BlackBerry Enterprise Server for IBM Lotus Domino

Version 4.1.1

Installation Guide

BlackBerry Enterprise Server Version 4.1.1 for IBM Lotus Domino Installation Guide

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At the time of publication, this documentation is based on BlackBerry Enterprise Server Version 4.1.1 for IBM Lotus Domino.

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Contents

1

Planning your BlackBerry environment

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	This setup type installs the BlackBerry Controller and the following BlackBerry MDS Services on a remote computer: • 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	A remote instance of the BlackBerry MDS Services can support multiple BlackBerry Enterprise Servers and one BlackBerry MDS Studio Application Repository. 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. You must install the BlackBerry MDS Studio Application Repository on the same database server as the BlackBerry Configuration Database.
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.	A remote BlackBerry Attachment Service can support multiple BlackBerry Enterprise Servers. 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.
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.	A remote BlackBerry Router can support multiple BlackBerry Enterprise Servers and is designed to provide wireless network bypass to BlackBerry devices. 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.
BlackBerry MDS Connection Service	This setup type installs the BlackBerry MDS Connection Service and the BlackBerry Controller on a remote computer.	A remote BlackBerry MDS Connection Service can support one BlackBerry Enterprise Server. 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.

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.	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. 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. The BlackBerry Collaboration Service requires the following persistent connections, based on your instant messaging environment: • 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. Install the BlackBerry Collaboration Service on a remote computer to maximize the number of available sockets.

Upgrading the BlackBerry Enterprise Server

See the *BlackBerry Enterprise Server Version 4.1.1 Upgrade Guide* for more information.

System requirements

Hardware requirements

Visit www.blackberry.com/knowledgecenterpublic to read the *BlackBerry Enterprise Server Version 4.0 for IBM Lotus Domino Server Capacity Calculator* and the *Performance Characteristics: BlackBerry Enterprise Server Version 4.0 for IBM Lotus Domino* 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 14.
Checklist: Multidomain support requirements	This checklist describes the configuration that is required on the computer where you plan to install the BlackBerry Enterprise Server, if you have a multidomain IBM Lotus Domino® messaging environment.	See page 14.
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 14.
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 15.
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 16.

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: • 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 where you plan to install the BlackBerry Enterprise Server: • MDAC 2.8 with Security Patch MS04-003 (Version 2000.85.1025.00) • MDAC 2.8 Service Pack 2 (Version 2000.86.1830.00) **Note**: 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.	☐
If you are using IBM DB2 Universal Database™ (DB2 UDB), install the IBM DB2 Universal Database Runtime Client Lite. 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.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.	☐

Checklist: Messaging and collaboration server software requirements

⚠ **Warning**: Do *not* install IBM Lotus Notes® client software on the same computer as the BlackBerry Enterprise Server.

Considerations	
Install one of the following messaging and collaboration servers on the computer where you plan to install the BlackBerry Enterprise Server: • IBM Lotus Domino server Version 5.0.3 or later (Version 5.0.12 recommended) • IBM Lotus Domino server Version 6.0.1 Critical Fixpack 2 or later (Primary Domino Directory required) • IBM Lotus Domino server Version 6.5 or later (Primary Domino Directory required; Version 6.5.1 required to support PIM synchronization for roaming users) • IBM Lotus Domino server Version 7.0 (required to support encrypted message display) **Note**: Do not install the BlackBerry Enterprise Server on a partitioned IBM Lotus Domino server.	☐
Verify that the Notes.ini file has read/write permission.	☐
Verify that the Notes.ini file does not include the full path information for the SERVERKEYFILENAME value. You require only the name of the server.id.	☐
Verify that the IBM Lotus Domino server is a member of the LocalDomainServers group.	☐
Verify that the IBM Lotus Domino server has permission to run agents. See "Enable the messaging environment to communicate with the BlackBerry Enterprise Server" on page 25 for more information.	☐
Verify that the IBM Lotus Domino server has manager-level access to the mail files for BlackBerry users (required to display read or unread message status on the BlackBerry device).	☐
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 where 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 where 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 where 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 where 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 where you plan to install the BlackBerry MDS Connection Service.	☐

