



# BlackBerry Enterprise Server for Microsoft Exchange

Version 4.1

Installation Guide

## BlackBerry Enterprise Server Version 4.1 for Microsoft Exchange Installation Guide

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Research In Motion Limited  
295 Phillip Street  
Waterloo, ON N2L 3W8  
Canada

Research In Motion UK Limited  
Centrum House, 36 Station Road  
Egham, Surrey TW20 9LF  
United Kingdom

Published in Canada



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# Planning your BlackBerry environment

Choosing a BlackBerry Enterprise Server setup type  
Upgrading the BlackBerry Enterprise Server

## Choosing a BlackBerry Enterprise Server setup type

The BlackBerry Enterprise Server® consists of services and components. The BlackBerry® services are designed to provide productivity tools—such as email, instant messaging, and personal information management (PIM) functionality—and data from enterprise applications to mobile users. The BlackBerry components are designed to monitor BlackBerry services; process, route, compress, and encrypt data; and communicate with the wireless network.

You can install all BlackBerry components on one computer, or you can install particular components on separate computers. Consider any impacts on system resources when deciding where to install a component.

You can choose only one setup type for each computer in your environment.



**Warning:** After you choose a setup type, you cannot modify it. You must remove one setup type before you can install another.

Setup type	Description	Considerations
BlackBerry Enterprise Server	This setup type installs all BlackBerry components, except the BlackBerry Mobile Data System™ (BlackBerry MDS™) Services.	—

Setup type	Description	Considerations
BlackBerry MDS Services	<p>This setup type installs the BlackBerry Controller and the following BlackBerry MDS Services on a remote computer:</p> <ul style="list-style-type: none"> <li>• BlackBerry MDS Application Integration Service</li> <li>• BlackBerry MDS Data Optimization Service</li> <li>• BlackBerry MDS Provisioning Service</li> <li>• BlackBerry MDS Administrative and Management Service</li> <li>• BlackBerry MDS Studio™ Application Repository</li> </ul>	<p>A remote instance of the BlackBerry MDS Services can support multiple BlackBerry Enterprise Servers and one BlackBerry MDS Studio Application Repository.</p> <p>The BlackBerry MDS Services might use increased system resources when it processes content requests. Install an instance of the BlackBerry MDS Services on a remote computer to minimize the impact on message delivery.</p> <p>You must install the BlackBerry MDS Studio Application Repository on the same database server as the BlackBerry Configuration Database.</p>
BlackBerry Enterprise Server with BlackBerry MDS Services	<p>This setup type installs all BlackBerry components including BlackBerry MDS Services.</p>	—
BlackBerry Attachment Service	<p>This setup type installs the BlackBerry Attachment Service and the BlackBerry Controller on a remote computer.</p>	<p>A remote attachment service can support multiple BlackBerry Enterprise Servers.</p> <p>The attachment service might use increased system resources when it processes concurrent conversion requests. Install the attachment service on a remote computer to increase the number of concurrent conversions without impacting message delivery.</p>
BlackBerry Manager	<p>This setup type installs the BlackBerry Manager on a remote computer.</p>	<p>A remote BlackBerry Manager enables you to manage multiple BlackBerry Domains from your computer.</p>
BlackBerry Router	<p>This setup type installs the BlackBerry Router and the BlackBerry Controller on a remote computer.</p>	<p>A remote BlackBerry Router can support multiple BlackBerry Enterprise Servers and is designed to provide wireless network bypass to BlackBerry devices.</p> <p>The BlackBerry Router does not use many system resources, but it is a critical connection point for the BlackBerry Enterprise Solution™. You can install several standby BlackBerry Routers as failover locations in case your primary BlackBerry Router is unavailable.</p>
BlackBerry MDS Connection Service	<p>This setup type installs the BlackBerry MDS Connection Service and the BlackBerry Controller on a remote computer.</p>	<p>A remote connection service can support one BlackBerry Enterprise Server.</p> <p>The connection service might use increased system resources when it processes content requests. Install the connection service on a remote computer to minimize the impact on message delivery.</p>

Setup type	Description	Considerations
BlackBerry Collaboration Service	This setup type installs the BlackBerry Collaboration Service, the BlackBerry Instant Messaging Connector, and the BlackBerry Controller on a remote computer.	<p>A remote collaboration service can support one BlackBerry Enterprise Server.</p> <p>Your instant messaging environment can be IBM® Lotus® Sametime®, Microsoft® Live Communications Server, or Novell® GroupWise® Messenger. Your choice is not limited by your messaging server.</p> <p>You can install only one type of collaboration service, and users can use only one type of enterprise messenger application on the BlackBerry device.</p> <p>The collaboration service requires the following persistent connections, based on your instant messaging environment:</p> <ul style="list-style-type: none"> <li>• If your instant messaging server is Microsoft Live Communications Server 2005 and you are using Transport Layer Security (TLS) as the communication protocol, you require one persistent socket connection for each instant messaging session.</li> <li>• If your instant messaging server is Microsoft Live Communications Server 2005 and you are using Transmission Control Protocol (TCP) as the communication protocol, you require three persistent socket connections for each instant messaging session.</li> <li>• If your instant messaging server is Sametime, you require three persistent socket connections to create one TCP connection, and all instant messaging sessions use that connection.</li> <li>• If your instant messaging server is GroupWise Messenger, you require one persistent socket connection for each instant messaging session.</li> </ul> <p>Install the collaboration service on a remote computer to maximize the number of available sockets.</p>

## Upgrading the BlackBerry Enterprise Server

See the *BlackBerry Enterprise Server Version 4.1 Upgrade Guide* for more information.



# System requirements

## Hardware requirements

### System requirements for the BlackBerry Enterprise Server

### System requirements for remote components

## Hardware requirements

See the *BlackBerry Enterprise Server Version 4.0 for Microsoft Exchange Server Capacity Calculator and Performance Characteristics: BlackBerry Enterprise Server Version 4.0 for Microsoft Exchange* at [www.blackberry.com/knowledgecenterpublic](http://www.blackberry.com/knowledgecenterpublic) for more information about calculating hardware requirements based on the expected use of the BlackBerry Enterprise Server in your environment.

