

BlackBerry Desktop Redirector

Contents

Introduction.....	1
Installing BlackBerry Desktop Redirector.....	1
BlackBerry Desktop Redirector	2
BlackBerry enterprise system architecture without a BlackBerry Enterprise Server.....	3
Communicating with the enterprise messaging account.....	3
Messaging features.....	4
Filters.....	4
Message redirection	5
Installation.....	6
Security.....	6
BlackBerry Desktop Redirector running with a BlackBerry Enterprise Server	7
Comparing the BlackBerry Desktop Redirector and BlackBerry Enterprise Server Approach	8
Migrating from the BlackBerry Desktop Redirector to the BlackBerry Enterprise Server.....	8
Technical Requirements.....	8

Introduction

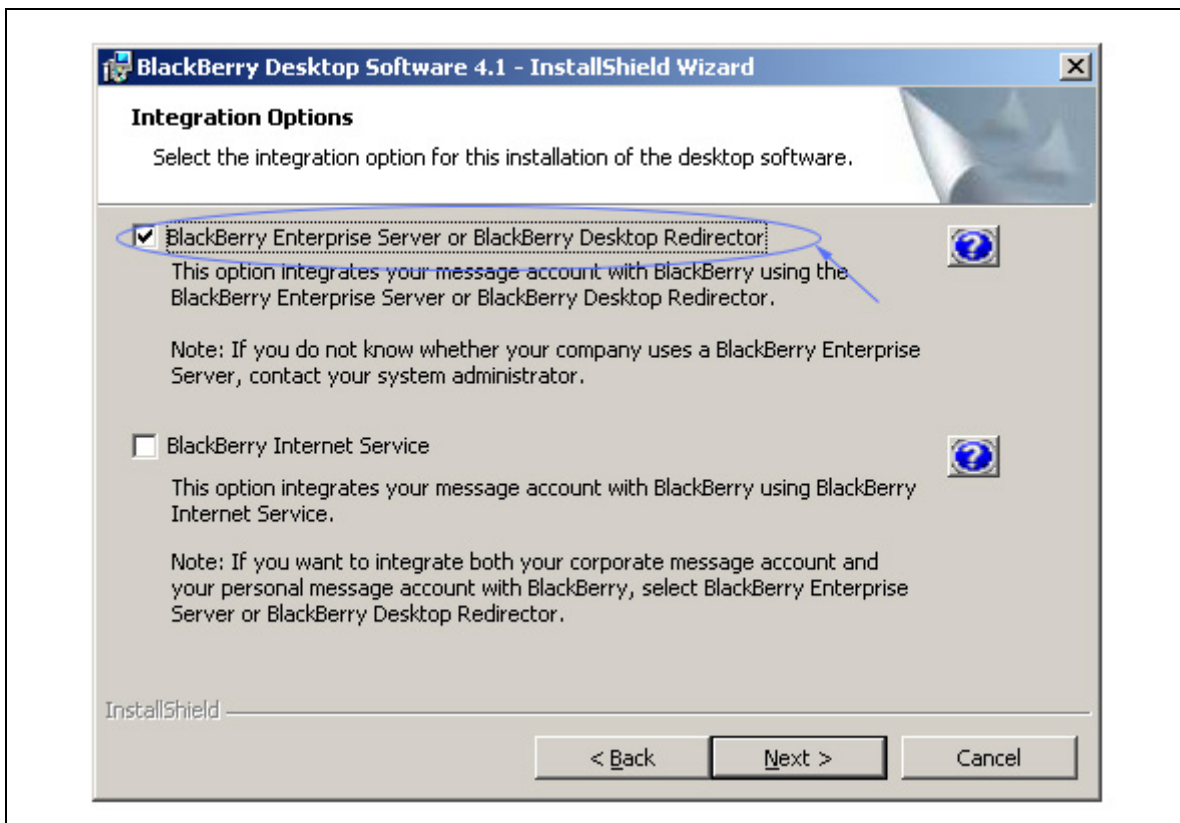
The BlackBerry Desktop Software includes the BlackBerry Desktop Redirector, which can be used in corporate environments that do not use a BlackBerry Enterprise Server™. In these environments, the desktop redirector is designed to perform the following functions:

- monitor the user's Microsoft® Exchange mailbox for new email
- apply user-definable filters to new messages to determine if and how the message is forwarded to the user's BlackBerry device
- compress and encrypt new messages, and then send those messages to the user's handheld over the Internet and wireless network
- receive messages that are composed on the handheld, decompress and decrypt them, and then places the received messages in the user's Outlook

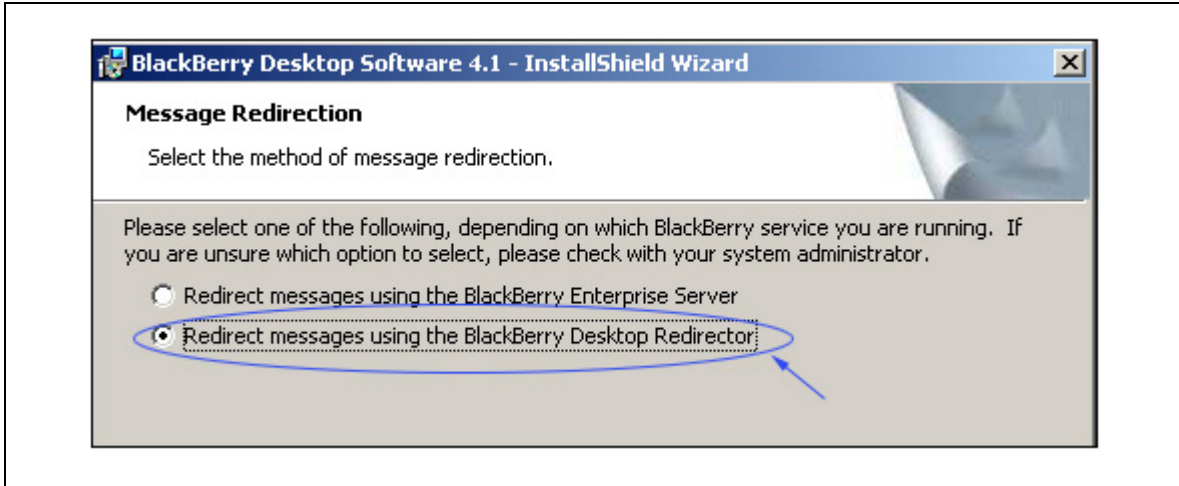
Note: The BlackBerry Desktop Redirector for non-corporate users is not supported. Please see www.blackberry.com for information on the BlackBerry Internet Service™.

Installing BlackBerry Desktop Redirector

Installing the BlackBerry Desktop Redirector is similar to installing the desktop software to use the BlackBerry Enterprise Server for mail redirection. Run **setup.exe** located on the **BlackBerry Desktop Software** installation CD and ensure the first option is selected, as shown below. Please see *Installing the desktop software* in the BlackBerry Desktop Release Notes for more information about installing the desktop software.

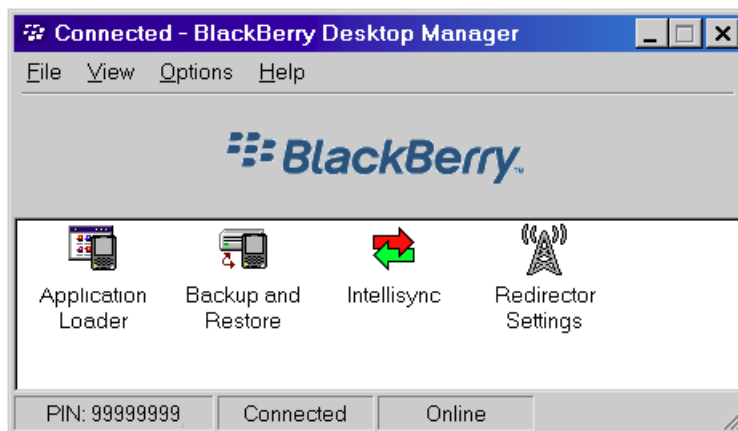


Follow the on-screen prompts and complete the desktop software installation.