Checklist: Multidomain support requirements

Considerations	
Verify that the IBM Lotus Domino server contains connection documents from the IBM Lotus Domino servers in the domains from which it replicates.	☐
Turn on directory assistance for all the domains in your environment.	☐
Verify that the IBM Lotus Domino server is a member of the LocalDomainServers group in all the domains in your environment.	☐
Establish cross-certification (at a server or organization level) between the messaging and directory servers in other domains.	☐

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/xpintlsupp.mspx 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.	☐
Install Adobe® Acrobat® Reader® Version 3.0 or later so 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 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 BlackBerry Enterprise Server performance.	☐
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.	☐

2: System requirements

Considerations	
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: • IBM Lotus Domino server Version 5.0.3 or later (Version 5.0.12 recommended) • IBM Lotus Domino server Version 6.0 or later (required to support encrypted message display; Version 6.0.4 required to display read or unread message status on the BlackBerry device) • IBM Lotus Domino server Version 6.5 or later • IBM Lotus Domino server Version 7.0	☐
Your client software must be one of the following: • IBM Lotus Notes Version 5.0.3 or later (Version 5.0.12 recommended) • IBM Lotus Notes Version 6.0 or later • IBM Lotus Notes Version 6.5 or later • IBM Lotus Notes Version 7.0 (required to support encrypted message display when the user.id file is stored in the BlackBerry Desktop Manager Version 4.1)	☐
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 www.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 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)
•   DB2 UDB Version 8.2 (Express or Enterprise)
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 BlackBerry 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 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 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 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 BlackBerry Configuration Database, you must set Microsoft SQL Server to run under the Local System account. ☐
If you are using DB2 UDB, do not install the database program on a mainframe computer. ☐
If your 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 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. ☐
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 BlackBerry Configuration Database on MSDE 2000, you are prompted to accept this change in authentication. ☐
If you are installing BlackBerry MDS Services and if you are using DB2 UDB, you must create the database user account before you create the BlackBerry MDS Services databases. ☐
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 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 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 18.
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 20.
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 20.
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 21.
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 22.
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 22.

Checklist: BlackBerry MDS Services system requirements

System requirement	Considerations	
operating system	Install one of the following operating systems on the computer where you plan to install the BlackBerry MDS Services: • Microsoft Windows 2000 (Server or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP Verify that the operating system is installed in one of English, French, German, Italian, or Spanish. If you are using DB2 UDB, install the IBM DB2 Universal Database Runtime Client Lite. You can install this program during the BlackBerry Enterprise Server installation. If you are using Microsoft SQL Server, download and install the appropriate JDBC driver. • **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	Install Adobe Acrobat Reader Version 3.0 or later so you can view the product guides.	☐

Checklist: BlackBerry Enterprise Server with BlackBerry MDS Services system requirements

System requirement	Considerations
operating system	Install one of the following operating systems on the computer where you plan to install the BlackBerry Enterprise Server with BlackBerry MDS Services: ☐

• Microsoft Windows 2000 (Server or Advanced Server editions)
• Microsoft Windows Server 2003

Install 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. 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 MDAC versions:

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

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

Install J2SE Runtime Environment Version 5.0 update 4. You can install this program during the BlackBerry Enterprise Server installation.

If you are using DB2 UDB, install the IBM DB2 Universal Database Runtime Client Lite. You can install this program during the BlackBerry Enterprise Server installation.

If you are using Microsoft SQL Server, download and install the appropriate JDBC driver.

• **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**:
www.microsoft.com/technet/prodtechnol/sql/2005/downloads/default.mspx for more information. |

System requirement	Considerations	
messaging and collaboration server software	Install one of the following messaging servers on the computer where you plan to install the BlackBerry Enterprise Server with BlackBerry MDS Services: • IBM Lotus Domino server Version 5.0.3 or later (Version 5.0.12 recommended) • IBM Lotus Domino server Version 6.0.1 Critical Fixpack 2 or later (Primary Domino Directory required) • IBM Lotus Domino server Version 6.5 or later (Primary Domino Directory required; Version 6.5.1 required to support PIM synchronization for roaming users) • IBM Lotus Domino server Version 7.0 (required to support encrypted message display) **Note**: Do not install the BlackBerry Enterprise Server on a partitioned IBM Lotus Domino server. Verify that the Notes.ini file has read/write permission. Verify that the Notes.ini file does not include the full path information for the SERVERKEYFILENAME value. You require only the name of the server.id. Verify that the IBM Lotus Domino server is a member of the LocalDomainServers group. Verify that the IBM Lotus Domino server has permission to run agents. Verify that the IBM Lotus Domino server has manager-level access to the mail files for BlackBerry device users (required to display read or unread message status on the BlackBerry device). 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 where 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 where 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 where you plan to install the BlackBerry Collaboration Service to the CommunityConnectivity document on the Sametime server.	☐
multilanguage support requirements	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/xpintlsupp.mspx for more information about downloading and installing additional language support. Set your language preferences in Microsoft Internet Explorer to display encoded web pages correctly.	☐
security support requirements	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 BlackBerry MDS Connection Service.	☐
additional software requirement	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. Install Adobe Acrobat Reader Version 3.0 or later so 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 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: BlackBerry Attachment Service system requirements

