



BlackBerry Enterprise Server for Microsoft Exchange

Version 4.1.1

Installation Guide

BlackBerry Enterprise Server Version 4.1.1 for Microsoft Exchange Installation Guide

Last modified: 20 July 2006

Part number: SWD_X_BES(EN)-152.004

At the time of publication, this documentation is based on BlackBerry Enterprise Server Version 4.1.1 for Microsoft Exchange.

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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"> • BlackBerry MDS Application Integration Service • BlackBerry MDS Data Optimization Service • BlackBerry MDS Provisioning Service • BlackBerry MDS Administrative and Management Service • BlackBerry MDS Studio™ Application Repository 	<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	This setup type installs all BlackBerry components including BlackBerry MDS Services.	—
BlackBerry Attachment Service	This setup type installs the BlackBerry Attachment Service and the BlackBerry Controller on a remote computer.	<p>A remote BlackBerry Attachment Service can support multiple BlackBerry Enterprise Servers.</p> <p>The BlackBerry Attachment Service might use increased system resources when it processes concurrent conversion requests. Install the BlackBerry Attachment Service on a remote computer to increase the number of concurrent conversions without impacting message delivery.</p>
BlackBerry Manager	This setup type installs the BlackBerry Manager on a remote computer.	A remote BlackBerry Manager enables you to manage multiple BlackBerry Domains from your computer.
BlackBerry Router	This setup type installs the BlackBerry Router and the BlackBerry Controller on a remote computer.	<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	This setup type installs the BlackBerry MDS Connection Service and the BlackBerry Controller on a remote computer.	<p>A remote BlackBerry MDS Connection Service can support one BlackBerry Enterprise Server.</p> <p>The BlackBerry MDS Connection Service might use increased system resources when it processes content requests. Install the BlackBerry MDS 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 BlackBerry Collaboration Service can support one BlackBerry Enterprise Server. 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 the BlackBerry Collaboration Service, and users can use only one type of enterprise messenger application on the BlackBerry device.</p> <p>The BlackBerry Collaboration Service requires the following persistent connections, based on your instant messaging environment:</p> <ul style="list-style-type: none"> • 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. • 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. • 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. • If your instant messaging server is GroupWise Messenger, you require one persistent socket connection for each instant messaging session. <p>Install the BlackBerry 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 4.1.1 Upgrade Guide* for more information.

System requirements

Hardware requirements
 System requirements for the BlackBerry Enterprise Server
 System requirements for remote components

Hardware requirements

Visit www.blackberry.com/knowledgecenterpublic to read the *BlackBerry Enterprise Server Version 4.0 for Microsoft Exchange Server Capacity Calculator* and the *Performance Characteristics: BlackBerry Enterprise Server Version 4.0 for Microsoft Exchange* 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 on which 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 on which you plan to install the BlackBerry Enterprise Server.	See page 12.
Checklist: Security support requirements	This checklist describes the security software that is required on the computer on which 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 on which 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 the additional software that is required on the computer on which 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 from a single computer.	See page 13.
Checklist: Network environment settings	This checklist describes how your BlackBerry Enterprise Server must connect to your firewall.	See page 14.
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.

Checklists	Description	Reference
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 on which you plan to install the BlackBerry Enterprise Server:

- Microsoft Windows® 2000 Service Pack 4 (Server or Advanced Server editions)
- Microsoft Windows Server™ 2003 (Service Pack 1 is required for Microsoft Live Communications Server support)

Install Microsoft Messaging Queue (MSMQ) Version 3.0 (required for Microsoft Live Communications Server support).

Note: If you install MSMQ separately from Windows Server 2003, clear the default **Active Directory Integration and Triggers** subcomponents and select only the **Common** subcomponent.

Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.

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.

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 www.microsoft.com/netframework/downloads/ for more information.

Install one of the following Microsoft Data Access Component (MDAC) versions on the computer on which you plan to install the BlackBerry Enterprise Server:

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

Note: MDAC Version 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.

