Chapter 1: BlackBerry Enterprise Server

In This Chapter

✓ **Understanding the role of BlackBerry Enterprise Server**

✓ **Knowing why you should use BlackBerry Enterprise Server**

✓ **Deconstructing BES components**

So far, you've mastered the features of your BlackBerry, familiarized yourself with Desktop Manager, and discovered everything there is to know about BlackBerry applications (including how to find and install some great ones!). Now it's time to explore communication across the enterprise. That's a jargony way of saying that you can connect your BlackBerry to a company network so that whether you're on the road or in the office you never miss a thing. The key to enterprise communications is BlackBerry Enterprise Server, which is — not surprisingly — the subject of this chapter.

The term *enterprise* is used to refer to a large corporate system. While an enterprise network may encompass a single office in a local area network, many business enterprises encompass national or international networks. Enterprise applications are applications that work across that massive network, enabling all employees to use the same tools to collaborate with each other.

BlackBerry Enterprise Server, or BES for short, is used to connect your BlackBerry with your company's e-mail servers and enterprise applications. In this chapter, we explore the role of BES in enterprise communications, give an overview of how the BlackBerry enterprise infrastructure works, and explain the various BES components that make the magic happen.

Your company may have a strict policy about which features and enterprise applications can be accessed on your BlackBerry. It may also have a policy declaring which models of BlackBerry smartphones are compatible with the enterprise network. We recommend discussing your options with the IT professional in charge of managing mobile devices before making a phone purchase or making changes to your BlackBerry's software.

Understanding What BES Does

BES wirelessly synchronizes data between your desktop or server and your BlackBerry smartphone. It handles all your enterprise messaging and collaboration, hooking up with software such as Microsoft Exchange, Lotus Domino, and Novell GroupWise. You can count on BES to link with your company's

- ✦ E-mail
- ✦ Calendar
- ✦ Tasks
- ✦ Contacts
- ✦ Notes
- ✦ Files and documents
- ✦ Some types of instant messages and other information

Basically, BES makes your desktop applications (like Microsoft Outlook or Lotus Notes) accessible from your BlackBerry.

In addition to syncing all your important business-related communications, appointments, and contacts, BES has over-the-air, or OTA, functions that allow BlackBerry applications to be installed, removed, and upgraded on one or more BlackBerry smartphones without connecting to a computer. So if your company decides to upgrade one of its enterprise applications, your network administrator can make the update on your BlackBerry as well as on the BlackBerry smartphones of all your colleagues, all at once, over the air.

Understanding How BES Does What It Does

Don't worry — we're not going to get too technical here, but it is good to know why BlackBerry Enterprise Server is safe and won't swallow your precious files and messages.