System requirement	Considerations	
operating system	Install one of the following operating systems on the computer where you plan to install the BlackBerry Attachment Service: • Microsoft Windows 2000 Service Pack 4 (Server or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.	☐
multilanguage support requirements	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/xpintlsupp.mspx for more information about downloading and installing additional language support. Set your language preferences in Microsoft Internet Explorer to correctly display encoded web pages.	☐
additional software requirement	Install Adobe Acrobat Reader Version 3.0 or later so 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 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: BlackBerry Manager system requirements

System requirement	Considerations	
operating system	Install one of the following operating systems on the computer where you plan to install the BlackBerry Manager: • Microsoft Windows 2000 (Professional, Server, or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP Professional 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. 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. In the operating system, turn on printer and file sharing to provision BlackBerry devices. If you are using IBM DB2 UDB, install the IBM DB2 Universal Database Runtime Client Lite. You can install this program during the BlackBerry Enterprise Server installation.	☐

System requirement	Considerations	
messaging and collaboration server software	Install one of the following on the computer where you plan to install the BlackBerry Manager: • IBM Lotus Domino server Version 5.0.3 or later (Version 5.0.12 recommended) • IBM Lotus Domino server Version 6.0.1 Critical Fixpack 2 or later (Primary Domino Directory required) • IBM Lotus Domino server Version 6.5 or later (Primary Domino Directory required; Version 6.5.1 required to support PIM synchronization for roaming users) • IBM Lotus Domino server Version 7.0 (required to support encrypted message display) • IBM Lotus Notes Version 5.0.3 or later (Version 5.0.12 recommended) • IBM Lotus Notes Version 6.0 or later • IBM Lotus Notes Version 6.5 or later • IBM Lotus Notes Version 7.0	☐
multilanguage support requirements	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/xpintlsupp.mspx for more information about downloading and installing additional language support. Set your language preferences in Microsoft Internet Explorer to correctly display encoded web pages.	☐
additional software requirement	Install Adobe Acrobat Reader Version 3.0 or later so 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 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: BlackBerry Router system requirements

System requirement	Considerations	
operating system	Install one of the following operating systems on the computer where you plan to install the BlackBerry Router: • Microsoft Windows 2000 (Server or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.	☐
additional software requirement	Install Adobe Acrobat Reader Version 3.0 or later so you can view the product guides. Install Microsoft XML Parser Version 4.0 or later. You can install this program during the BlackBerry Enterprise Server installation.	☐
network environment settings	You can install the BlackBerry Router in a perimeter network (demilitarized zone). 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. Verify that the corporate firewall can resolve Internet addresses using the DNS. Verify that the proxy is transparent, if you are using a proxying firewall.	☐

Checklist: BlackBerry MDS Connection Service system requirements

System requirement	Considerations	
operating system	Install one of the following operating systems on the computer where you plan to install the BlackBerry MDS Connection Service: • Microsoft Windows 2000 (Server or Advanced Server editions) • Microsoft Windows Server 2003 • Microsoft Windows XP Verify that the operating system is installed in one of English, French, German, Italian, or Spanish.	☐
security support requirements	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 BlackBerry MDS Connection Service.	☐
additional software requirement	Install Adobe Acrobat Reader Version 3.0 or later so you can view the product guides.	☐

Checklist: BlackBerry Collaboration Service system requirements

System requirement	Considerations	
operating system	Install one of the following operating systems on the computer where you plan to install the BlackBerry Collaboration Service: • 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 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 (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 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.	☐

System requirement	Considerations	
messaging and collaboration server software	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 where 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 where 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 GroupWise Messenger, you must turn on support for SSL authentication of the GroupWise Messenger agents on the computer where you plan to install the BlackBerry Collaboration Service. Visit www.novell.com/documentation to read the *Messenger 1.0 Administration Guide* for more information.	
	If your instant messaging server is IBM Lotus Sametime Server, you must add the IP address of each computer where you plan to install the BlackBerry Collaboration Service to the CommunityConnectivity document on the Sametime server.	
additional software requirement	Install Adobe Acrobat Reader Version 3.0 or later to view the product guides.	☐

3

Configuring your environment

The gray box contains navigation/TOC-like items listing the sections on this page.

