



Zimbra Connector for BlackBerry Enterprise Server

ZCB 6.0

May 2010

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Zimbra Connector for BlackBerry Enterprise Server

With the Zimbra™ Connector for BlackBerry® Enterprise Server (ZCB), users can access the Zimbra Collaboration Suite (ZCS) server using their BlackBerry mobile devices. ZCB is a plug-in that enables synchronization of mail, address books (including GAL), calendars, and tasks between ZCS and a BlackBerry Enterprise Server for Microsoft® Exchange.

This document describes installation prerequisites, installation, and advanced settings for the GA release of ZCB, Version 6.0.

Important: ZCB 6.0 does not support BlackBerry Enterprise Server version 4.1.7. or 5.x

Note: *If you are upgrading, see Appendix A Upgrading BES with Latest ZCB on page 28.*

New in ZCB 6.0

Major enhancements include:

- Simplified installer and installation steps.
- Better stability and overall performance improvements.
- Improved Calendar syncing.
- Architectural improvements to eliminate the dependency on Microsoft Outlook.
- Ability to move users between servers.

ZCB Features

System Features:

- Up to 250 users can be on any BlackBerry Enterprise Server (BES).

Note: *If you plan to deploy more than 100 users on a server, contact Zimbra support to review best practices.*

- Up to 100 users per agent can be provisioned.

- Administrators provision users directly in the BlackBerry Administration Console.

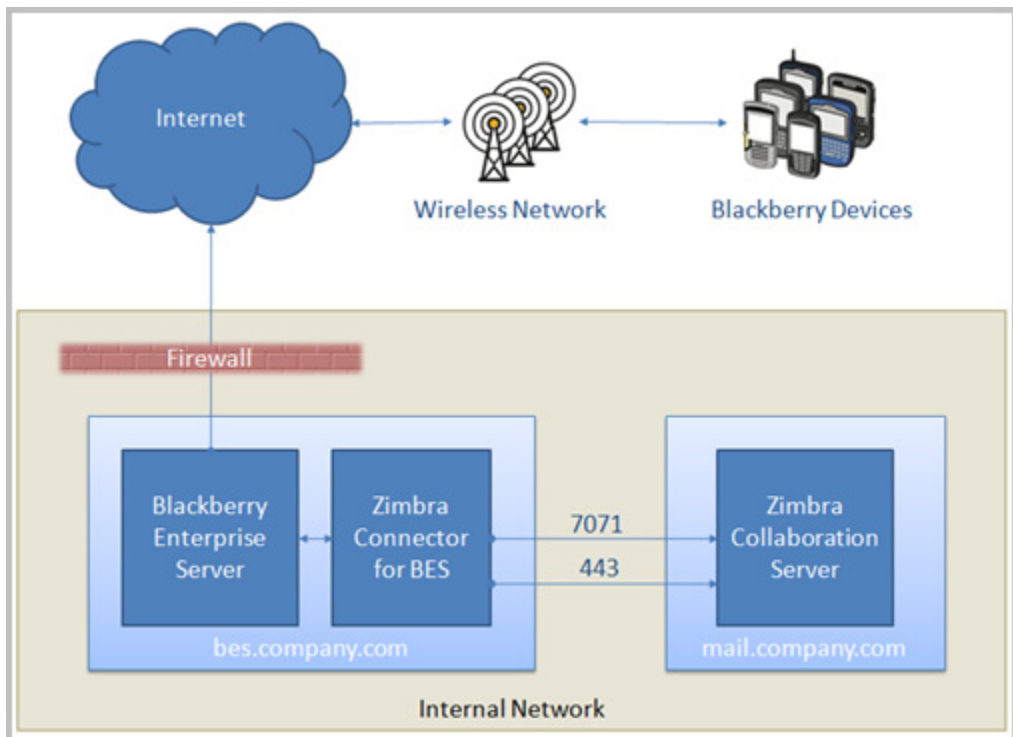
Key device features include:

- Over-the-air synchronization of mail, address book, calendar, and tasks in the native BlackBerry UI
- Sync to all BlackBerry devices
- Full access to Zimbra GAL
- Search messages
- View attachments
- Manage calendar events including accepting and declining meeting invites

ZCB Architecture

ZCB is a plug-in that enables synchronization of mail, address books (including GAL), calendars, and tasks between ZCS and BES. The following figure shows how ZCB interacts with ZCS, BES, and BlackBerry devices.