## System requirements for the BlackBerry Enterprise Server

You must confirm that the computer on which you plan to install the BlackBerry Enterprise Server meets the system requirements. You must also confirm that settings in your network, messaging and collaboration, and database environments are configured to support the BlackBerry Enterprise Server.

Checklists	Description	Reference
Checklist: Operating system requirements	This checklist describes the operating system software and settings that are required on the computer where you plan to install the BlackBerry Enterprise Server.	See page 12.
Checklist: Messaging and collaboration server software requirements	This checklist describes the messaging server software and settings that are required on the computer where you plan to install the BlackBerry Enterprise Server.	See page 13.
Checklist: Security support requirements	This checklist describes the security software that is required on the computer where you plan to install the BlackBerry Enterprise Server, if you want to support specific security features.	See page 13.
Checklist: Multilanguage support requirements	This checklist describes the configuration that is required on the computer where you plan to install the BlackBerry Enterprise Server, if you want to support localized message content.	See page 13.
Checklist: Additional software requirements	This checklist describes additional software that is required on the computer where you plan to install the BlackBerry Enterprise Server, if you want to read the documentation and help file, or if you want to implement multiple BlackBerry devices at a single computer.	See page 14.
Checklist: Network environment settings	This checklist describes how your BlackBerry Enterprise Server must connect to your firewall.	See page 14.

Checklists	Description	Reference
Checklist: Messaging and collaboration environment settings	This checklist describes the software and settings that are required on your messaging server, your instant messaging server, and your desktop email program.	See page 14.
Checklist: Terminal service settings	This checklist describes the software and settings that are supported for installing the BlackBerry Enterprise Server using a terminal or remote desktop session.	See page 15.
Checklist: Database environment settings	This checklist describes the software and settings that are required on your database server.	See page 15.

## Checklist: Operating system requirements



**Note:** Research In Motion® (RIM®) recommends that you install the most current service pack for each Microsoft product.

Considerations	
Install one of the following operating systems on the computer where you plan to install the BlackBerry Enterprise Server:	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• Microsoft Windows® 2000 (Server or Advanced Server editions)</li> <li>• Microsoft Windows Server™ 2003 (Service Pack 1 is required for Microsoft Live Communications Server support)</li> </ul>	
Install Microsoft Messaging Queue (MSMQ) version 3.0 (required for Microsoft Live Communications Server support).	<input type="checkbox"/>
<b>Note:</b> If you install MSMQ separately from Windows Server 2003, clear the default <b>Active Directory Integration and Triggers</b> subcomponents and select only the <b>Common</b> subcomponent.	
Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.	<input type="checkbox"/>
Install Microsoft .NET Framework version 1.1 (Service Pack 1 is required for Microsoft Live Communications Server support). You can install this program during the BlackBerry Enterprise Server installation.	<input type="checkbox"/>
If Microsoft .NET Framework version 1.1 is installed in a language other than English, you must download and install Service Pack 1 in the appropriate language.	<input type="checkbox"/>
Visit <a href="http://www.microsoft.com/netframework/downloads/">www.microsoft.com/netframework/downloads/</a> for more information.	
Install one of the following Microsoft Data Access Component (MDAC) versions on the computer where you plan to install the BlackBerry Enterprise Server:	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• MDAC 2.8 with Security Patch MS04-003 (version 2000.85.1025.00)</li> <li>• MDAC 2.8 Service Pack 2 (version 2000.86.1830.00)</li> </ul>	
<b>Note:</b> MDAC 2.8 Service Pack 2 is shipped only with Windows Server 2003 Service Pack 1.	
Install Java™ 2 Platform, Standard Edition (J2SE™) Runtime Environment version 5.0 update 4. You can install this program during the BlackBerry Enterprise Server installation.	<input type="checkbox"/>
If you are using Microsoft SQL Server, download and install the appropriate Java™ Database Connectivity (JDBC) driver.	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• <b>Microsoft SQL Server 2000 driver for JDBC™ Service Pack 3:</b> Visit <a href="http://www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.mspx">www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.mspx</a> for more information.</li> <li>• <b>Microsoft SQL Server 2005 driver for JDBC:</b> Visit <a href="http://www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.mspx">www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.mspx</a> for more information.</li> </ul>	

## Checklist: Messaging and collaboration server software requirements



**Warning:** Do *not* install Microsoft Outlook® on the same computer as the BlackBerry Enterprise Server. Visit [support.microsoft.com/kb/266418](http://support.microsoft.com/kb/266418) for more information.

### Considerations

Install one of the following Microsoft Exchange administration tools on the computer where you plan to install the BlackBerry Enterprise Server:

- Microsoft Exchange 5.5 Administrator
- Microsoft Exchange 2000 System Manager
- Microsoft Exchange 2003 System Manager

Install the BlackBerry Enterprise Server in the same Microsoft Exchange Organization as your messaging server.

Review Microsoft known issues that impact wireless calendar synchronization. See "Configuring Microsoft Exchange to support wireless calendar synchronization" on page 24 for more information.

If your instant messaging server is Microsoft Live Communications Server 2005 and you are using TLS as the communication protocol, you must install or import a Mutual TLS (MTLS) certificate on the computer where you plan to install the collaboration service.

If your instant messaging server is Microsoft Live Communications Server 2005 with Service Pack 1 and you are using TLS as the communication protocol, you must install or import a server authentication certificate under the computer account on the computer where you plan to install the collaboration service.

Visit [office.microsoft.com/en-us/FX011526591033.aspx](http://office.microsoft.com/en-us/FX011526591033.aspx) for more information about configuring certificates on Microsoft Live Communications Server 2005.

