use.
  3. Verify that the certificate is installed in the trusted key store of the web services servers.

### After you finish:

- If multiple BlackBerry MDS Integration Service servers are installed, export the certificate for each BlackBerry MDS Integration Service.
- Allow BlackBerry MDS Runtime Applications to access web services using HTTPS.

## Configure how users search for email addresses in a Hosted BlackBerry Enterprise Server environment

If multiple organizations subscribe to your hosted service, user accounts might be located in different IBM® Lotus® Domino® domains on the Hosted BlackBerry® Enterprise Server. By default, if a BlackBerry device user tries to look up the contact information for a BlackBerry device user who is located in a different IBM Lotus Domino domain, the information does not appear. Depending on the setup of your hosted environment, you might want to change the default behavior.

1. On the BlackBerry® Enterprise Server, open the Registry Editor.
2. In the left pane, navigate to HKEY\_LOCAL\_MACHINE\Software\Research In Motion\BlackBerry Enterprise Server\Agents.
3. Create a DWORD value named **ALPAIILocalLookups**.
4. Set the value to **1**.
5. In the Microsoft® Windows® Services, restart the BlackBerry Controller.

## Add or remove a BlackBerry Enterprise Server component

Complete this task if you want to add or remove a BlackBerry® Enterprise Server component from a computer that also hosts other BlackBerry Enterprise Server components.

**CAUTION:** Before removing the existing BlackBerry Enterprise Server installation, move active user accounts to another BlackBerry Enterprise Server.

1. Perform one of the following actions to add a component:
  - remove the existing installation and reinstall the BlackBerry Enterprise Server with the component
  - if supported, install the component on a separate computer
2. Perform one of the following actions to remove a component:
  - turn off the service and set its Startup type to Manual
  - remove the existing installation and reinstall the BlackBerry Enterprise Server without the component

# Creating and managing administrators

# 8

## Administrative roles

The BlackBerry® Enterprise Server uses predefined roles, which correspond to common administrative roles in organizations, to control who can perform specific tasks and limit who can access sensitive data in your organization.

You assign each BlackBerry Enterprise Server administrator to an administrative role. If you already manage your organization using Windows® groups, assign those groups to the administrative roles so that you can manage role membership through the group.

When an administrator starts the BlackBerry Manager, the BlackBerry Manager checks the authentication credentials, determines the administrative role, and displays a list of the tasks that the administrator can perform.

Role	Description
security administrator (rim_db_admin_security)	<p>These administrators can perform all tasks. They are the only administrators who can manage role membership and change sensitive security properties, such as licenses and encryption keys.</p> <p>The administrator account that you created during the installation process is assigned the security administrator role automatically.</p> <p>If you are using an IBM® DB2® UDB database, this role is not required.</p>
enterprise administrator (rim_db_admin_enterprise)	<p>These administrators can perform all tasks that relate to user accounts, services, instances of the BlackBerry Enterprise Server, and global application data.</p> <p>These administrators cannot view role membership, licenses, or encryption keys.</p>
device administrator (rim_db_admin_handheld)	<p>These administrators can perform all tasks that relate to user accounts and BlackBerry device management, including:</p> <ul style="list-style-type: none"> <li>• supporting new user accounts</li> <li>• implementing BlackBerry devices</li> <li>• managing software configurations</li> </ul>

Role	Description
senior help desk administrator (rim_db_admin_sr_helpdesk)	<ul style="list-style-type: none"> <li>managing the installation and behavior of third-party applications on BlackBerry devices</li> </ul> These administrators can perform all tasks that relate to user account management, including: <ul style="list-style-type: none"> <li>adding, moving, and deleting user accounts</li> <li>updating and sending IT policies to BlackBerry devices</li> <li>sending IT administration commands to BlackBerry devices</li> </ul>
junior help desk administrator (rim_db_admin_jr_helpdesk)	These administrators can perform tasks that relate to user account management, including: <ul style="list-style-type: none"> <li>creating and sending passwords for activating BlackBerry devices over the wireless network</li> <li>resending service books or IT policies</li> </ul> These administrators cannot add, move, or delete user accounts or send certain IT administration commands.
auditor (rim_db_admin_audit_<role>)	These administrators can view all tasks and properties that relate to the role, but they cannot perform the tasks or change the properties. Use this view-only role when training new administrators.