BlackBerry Desktop Redirector

From the BlackBerry Desktop Manager, the user can access the BlackBerry Desktop Redirector through the Redirector Settings icon. The desktop redirector allows the user's Microsoft Exchange Inbox and handheld to be linked.



BlackBerry enterprise system architecture without a BlackBerry Enterprise Server

Figure 1 below, provides an overview of the BlackBerry wireless solution system architecture in the absence of a BlackBerry Enterprise Server.

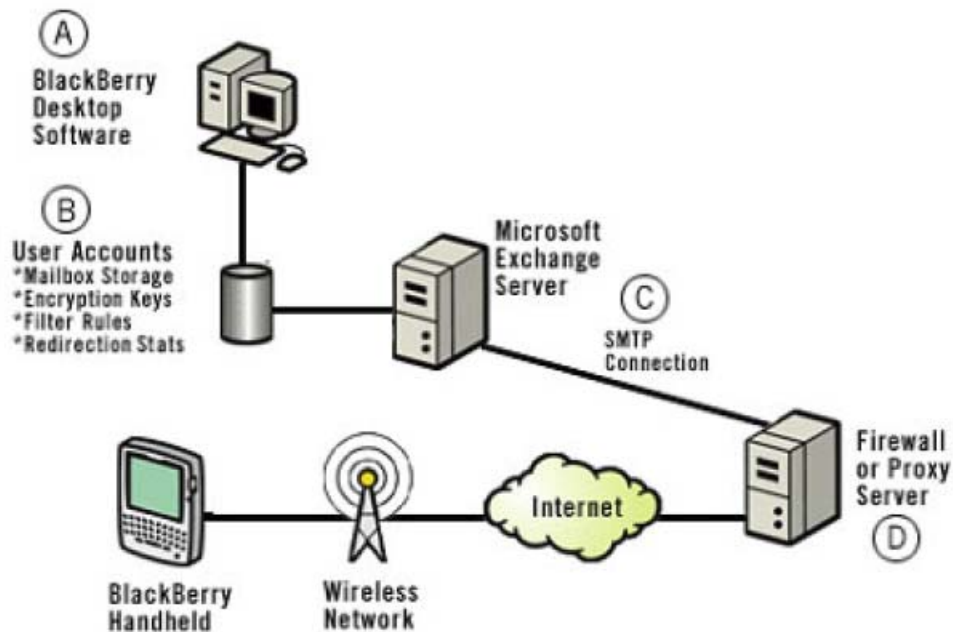


Figure 1: Architecture using the BlackBerry Desktop Redirector

The BlackBerry Desktop Software (A) is installed on the user's personal computer. The user creates rules within the BlackBerry Desktop Software that are used to process messages. The user's configuration information, which includes security information, specialized forwarding rules, and handheld identification, are stored in the user's Microsoft Exchange Server message store (B).

A message arrives at the user's Inbox, the desktop redirector applies the filtering rules that the user created, encrypts the message, and then uses a Simple Mail Transport Protocol (SMTP) Connection (C) to forward the message to the firewall or proxy server (D). The message is then passed over the Internet and a wireless network to the user's handheld. The handheld then decrypts the message, so the user can view it.

A message sent from the user's handheld is encrypted and forwarded to the BlackBerry Desktop Redirector. The desktop redirector decrypts the message and places it in the user's Outbox.

Communicating with the enterprise messaging account

Similar to Microsoft Outlook®, the BlackBerry Desktop Redirector uses the Microsoft Messaging Application Program Interface (MAPI) to connect to the user's enterprise account. Because MAPI is designed to provide immediate notification of new mail, it is central to BlackBerry's push architecture. After a new email arrives in the user's desktop email program, the user's handheld is then notified.