If your instant messaging server is GroupWise Messenger, you must turn on support for Secure Socket Layer (SSL) authentication of the GroupWise Messenger agents on the computer where you plan to install the collaboration service. See the *Messenger 1.0 Administration Guide* at [www.novell.com/documentation](http://www.novell.com/documentation) for more information about establishing messaging security with SSL encryption.

## Checklist: Security support requirements

### Considerations

If you are using RSA SecurID® authentication, you must install the RSA ACE/Agent® for Microsoft Windows version 5.0 on the computer where you plan to install the connection service.

## Checklist: Multilanguage support requirements

### Considerations

Verify that the default language group of the operating system is set to your language.

The Western Europe and United States language group (English, French, German, Italian, and Spanish code pages) is supported by default. Visit [www.microsoft.com/globaldev/handson/user/xpintl supp.msp](http://www.microsoft.com/globaldev/handson/user/xpintl supp.msp) for more information about downloading and installing additional language support.

Set your language preferences in Microsoft Internet Explorer to correctly display encoded web pages.

## Checklist: Additional software requirements

### Considerations

- If you run a Universal Serial Bus (USB) hub to implement BlackBerry devices while connected to the BlackBerry Manager, verify that the USB driver supports USB1.1-compliant hubs.
- Install Adobe® Acrobat® Reader® 3.0 or later so you can view the product guides.
- Set Microsoft Internet Explorer 4.0 or later with Java or JavaScript™ enabled as your default browser so you can view the online help.
- Install Microsoft XML Parser 4.0 or later. You can install this program during the BlackBerry Enterprise Server installation.

## Checklist: Network environment settings

### Considerations

- Verify that the BlackBerry Enterprise Server is physically close to the messaging servers. Use a high-speed switched connection between the BlackBerry Enterprise Server and the messaging servers. Network latency impacts BlackBerry Enterprise Server performance.
- Verify that the BlackBerry Enterprise Server is not installed in a perimeter network (demilitarized zone). Visit [www.blackberry.com/knowledgecenterpublic](http://www.blackberry.com/knowledgecenterpublic) to read article TAE-00038 for more information.
- Verify that the firewall settings permit the BlackBerry Enterprise Server computer to initiate a two-way TCP/IP connection to an external server on port 3101.
- Verify that the corporate firewall can resolve Internet addresses using the Domain Name System (DNS).
- Verify that the proxy server is transparent, if you are using a proxying firewall.

## Checklist: Messaging and collaboration environment settings

### Considerations

- Your messaging environment must be one of the following: 
  - Microsoft Exchange 5.5 native environment
  - Microsoft Exchange 2000 native environment
  - Microsoft Exchange 2003 native environment
  - Mixed environment (any combination of Microsoft Exchange 5.5 and, or Microsoft Exchange 2000 and, or Microsoft Exchange 2003)
- Your instant messaging server must be one of the following: 
  - Sametime version 3.0 Community Server
  - Sametime version 3.1 Community Server
  - Sametime version 6.5.1 Community Server
  - Microsoft Live Communications Server 2005 or later
  - GroupWise Messenger server version 1.0.2 or later

## Checklist: Terminal service settings

### Considerations

If your operating system is Windows Server 2000, you can install and access the BlackBerry Enterprise Server using the Terminal Services program.

You must install Terminal Services using Remote Administration mode. Visit [support.microsoft.com/kb/306624](http://support.microsoft.com/kb/306624) for more information.

**Note:** RIM does not recommend using Application Server mode. If you install Terminal Services using Application Server mode and then install the BlackBerry Enterprise Server, unpredictable results might occur.

If your operating system is Windows Server 2003, you can install and access the BlackBerry Enterprise Server using the Microsoft Remote Desktop Connection program that is included with Windows Server 2003.

**Note:** Do not install Terminal Services. If you install Terminal Services on Windows Server 2003, Terminal Services installs automatically in Application Server mode, which RIM does not recommend.

## Checklist: Database environment settings

### Considerations

Install one of the following database programs on the computer where you plan to install the configuration database:

- Microsoft SQL Server 2000 Desktop Engine (MSDE 2000)
- Microsoft SQL Server 2000 Service Pack 3a
- Microsoft SQL Server 2005 (Professional, Enterprise, or Express)

**Notes:** If you are installing BlackBerry MDS Services, you cannot use Microsoft SQL Server 2005 Express as your database program.

You can install MSDE 2000 during the BlackBerry Enterprise Server installation.

Install one of the following MDAC versions on the computer where you plan to install the configuration database:

- MDAC 2.8 with Security Patch MS04-003 (version 2000.85.1025.00)
- MDAC 2.8 Service Pack 2 (version 2000.86.1830.00)

MDAC 2.8 Service Pack 2 is shipped only with Windows Server 2003 Service Pack 1.

You must manage the configuration database using a BlackBerry Manager configured to support the database management system (DBMS) type. You select the DBMS type of the BlackBerry Manager during installation.

The version of MSDE 2000 (MSDE 2000 Release A) provided with the BlackBerry Enterprise Server does not support upgrading from a previous version of MSDE. Visit [support.microsoft.com/kb/829925](http://support.microsoft.com/kb/829925) for more information.

If you are using Microsoft SQL Server, install the program using the default case-insensitive collation setting.

If you are using Microsoft SQL Server, you can install the configuration database on a nondefault instance. During the installation process, you can specify `servername\instancename`.

If you are using Microsoft SQL Server and if you are using Windows authentication between the BlackBerry Enterprise Server and the configuration database, you must set Microsoft SQL Server to run under the Local System account.

If your configuration database is on a remote computer or you want to use a remote BlackBerry Manager, you must enable named pipes and TCP/IP network protocols.

If you are installing BlackBerry MDS Services, you must install the BlackBerry MDS Services databases on the same DBMS and on the same database server as the configuration database.

If you are installing BlackBerry MDS Services and if you are using Microsoft SQL Server, your Microsoft SQL Server must support Mixed Mode authentication. If you install the configuration database on MSDE 2000, you are prompted to accept this change in authentication.