## Creating a BlackBerry Enterprise Server administrator in a Microsoft SQL Server environment

BlackBerry® Enterprise Server administrators are database users who can access the BlackBerry Configuration Database using the BlackBerry Manager. This access is restricted to the administrative roles that the BlackBerry Enterprise Server administrators are assigned to.

Only administrators who are assigned to the security administrator role can create other BlackBerry Enterprise Server administrators accounts. When creating administrator accounts, perform one of the following tasks:

- assign an administrative role to an existing database account
- create a new database account and assign it an administrative role

## Assign an administrative role to a new or existing Microsoft SQL Server database account

**Note:** Do not assign an administrative role using the Microsoft® SQL Server® consoles or assign more than one administrative role to an administrator. The BlackBerry® Configuration Database uses the most restrictive settings to determine which tasks the BlackBerry Manager displays, so an administrator who is assigned both enterprise and junior help desk roles sees only the tasks for the junior help desk role.

### Before you begin:

- Verify that you have the system administrator role on the database server.
  - If you are creating a new database account and want to use Windows® authentication, verify that the Windows user account or group already exists.
1. In the BlackBerry Manager, in the left pane, click **BlackBerry Domain**.
  2. On the **Role Administration** tab, click a role.
  3. Complete one of the following actions:
    - To add an administrative role to an existing Microsoft SQL Server database account, click **List Administrators**.
    - To create a new Microsoft SQL Server database account and assign it to an administrative role, click **Add Administrators**.
  4. Complete one of the following actions:
    - To add an administrative role to an existing administrator account, click the administrator account that you want to add the role to.
    - To create a database account only and add an administrative role to the account, type a user name.
    - To create a database account for an existing Windows user account or group and add an administrative role to the account, type a user name preceded by a domain name (for example, DOMAIN\username).
  5. If prompted, type and confirm a password.
  6. Click **OK**.

## Creating a BlackBerry Enterprise Server administrator in an IBM DB2 UDB environment

BlackBerry® Enterprise Server administrators are Windows® users who are assigned to Windows groups that correspond to the administrative roles on the BlackBerry Enterprise Server. With a Windows account, administrators can access the BlackBerry Configuration Database by using the BlackBerry Manager. The access to the BlackBerry Configuration Database is restricted to the administrative roles that the BlackBerry Enterprise Server administrators are assigned to.

## Create a BlackBerry Enterprise Server administrator in an IBM DB2 UDB environment

**Note:** Do not assign more than one administrative role to an administrator. The BlackBerry® Configuration Database uses the most restrictive settings to determine which tasks the BlackBerry Manager displays, so an administrator who is assigned both enterprise and junior help desk roles sees only the tasks for the junior help desk role.

1. On the database server, open the Windows® Computer Management console.
2. Assign Windows users or groups to one of the following Windows groups:
  - rim\_db\_admin\_audit\_enterprise
  - rim\_db\_admin\_audit\_handheld
  - rim\_db\_admin\_audit\_jr\_helpdesk
  - rim\_db\_admin\_audit\_sr\_helpdesk
  - rim\_db\_admin\_enterprise
  - rim\_db\_admin\_handheld
  - rim\_db\_admin\_jr\_helpdesk
  - rim\_db\_admin\_sr\_helpdesk

## Configure the BlackBerry Manager to use database authentication in a Microsoft SQL Server environment

During the installation process, if you choose to connect to the BlackBerry® Configuration Database using Windows® authentication, the BlackBerry Manager uses Windows authentication automatically. If you create database accounts for your administrators, you must change the type of authentication that the BlackBerry Manager uses.

1. In the BlackBerry Manager, on the **Tools** menu, click **Options**.
2. Click **Database**.
3. In the **Authentication** drop-down list, click **Database Authentication**.
4. Click **OK**.
5. Restart the BlackBerry Manager.

## Assign a BlackBerry Enterprise Server administrator to a different administrative role

As organizational changes occur, you might need to move an administrator to a different administrative role.

1. In the BlackBerry® Manager, in the left pane, click **BlackBerry Domain**.
2. On the **Role Administration** tab, click the role that the administrator is assigned to.
3. Click **List Administrators**.
4. Remove the administrator from the list.
5. Click the role that you want to assign the administrator to.