When BES is installed on your company's network, it connects to the company's corporate messaging server, its application server(s), and Research In Motion's Network Operations Center, which is a fancy term for the place that passes data between a BES and your BlackBerry. By maintaining a constant connection between these systems, the BES can wirelessly synchronize access to enterprise resources, including documents and e-mail messages.
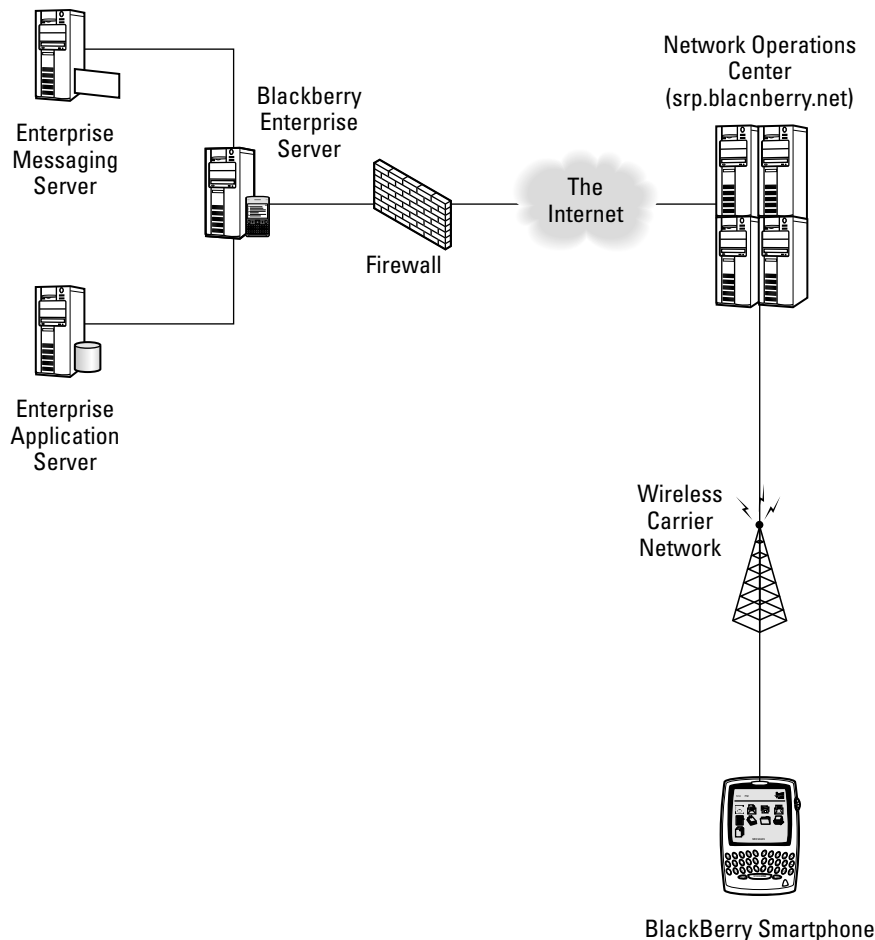
BES has built-in security features and works with your company's firewall to ensure that outsiders can't intercept or otherwise access files or messages. It also has systems to prevent viruses and other malware from infecting the BlackBerry and enterprise applications.

We could go into more detail than this, but the one thing you should know is that when you receive messages and open and change attachments on your BlackBerry, you are working with a *copy* of the original attachment or message that BES sent to your BlackBerry. The original message and attachment remain on the corporate messaging server, safe and sound, unless you delete them.

REMEMBER

The BlackBerry doesn't sync a message and attachment changes back to the corporate messaging server. You would have to send a reply with the revised document.

Figure 1-1 provides a high-level overview of a BlackBerry Enterprise infrastructure.

Figure 1-1:
Overview
of a
BlackBerry
Enterprise
infra-
structure.

Enterprise
Messaging
Server

Blackberry
Enterprise
Server

Firewall

The
Internet

Network Operations
Center
(srp.blacnberry.net)

Enterprise
Application
Server

Wireless
Carrier
Network

BlackBerry Smartphone

You should note that the process is different for contacts, notes, tasks, calendar entries, and any other applications that your company allows you to access with your BlackBerry. These applications directly synchronize changes between your BlackBerry and the corporate messaging and application servers.

Convincing Your IT Guy to Get BES

If you've been using your BlackBerry for a while now, you're probably familiar with BlackBerry Internet Service (BIS). It's that thing that allows you to hook up your BlackBerry with your Gmail, Yahoo!, Hotmail, or other e-mail address. Take a look at Book III, Chapter 2 for more information on BIS.

Introducing BES flavors

The most common messaging and Internet service provided by BlackBerry is BlackBerry Internet Service. This service has some of the same functions as BES, but it's relatively limited. We recommend it if your business is very small — less than 10 people — and doesn't have specific security or compliance concerns that require the features of BES. If you're part of a larger business, or have specific security requirements, consider one of the two flavors of BES:

✦ **BES Express:** This is a good option if your business wants to implement the basic security and features of BES without paying thousands of dollars for the server and client licenses, and the slightly more expensive BlackBerry enterprise data plan needed for the full version. This version of BES is *free,* and allows you to receive your enterprise e-mail, calendar, contacts, memos, tasks, and use most of the other great features that BES provides using any data plan that's on your BlackBerry.