**Considerations**

If you are installing BlackBerry MDS Services, you must use SQL authentication to create the BlackBerry MDS Services databases.

If you are using SQL authentication to create the configuration database, you must use a different SQL account to create the BlackBerry MDS Services databases.

**Note:** The BlackBerry MDS Services store their BlackBerry MDS Service database access credentials in plain text form in *<Installation directory>\BlackBerry MDS Services 4.1.0\jakarta-tomcat-5.5.9\conf\server.xml*. To protect the access credentials in that storage location, you must limit read and write control to that location.

## System requirements for remote components

If you install components on remote computers, you must confirm that the computer on which you plan to install the component meets the system requirements.

Checklists	Description	Reference
Checklist: BlackBerry MDS Services system requirements	This checklist describes the software and settings that are required on the computer where you plan to install the BlackBerry MDS Services.	See page 17.
Checklist: BlackBerry Enterprise Server with MDS Services system requirements	This checklist describes the software and settings that are required on the computer where you plan to install the BlackBerry Enterprise Server with BlackBerry MDS Services.	See page 17.
Checklist: BlackBerry Attachment Service system requirements	This checklist describes the software and settings that are required on the computer where you plan to install the BlackBerry Attachment Service.	See page 19.
Checklist: BlackBerry Manager system requirements	This checklist describes the software and settings that are required on the computer where you plan to install the BlackBerry Manager.	See page 19.
Checklist: BlackBerry Router system requirements	This checklist describes the software and settings that are required on the computer where you plan to install the BlackBerry Router.	See page 20.
Checklist: BlackBerry MDS Connection Service system requirements	This checklist describes the software and settings that are required on the computer where you plan to install the BlackBerry MDS Connection Service.	See page 20.
Checklist: BlackBerry Collaboration Service system requirements	This checklist describes the software and settings that are required on the computer where you plan to install the BlackBerry Collaboration Service.	See page 21.

## Checklist: BlackBerry MDS Services system requirements

System requirement	Considerations
Operating system	<p>Install one of the following operating systems on the computer where you plan to install the BlackBerry MDS Services: <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• Microsoft Windows 2000 (Server or Advanced Server editions)</li> <li>• Microsoft Windows Server 2003</li> <li>• Microsoft Windows XP</li> </ul> <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</p> <p>If you are using Microsoft SQL Server, download and install the appropriate JDBC driver.</p> <ul style="list-style-type: none"> <li>• <b>Microsoft SQL Server 2000 driver for JDBC Service Pack 3:</b> Visit <a href="http://www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.mspx">www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.mspx</a> for more information.</li> <li>• <b>Microsoft SQL Server 2005 driver for JDBC:</b> Visit <a href="http://www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.mspx">www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.mspx</a> for more information.</li> </ul>
Additional software requirement	<p>Install Adobe Acrobat Reader 3.0 or later so you can view the product guides. <input type="checkbox"/></p>

## Checklist: BlackBerry Enterprise Server with BlackBerry MDS Services system requirements

System requirement	Considerations
Operating system	<p>Install one of the following operating systems on the computer where you plan to install the BlackBerry Enterprise Server with BlackBerry MDS Services: <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• Microsoft Windows 2000 (Server or Advanced Server editions)</li> <li>• Microsoft Windows Server 2003</li> </ul> <p>Install MSMQ version 3.0 (required for Microsoft Live Communications Server support).</p> <p><b>Note:</b> If you install MSMQ separately from Windows Server 2003, clear the default <b>Active Directory Integration</b> and <b>Triggers</b> subcomponents and select only the <b>Common</b> subcomponent.</p> <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</p> <p>Install Microsoft .NET Framework version 1.1 Service Pack 1. You can install this program during the BlackBerry Enterprise Server installation.</p> <p>If Microsoft .NET Framework version 1.1 is installed in a language other than English, you must download and install Service Pack 1 in the appropriate language. Visit <a href="http://www.microsoft.com/netframework/downloads/">www.microsoft.com/netframework/downloads/</a> for more information.</p>

System requirement	Considerations
Operating system, continued	<p>Install one of the following MDAC versions:</p> <ul style="list-style-type: none"> <li>• MDAC 2.8 with Security Patch MS04-003 (version 2000.85.1025.00)</li> <li>• MDAC 2.8 Service Pack 2 (version 2000.86.1830.00)</li> </ul> <p><b>Note:</b> MDAC 2.8 Service Pack 2 is shipped only with Windows Server 2003 Service Pack 1.</p> <p>Install J2SE Runtime Environment version 5.0 update 4. You can install this program during the BlackBerry Enterprise Server installation.</p> <p>If you are using SQL server, download and install the appropriate JDBC driver.</p> <ul style="list-style-type: none"> <li>• <b>Microsoft SQL Server 2000 driver for JDBC Service Pack 3:</b> Visit <a href="http://www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.mspx">www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.mspx</a> for more information.</li> <li>• <b>Microsoft SQL Server 2005 driver for JDBC:</b> Visit <a href="http://www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.mspx">www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.mspx</a> for more information.</li> </ul>
Messaging and collaboration server software	<p>Install one of the following Microsoft Exchange administration tools on the computer where you plan to install the BlackBerry Enterprise Server with BlackBerry MDS Services: <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• Microsoft Exchange 5.5 Administrator</li> <li>• Microsoft Exchange 2000 System Manager</li> <li>• Microsoft Exchange 2003 System Manager</li> </ul> <p>Review Microsoft known issues that impact wireless calendar synchronization. See "Configuring Microsoft Exchange to support wireless calendar synchronization" on page 24 for more information.</p> <p>Install the BlackBerry Enterprise Server in the same Microsoft Exchange Organization as your messaging server.</p> <p>If your instant messaging server is Microsoft Live Communications Server 2005 and you are using TLS as the communication protocol, you must install or import an MTL certificate on the computer where you plan to install the collaboration service.</p> <p>If your instant messaging server is Microsoft Live Communications Server 2005 with Service Pack 1 and you are using TLS as the communication protocol, you must install or import a server authentication certificate under the computer account on the computer where you plan to install the collaboration service.</p> <p>Visit <a href="http://office.microsoft.com/en-us/FX011526591033.aspx">office.microsoft.com/en-us/FX011526591033.aspx</a> for more information about configuring certificates on Microsoft Live Communications Server 2005.</p>
Multilanguage support requirements	<p>Verify that the default language group of the operating system is set to your language. <input type="checkbox"/></p> <p>The Western Europe and United States language group (English, French, German, Italian, and Spanish code pages) is supported by default. Visit <a href="http://www.microsoft.com/globaldev/handson/user/xpintlupp.mspx">www.microsoft.com/globaldev/handson/user/xpintlupp.mspx</a> for more information about downloading and installing additional language support.</p> <p>Set your language preferences in Microsoft Internet Explorer to correctly display encoded web pages.</p>
Security support requirements	<p>If you are using RSA SecurID authentication, you must install the RSA ACE/Agent for Microsoft Windows version 5.0 on the computer where you plan to install the connection service. <input type="checkbox"/></p>
Additional software requirement	<p>If you run a USB hub to implement BlackBerry devices while connected to the BlackBerry Manager, verify that the USB driver supports USB1.1-compliant hubs. <input type="checkbox"/></p> <p>Install Adobe Acrobat Reader 3.0 or later so you can view the product guides.</p> <p>Set Microsoft Internet Explorer 4.0 or later with Java or JavaScript enabled as your default browser so you can view the online help.</p> <p>Install Microsoft XML Parser 4.0 or later. You can install this program during the BlackBerry Enterprise Server installation.</p>