The BlackBerry Desktop Redirector uses MAPI to place messages composed on the user's handheld into the user's Outbox, so these messages originate from the user's enterprise account, and a copy is saved to the Sent Items folder. The BlackBerry Desktop Redirector also uses MAPI for address resolution allowing users to send messages

to Internet account addresses whether they are internal (such as, name@usercompany.com) or external (such as, name@othercompany.com).

Messaging features

The BlackBerry Desktop Redirector provides several advanced messaging features:

- request more of a message
- include the original messages in replies
- forward messages

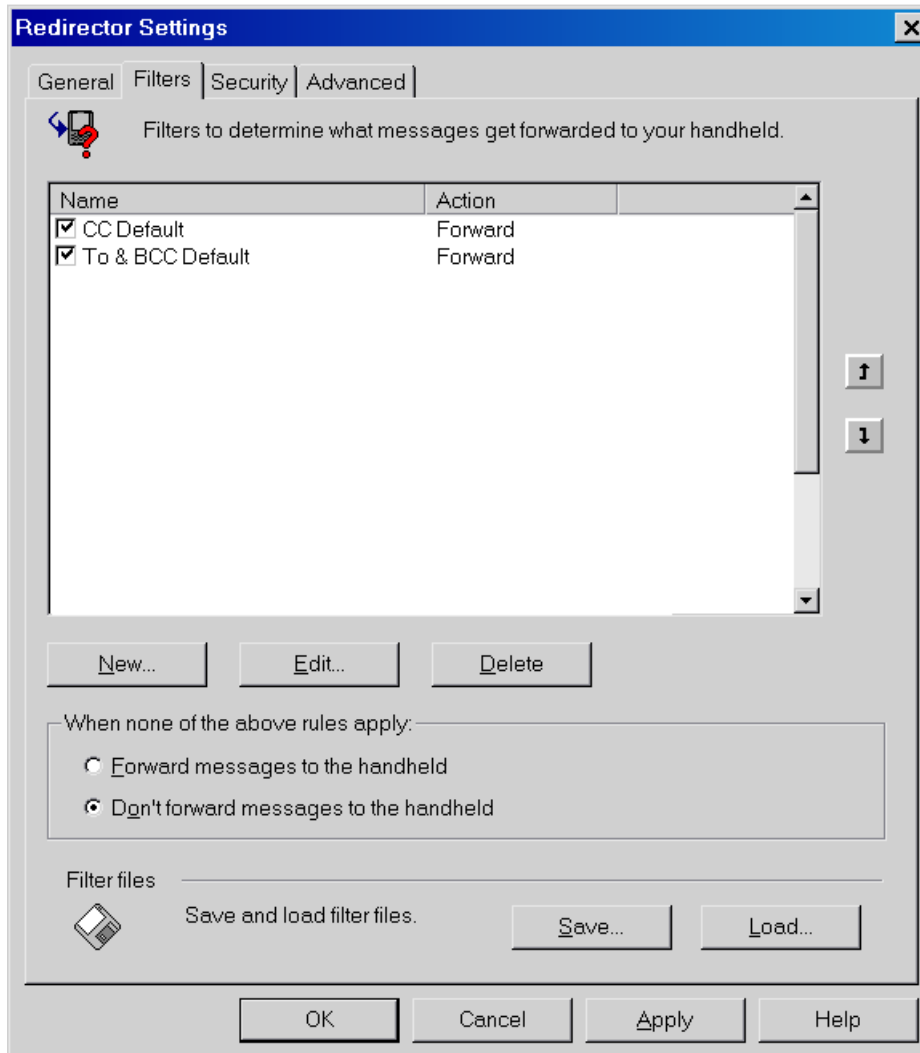
When a message arrives at the user's personal computer, only the first 2 KB of the received message is forwarded to the user's handheld. If an attachment is sent with the message, only the file name and size of the attachment are forwarded. If the user requests **More** on the handheld, the BlackBerry Desktop Redirector is designed to send the next 2 KB of the message to the handheld. The handheld then adds the next 2 KB to the original message and informs the user.