How ZCB connects to ZCS, BES, and BlackBerry Devices



Recent Enhancements and Fixes to ZCB

Major Fixes for ZCB Release, Version 6.0

| | |
|--------------|---|
| 50028 | Simplified installer and installation steps. |
| 49761 | Adding users in BES does not lead to loss of sync for other users provisioned on BES. |
| 46911 | Appointments synced from ZCO now show correctly in BB |
| 45711 | The issues that caused BB to bounce when users replied to Calendar invitations or made other changes to calendar invites have been fixed. |
| 45713 | Automatic Controller restarts now works. |
| 42757, 47233 | Memory leaks have been fixed. |
| 42381 | Multi profile support in ZCB. Users can perform calendar operations on devices without intermittent errors. |
| 35042 | Implemented mechanism that automatically updates (if necessary) emsmdb32.dll to the proper version during agent startup. This eliminates the necessity to do repair of the connector after execution of the Windows update. |

Installation Prerequisites

To install and run ZCB, you must have the most recently updated versions of the following servers, software, and equipment:

- Zimbra Collaboration Suite environment
- Dedicated BES Server
- Wireless devices with BES services enabled

Important: All servers and software must have the latest service packs and updates installed.

Zimbra Collaboration Suite Environment

Zimbra Collaboration Suite single server or multi server environment at ZCS 6.0.2 or later.

- ZCB connects to ZCS on ports 443 and 7071. These ports must be open for ZCB to run.
- Verifying the ZCS server is SSL enabled. In order for ZCB to run, your ZCS server must be SSL enabled. Verify that your ZCS server's mail port is SSL enabled. If it is not, use the CLI command, **zmtlsctl**, to switch your mail port to either **HTTPS** or **both**. You must restart ZCS if you run this command.

Dedicated Server for BES

The server running BES should not have Windows Search or any email searching, scanning, or indexing applications running. These applications attempt to use the same message store that ZCB references or install add-ins in Outlook. Any of these applications can cause .zdb file corruption that can cause account sync issues.

Important: *If you do install anti-virus scanning, do not scan the folders that contain zdb files.*

The following is installed on the dedicated BES server:

- Microsoft Windows® Server 2003 operating system

Note: *Microsoft Windows Server 2003 R2 64-bit is not supported.*

- BlackBerry Enterprise Server for Microsoft Exchange 4.1.6 or BlackBerry Professional Software for Microsoft Exchange 4.1.6, and all associated components. Update 6, 7, or 8 is required.
- Zimbra Connector for BlackBerry Enterprise Server .msi installer.
- Microsoft Office Outlook® 2007 SP2 messaging and collaboration client.

Make sure you activate Outlook 2007 after it is installed. If Outlook 2007 is not activated, calendar related Outlook 2007 features may be disabled after the evaluation period.

- May 2010 cumulative time zone update for Windows operating systems. To obtain this update, go to: <http://support.microsoft.com/kb/981793>.

Wireless Devices

Wireless devices enabled with BES services and a Zimbra Mobile license associated with the device.

Hardware Recommendation

Minimum Recommended

The following is recommended hardware for BES with 100 or less users and one agent.

- Dual Core
- 2 GB RAM
- 200+ GB hard drive space

Maximum Configuration Recommend

The following is recommended hardware for best performance for BES with more than 100 users or more than one agent.

- Quad Core

- 16 GB RAM
- 500+ GB hard drive space

Installing ZCB

Important: Be sure to follow the order of installation detailed in this section or your installation may fail.

Installing ZCB on the BES server is a multi-part process. Below is an overview of the ZCB installation process, with steps detailed in the following sections.

- Preparing for ZCB installation
- Installing ZCB
- Creating Mail Profiles
- Installing BlackBerry Enterprise Server

Preparing for ZCB Installation

Before installing ZCB, you must install the Microsoft Windows Server, update the time zone, and install Outlook.

Use the appropriate software documentation to install the following:

1. Install **Microsoft Windows Server 2003** and the latest service packs.

Important: To avoid disruption of ZCB services, schedule Windows Server 2003 updates to deploy during non-business hours or during regularly scheduled service intervals.