If you are using Microsoft SQL Server, download and install the appropriate Java Database Connectivity (JDBC) driver.

- **Microsoft SQL Server 2000 driver for JDBC™ Service Pack 3:**
Visit www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.msp for more information.
- **Microsoft SQL Server 2005 driver for JDBC:**
Visit www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.msp for more information.

Checklist: Messaging and collaboration server software requirements



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

Considerations

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

- Microsoft Exchange Version 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 the 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 Transport Layer Security (TLS) as the communication protocol, you must install or import a Mutual TLS (MTLS) certificate on the computer on which you plan to install the BlackBerry 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 on which you plan to install the BlackBerry Collaboration Service.

Visit www.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 IBM Lotus Sametime Server, you must add the IP address of each computer on which you plan to install the BlackBerry Collaboration Service to the CommunityConnectivity document on the Sametime server.

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 on which you plan to install the BlackBerry Collaboration Service. Visit www.novell.com/documentation to read the *Messenger 1.0 Administration Guide* for more information.

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 on which you plan to install the BlackBerry MDS 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 for more information about downloading and installing additional language support.

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

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.

Considerations

- Install Adobe® Acrobat® Reader® Version 3.0 or later so that you can view the product guides.
- Set Microsoft Internet Explorer Version 4.0 or later with Java or JavaScript™ enabled as your default browser so that you can view the online help.
- Install Microsoft XML Parser Version 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 the performance of the BlackBerry Enterprise Server.
- Verify that the BlackBerry Enterprise Server is not installed in a perimeter network (demilitarized zone). Visit www.blackberry.com/knowledgecenterpublic to read article TAE-00038 for more information.
- Verify that you have configured the corporate firewall or proxy to permit the BlackBerry Enterprise Server to initiate and maintain an outbound connection to the BlackBerry Infrastructure on TCP 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 Version 5.5 native environment
 - Microsoft Exchange 2000 native environment
 - Microsoft Exchange 2003 native environment
 - mixed environment (any combination of Microsoft Exchange Version 5.5 and, or Microsoft Exchange 2000 and, or Microsoft Exchange 2003)
- Your instant messaging server must be one of the following:
 - IBM® Lotus® 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 the Terminal Services program using Remote Administration mode. Visit www.support.microsoft.com/kb/306624 for more information.

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

Checklist: Database environment settings

Considerations

Install one of the following database programs on the computer on which you plan to install the BlackBerry 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 on which you plan to install the BlackBerry Configuration Database:

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

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

You must manage the BlackBerry Configuration Database using a BlackBerry Manager that is configured to support the database management system (DBMS) type. You select the DBMS type of the BlackBerry Manager during the BlackBerry Enterprise Server 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 www.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 BlackBerry Configuration Database on a non-default 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 BlackBerry Configuration Database, you must set Microsoft SQL Server to run under the Local System account.

If the BlackBerry 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 the BlackBerry MDS Services, you must install the BlackBerry MDS Services databases on the same DBMS and on the same database server as the BlackBerry Configuration Database.

Considerations

If you are installing the BlackBerry MDS Services and if you are using Microsoft SQL Server, the Microsoft SQL Server must support mixed-mode authentication. If you install the BlackBerry Configuration Database on MSDE 2000, you are prompted to accept this change in authentication.

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

If you are using SQL authentication to create the BlackBerry 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 4.1.1\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 plan to install BlackBerry components on remote computers, you must confirm that those computers meet 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 on which 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 on which 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 on which 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 on which you plan to install the BlackBerry Manager.	See page 20.
Checklist: BlackBerry Router system requirements	This checklist describes the software and settings that are required on the computer on which 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 on which you plan to install the BlackBerry MDS Connection Service.	See page 21.
Checklist: BlackBerry Collaboration Service system requirements	This checklist describes the software and settings that are required on the computer on which you plan to install the BlackBerry Collaboration Service.	See page 22.