Note: Because most text-based messages are less than 2 KB, most messages are not truncated. This advanced feature allows the user to judge the value of the message before memory and battery life is expended to deliver the additional message sections to the user's handheld.

When the user selects **Reply** or **Forward**, only the response (and not the original message) is sent from the handheld to the BlackBerry Desktop Redirector. The BlackBerry Desktop Redirector constructs a message that consists of the user's response and the original message, and then forwards that message to the recipients. Therefore, the recipients receive a complete copy of the original message, regardless of its size, while a minimum amount of data is sent from the handheld.

Filters

Messages are pushed to the handheld, but users might not want to receive all messages. The BlackBerry Desktop Redirector provides extensive filtering options to allow control over the flow and priority of new messages. Filters are set in the BlackBerry Desktop Redirector Settings window, on the **Filters** tab (below), and are stored on the Microsoft Exchange Server. These filters are designed to continue to operate if redirection is moved from the desktop to the BlackBerry Enterprise Server.

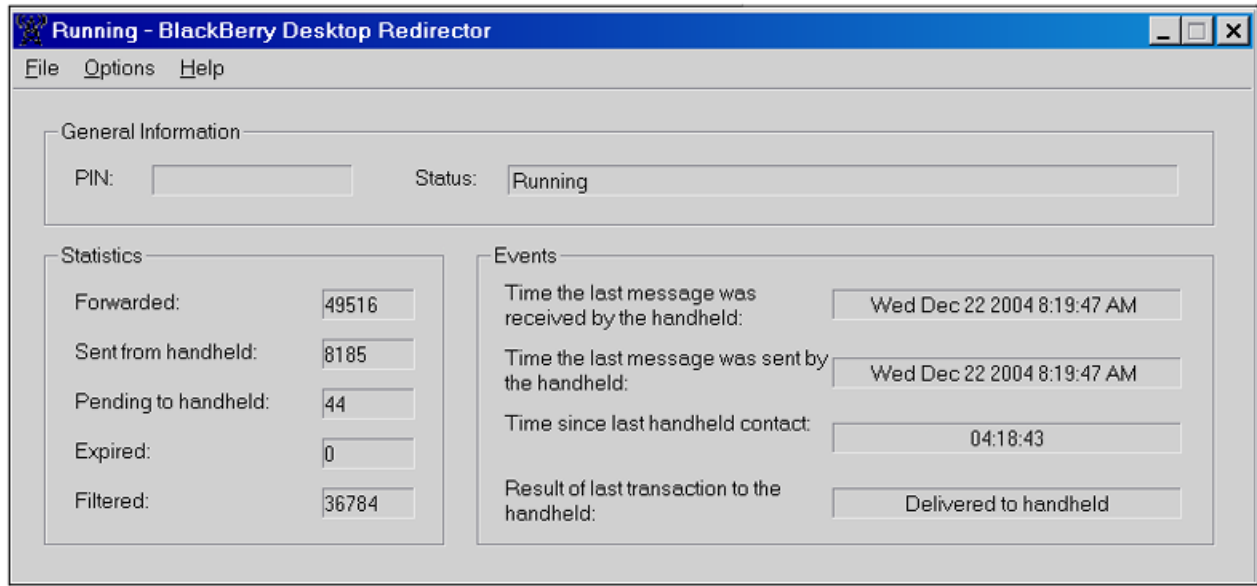


Users can define which messages are sent to their handheld. By defining filters, it allows users to:

- leave "bulk" mailings on their desktop email program, which they can view and address at a later time
- be notified immediately of priority messages or messages from their superiors or co-workers (Priority messages can appear on the handheld differently and users can set specific notifications for them.)
- forward only important email to their handheld

Message redirection

The BlackBerry Desktop Redirector window (below) provides statistics on message redirection. When new mail arrives in the user's Microsoft Exchange Inbox, it is either considered **Filtered** or **Pending to handheld**. If the message is pending, it is either waiting at the wireless network for delivery to the handheld or, if the handheld queue at the wireless network is full, it is waiting at the desktop email program for delivery to the wireless network. When a message is sent from the handheld, the wireless network forwards it to the BlackBerry Desktop Redirector, where it is placed in the user's Outbox for outbound delivery. At this point, the message is considered **Sent from handheld**.