2. Perform the **Microsoft Windows time zone update**.
3. Install **Outlook 2007 with Service Pack 2**.

Note: Make sure you install all the latest Outlook 2007 updates at this time. If Outlook 2007 is not activated, calendar related Outlook 2007 features may be disabled after the evaluation period.

1. Open Outlook.
2. Click **Help** on the toolbar.
3. Select **Check For Updates**.

Reboot your system when prompted during the update process, otherwise this step may fail.

4. Continue to the next section, [Installing ZCB](#).

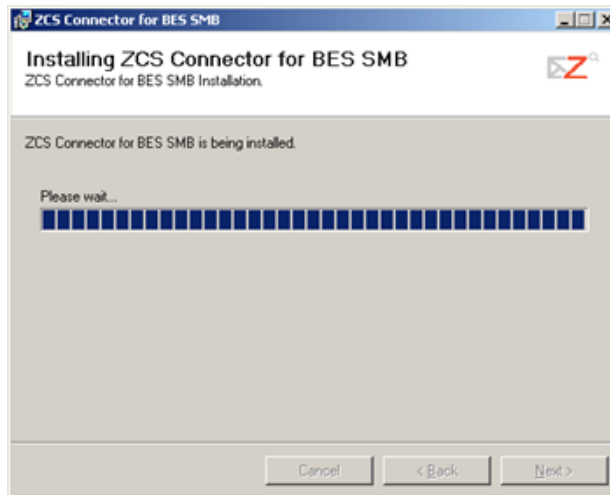
Installing ZCB

The install program for ZCB is in the Windows Installer .msi format. To install the ZCB plug-in on BES:

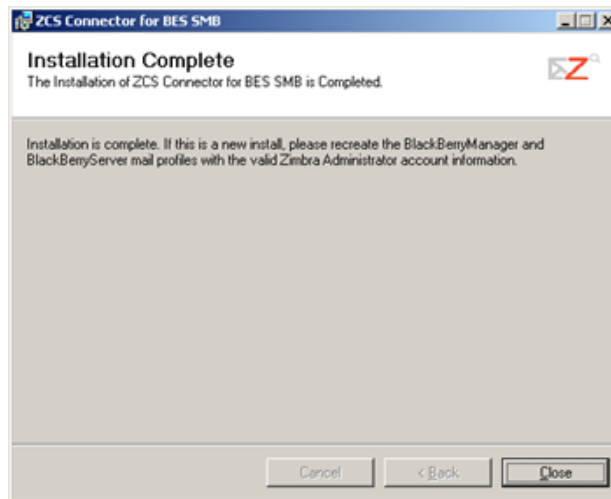
1. Open the .msi file to start the **Installation Wizard**.



2. Accept the license agreement. The Confirm Installation dialog appears. Click **Next**. The ZCB is installed.



3. Click **Next** and then click **Close** to complete the installation.



4. Continue to the next section, [Creating Mail Profiles](#).

Creating Mail Profiles

Before you can provision BES accounts, you must delete and recreate the BES BlackBerryManager and BlackBerryServer mail profiles using the account information from the BES Administrator account. Use the following steps to create these two mail profiles. The steps to create both of these profiles are the same.

Important: Before you can create the two mail profiles:

- *The BlackBerry Controller service must be stopped. Because the process of installing ZCB may have caused the BlackBerry Controller service to restart, verify that it is not running before continuing.*
- *If your BES profiles are opened with Outlook, when creating the mail profiles, select **Prompt for a profile to be used**. Do not use the default.*

To create the BlackBerryManager profile

1. Start the Mail Control Panel applet.
2. Go to **Control Panel>Mail>Show Profiles**.
3. Select the existing BlackBerryManager profile, and click **Remove**.
4. Click **Add**, to create a new profile.
5. Type **BlackBerryManager** in the New Profile dialog. Click **OK**.
6. Select **Additional Server Types** in the Server Type dialog. Click **Next**.

7. Select **Zimbra Collaboration Server** from the Additional Server Types list in the Additional Server Types dialog.
8. In the Server Configuration tab in the Zimbra Server Configuration Settings dialog, type the following information:
 - **Server Name.** This is set to your Zimbra Server name and port number. This should be in the form of example.domain.com:7071.