6. Click the administrator.
7. Click **OK**.  
The database permissions change immediately.

**After you finish:** Instruct the administrator to restart the BlackBerry Manager.

## Delete an administrator account from a BlackBerry Enterprise Server

1. In the BlackBerry® Manager, in the left pane, click **BlackBerry Domain**.
2. On the **Role Administration** tab, click the role that the administrator is assigned to.
3. Click **Remove Administrators**.
4. In the drop-down list, click the administrator.
5. Click **OK**.

**After you finish:** Optionally, you can delete the database account associated with that administrator from the database.



# Removing the BlackBerry Enterprise Server software

# 9

## Remove the BlackBerry Enterprise Server software

Use this task to remove the BlackBerry® Enterprise Server or a BlackBerry Enterprise Server component that you have installed on a separate computer.

1. If the IBM® Lotus® Domino® server is running on the computer, turn it off.
2. On the taskbar, click **Start > Settings > Control Panel > Add/Remove Programs**.
3. Click **BlackBerry Enterprise Server**.
4. Click **Remove**.
5. Click **Yes**.
6. If prompted, perform one of the following actions:
  - To save all log files in the log directory, click **No**.
  - To delete all files in the log directory, click **Yes**.
7. If prompted, perform one of the following actions:
  - To save user information for a future BlackBerry® Enterprise Server installation, click **No**.
  - To delete all user information, click **Yes**.

**After you finish:** Optionally, you can delete remaining log files and remove the JRE™ software and the Java® Web Start software from the computer.

## Delete registry entries from your computer

1. On the computer that you removed the BlackBerry® Enterprise Server software from, open the Registry Editor.
2. Delete the following registry keys:

Location	KEY
HKEY_LOCAL_MACHINE\SOFTWARE	Research In Motion
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services	BBAttachServer and any keys starting with "BES" or "BlackBerry"
HKEY_LOCAL_MACHINE\System\ControlSet001\Services	BBAttachServer and any keys starting with "BES" or "BlackBerry"
HKEY_LOCAL_MACHINE\System\ControlSet00n\Services	BBAttachServer and any keys starting with "BES" or "BlackBerry"
HKEY_CURRENT_USER\Software	Research In Motion

Location	KEY
HKEY_CURRENT_USER\Software\Microsoft\Windows NT\ CurrentVersion\Windows Messaging SubSystem \Profiles	any keys named BlackBerryServer, BlackBerry Manager, or listed as the name of your BlackBerry Enterprise Server
HKEY_USERS\DEFAULT\Software	Research In Motion
HKEY_CLASSES_ROOT\Installer\Products	any key in which the ProductName is BlackBerry Enterprise Server

## Removing the BlackBerry database notification system

You must remove the BlackBerry® database notification system manually if you installed it manually. You can choose to remove the BlackBerry database notification system for one or all instances of the BlackBerry Configuration Database.

### Remove the BlackBerry database notification system from one BlackBerry Configuration Database

1. Open the Microsoft® SQL Query Analyzer.
2. Using the console, navigate to <drive>:\Database\DBInstallScripts\SQLServer\4.5 on the BlackBerry® Enterprise Server installation media.
3. Open the **NotifyUnInstall.sql** file.
4. Delete all commands after --- **delete notification stored procedures** and -- **delete notification tables**.
5. Run the script.
6. Perform one of the following actions:
  - Restart the Microsoft® SQL Server®.
  - In Windows® Explorer, navigate to C:\Program Files\Microsoft SQL Server\MSSQL\Binn. Rename the **RimEsp.dll** file (for example, **RimEspXXX.tmp**) .

### Remove the BlackBerry database notification system from all BlackBerry Configuration Database instances

1. Open the Microsoft® SQL Query Analyzer.
2. Using the console, navigate to <drive>:\Database\DBInstallScripts\SQLServer\4.5 on the BlackBerry® Enterprise Server installation media.
3. Open the **NotifyUnInstall.sql** file.
4. Run the script.
5. Using Windows® Explorer, navigate to C:\Program Files\Microsoft SQL Server\MSSQL\Binn.

6. Delete the **RimEsp.dll** file.



# Troubleshooting the BlackBerry Enterprise Server installation process

## 10

### A third-party tool did not install successfully and the BlackBerry Enterprise Server setup application closed

#### Possible solution

1. In the BlackBerry® Enterprise Server installation media, open the **Tools** folder.
2. Double-click the setup application file for the tool that you want to install.
3. Complete the instructions on the screen.
4. Restart the BlackBerry Enterprise Server setup application.