The price of "free" is that this version comes with limitations. BES Express can be used only with Microsoft Exchange, so Lotus Domino and Novell GroupWise users are out in the cold on this one. It also has only 35 IT policies, which provide decent control over device features and functionality but are nowhere near as detailed as the 450 IT policies provided with the full version of BES. BES Express also doesn't support BlackBerry Enterprise add-ons like Mobile Voice System (MVS) — discussed further in Book VIII, Chapter 4 — and doesn't allow over-the-air activations, which means you have to plug your BlackBerry into Desktop Manager to activate it with this version of BES.

✦ **Full version of BES:** This is the best option for a large business that needs the best possible security, control, and administration options. In addition to the features offered by BES Express, BES supports

BlackBerry Enterprise add-ons like MVS, includes advanced features that are important to your IT staff, and can be used with all of the major messaging server software systems, such as Microsoft Exchange, Lotus Domino, and Novell GroupWise. BES also supports OTA activation, which means your IT staff can get you back up and running if you're out of the office and accidentally wipe your device after too many incorrect password attempts. With over 450 IT policies available, your IT staff can secure just about every aspect of your BlackBerry. That might sound like a bad thing, but trust us — it's actually a good thing because it helps to keep your work environment as safe as it can be.

Our focus in this chapter is on the full-featured BES software.

Understanding the features and benefits of BES

BES gives your IT department a lot more control than BIS. However, you might not have a whole lot of control over whether your company allows you to link your BlackBerry with your enterprise servers. If you *do* happen to have a little bit of sway with the guys and gals in IT, here's what you should tell them:

✦ **Good news for IT:** BES allows for centralized BlackBerry user administration, which means the IT folks can create, change, or apply IT policies (explained later in this chapter), deploy BlackBerry applications, and disable lost or stolen devices, all from one console. BES also allows IT to monitor what model, carrier, and handheld software version and phone number employees are using. This is less about playing Big Brother and more about identifying how many users are affected by a particular issue, who might need a software upgrade, and who's being billed for a device that's not being used.

✦ **Employees will save time and increase productivity:** You have access to so much more with BES, from corporate e-mail to contacts, notes, tasks, and calendar information — not to mention files and documents. Because employees can rest assured that their information is safe and protected, they will be more likely to work remotely using their BlackBerry smartphones. That means they'll be working during lunch, while they're waiting at the doctor's office, while they're at their kids' soccer games. . . . Wait a minute — maybe you shouldn't say anything about employee productivity.

If your IT manager still isn't convinced, tear out Table 1-1 of this book and slip it anonymously on your Chief Geek's keyboard.

Table 1-1	Comparison between BES and BIS		
Feature	*BlackBerry Enterprise Server (BES) Full Version*	*BlackBerry Enterprise Server (BES) Express*	*BlackBerry Internet Service (BIS)*
Cost	$2,999 per server license / $99 per client license	Free	Free
Push e-mail	Yes	Yes	Yes
Internet browsing	Yes	Yes	Yes
Centralized user administration	Yes	Yes	No
Wireless application deployment	Yes	Yes	No
IT pros can see user and device info (model, carrier, pending messages, and so on)	Yes	Yes	No
Wireless synchro-nization of contacts, memos, tasks, and calendar	Yes	Yes	No While some third-party e-mail providers such as Google and Yahoo! have synchronization applications, they are limited.
Security features	E-mail encryption and 450 IT poli-cies that allow IT Pros to secure almost every aspect of your BlackBerry.	E-mail encryption and 35 IT policies that allow IT Pros to secure important aspects of your BlackBerry.	Basic E-mail encryption offered by BIS servers.

Feature	BlackBerry Enterprise Server (BES) Full Version	BlackBerry Enterprise Server (BES) Express	BlackBerry Internet Service (BIS)
Access to MDS (Mobile Data System) Studio applications for those who are interested in developing apps for the BlackBerry (For more information on MDS Studio, see Book VII, Chapter 1.)	Yes	Yes	No

Getting the Low-Down on System Requirements

There are several requirements that a machine must meet before BlackBerry Enterprise Server software can be installed. These requirements can be broken down into three categories:

✦ Hardware

✦ Operating system

✦ Additional software applications

In the following sections, we break down the requirements.