Checklist: BlackBerry MDS Services system requirements

System requirement	Considerations
operating system	<p>Install one of the following operating systems on the computer on which you plan to install the BlackBerry MDS Services: <input type="checkbox"/></p> <ul style="list-style-type: none"> • Microsoft Windows 2000 (Server or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP <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"> • Microsoft SQL Server 2000 driver for JDBC Service Pack 3: Visit www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.mspx for more information. • Microsoft SQL Server 2005 driver for JDBC: Visit www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.mspx for more information.
additional software requirement	<p>Install Adobe Acrobat Reader Version 3.0 or later so that 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 on which you plan to install the BlackBerry Enterprise Server with BlackBerry MDS Services: <input type="checkbox"/></p> <ul style="list-style-type: none"> • Microsoft Windows 2000 (Server or Advanced Server editions) • Microsoft Windows Server 2003 <p>Install MSMQ Version 3.0 (required for Microsoft Live Communications Server support).</p> <p>Note: If you install MSMQ separately from Windows Server 2003, clear the default Active Directory Integration and Triggers subcomponents and select only the Common 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 www.microsoft.com/netframework/downloads/ 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"> • MDAC Version 2.8 with Security Patch MS04-003 (Version 2000.85.1025.00) • MDAC Version 2.8 Service Pack 2 (Version 2000.86.1830.00) <p>Note: MDAC Version 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 Microsoft SQL Server, download and install the appropriate JDBC driver.</p> <ul style="list-style-type: none"> • Microsoft SQL Server 2000 driver for JDBC Service Pack 3: Visit www.microsoft.com/technet/prodtechnol/sql/2000/downloads/default.msp for more information. • Microsoft SQL Server 2005 driver for JDBC: www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.msp for more information. 	
messaging and collaboration server software	<p>Install one of the following Microsoft Exchange administration tools on the computer on which you plan to install the BlackBerry Enterprise Server with BlackBerry MDS Services:</p> <ul style="list-style-type: none"> • Microsoft Exchange Version 5.5 Administrator • Microsoft Exchange 2000 System Manager • Microsoft Exchange 2003 System Manager <p>Review the 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 MTLs certificate on the computer on which you plan to install the BlackBerry 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 on which you plan to install the BlackBerry Collaboration Service.</p> <p>Visit www.office.microsoft.com/en-us/FX011526591033.aspx for more information about configuring certificates on Microsoft Live Communications Server 2005.</p> <p>If your instant messaging server is IBM Lotus Sametime Server, you must add the IP address of each computer on which you plan to install the BlackBerry Collaboration Service to the CommunityConnectivity document on the Sametime server.</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 www.microsoft.com/globaldev/handson/user/xpintlup.msp for more information about downloading and installing additional language support.</p> <p>Set your language preferences in Microsoft Internet Explorer to display encoded web pages correctly.</p>	<input type="checkbox"/>
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 on which you plan to install the BlackBerry MDS Connection Service.</p>	<input type="checkbox"/>

System requirement	Considerations
additional software requirement	<p>If you run a USB hub to implement BlackBerry devices that are connected to the BlackBerry Manager, verify that the USB driver supports USB1.1-compliant hubs. <input type="checkbox"/></p> <p>Install Adobe Acrobat Reader Version 3.0 or later so that you can view the product guides.</p> <p>Set Microsoft Internet Explorer Version 4.0 or later with Java or JavaScript enabled as your default browser so that you can view the online help.</p> <p>Install Microsoft XML Parser Version 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 on which you plan to install the BlackBerry Attachment Service: <input type="checkbox"/></p> <ul style="list-style-type: none"> Microsoft Windows 2000 Service Pack 4 (Server or Advanced Server editions) Microsoft Windows Server 2003 Microsoft Windows XP <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</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 www.microsoft.com/globaldev/handson/user/xpintlsetup.msp for more information about downloading and installing additional language support.</p> <p>Set your language preferences in Microsoft Internet Explorer to display encoded web pages correctly.</p>
additional software requirement	<p>Install Adobe Acrobat Reader Version 3.0 or later so that you can view the product guides. <input type="checkbox"/></p> <p>Set Microsoft Internet Explorer Version 4.0 or later with Java or JavaScript enabled as your default browser so that you can view the online help.</p> <p>Install Microsoft XML Parser Version 4.0 or later. You can install this program during the BlackBerry Enterprise Server installation.</p>