***Note:** This must be the mailbox host name. It must be a direct access to the mailbox server, it cannot be the proxy server. ZCS proxy is not supported at this time.*

 - Select **Secure Connection.**
 - **Email Address.** This is the name of the BES administrator account created on the ZCS server. This should be in the form of adminname@example.com.
 - **Password.** This is the password of the BES administrator account created on the ZCS server.
9. Click **OK.**

To create the BlackBerryServer profile

1. Select the existing BlackBerryServer profile, and click **Remove.**
2. Click **Add,** to create a new profile.
3. Type **BlackBerryServer** in the New Profile dialog. Click **OK.**
4. Select **Additional Server Types** in the Server Type dialog. Click **Next.**
5. Select **Zimbra Collaboration Server** from the Additional Server Types list in the Additional Server Types dialog.
6. In the Server Configuration tab in the Zimbra Server Configuration Settings dialog, type the following information:
 - **Server Name.** This is set to your Zimbra Server name and port number. This should be in the form of example.domain.com:7071.
 - Select **Secure Connection.**
 - **Email Address.** This is the name of the BES administrator account created on the ZCS server. This should be in the form of adminname@example.com.
 - **Password.** This is the password of the BES administrator account created on the ZCS server.
7. Click **OK.**
8. Restart your BlackBerry Controller service.

When your BlackBerry Controller service restarts, BES begins to synchronize the Global Address List (GAL).

It may take several minutes before BES is able to synchronize the GAL. Larger GALs may take longer to synchronize. You may be unable to provision users until the GAL has been fully synchronized.

9. Continue to the next section, [Installing BES](#).

Installing BES

Important: ZCB 6.0 does not support BlackBerry Enterprise Server version 4.1.7. or 5.x. Also, be sure to follow the order of installation detailed in this section or your installation may fail.

1. Install a standalone version of Microsoft® Collaboration Data Objects 1.2.1 (CDO), available at:

<http://www.microsoft.com/downloads/en/details.aspx?FamilyID=2714320d-c997-4de1-986f-24f081725d36&DisplayLang=en>

2. Install BlackBerry Enterprise Server for Microsoft Exchange 4.1.6 or BlackBerry Professional Software for Microsoft Exchange 4.1.6, and all associated components. For more information about installing BES and its associated components, see the RIM web site.

Important: Do not install the combined MAPI/CDO prerequisite stated in the BES product documentation, as this will conflict with the standalone version of CDO installed in step 1 and prevent ZCB from working properly.

Note: During the BES installation, after you enter your SRP information, you may be prompted to enter profile creation information in a Microsoft Exchange Server dialog. Press **OK** to skip this step. Ignore any subsequent BES profile errors, such as an **Invalid properties error**.

Note: During the BES installation ignore warnings such as **Exchange Server is not detected errors** or **Could not verify the Microsoft Exchange permissions errors**.

3. The installation is now complete. Continue to the next sections to provision and administer ZCB.

Preparing to Provision Accounts

Before you can provision accounts, the following must be set up create a Zimbra global administrator account for BES.

Following this, you provision user accounts. After user accounts have been provisioned, restart your BlackBerry Controller service.

Creating a BES Zimbra administrator account on ZCS

Create a BES administrator account on the ZCS server in order to provision user accounts. Having a BES administrator account separate from the ZCS administrator account allows you to specifically monitor BES use and statistics. You create a Zimbra global administrator account.

Use the following steps to create the administrator account on ZCS.

1. Log in to the Zimbra administration console.
2. Select **Account**, from the **New** drop-down menu.
3. Complete at least the following fields in the New Account dialog.
 - Account name.
 - Last name
 - Account Setup section select **Global Administrator**.
 - Password

The admin user name and password are used when the BES manager and server mail profiles are created.

4. Click **Finish**.

Provisioning Accounts with the BES Manager

Once the GAL has finished syncing, use BES Manager to provision user accounts and create the Activation Password. (Refer to BES documentation for how to provision accounts.)

Note: *ZCB SMB only supports over the air (OTA) activation, so you must set an activation password. For more information on provisioning accounts using the BES Manager, refer to your BES documentation.*

Multi-Agent Configuration

When a single instance of BES used with the Zimbra Collaboration Suite Connector is expected to support more than 100 users, the Zimbra multi-agent configuration (MAC) for BES must be used. In the multi-agent configuration, processing of users provisioned on BES is distributed among multiple static agents. See Appendix B for details about MAC.

Activating devices

When user accounts are provisioned in BES, ZCB syncs with the ZCS server to build a local cache of each user's data. Once this synchronization is complete, users can activate their devices over the air (OTA).