Knowing your software and hardware requirements

BES is compatible with several Windows Server operating systems as well as several different enterprise messaging platforms. The messaging platforms that BES is available for are:

✦ Microsoft Exchange (version 5.5 or later)

✦ IBM Lotus Domino or IBM Lotus Domino Express (version 7.0 or later)

✦ Novell GroupWise (version 6.5, Service Pack 4 or later)

BES is supported on the following Windows Server operating systems:

✦ Windows Server 2003, Service Pack 1 or later

✦ Windows Server 2003, Release 2

✦ Windows Server 2003 (64-bit)

✦ Windows Server 2003, Release 2, Service Pack 2 (64-bit)

✦ Windows Server 2008

✦ Windows Server 2008 (64-bit)

Your system must meet certain hardware requirements in order to support BES. The minimum hardware requirements vary based on your messaging platform and the number of users you plan to add to each BES. Table 1-2 outlines the minimum requirements for up to 1,000 users, which is a common configuration for a large business or business segment.

Table 1-2   Hardware Requirements for BES up to 1,000 Users

Messaging Platform	*Hardware Requirements*
Microsoft Exchange	**Processor:** Two, 2.0 GHz Intel Xeon processors
	Memory: 3GB
	Hard disk drives: Two drives, RAID 1
IBM Lotus Domino	**Processor:** One, 3.0 GHz Intel Xeon 5100 series (dual core) or two, 1.6 GHz Intel Xeon 5100 series (dual core)
	Memory: 4GB
	Hard disk drives: 4 drives, RAID 1+0
Novell GroupWise	**Processor:** One, 2.8 GHz Pentium 4 dual processor
	Memory: 3GB
	Hard disk drive: 60GB

Additional software requirements

The additional software that is required varies based on your messaging platform, but at the very least, the following software applications are required, regardless of whether you're using Microsoft Exchange, Lotus Domino, or Novell GroupWise:

✦ Microsoft SQL Server

✦ Microsoft Internet Explorer (version 6.0 or later)

REMEMBER

If you're using Microsoft Exchange, you also need to have the latest Microsoft CDO library installed on BES. If you're using Novell GroupWise, you need to have Novell ConsoleOne 1.3.6c with Novell GroupWise 6.5.4 Snap-ins.

Working with BES on Your BlackBerry

If you're one of those lucky people whose BlackBerry is already connected to a BES, then you don't have to worry about convincing anyone of its value. But you might want to know more about maximizing your BES experience.

REMEMBER

Your BlackBerry is connected to a BES through a process called enterprise activation. See Book III, Chapter 2 for more information on activating your BlackBerry in an enterprise environment.

Not sure if your BlackBerry is connected to a BES? You can check using these steps:

1. **From your BlackBerry Home screen, select the Options icon.**

   Depending on your BlackBerry model, you may have to select the Settings icon before you see the Options icon.

2. **Select Advanced Options.**

3. **Select Enterprise Activation.**

   If you see Activated On with a date next to it, as shown in Figure 1-2, your BlackBerry has been activated on a BES. If not, it's time to speak with your IT department to see if BES is an option.

Figure 1-2: Your BlackBerry is connected to a BES if Activated On shows a date.

```
Enterprise Activation
Email:
Activation Password:
PIN:                          216642E1
Desktop: Activated On May 19, 2010|
```

BES-only e-mail features

If your BlackBerry is on a BES, you have access to several cool e-mail features that may make your personal BlackBerry friends jealous.

Using BlackBerry Lookup

With BlackBerry Lookup, you can send an e-mail to your coworkers even if you don't know their e-mail addresses! All you need is their name — or part of their name. Then follow these steps:

1. **Compose a new e-mail on your BlackBerry.**

See Book III, Chapter 2 for more on working with e-mail on your BlackBerry.

2. **Start typing the name of your coworker in the To: field.**

Try to be as accurate as possible so that you can limit the number of results that are returned.

3. **Select Lookup:** *name* **from the list that appears, as shown in the left side of Figure 1-3.**

Your BlackBerry sends a request to BES, which searches your messaging server for matches and returns them to your BlackBerry, as shown in the right side of Figure 1-3.

4. **Select the person you want to e-mail.**

That person's name populates the To field.