Checklist: BlackBerry Manager system requirements

System requirement	Considerations	
operating system	<p>Install one of the following operating systems on the computer on which you plan to install the BlackBerry Manager:</p> <ul style="list-style-type: none"> • Microsoft Windows 2000 (Professional, Server, or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP Professional <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 www.microsoft.com/netframework/downloads/ 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 on which you plan to install the BlackBerry Manager:</p> <ul style="list-style-type: none"> • Microsoft Exchange Version 5.5 Administrator • Microsoft Exchange 2000 System Manager • Microsoft Exchange 2003 System Manager • Microsoft Outlook 2000 (Corporate or Workgroup installation) • Microsoft Outlook 2002 (XP) (Corporate or Workgroup installation) • Microsoft Outlook 2003 (Corporate or Workgroup installation) 	<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 www.microsoft.com/globaldev/handson/user/xpintl supp.msp for more information about downloading and installing additional language support.</p> <p>Set your language preferences in Microsoft Internet Explorer to display encoded web pages correctly.</p>	<input type="checkbox"/>
additional software requirement	<p>Install Adobe Acrobat Reader Version 3.0 or later so that you can view the product guides.</p> <p>Set Microsoft Internet Explorer Version 4.0 or later with Java or JavaScript enabled as your default browser so that you can view the online help.</p> <p>Install Microsoft XML Parser Version 4.0 or later. You can install this program during the BlackBerry Enterprise Server installation.</p>	<input type="checkbox"/>

Checklist: BlackBerry Router system requirements

System requirement	Considerations	
operating system	<p>Install one of the following operating systems on the computer on which you plan to install the BlackBerry Router:</p> <ul style="list-style-type: none"> • Microsoft Windows 2000 (Server or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP <p>Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.</p>	<input type="checkbox"/>

System requirement	Considerations
additional software requirement	<p>Install Adobe Acrobat Reader Version 3.0 or later so that you can view the product guides. <input type="checkbox"/></p> <p>Install Microsoft XML Parser Version 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 on which you plan to install the BlackBerry MDS Connection Service: <input type="checkbox"/></p> <ul style="list-style-type: none"> • Microsoft Windows 2000 (Server or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP <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 on which you plan to install the BlackBerry MDS Connection Service. <input type="checkbox"/></p>
additional software requirement	<p>Install Adobe Acrobat Reader Version 3.0 or later so that you can view the product guides. <input type="checkbox"/></p>

Checklist: BlackBerry Collaboration Service system requirements

System requirement	Considerations	
operating system	<p>Install one of the following operating systems on the computer on which you plan to install the BlackBerry Collaboration Service:</p> <ul style="list-style-type: none"> • Microsoft Windows 2000 (Server or Advanced Server editions) • Microsoft Windows Server 2003 Service Pack 1 (required for Microsoft Live Communications Server support) • Microsoft Windows XP <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 www.microsoft.com/netframework/downloads/ for more information.</p> <p>Install MSMQ Version 3.0 (required for Microsoft Live Communications Server support).</p> <p>Note: If you install MSMQ separately from Windows Server 2003, clear the default Active Directory Integration and Triggers subcomponents and select only the Common subcomponent.</p>	<input type="checkbox"/>
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 MTLS certificate on the computer on which you plan to install the BlackBerry 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 on which you plan to install the BlackBerry Collaboration Service.</p> <p>Visit www.office.microsoft.com/en-us/FX011526591033.aspx 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 on which you plan to install the BlackBerry Collaboration Service. Visit www.novell.com/documentation to read the <i>Messenger 1.0 Administration Guide</i> for more information.</p> <p>If your instant messaging server is IBM Lotus Sametime Server, you must add the IP address of each computer on which you plan to install the BlackBerry Collaboration Service to the CommunityConnectivity document on the Sametime server.</p>	<input type="checkbox"/>
additional software requirement	<p>Install Adobe Acrobat Reader Version 3.0 or later so that you can view the product guides.</p>	<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. The BlackBerry components can share the same Microsoft Exchange mailbox.