OTA activation is performed through the Enterprise Activation application on users' devices. To activate a device, users use the email address that was provisioned for them in BES and the enterprise activation password.

Important: *If users reprovise their BlackBerry mobile device, they must first wipe the device before activating their accounts.*

Customizing Settings in the Registry (optional)

The following default settings for syncing user's mail and calendar can be modified from the registry keys. For more information about these settings, see the Advanced Settings section.

- Initial age of the email messages that are added to the cache. The default is 2 days.
- Maximum number of days email messages reside in the user's local cache. The default is 30 days.
- How frequently messages are removed from the local cache. The default is 24 hours.
- The initial age of calendar items that are initially synced. The default is 2 days.

Another registry setting that may need to be customized is for multi tenancy environments. For multi tenancy, address lookups must be disabled in multi-domain environments. You must create the keyword, **AllowAddressLookup** and set the value to **0**.

Modifying Registry Keys

Modifying the registry keys is optional. Below is a list of the registry keys for ZCB.

Important: *Before you change any registry key values, be sure to create a backup of the original registry key values.*

| Key Name | Value Type | Description |
|--|------------|---|
| <p>The following keys are located under HKEY_LOCAL_MACHINE\Software\Zimbra\</p> | | |
| MaxEmailAge | REG_DWORD | This registry key indicates the maximum number of days an email can reside in the local cache. Emails older than the specified MaxEmailAge are removed from the local cache. The default is 30 days. |
| StaleMessageCleanFreq | REG_DWORD | This registry key indicates how frequently, in hours, messages should be scanned to see if they should be removed from the local cache based on the MaxEmailAge value. Default is 24 hours. |
| MaxInitialAge | REG_DWORD | <p>This registry key indicates the amount of mail to initially add to the cache. Emails that are older than the specified MaxInitialAge are not initially added to the cache.</p> <p>Note: Significantly increasing the MaxInitialAge registry key will create a larger cache, increasing the time to initialize the user's account. For faster performance, Zimbra recommends a smaller MaxInitialAge value. The default is 2 days.</p> |
| MaxInitialCalAge | REG_DWORD | <p>This registry key indicates the cut-off age for calendar items that are initially synced. Calendar items older than the value of this key are not synced. The default is 2 days</p> <p>Note: Calendar items older than the value of this key will be synced if they are part of an ongoing recurring series.</p> |
| turnOffInboxFailures | REG_DWORD | If this registry key is not set or is set to 0 (default), local failures messages will be sent to the user's device. If this key exists and is set to 1, this feature is turned off. |

| Key Name | Value Type | Description |
|--|------------|--|
| CalendarSerialization | REG_DWORD | To stabilize BES performance with multi-agent configuration, calendar conversion requests can be serialized. The default is off, the value of this key is set to 0. To turn this on, set the value of this key to 1. |
| <p>The following keys are located under HKEY_LOCAL_MACHINE\Software\Research In Motion\BlackBerry Enterprise Server\Agents\</p> | | |
| AllowAddressLookup | REG_DWORD | Multi-tenancy is supported, but address lookups must be disabled in multi-domain environments to prevent users from looking up users in other domains. To turn off address lookup, create a DWORD value that is named AllowAddressLookup and set the value data to 0. |

BES Administrative Features

The following features are available for BES configurations used with ZCS 6.0.2 or later.

- Moving users between BES servers
- Backup recovery and fail over for ZCB accounts

Moving ZCB Users Between BES Servers

Users provisioned on one BES server can be moved to another BES server using BES Manager. The following prerequisites are required.

- ZCS server must be at 6.0.2 or later.
- Centralized database for BES instances must be set up. That is: the source and target BES instances must use the same BlackBerry configuration database.

Moving Users

Use BES Manager to move one BES instance to another.

1. From the User's tab, right-click on the user name to be moved.
2. Select **Move Users** on the menu. A list of target servers displays.
3. In the Select Server dialog, select the target server and click **OK**. The user is moved to the selected server.

Users who are moved do not need to reprovision their devices.

Preparing BES with ZCB for Disaster Recovery

This section provides general guidelines for disaster recovery when using ZCB. For detailed information about BES disaster recovery plans, refer to the RIM documentation about disaster recovery.

Note: ZCS server must be at 6.0.2 or later.