## Checklist: BlackBerry Attachment Service system requirements

System requirement	Considerations	
Operating system	<p>Install one of the following operating systems on the computer where you plan to install the BlackBerry Attachment Service:</p> <ul style="list-style-type: none"> <li>• Microsoft Windows 2000 Service Pack 4 (Server or Advanced Server editions)</li> <li>• Microsoft Windows Server 2003</li> <li>• Microsoft Windows XP</li> </ul> <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</p>	<input type="checkbox"/>
Multilanguage support requirements	<p>Verify that the default language group of the operating system is set to your language.</p> <p>The Western Europe and United States language group (English, French, German, Italian, and Spanish code pages) is supported by default. Visit <a href="http://www.microsoft.com/globaldev/handson/user/xpintlsetup.msp">www.microsoft.com/globaldev/handson/user/xpintlsetup.msp</a> for more information about downloading and installing additional language support.</p> <p>Set your language preferences in Microsoft Internet Explorer to correctly display encoded web pages.</p>	<input type="checkbox"/>
Additional software requirement	<p>Install Adobe Acrobat Reader 3.0 or later so you can view the product guides.</p> <p>Set Microsoft Internet Explorer 4.0 or later with Java or JavaScript enabled as your default browser so you can view the online help.</p> <p>Install Microsoft XML Parser 4.0 or later. You can install this program during the BlackBerry Enterprise Server installation.</p>	<input type="checkbox"/>

## Checklist: BlackBerry Manager system requirements

System requirement	Considerations	
Operating system	<p>Install one of the following operating systems on the computer where you plan to install the BlackBerry Manager:</p> <ul style="list-style-type: none"> <li>• Microsoft Windows 2000 (Professional, Server, or Advanced Server editions)</li> <li>• Microsoft Windows Server 2003</li> <li>• Microsoft Windows XP Professional</li> </ul> <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</p> <p>Install Microsoft .NET Framework version 1.1 Service Pack 1. You can install this program during the BlackBerry Enterprise Server installation.</p> <p>If Microsoft .NET Framework version 1.1 is installed in a language other than English, you must download and install Service Pack 1 in the appropriate language. Visit <a href="http://www.microsoft.com/netframework/downloads/">www.microsoft.com/netframework/downloads/</a> for more information.</p> <p>In the operating system, turn on printer and file sharing to provision BlackBerry devices.</p>	<input type="checkbox"/>
Messaging and collaboration server software	<p>Install one of the following on the computer where you plan to install the BlackBerry Manager:</p> <ul style="list-style-type: none"> <li>• Microsoft Exchange 5.5 Administrator</li> <li>• Microsoft Exchange 2000 System Manager</li> <li>• Microsoft Exchange 2003 System Manager</li> <li>• Microsoft Outlook 2000 (Corporate or Workgroup installation)</li> <li>• Microsoft Outlook 2002 (XP) (Corporate or Workgroup installation)</li> <li>• Microsoft Outlook 2003 (Corporate or Workgroup installation)</li> </ul>	<input type="checkbox"/>

System requirement	Considerations
Multilanguage support requirements	<p>Verify that the default language group of the operating system is set to your language. <input type="checkbox"/></p> <p>The Western Europe and United States language group (English, French, German, Italian, and Spanish code pages) is supported by default. Visit <a href="http://www.microsoft.com/globaldev/handson/user/xpintl supp.msp">www.microsoft.com/globaldev/handson/user/xpintl supp.msp</a> for more information about downloading and installing additional language support.</p> <p>Set your language preferences in Microsoft Internet Explorer to correctly display encoded web pages.</p>
Additional software requirement	<p>Install Adobe Acrobat Reader 3.0 or later so you can view the product guides. <input type="checkbox"/></p> <p>Set Microsoft Internet Explorer 4.0 or later with Java or JavaScript enabled as your default browser so you can view the online help.</p> <p>Install Microsoft XML Parser 4.0 or later. You can install this program during the BlackBerry Enterprise Server installation.</p>