You might not be able to see the service 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 a Microsoft Exchange mailbox
 - **Group membership:** Domain User
2. Give this account the Send As permission for all user accounts in the User container of your Active Directory domain.
3. Initialize the new mailbox by sending a test message.

Configure Windows permissions for the service account

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

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 29 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 installed 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 you install it.

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

Microsoft Exchange System Manager tools	Microsoft knowledge base articles
Microsoft Exchange Version 5.5 Administrator	<ul style="list-style-type: none"> • www.support.microsoft.com/kb/312273 • www.support.microsoft.com/kb/818709
Microsoft Exchange 2000 System Manager	<ul style="list-style-type: none"> • www.support.microsoft.com/kb/314606 • www.support.microsoft.com/kb/824960
Microsoft Exchange 2003 System Manager	<ul style="list-style-type: none"> • www.support.microsoft.com/kb/823343 • www.support.microsoft.com/kb/894470

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 BlackBerry Configuration Database on the same computer as the BlackBerry Enterprise Server or on a remote database server.

If you create the BlackBerry 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 BlackBerry Configuration Database. You require a higher level of permission for this installation because you must register this database notification system.

If you create the BlackBerry 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. See "Install the database notification system" on page 28 for more information.

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 BlackBerry 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 4.1.1\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 used to run the setup program.

Visit www.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 BlackBerry Configuration Database on the same computer as the BlackBerry Enterprise Server and register the database notification system.	> Assign System Administrator permission.
Create the BlackBerry 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](#)
[Install the database notification system](#)
[Installing the Hosted BlackBerry for Microsoft Exchange](#)
[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"/>
Note: The service account is added automatically to the Security administrator role in the BlackBerry 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"> • client access license key • SRP identifier • SRP key • SRP host 	
Confirm that you have the following required installation credentials from your environment:	<input type="checkbox"/>
<ul style="list-style-type: none"> • computer name and port of the instant messaging server • computer name and port of the proxy server 	
Note: 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 BlackBerry Configuration Database during the installation process.

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

Install remote components

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

Install the database notification system

1. Connect to the Microsoft SQL Server instance using an account with System Administration permissions.
2. Copy the **RimEsp.dll** file to C:\Program Files\Microsoft SQL Server\MSSQL\Binn.
3. In the SQL Query Analyzer, browse to the \Database\DBInstallScripts\SQLServer\4.1 folder on the installation media.
4. Open the **NotifyInstall.sql** file and replace `<_DATABASENAME_>` with the name of your BlackBerry Configuration Database.
5. Run the script.
6. Confirm that the Query Analyzer displays the message "Function dbo.xp_RIM_xxxx registered."
7. Repeat steps 1 through 5 for additional BlackBerry Configuration Databases in your environment.

Installing the Hosted BlackBerry for Microsoft Exchange

If you are installing the Hosted BlackBerry™ for Microsoft Exchange, the installation recommendations, requirements, and procedures are identical to those for the BlackBerry Enterprise Server. The Hosted BlackBerry for Microsoft Exchange is a version of the BlackBerry Enterprise Server that you can provide to an organization. It includes all of the services and components of the BlackBerry Enterprise Server, but uses a different licensing model.