5. **Repeat Steps 2–4 for all coworkers you would like to add to your e-mail.**

6. **When you're finished composing, send your e-mail.**

**Figure 1-3:** Select Lookup, then select the coworker that you want to e-mail.

Adding a BlackBerry e-mail auto signature

If your BlackBerry is on a BES, you can set up a signature that's automatically added to the end of every e-mail that you send from it. Just follow these steps to add your John Hancock to your BlackBerry e-mails:

1. **From your BlackBerry Home screen, select the Messages icon.**

2. **Press the Menu button and select Options.**

3. **Select Email Settings.**

4. **Change Use Auto Signature to Yes.**

5. **Type the information you would like to show in your auto signature, as shown in Figure 1-4.**

6. **Press the Menu button and choose Save.**

   Your signature is added to the end of every message that you send from your BlackBerry.

Figure 1-4: Change Use Auto Signature to Yes, then type your auto signature.
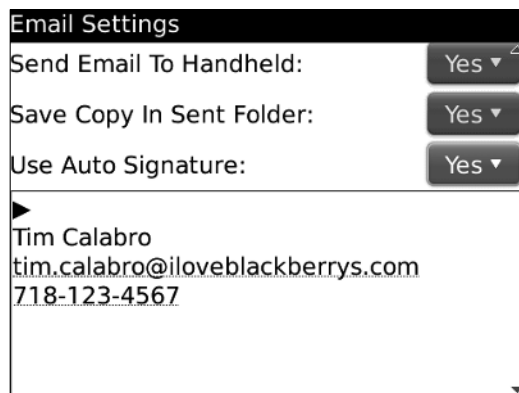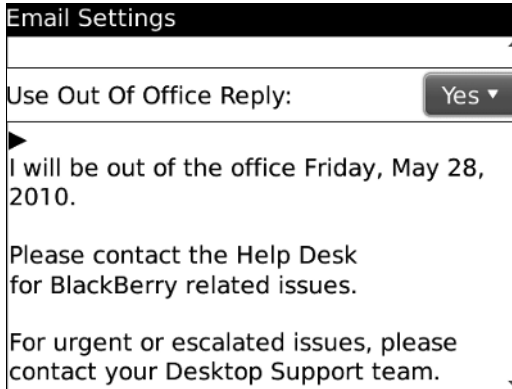

Setting an Out of Office response from your BlackBerry

For those who aren't familiar with Out Of Office responses, this setting sends responses to incoming mail senders automatically, letting the people who contact you know that you're not around. If your BlackBerry is connected to a BES, you can set up an Out of Office response right from your BlackBerry! To set up an Out of Office response, follow these steps:

1. **From your BlackBerry Home screen, select the Messages icon.**

2. **Press the Menu button and select Options.**

3. **Select Email Settings.**

4. **Change Use Out Of Office Reply to Yes.**

5. **Type the information you want to send in your Out Of Office reply, as shown in Figure 1-5.**

Email Settings

Use Out Of Office Reply: Yes ▾

▶
I will be out of the office Friday, May 28, 2010.

Please contact the Help Desk
for BlackBerry related issues.

For urgent or escalated issues, please
contact your Desktop Support team.

Figure 1-5: Change Out of Office Reply to Yes, then type your auto reply.

6. **Press the Menu button and select Save.**

   Anyone who e-mails you automatically receives your Out of Office reply.

To turn off your Out of Office reply, follow these steps:

1. **Repeat Steps 1–3.**

2. **Change Use Out of Office Reply to No.**

3. **Press the Menu button and select Save.**

BES-only calendar features

BlackBerry users who are on a BES also have access to wireless calendar synchronization as well as a few additional calendar features.