## Checklist: BlackBerry Router system requirements

System requirement	Considerations
Operating system	<p>Install one of the following operating systems on the computer where you plan to install the BlackBerry Router: <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• Microsoft Windows 2000 (Server or Advanced Server editions)</li> <li>• Microsoft Windows Server 2003</li> <li>• Microsoft Windows XP</li> </ul> <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</p>
Additional software requirement	<p>Install Adobe Acrobat Reader 3.0 or later so you can view the product guides. <input type="checkbox"/></p> <p>Install Microsoft XML Parser 4.0 or later. You can install this program during the BlackBerry Enterprise Server installation.</p>
Network environment settings	<p>You can install the BlackBerry Router in a perimeter network (demilitarized zone). <input type="checkbox"/></p> <p>Verify that the firewall settings allow the BlackBerry Router computer to initiate a two-way TCP/IP connection to an external server on port 3101.</p> <p>Verify that the corporate firewall can resolve Internet addresses using the DNS.</p> <p>Verify that the proxy is transparent, if you are using a proxying firewall.</p>

## Checklist: BlackBerry MDS Connection Service system requirements

System requirement	Considerations
Operating system	<p>Install one of the following operating systems on the computer where you plan to install the BlackBerry MDS Connection Service: <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• Microsoft Windows 2000 (Server or Advanced Server editions)</li> <li>• Microsoft Windows Server 2003</li> <li>• Microsoft Windows XP</li> </ul> <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</p>
Security support requirements	<p>If you are using RSA SecurID authentication, you must install the RSA ACE/Agent for Microsoft Windows version 5.0 on the computer where you plan to install the connection service. <input type="checkbox"/></p>

System requirement	Considerations
Additional software requirement	Install Adobe Acrobat Reader 3.0 or later so you can view the product guides. <input type="checkbox"/>

## Checklist: BlackBerry Collaboration Service system requirements

System requirement	Considerations
Operating system	<p>Install one of the following operating systems on the computer where you plan to install the BlackBerry Collaboration Service: <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• Microsoft Windows 2000 (Server or Advanced Server editions)</li> <li>• Microsoft Windows Server 2003 Service Pack 1 (required for Microsoft Live Communications Server support)</li> <li>• Microsoft Windows XP</li> </ul> <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</p> <p>Install Microsoft .NET Framework version 1.1 Service Pack 1 (required for Microsoft Live Communications Server support). You can install this program during the BlackBerry Enterprise Server installation.</p> <p>If Microsoft .NET Framework version 1.1 is installed in a language other than English, you must download and install Service Pack 1 in the appropriate language. Visit <a href="http://www.microsoft.com/netframework/downloads/">www.microsoft.com/netframework/downloads/</a> for more information.</p> <p>Install MSMQ version 3.0 (required for Microsoft Live Communications Server support).</p> <p><b>Note:</b> If you install MSMQ separately from Windows Server 2003, clear the default <b>Active Directory Integration</b> and <b>Triggers</b> subcomponents and select only the <b>Common</b> subcomponent.</p>
Messaging and collaboration server software	<p>If your instant messaging server is Microsoft Live Communications Server 2005 and you are using TLS as the communication protocol, you must install or import an MTL certificate on the computer where you plan to install the collaboration service. <input type="checkbox"/></p> <p>If your instant messaging server is Microsoft Live Communications Server 2005 with Service Pack 1 and you are using TLS as the communication protocol, you must install or import a server authentication certificate under the computer account on the computer where you plan to install the collaboration service.</p> <p>Visit <a href="http://office.microsoft.com/en-us/FX011526591033.aspx">office.microsoft.com/en-us/FX011526591033.aspx</a> for more information about configuring certificates on Microsoft Live Communications Server 2005.</p> <p>If your instant messaging server is GroupWise Messenger, you must turn on support for SSL authentication of the GroupWise Messenger agents on the computer where you plan to install the collaboration service. See the <i>Messenger 1.0 Administration Guide</i> at <a href="http://www.novell.com/documentation">www.novell.com/documentation</a> for more information about establishing messaging security with SSL encryption.</p>
Additional software requirement	Install Adobe Acrobat Reader 3.0 or later to view the product guides. <input type="checkbox"/>



# Configuring your environment

Enable the messaging environment to communicate with the BlackBerry Enterprise Server  
Setting database permissions

## Enable the messaging environment to communicate with the BlackBerry Enterprise Server

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

### Create a service account and mailbox

If the BlackBerry components are installed on separate computers, each computer requires a service account. However, the BlackBerry components can share the same Exchange mailbox.

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

1. In Microsoft Active directory®, create an account with the following attributes:
  - **Name:** BESAdmin
  - **User location:** Create an Exchange mailbox
  - **Group membership:** Domain User
2. Initialize the new mailbox by sending a test message.

### Configure Windows permissions for the service account

You must configure these permissions on each computer where you plan to install the BlackBerry components.

1. On the taskbar, click **Start > Programs > Administrative Tools > Local Security Policy**.
2. Give the service account the following permissions:
  - Log on locally with local permissions (if not assigned by default)
  - Log on as a service
3. On the taskbar, click **Start > Programs > Administrative Tools > Computer Management**.
4. Add the service account to the local Administrators group.

## Configure Microsoft Exchange permissions for the service account

You must configure these permissions on each computer where you plan to install the BlackBerry components.

- > Perform one of the following actions:

Action	Procedure
Set the permissions using Microsoft Exchange 5.5 Administrator.	> In both the Site and Configuration containers, set Service Account Admin permission.
Set the permissions using Microsoft Exchange 2000 or Microsoft Exchange 2003 System Manager.	<ol style="list-style-type: none"> <li>1. Set Exchange View Only Administrator permission with Administrative Groups as the minimum access level</li> <li>2. Set Send As, Receive As, and Administer Information Store permissions at the server level.</li> </ol>

## Enable MAPI profiles

- > To initialize the Messaging Application Programming Interface (MAPI) subsystem, open the Microsoft Exchange 2000 or Microsoft Exchange 2003 System Manager.



**Note:** If MAPI is not present after completing this step, you might need to run a tool that enables the BlackBerry Enterprise Server installation to facilitate MAPI profile creation and editing. See "Resolving issues during the installation process" on page 28 for more information.