Depending on how you set up your hosted environment, additional configurations might be required after installation. See the *BlackBerry Enterprise Server Version 4.1.1 System Administration Guide* for more information about configuring a hosted environment.

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"> In the BlackBerry Enterprise Server installation media, open the Tools folder and locate the program that you want to install. Install the third-party tool manually. Restart the setup program.
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 BlackBerry Configuration Database are present.</p> <ol style="list-style-type: none"> On the server where you plan to install the BlackBerry Enterprise Server, start the Registry Editor. In the left pane, browse to HKEY_LOCAL_MACHINE/Research In Motion/BlackBerry Enterprise Server/. Create the following string values (if they do not exist): <ul style="list-style-type: none"> DatabaseName: Type the name of the BlackBerry Configuration Database. DatabaseServerMachineName: Type the computer name of the database server. <p>Note: These values are case sensitive.</p> Restart the setup program.
After you attempt to add the CAL license key, the "Failed to write License Key to the Database" message appears.	<ol style="list-style-type: none"> Cancel the installation. Log off the computer. Log into the computer using the same account that you used to start the installation. Double-click the setup.exe file to proceed with the installation..
You were not prompted to edit or confirm the MAPI profile during the installation.	<p>You can create and edit the MAPI profile manually.</p> <ol style="list-style-type: none"> In the BlackBerry Enterprise Server installation media, in the Tools folder, double-click the Fixmapisvc.exe file. Verify that the mapisvc.inf file is installed at C:\winnt\system32\ or C:\windows\system32\. On the taskbar, click Start > BlackBerry Enterprise Server > Edit MAPI Profile. Type the Microsoft Exchange Server name. Select the mailbox associated with the MAPI profile. Click OK.

Symptom	Possible solution
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"> 1. When the setup program prompts you for the location of the netfx.msi file, browse to the Tools folder in the BlackBerry Enterprise Server installation media. 2. Select the file.

Resolving issues after the installation process completes

Symptom	Possible solution
The BlackBerry 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"> 1. Visit www.microsoft.com/downloads to download Microsoft Office Communicator 2005 Trial Edition. 2. Install the Microsoft Office Communicator 2005 client on the computer where the BlackBerry Collaboration Service is located. 3. Use Microsoft Office Communicator 2005 to connect to the Microsoft Live Communications Server. 4. If a connection cannot be made, confirm that you have installed or imported the required authentication certificates.

Postinstallation tasks

Action	Resource
Add administrators to roles.	<i>BlackBerry Enterprise Server Version 4.1.1 System Administration Guide</i>
Add users to the BlackBerry Enterprise Server.	<i>BlackBerry Enterprise Server Version 4.1.1 System Administration Guide</i>
Implement BlackBerry devices.	<i>BlackBerry Enterprise Server Version 4.1.1 System Administration Guide</i>
Configure a connection between the BlackBerry Enterprise Server and the BlackBerry MDS Services.	<i>BlackBerry Enterprise Server Version 4.1.1 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 database notification system

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\
BBAAttachServer 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\

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\

Remove the database notification system

You might need to restart the Microsoft SQL Server to complete the removal. If you do not want to restart the server, rename the `RimEsp.dll` file (for example, to `RimEspXXX.tmp`).

1. In the SQL Query Analyzer, browse to the `\Database\DBInstallScripts\SQLServer\4.1` folder on the installation CD.
2. Open the `NotifyUnInstall.sql` file.
3. Perform one of the following actions:

Action	Procedure
Remove the database notification system from one BlackBerry Configuration Database.	<ol style="list-style-type: none"> 1. Delete all commands after – delete notification stored procedures and – delete notification tables. 2. Run the script.
Remove the database notification system from all BlackBerry Configuration Databases.	<ol style="list-style-type: none"> 1. Run the script. 2. At <code>C:\Program Files\Microsoft SQL Server\MSSQL\Binn</code>, delete the <code>RimEsp.dll</code> file.



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