In general, for disaster recovery procedure you prepare a second server as a standby server. If the production server becomes unavailable, the standby server can be started immediately.

The standby server is configured identical to the production server with the following:

- BES software version
- BES name
- Service Routing Protocol (SRP) and user license credentials.
- BlackBerry Configuration Database

The standby server is expected to be turned off or BlackBerry Enterprise Server services are disabled until this server is required in a disaster recovery situation.

For the procedure to set up the BlackBerry Enterprise Server for disaster recovery, see the knowledge base article, *How to Setup the BlackBerry Enterprise Server for Disaster Recovery (KB10175)*. For Step 1, instead of the Microsoft Exchange software prerequisites, configure the server according to the installation prerequisites in this guide, see “Installation Prerequisites” on page 5.

Changing Service Account Password on BES

When the Windows server administration password is changed, to keep the Windows password and the BES server passwords synchronized, the new Windows password must be updated on BES.

1. Stop the BlackBerry Controller.
2. Change the service account's password.
3. Change the logon password for all of the BlackBerry-related windows services.
4. Restart the server to have the password changes take affect.

Next, because the ZCS password was deleted from the Zimbra Server Configuration settings when you reset the password, update the BlackBerry

Manager and BlackBerry Services profiles with the password configured for the ZCS administrator account.

1. Stop the BlackBerry Controller.
2. Go to **Mail Profiles**. Open up properties of the **BlackBerryManager** profile and proceed to **Zimbra Server Configuration Settings** panel.
 - Enter the correct Zimbra BES admin password on this panel.
 - Click **OK** to make sure that the connection to Zimbra server succeeded.
3. Return to the Mail tab, select BlackBerry Server and repeat steps 2.
4. Start the BlackBerry Controller
Verify that the email service is restored.

Troubleshooting

If you encounter issues with ZCB, there are a number of resources available to help you with troubleshooting. In this section, we cover known issues, common issues, using logging control, additional resources, and contacting Zimbra Support.

Known issues for ZCB

Zimbra engineering has identified a number of issues with the software, and we are actively working to resolve them. Following are the issues that are most likely to occur. All known bugs are listed in Zimbra's Bugzilla database, available on the Zimbra web site, at www.zimbra.com.

| | |
|-------|--|
| | Messages may display in the Event Viewer, these can be ignored. Bugs are open to correct this. |
| 17652 | Support access to email removed from local cache. Workaround is to bump up MaxInitialAge and MaxEmailAge registry values so that email messages in question are not reaped. |
| 21048 | Unable to sync contacts database error |
| 23677 | BB Server Configuration Application "Edit MAPI Profile" button doesn't work |
| 29928 | Appointments can disappear if meeting request is deleted. |
| 30334 | Slow sync for a user delays syncs for other users on the same server. |

| | |
|-------|---|
| 31323 | <p>Whenever a Mailbox is deleted from the ZCS server, including when zmmailboxmove is used to move mailboxes from one ZCS server to another, the BES WaitSet returns an error of type MAILBOX_DELETED, indicating that the mailbox was deleted and is no longer a part of the waitset.</p> <p>The administrator must manually re-provision the account when it is moved to another server.</p> <p>The BES agent needs to be restarted after the account is moved.</p> |
| 33179 | ZCB does not support Zimbra Proxy |
| 42126 | IPv6 is not supported by ZCB and must be removed if previously installed. |

Microsoft Support Cases

Additionally, the following Microsoft Support Cases may impact ZCB installation or performance.

- SRX080703601614 — This support case outlines periodic crashes in the Microsoft mspst32.dll file. These crashes put ZCB in a bad state which requires a restart of the server. The crashes are more frequent with a larger number of users in BES.
- SRX080703600580 — This support case outlines potential deadlock in the Microsoft mspst32.dll file. This deadlock puts ZCB in a bad state which requires a restart of the server. The deadlock is more frequent with a larger number of users in BES.

Resolving ZCB Issues

The following are issues encountered when using ZCB.

- ZCB installation fails
- Devices stop receiving email
- Device does not activate
- Duplicate emails
- Previous calendar items do not appear in Calendar

The following sections describe these common issues, troubleshooting tips, and possible resolutions.

ZCB installation fails

The most common installation problems are due to deviation from the step by step installation instructions outlined in this document or deviation from the installation prerequisites.