## Configuring Microsoft Exchange to support wireless calendar synchronization

The BlackBerry Enterprise Server uses Microsoft Exchange System Manager tools to support wireless calendar synchronization with the Microsoft Exchange messaging server.

The version of the Microsoft Exchange System Manager tools that you install on the BlackBerry Enterprise Server must match the version—including service pack—that is on your messaging servers.

RIM recommends that you review the Microsoft known issues that might impact your messaging environment. If you experience a problem that is described in an article and have not upgraded your messaging servers to the service pack that contains the fix, download and install the hotfix on the computer where you plan to install the BlackBerry Enterprise Server.



**Note:** Verify that you meet the requirements described in the hotfix before installing it.

Review the following Microsoft known issues that might impact your messaging environment.

Microsoft Exchange System Manager tools	Microsoft Knowledge Base articles
Microsoft Exchange 5.5 Administrator	<ul style="list-style-type: none"> <li>• <a href="http://support.microsoft.com/kb/312273">support.microsoft.com/kb/312273</a></li> <li>• <a href="http://support.microsoft.com/kb/818709">support.microsoft.com/kb/818709</a></li> </ul>
Microsoft Exchange 2000 System Manager	<ul style="list-style-type: none"> <li>• <a href="http://support.microsoft.com/kb/314606">support.microsoft.com/kb/314606</a></li> <li>• <a href="http://support.microsoft.com/kb/824960">support.microsoft.com/kb/824960</a></li> </ul>
Microsoft Exchange 2003 System Manager	<ul style="list-style-type: none"> <li>• <a href="http://support.microsoft.com/kb/823343">support.microsoft.com/kb/823343</a></li> <li>• <a href="http://support.microsoft.com/kb/894470">support.microsoft.com/kb/894470</a></li> </ul>

## Setting database permissions

When you run the setup program, the account that you use must have permissions on the database server. The type of permission depends on the setup type you choose and whether you are creating the configuration database on the same computer as the BlackBerry Enterprise Server or on a remote database server.

If you create the configuration database on the same computer as the BlackBerry Enterprise Server, you also install a custom event-based notification system that is designed to reduce the number of database queries made by the BlackBerry Enterprise Server to the configuration database. You require a higher level of permission for this installation because you must register this database notification system.

If you create the configuration database on a remote database server, you do not install the database notification system automatically, so you require a lower level of permission. You can install the database notification system manually after you complete the setup program.

If you install the BlackBerry MDS Services, you must use a database login instead of a Windows account to create and access the BlackBerry MDS Services databases. If you are using a database login to create the configuration database, you must use a different login for the BlackBerry MDS Services databases.

The BlackBerry MDS Services store their BlackBerry MDS Service database access credentials in plain text form in *<Installation directory>\BlackBerry MDS Services 4.1.0\jakarta-tomcat-5.5.9\conf\server.xml*. To protect the access credentials in that storage location, you must limit read and write control to that location.

If you install MSDE 2000 during the BlackBerry Enterprise Server installation, you do not need to set additional permissions. When you select Windows (trusted) authentication during the BlackBerry Enterprise Server installation, the required permissions are given to the account that you use to run the setup program.

Visit [msdn.microsoft.com/library/default.asp?url=/library/en-us/admsql/ad\\_security\\_05bt.asp](http://msdn.microsoft.com/library/default.asp?url=/library/en-us/admsql/ad_security_05bt.asp) for more information about Microsoft SQL Server security.

## Set Microsoft SQL Server permissions

> Perform one of the following actions:

Action	Procedure
Create the configuration database on the same computer as the BlackBerry Enterprise Server and register the database notification system.	> Assign System Administrator permission.
Create the configuration database on a remote database server during the BlackBerry Enterprise Server installation.	> Assign Server Administrator and Database Creator permissions.
Create the BlackBerry MDS Services databases during the BlackBerry MDS Services or BlackBerry Enterprise Server with BlackBerry MDS Services installations.	> Assign System Administrator permission.



# Installing the BlackBerry Enterprise Server software

[Checklist: Confirm BlackBerry Enterprise Server installation requirements](#)  
[Install the BlackBerry Enterprise Server](#)  
[Install remote components](#)  
[Troubleshooting the BlackBerry Enterprise Server installation process](#)  
[Postinstallation tasks](#)

## Checklist: Confirm BlackBerry Enterprise Server installation requirements

Use the following checklist to confirm that you are ready to start the installation:

Step	
Select a setup type. See "Choosing a BlackBerry Enterprise Server setup type" on page 7 for more information.	<input type="checkbox"/>
Verify that you have met all the system requirements. See "System requirements for the BlackBerry Enterprise Server" on page 11 for more information.	<input type="checkbox"/>
Create the required accounts for the messaging server to access the BlackBerry Enterprise Server. See "Enable the messaging environment to communicate with the BlackBerry Enterprise Server" on page 23 for more information.	<input type="checkbox"/>
Log in to the computer using the service account with the appropriate server administrator and database permissions. See "Setting database permissions" on page 25 for more information.	<input type="checkbox"/>
<b>Note:</b> The service account is added automatically to the Security administrator role in the configuration database.	
Confirm that you have the following required credentials from the BlackBerry Enterprise Server installation media:	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• client access license key</li> <li>• SRP identifier</li> <li>• SRP key</li> <li>• SRP host</li> </ul>	
Confirm that you have the following required installation credentials from your environment:	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• computer name and port of the instant messaging server</li> <li>• computer name and port of the proxy server</li> </ul>	
<b>Note:</b> If you are using a .PAC file to configure the connection, you can specify the file after you complete the installation process.	

## Install the BlackBerry Enterprise Server

You add BlackBerry Enterprise Servers to a BlackBerry Domain by specifying a shared configuration database during the installation process.

1. Double-click the **setup.exe** file.
2. Complete the on-screen instructions.
3. When prompted to restart the computer, click **Yes**.
4. Sign in using the same account that you used for the setup program.
5. Complete the on-screen instructions.