Checking your coworkers' calendar availability

Have you ever sent a meeting invitation from your BlackBerry only to find that someone you invited wasn't available at that date or time? With a BES-activated BlackBerry, you can check who's available to attend a meeting before you send the invite! Just follow these steps:

1. **From your BlackBerry, open your calendar.**

2. **Create a new meeting and add attendees.**

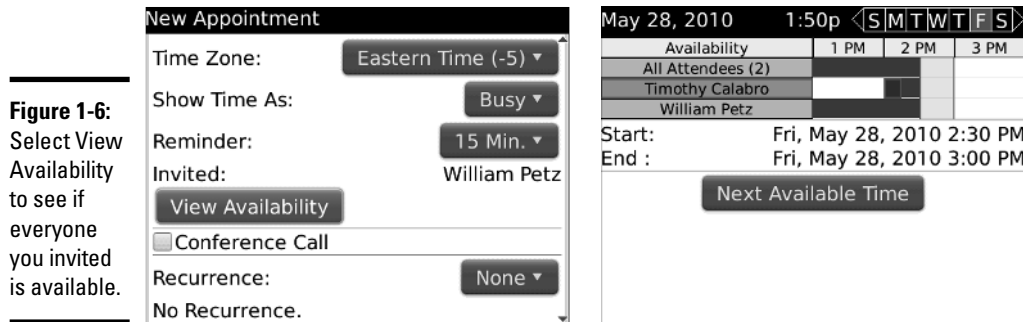   Refer to Book II, Chapter 2 for more information on using your BlackBerry Calendar.

3. **Scroll down and select View Availability, as shown in the left side of Figure 1-6.**

   The availability screen opens and shows if everyone that you've invited is available, as shown in the right side of Figure 1-6.

   If some or all of your attendees aren't available at that time, select Next Available Time. Your invite is updated to a time when everyone is available.

4. **Press the Escape button and select Save if prompted.**

5. **When you're finished creating your meeting, send your invitation.**

Figure 1-6:
Select View
Availability
to see if
everyone
you invited
is available.

New Appointment	
Time Zone:	Eastern Time (-5) ▾
Show Time As:	Busy ▾
Reminder:	15 Min. ▾
Invited:	William Petz
View Availability	
☐ Conference Call	
Recurrence:	None ▾
No Recurrence.	

May 28, 2010	1:50p ◁S M T W T F S▷		
Availability	1 PM	2 PM	3 PM
All Attendees (2)			
Timothy Calabro			
William Petz			
Start:	Fri, May 28, 2010 2:30 PM		
End :	Fri, May 28, 2010 3:00 PM		
Next Available Time			

Resetting and resynchronizing your BlackBerry Calendar

Every now and then, something may go awry with the background magic that synchronizes your BlackBerry Calendar with your corporate PC and messaging server through the BES. When that happens, your BlackBerry may miss some calendar updates, or even some appointments altogether. Luckily, your BlackBerry has a built-in way to reset and resynchronize its calendar with your enterprise messaging server. Follow these steps:

WARNING!

These steps clear all entries from your BlackBerry calendar. You should use them only if you're sure that your BlackBerry is connected to a BES server and you don't have any calendar items that are on your BlackBerry but not on your desktop e-mail client. If you haven't synched your calendar entries, they will be lost.

1. **From your BlackBerry Home screen, select the Calendar icon.**

2. **Press the Menu button and select Options.**

3. **Scroll to and highlight Desktop.**

4. **On your BlackBerry keyboard, type** rset**.**

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TIP

Yes, you really don't need to type the first E in reset. Just type **rset**. Whether you type **rset** or **RSET** doesn't matter. They're treated the same.

A pop-up menu appears, as shown in Figure 1-7. Don't panic — your BlackBerry is erasing the calendar named Desktop on your BlackBerry, not the calendar on your Desktop computer.

Figure 1-7: Go into your Calendar options and reset/ resync your Calendar.
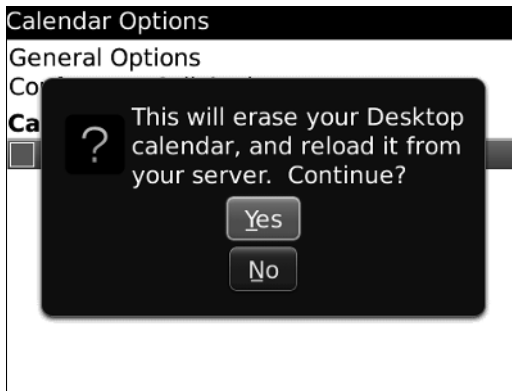
5. **Choose Yes.**

   Your BlackBerry Calendar clears itself out and resynchronizes with the BES and your enterprise messaging server within a few minutes.