How to resolve:

- Verify that the installation process is started with none of the prerequisite software installed and that all user applications are closed before starting the installation process for ZCB. Then verify that the steps are followed in the order they are given.
- If there are still problems with the installation, the installer can be run in verbose mode to generate debug logs. These logs can be sent to Zimbra support for analysis.

To run the installer in verbose mode, run the following command in the folder where the installer file (this has an .msi extension) is located.

```
msiexec /i [msi-filename] /lv [output log file path name]
```

For example, the following command launches the zcb<version>.msi installer in verbose mode, and will output the verbose logs to out.txt in the current directory.

```
msiexec /i zcb_<version>.msi /lv out.txt
```

Devices stop receiving email

Common situations where successfully activated devices stop receiving new email, calendar events, and contacts include:

- Some of the BES services are not running
- BlackBerry Agent is not responding
- User may not have initialized
- Device needs to be rebooted.

The following sections discuss these scenarios in more detail.

Some of the BES services are not running. For BES to function properly, all BlackBerry services should be running. There is a known timing issue with BES where if the database service has not started in a timely fashion, other BES services do not start. If the timing issue preventing other BES services from starting consistently occurs, contact Research in Motion technical support for information about starting the BES services through a start-up script.

BlackBerry Agent is not responding. ZCB interacts with one major component of BES called the BlackBerry Agent. This component is a process that is responsible for retrieving data from the mail server via ZCB. BlackBerry Agent processes are controlled by a Windows service called the BlackBerry Controller. The BlackBerry Controller is not only responsible for launching the Agent processes but it is also responsible for making sure that this process and its multiple threads of execution are functioning properly. Under normal situations there is a single BlackBerry Controller and a single BlackBerry Agent running in BES. Sometimes the following situations may arise:

- **BlackBerry Agent is hanging.** In order to find out if the BlackBerry Agent is hanging, check the BlackBerry Agent logs. The BlackBerry Agent logs can be found in the daily logs folder for BES. Agent Logs file contains **_MAGT_** in its filename. If you search for the string ***** No Response***** and find a section of the log that looks like the following, the BlackBerry Agent process is not responding.

```
[30181] (07/02 11:24:56.625): {0x10E0} Performing
system health check (BlackBerry Mailbox Agent 1 - BESX
Version 4.1.4.39
[30038] (07/02 11:24:56.625): {0x10E0} Worker Thread:
*** No Response *** Thread Id=0x514,
Handle=0x2BB0, WaitCount=1, WorkingTime=14 min, Last
Activity=14 min, Event: NEW_MB_PCKT_NOTIFY, User:
any_user@zcs.mydomain.com, Server: zcs.mydomain.com,
Activity: Starting
```

If your BlackBerry agent is hanging, refer to the known issues section of this document for more details.

- **BlackBerry Agent process has crashed.**

If the BlackBerry Agent process is not hung, it is possible that it has crashed. There are two ways to detect this situation.

- The first method is to look in your **%TEMP%** directory to see if there is a subfolder called **zco-cores**. If this folder exists, there may be files with a **.dmp** extension. If the date that this file was created corresponds with when you believe devices stopped being able to send/receive data, then the BlackBerry Agent probably crashed.
- Another way to verify a crash is to look in the BlackBerry Agent Logs. If you search for the string
-----**Begin Stack Trace**-----
and you find a stack trace for a particular thread, then BlackBerry Agent has most likely crashed. We have an open support case with Microsoft regarding this issue. Refer to the known issues section of the document for more details.

In either of the above cases, the BlackBerry Controller terminates the BlackBerry Agent and tries to launch another Agent. Most of the time, this process fails. To manually restart the Agent, use the following steps.

1. Shut down the Black Berry Controller Windows service.
2. In the Windows Task Manager, wait for BlackBerryAgent.exe and Outlook.exe to shut down. If this process takes more than a minute, you may need to manually shut down these tasks.
3. Restart the BlackBerry Controller Windows service.