## Install remote components

1. Double-click the **setup.exe** file.
2. Complete the on-screen instructions.
3. When prompted to restart the computer, click **Yes**.
4. Sign in using the same account that you used for the setup program.
5. Complete the on-screen instructions.

## Troubleshooting the BlackBerry Enterprise Server installation process

### Resolving issues during the installation process

Symptom	Possible solution
One of the third-party tools installed by the setup program does not install successfully and the setup program ends.	<ol style="list-style-type: none"> <li>1. In the BlackBerry Enterprise Server installation media, open the <b>Tools</b> folder and locate the program that you want to install.</li> <li>2. Install the third-party tool manually.</li> <li>3. Restart the setup program.</li> </ol>
When you start the setup program, the message "Previous version detected but no database available" appears and the setup program ends.	<p>Verify that the registry keys identifying your configuration database are present.</p> <ol style="list-style-type: none"> <li>1. On the server where you plan to install the BlackBerry Enterprise Server, start the Registry Editor.</li> <li>2. In the left pane, browse to <b>HKEY_LOCAL_MACHINE/Research In Motion/BlackBerry Enterprise Server/</b>.</li> <li>3. Create the following string values (if they do not exist): <ul style="list-style-type: none"> <li>• <b>DatabaseName</b>: Type the name of the configuration database.</li> <li>• <b>DatabaseServerMachineName</b>: Type the computer name of the database server.</li> </ul> <p><b>Note:</b> These values are case sensitive.</p> </li> <li>4. Restart the setup program.</li> </ol>

Symptom	Possible solution
You were not prompted to edit or confirm the MAPI profile during the installation.	<p>You can manually create and edit the MAPI profile.</p> <ol style="list-style-type: none"> <li>1. In the BlackBerry Enterprise Server installation media, open the <b>Tools</b> folder.</li> <li>2. Double-click the <b>Fixmapisvc.exe</b> file.</li> <li>3. Verify that the <b>mapisvc.inf</b> file is installed in C:\winnt\system32\ or C:\windows\system32\.</li> <li>4. On the taskbar, click <b>Start &gt; BlackBerry Enterprise Server &gt; Edit MAPI Profile</b>.</li> <li>5. Type the Microsoft Exchange server name.</li> <li>6. Select the mailbox associated with the MAPI profile.</li> <li>7. Click <b>OK</b>.</li> </ol>
When you install service pack 1 to a previously installed version of Microsoft .NET Framework version 1.1, the setup program prompts you for access to the original installation media for Microsoft .NET Framework version 1.1.	<ol style="list-style-type: none"> <li>1. When the setup program prompts you for the location of the <b>netfx.msi</b> file, browse to the <b>Tools</b> folder in the BlackBerry Enterprise Server installation media.</li> <li>2. Select the file.</li> </ol>

## Resolving issues after the installation process completes

Symptom	Possible solution
The collaboration service is not connecting to the Microsoft Live Communications Server.	<p>If you are using TLS as the communication protocol, verify that authentication is configured.</p> <ol style="list-style-type: none"> <li>1. Visit <a href="http://www.microsoft.com/downloads">www.microsoft.com/downloads</a> to download Microsoft Office Communicator 2005 Trial Edition.</li> <li>2. Install the Microsoft Office Communicator 2005 client on the computer where the collaboration service is located.</li> <li>3. Use Microsoft Office Communicator 2005 to connect to the Microsoft Live Communications Server.</li> <li>4. If a connection cannot be made, confirm you have installed or imported the required authentication certificates.</li> </ol>

## Postinstallation tasks

Action	Resource
Install the database notification system on your database server.	CDLayout\Tools\DBNS\DBNS_remote_installation.pdf
Add administrators to roles.	<i>BlackBerry Enterprise Server Version 4.1 System Administration Guide</i>
Add users to the BlackBerry Enterprise Server.	<i>BlackBerry Enterprise Server Version 4.1 System Administration Guide</i>
Implement BlackBerry devices.	<i>BlackBerry Enterprise Server Version 4.1 System Administration Guide</i>
Configure a connection between the BlackBerry Enterprise Server and the BlackBerry MDS Services.	<i>BlackBerry Enterprise Server Version 4.1 System Administration Guide</i>



# Removing the BlackBerry Enterprise Server software

Remove the BlackBerry Enterprise Server software  
 Remove the BlackBerry MDS Services software  
 Remove registry entries from your computer

## Remove the BlackBerry Enterprise Server software

The Java Runtime Environment and Java Web Start software is not removed when you remove the BlackBerry Enterprise Server. You must remove these applications manually.

1. On the taskbar, click **Start > Settings > Control Panel > Add/Remove Programs**.
2. Click **BlackBerry Enterprise Server**.
3. Click **Remove**.
4. Click **Yes**.

## Remove the BlackBerry MDS Services software

1. On the taskbar, click **Start > Settings > Control Panel > Add/Remove Programs**.
2. Click **BlackBerry MDS Services**.
3. Click **Remove**.
4. Click **Yes**.

## Remove registry entries from your computer

1. On the computer where you removed the BlackBerry Enterprise Server, start the Registry Editor.
2. Delete any of the following registry entries:

Entry	Location
Research In Motion	HKEY_LOCAL_MACHINE\Software\
BBAttachServer and any keys starting with "BES" or "BlackBerry"	HKEY_LOCAL_MACHINE\System\CurrentControlSet\Service\ HKEY_LOCAL_MACHINE\System\ControlSet001\Service\ HKEY_LOCAL_MACHINE\System\ControlSet002\Service\
Research In Motion	HKEY_CURRENT_USER\Software\

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Entry	Location
any keys named BlackBerryServer, BlackBerry Server Management, or listed as the name of your BlackBerry Enterprise Server	HKEY_CURRENT_USER\Software\Microsoft\Windows NT\CurrentVersion\Windows Messaging SubSystem\Profiles\
BESManmmc.dll	HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\App Paths\
any key in which the ProductName is BlackBerry Enterprise Server	HKEY_CLASSES_ROOT\Installer\Products\





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