Enable the messaging environment to communicate with the BlackBerry Enterprise Server
Setting database permissions
Configure remote authentication for the local system account
Create Windows groups to support administrative roles

Enable the messaging environment to communicate with the BlackBerry Enterprise Server

You must configure the IBM Lotus Domino messaging environment to permit access to BlackBerry-specific databases from both the BlackBerry Enterprise Server and from BlackBerry Manager remote installations.

Verify that the LocalDomainServers group includes the server on which you plan to install the BlackBerry Enterprise Server.

Create the BlackBerryAdmins group

1. In the IBM Lotus Domino administration server directory, create an IBM Lotus Domino group with the following attributes:

   - **Name**: BlackBerryAdmins
   - **Group type**: Access Control List only
   - **Description**: users who can add, remove, and modify BlackBerry user settings
   - **Members**: LocalDomainServers, any groups or users who might administer the BlackBerry Enterprise Server

2. On the server on which you plan to install the BlackBerry Enterprise Server, replicate the group in the Domino Directory.

Modify the server document to permit moving users within a BlackBerry Domain

1. Open the server document for the IBM Lotus Domino server on which you plan to install the BlackBerry Enterprise Server.

2.   Perform one of the following actions:

Action	Procedure
Set permissions in an IBM Lotus Domino server Version 6.	> In the **Run unrestricted methods and operations** field, add the **LocalDomainServers** group.
Set permissions in an IBM Lotus Domino server Version 5.	> In the **Run unrestricted Java/Javascript/COM** field, add the **LocalDomainServers** group.

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 30 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/adminsql/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.

Action		Procedure
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.

Set DB2 UDB permissions

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

Configure remote authentication for the local system account

If you install and use the IBM Lotus Domino server—and by extension the BlackBerry Enterprise Server—using the local system account and you want to use a remote server for the BlackBerry Configuration Database, you must provide the local system account with credentials for authentication.

> Perform one of the following actions:

Action	Procedure
Configure the local system account for Windows (trusted) authentication.	1. In the Microsoft SQL Server Enterprise Manager, browse to the database server where you plan to install the BlackBerry Configuration Database.
	2. Right-click **Logins**.
	3. Click **New Login**.
	4. Type the name of the computer to host the BlackBerry Enterprise Server. Use the format *<Domain>\<computer_name>$*.
	5. Click **Windows Authentication**.
	6. On the **Server Roles** tab, set the required database permissions.
	7. Click **OK**.
Configure the local system account for database authentication.	1. On the computer where you plan to install the BlackBerry Enterprise Server, open the Registry Editor.
	2. In the left pane, browse to HKEY_USERS\.DEFAULT.
	3. Create the following nested keys (if they do not exist already):
	• Software
	• Research In Motion
	• BlackBerry Enterprise Server
	• Database
	4. Right-click **Database**.
	5. Create the following string values:
	• **Login**: Type a database account that has the required database permissions.
	• **Password**: Type the password for the database account.

Create Windows groups to support administrative roles

If you are using DB2 UDB, you cannot manage administrative roles using the BlackBerry Manager. You must create Windows groups on the database server for each administrative role and then assign Windows users or groups to those administrative role Windows groups.

⚠ **Warning**: Do not assign users or groups to more than one administrative role's Windows group. If you do, the permissions of the highest role are applied.

1. On your database server, open the Microsoft Windows Computer Management console.
2. Create the following Windows groups:
    - rim_db_admin_audit_enterprise
    - rim_db_admin_audit_handheld
    - rim_db_admin_audit_jr_helpdesk
    - rim_db_admin_audit_sr_helpdesk
    - rim_db_admin_enterprise
    - rim_db_admin_handheld
    - rim_db_admin_jr_helpdesk
    - rim_db_admin_sr_helpdesk
3. Assign Windows users or groups to each administrative role Windows group.