### Failed to write License Key to the Database

This message appears when you try to add the CAL key.

#### Possible solution

After you restart the computer during the BlackBerry® Enterprise Server installation process, you must log in using the same Microsoft® Windows® account that you used to start the installation process.

1. Close the setup application.
2. Log out of the computer.
3. Log in to the computer.
4. Restart the setup application.

### Previous version detected but no database available

This message appears when you start the setup application and the setup application stops responding.

#### Possible solution

The registry keys that identify your BlackBerry® Configuration Database must exist in the Microsoft® Windows® Registry.

1. On the computer on which you plan to upgrade the BlackBerry® Enterprise Server, open the Registry Editor.
2. In the left pane, navigate to HKEY\_LOCAL\_MACHINE\Research In Motion\BlackBerry Enterprise Server\Database.
3. Create the following case-sensitive string values (if they do not exist):
  - **DatabaseName**: Type the name of the BlackBerry Configuration Database.
  - **DatabaseServerMachineName**: Type the computer name of the database server.

4. Restart the setup application.

## Could not open ID file

This message appears when you start the BlackBerry® Enterprise Server setup application and the setup application closes.

### Possible solution

1. If you installed the IBM® Lotus® Domino® server recently but have not started it yet, start it and stop it.
2. Restart the setup application.

## The BlackBerry Collaboration Service does not connect to Microsoft Office Live Communications Server 2005

### Possible solution

If your instant messaging environment supports Windows® Messenger with TLS, you must configure authentication.

1. Download the trial edition of Microsoft® Office Communicator 2005 from [www.microsoft.com/downloads](http://www.microsoft.com/downloads).
2. Install Microsoft Office Communicator 2005 on the computer that hosts the BlackBerry® Collaboration Service.
3. Connect to Microsoft® Office Live Communications Server 2005 using Microsoft Office Communicator 2005.
4. If a connection does not open, verify that you installed or imported the certificates required for authentication.

## The setup application prompts you for access to the installation media for Microsoft .NET Framework Version 1.1

When the BlackBerry® Enterprise Server setup application installs Microsoft® .NET Framework Version 1.1 SP1 on a computer that hosts a previously installed version of Microsoft .NET Framework Version 1.1, it prompts you for access to the installation media for Microsoft .NET Framework Version 1.1.

### Possible solution

You can access the netfx.msi file that is included with the BlackBerry Enterprise Server installation media.

1. In the BlackBerry Enterprise Server installation media, open the **Tools** folder.
2. Double-click **netfx.msi**.
3. Complete the instructions on the screen.

## Attempt to establish connection failed with security reason "3"

This message appears in the IBM® Lotus® Domino® after you install and start the BlackBerry® Enterprise Server and IBM Lotus Domino.

### Possible solution

Configure the local Microsoft® Windows® account that the BlackBerry Enterprise Server uses for database authentication to connect to the remote BlackBerry Configuration Database.



# Glossary

# 11

**AJAX**

Asynchronous JavaScript® and XML

**BlackBerry Domain**

A BlackBerry Domain consists of the BlackBerry Configuration Database with its users and any BlackBerry® Enterprise Server instances that connect to it.

**BlackBerry MDS**

BlackBerry® Mobile Data System

**CAL**

A client access license (CAL) limits how many users you can add to the BlackBerry® Enterprise Server.

**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

**HTTPS**

Hypertext Transfer Protocol over Secure Sockets Layer

**IBM DB2 UDB**

IBM® DB2® Universal Database

**IP**

Internet Protocol

**ISAPI**

Internet Server Application Programming Interface

**J2SE**

Java® 2 Platform, Standard Edition

**JRE**

Java® Runtime Environment

**LAN**

local area network

**MDAC**

Microsoft® Data Access Components

**messaging server**

A messaging server sends and processes messages and provides collaboration services, such as updating and communicating calendar and address book information.

**MSDE**

Microsoft® SQL Server® Desktop Engine

**MSMQ**

Microsoft® Message Queuing

**MTLS**

Mutual Transport Layer Security

**ODBC**

Open Database Connectivity

**SNMP**

Simple Network Management Protocol

**SQL**

Structured Query Language

**SRP**

Server Routing Protocol

**SSL**

Secure Sockets Layer

**TCP**

Transmission Control Protocol

**TLS**

Transport Layer Security

**XML**

Extensible Markup Language

## Legal notice

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