Using BlackBerry Manager

BlackBerry Manager is the brains of the whole operation. It's the interface on your administrator's computer that enables a connection to BlackBerry Configuration Database to perform administrative tasks, including the following:

✦ Add or remove BlackBerry users

✦ Set enterprise activation passwords

✦ Move users between BES servers

✦ Create and assign IT policies (*IT policies* are templates that are sent to individual devices remotely to configure them.)

✦ Create and assign software configurations

✦ Reset device passwords

✦ Wipe and disable lost or stolen devices

✦ View device information and usage statistics

✦ View, add, or edit device filters

✦ Resend or resync calendar information

For IT professionals only: Accessing BlackBerry Manager

You can open BlackBerry Manager using the following steps:

1. **On the BES, or a remote computer with BlackBerry Manager installed, click the Start button.**

2. **Select All Programs.**

3. **Select BlackBerry Enterprise Server.**

4. **Select BlackBerry Manager.**

To send IT commands to individual BlackBerry phones, follow these steps:

1. **Open BlackBerry Manager.**

2. **Click the BlackBerry Server name in the upper-left corner.**

3. **Click the Name field near the top of the screen and enter the name you are looking for.**

   If you'd like to send an IT command to multiple users, you can click the Users tab, located in the upper-middle portion of BlackBerry Manager. Then Ctrl-click each user whose settings you want to change. If you do this, skip to Step 5.
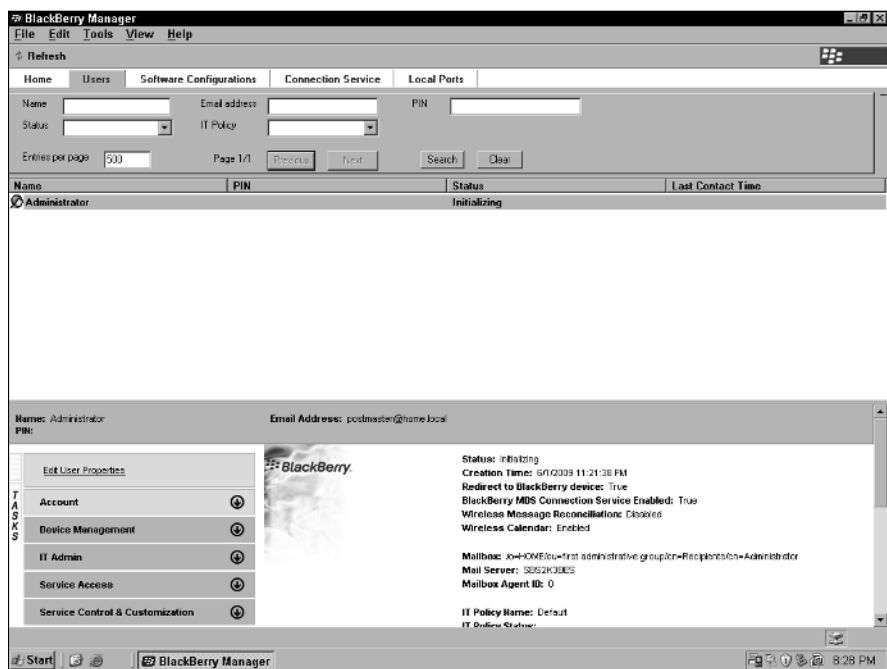
4. **Click Search.**

   BlackBerry Manager filters the user list so you see only matches for your search.

5. **Right-click the username to which you want to send an IT command.**

6. **Choose the IT command you would like to send from the list that appears.**

   The BES queues the IT command and sends it to the user's BlackBerry. Figure 1-8 gives you a glimpse of BlackBerry Manager.

TIP

BlackBerry Manager can administer only BlackBerry Enterprise Servers that are part of the same configuration database (also known as a domain). If your administrator has a separate pilot or development environment, he or she needs to set up a different computer with BlackBerry Manager pointing to the pilot or development database, or remotely connect into the pilot or development BES and then launch BlackBerry Manager.

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Figure 1-8:
BlackBerry
Manager.