Enable authentication for administrative roles on remote BlackBerry Managers

> Use the DB2 UDB Control Center to configure the following settings:
    - control authentication at the client
    - trust the client authenticating at the server
    - search locally for the administrative role Windows groups you created

4

Installing the BlackBerry Enterprise Server software

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.	☐
Verify that you have met all the system requirements. See "System requirements for the BlackBerry Enterprise Server" on page 11 for more information.	☐
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 25 for more information.	☐
Log in to the computer using an administrative account with the appropriate database permissions. See "Setting database permissions" on page 26 for more information. **Note**: The administrative account is added automatically to the Security administrator role in the BlackBerry Configuration Database.	☐
Verify that the local system account can access the BlackBerry Configuration Database. See "Configure remote authentication for the local system account" on page 27 for more information.	☐
If the IBM Lotus Domino server is newly installed, you must start it and stop it before you install the BlackBerry Enterprise Server.	☐
Turn off the IBM Lotus Domino server automatic start before you install and configure the BlackBerry Enterprise Server.	☐
Turn off the IBM Lotus Domino server.	☐
Confirm that you have the following required credentials from the BlackBerry Enterprise Server installation media: • client access license key • SRP identifier • SRP key • SRP host	☐

Step
Confirm that you have the following required installation credentials from your environment: ☐
•   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 IBM Lotus Domino

If you are installing the Hosted BlackBerry™ for IBM Lotus Domino, the installation recommendations, requirements, and procedures are identical to those for the BlackBerry Enterprise Server. The Hosted BlackBerry for IBM Lotus Domino 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
When you start the setup program, the message "Could not open ID file" appears and the setup program ends.	1. If you recently installed the IBM Lotus Domino server and you have not started it yet, start it and stop it. 2. Restart the setup program.
One of the third-party tools installed by the setup program does not install successfully and the setup program ends.	1. In the BlackBerry Enterprise Server installation media, open the **Tools** folder and locate the program that you want to install. 2. Install the third-party tool manually. 3. 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.	Verify that the registry keys identifying your BlackBerry Configuration Database are present.
	1. On the server where you plan to install the BlackBerry Enterprise Server, start the Registry Editor.
	2. In the left pane, browse to HKEY_LOCAL_MACHINE/Research In Motion/ BlackBerry Enterprise Server/.
	3. Create the following string values (if they do not exist):
	  • **DatabaseName**: Type the name of the BlackBerry Configuration Database.
	  • **DatabaseServerMachineName**: Type the computer name of the database server.
	Note: These values are case sensitive.
	4. Restart the setup program.

After you attempt to add the CAL license key, the "Failed to write License Key to the Database" message appears.	1. Cancel the installation. 2. Log off the computer. 3. Log into the computer using the same account that you used to start the installation. 4. Double-click the **setup.exe** file to proceed with the installation..

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.	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.	If you are using TLS as the communication protocol, verify that authentication is configured. 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.	*BlackBerry Enterprise Server Version 4.1.1 System Administration Guide*
Add users to the BlackBerry Enterprise Server.	*BlackBerry Enterprise Server Version 4.1.1 System Administration Guide*
Implement BlackBerry devices.	*BlackBerry Enterprise Server Version 4.1.1 System Administration Guide*
Configure a connection between the BlackBerry Enterprise Server and the BlackBerry MDS Services.	*BlackBerry Enterprise Server Version 4.1.1 System Administration Guide*

5

Removing the BlackBerry Enterprise Server software

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. Shut down the IBM Lotus Domino server.
2. On the taskbar, click **Start** > **Settings** > **Control Panel** > **Add/Remove Programs**.
3. Click **BlackBerry Enterprise Server**.
4. Click **Remove**.
5. Click **Yes**.
6. Perform one of the following actions:

Action	Procedure
Save all logs that are stored in the root log file path.	> Click **No**.
Delete all logs that are stored in the root log file path.	> Click **Yes**.

7. Perform one of the following actions:

Action	Procedure
Save user information for a future installation of the BlackBerry Enterprise Server.	> Click **No**.
Delete all user information.	> 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\
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\
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.	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.	1. Run the script. 2. At C:\Program Files\Microsoft SQL Server\MSSQL\Binn, delete the **RimEsp.dll** file.

BlackBerry