As a traffic-economizing measure, if the user reads a message on the desktop email program while it is waiting for delivery to the wireless network, it is not forwarded to the user's handheld.

After a message arrives at the wireless network, there are two possible outcomes. If the message is delivered to the handheld, a delivery acknowledgement is sent to the BlackBerry Desktop Redirector from the wireless network and the message is considered **Forwarded**. If the handheld is out of a wireless coverage area for more than seven days—for example, the user is on holiday and the handheld is turned off—the wireless network sends a notice back to the BlackBerry Desktop Redirector and the message is considered **Expired**. BlackBerry Enterprise Server administrators can set their own limits on message expiration.

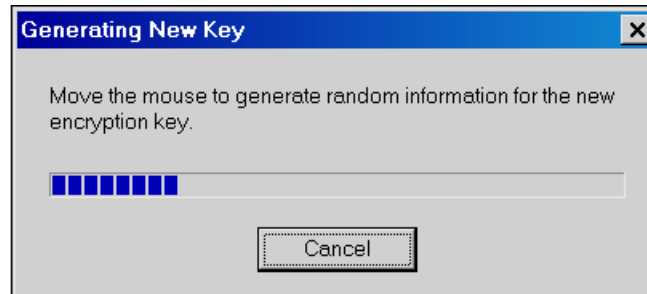
Installation

The BlackBerry Desktop Redirector is a component of the BlackBerry Desktop Software, and is distributed with the BlackBerry handheld. The BlackBerry Desktop Software determines if a BlackBerry Enterprise Server is present to redirect messages, or if the BlackBerry Desktop Redirector should redirect messages.

Security

BlackBerry uses the Triple Data Encryption Standard (Triple DES) algorithm to encrypt data sent between a handheld and a personal computer.

The encryption algorithm is only part of a private key encryption system. Potential areas of weakness in any encryption system include generation of the keys, transfer of the keys, and security of the keys. Because computers are too deterministic to generate a purely random encryption key, good private key solutions require human-produced randomness to generate a key. When the BlackBerry Desktop Software is installed, a dialog box appears that prompts the user to move the mouse. At this point, random mouse movements are captured to generate a random key.



BlackBerry Desktop Redirector running with a BlackBerry Enterprise Server

The BlackBerry Enterprise Solution employs the use of a BlackBerry Enterprise Server (for an example, see Figure 2 below).

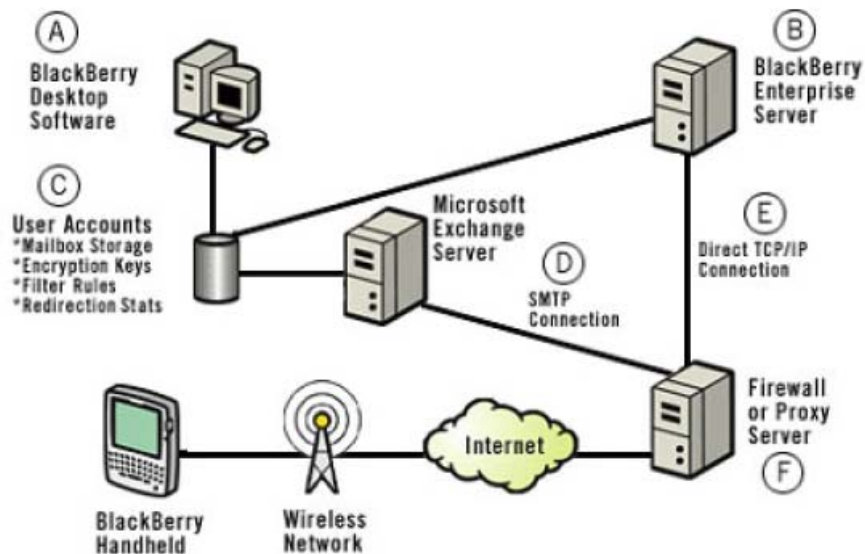


Figure 2: Architecture using BlackBerry Enterprise Server

In this diagram, the BlackBerry Enterprise Server (B) uses the Microsoft Exchange Server storage (C) to store unique information for each BlackBerry user, including security information, specialized forwarding rules, and handheld identification. With both, the BlackBerry Desktop Redirector or BlackBerry Enterprise Server, both users and BlackBerry Enterprise Server administrators, through IT policy settings can control the filter rules and encryption key information in the BlackBerry Desktop Software. The BlackBerry Enterprise Server also stores the configuration information in hidden folders in the user's Microsoft Exchange message store (C), so either the desktop user or a system administrator can view the statistics.

The BlackBerry Enterprise Server is designed to maintain a constant direct Transmission Control Protocol/Internet Protocol (TCP/IP)-level connection to the wireless network (E), instead of using a communications transport protocol (D). SMTP is not a direct connection, like TCP/IP; therefore, latency issues could arise as the message moves from server to server, on the way to its destination. The BlackBerry Enterprise Server does require a configuration change at the firewall (F) to allow a two-way, outbound-initiated connection on port 3101 using TCP. This is not a "hole" in the firewall because only an outbound connection is required.

Comparing the BlackBerry Desktop Redirector and BlackBerry Enterprise Server Approach

The main differences between the two approaches are summarized in the following table.

Function	BlackBerry Desktop Redirector	BlackBerry Enterprise Server
Desktop email program support	Microsoft Exchange	Microsoft Exchange and IBM® Lotus® Domino®
Wireless calendar synchronization	No	Yes
User's personal computer must be running	Yes	No
Protocol support	SMTP	TCP/IP and Service Routing Protocol (SRP)

Migrating from the BlackBerry Desktop Redirector to the BlackBerry Enterprise Server

If the system administrator adds a user after the BlackBerry Enterprise Server is installed, during the installation of the user's BlackBerry Desktop Software, the administrator can select the BlackBerry Enterprise Server to manage email redirection.

If the user is set up for email redirection to occur through the BlackBerry Desktop Redirector, before the BlackBerry Enterprise Server is installed, there are two ways to migrate the user to the BlackBerry Enterprise Server.

In the first method, the BlackBerry Desktop Software can be removed and reinstalled with the new setting (BlackBerry Enterprise Server managing email redirection).

In the second method, the system administrator adds the user to the BlackBerry Enterprise Server and users continue to have their email redirected by the BlackBerry Desktop Redirector until the next time that they insert their handhelds into the cradle or connect with their desktop computer. After this occurs, the user's BlackBerry Desktop Redirector is disabled and redirection is designed to occur through the BlackBerry Enterprise Server.

Technical Requirements

Corporate Users – Forwarding

To allow security to be maintained, many enterprise IT groups restrict the use of forwarding rules. These enterprises might allow forwarding of messages within the company, but they do not allow forwarding of messages to addresses that are external to the company. To use the BlackBerry Desktop Redirector without a BlackBerry Enterprise Server, an end user must be able to forward messages outside the protected corporate domain.

Corporate Users – LAN Access

The BlackBerry Desktop Redirector requires a local area network (LAN) connection to function. The LAN provides access to the corporate email server, which allows access to the Internet for transmission of inbound and outbound messages. Many corporations disconnect LAN access automatically at a fixed period during the night to perform various administrative tasks.

Non-Corporate Users – Internet Access

The BlackBerry Desktop Redirector for non-corporate users is not supported. Please see [BlackBerry Internet Service](#) for more information.

Desktop Software – System Requirements

Please see [BlackBerry Desktop Software](#) for information on desktop software requirements.

Part number: WPE-00023-003

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