User may not have initialized. If only a subset of users are not receiving data on their device, it is possible that some users were not initialized properly by the BlackBerry Agent. To verify if this is the case, open the Agent Logs and search for a particular user's email address. If the user's email address or display name is associated with log statements similar to those below, then the user may not have been initialized properly.

```
MAPIMailbox::MAPIMailbox(2) -  
ResolveName[3] failed for DisplayName='Joe Smith', giving up  
MAPIMailbox::MAPIMailbox(2) - OpenMsgStore (0x8004011d) failed,  
MailboxDN=jsmith@zcs.myserver.com, ServerDN=  
o=zcs.myserver.com/ou=First Administrative Group/cn=Configuration/  
cn=Servers/cn=zcs.myserver.com/cn=Microsoft Private MDB
```

Note: *It is possible that a user was not properly initialized but the log statements are not similar to those above.*

If the user is not properly initializing, BlackBerry Agent needs to be restarted from the BlackBerry Controller, using the following steps.

1. Shut down the BlackBerry Controller Windows service.
2. In the Windows Task Manager, wait for BlackBerryAgent.exe and Outlook.exe to shut down. If this process takes more than a minute, you may need to manually shut down these tasks.
3. Restart the BlackBerry Controller Windows service.

Device needs to be rebooted. If only a subset of users is not receiving data on their devices, it could be a user-specific issue. This is likely if the user's mailbox has been successfully opened by the BlackBerry Agent. (You can check this in the Agent logs.) A full reboot of the BlackBerry device may resolve this situation.

To fully reboot a BlackBerry device, have the user follow the steps below.

1. Open up the back of the BlackBerry device.
2. Remove the battery from the device.
3. Wait a minute.
4. Place the battery back into the device.

Following these steps, the user can restart the device. Once the user has restarted the device, enable the wireless connection again.

Device does not activate

If a user is provisioned through the BES Manager but Enterprise Activation fails on the device, the following troubleshooting steps may resolve the issue.

- **Check that all BlackBerry services are running.** For BES to function properly, all BlackBerry services should be running. There is a known timing issue with BES where if the database service has not started in a timely fashion, other BES services do not start. If the timing issue preventing other BES services from starting consistently occurs, contact Research in Motion technical support for information about starting the BES services through a start-up script.
- **Check to make sure that the wireless carrier has enabled BES service for the device.** There is a difference between the available BlackBerry Internet Service (BIS) and BES services that are offered by most carriers. users may need to indicate that they wish to connect their device to the BlackBerry Enterprise Server located in their corporate network.
- **Check email routing settings and email filters for that user's account.** The initial stages of Enterprise Activation are performed through email sent from the device to BES and vice versa. If these activation emails are not properly routed to/from that user's account or if mail filters exist, it may interfere with this process causing activation to fail.
- **Verify that the Enterprise Activation password for the user was set and that it has not expired.** Sometimes Enterprise Activation credentials are not current or are not set, which causes activation to fail. Also verify that the user is using the correct email address, by comparing their login email with the email listed for the user in the BlackBerry Manager.
- **Verify that the user is properly initialized in the BlackBerry Agent.** To verify this, open the BlackBerry Agent Logs, which can be found in the daily logs folder for BES. The Agent Logs file contains **_MAGT_** in its filename. Search for the user's email address. If there are errors in the logs regarding initializing the user or opening their message store, then they may not have properly initialized. To resolve this issue, restart the BlackBerry Agent using the following steps.
 1. Shut down the Black Berry Controller Windows service.
 2. In the Windows Task Manager, wait for BlackBerryAgent.exe and Outlook.exe to shut down. If this process takes more than a minute, you may need to manually shut down these tasks.
 3. Restart the BlackBerry Controller Windows service.
- **Delete and add the user in the BlackBerry Manager.** If the Enterprise Activation problems persist, you may want to delete the user from the BlackBerry Manager and add him/her again. When adding new users, assign an Enterprise Activation password before notifying the user to activate their device.

Duplicate email messages

If a user has previously activated BlackBerry Internet Service (BIS) to access their corporate mail, it is possible that activating their device on BES could cause duplicate messages to be delivered to their device. Contact your carrier

for instructions on disabling BIS once it has been set up. The user may be forced to wipe his device before performing the Enterprise Activation against ZCB.

Previous calendar items do not appear in Calendar

If a user is able to view some previous appointments, but others appear to be missing, the **MaxInitialCalAge** registry key may be preventing previous appointments from being synced. Calendar items older than the **MaxInitialCalAge** are not synced to users' calendars, unless they are part of an ongoing recurring series.

If you are going to change this registry key you must remove the account and recreate it again. The order to do this is as follows:

1. Remove the user's account
2. Set the **MaxInitialCalAge** to a larger value
3. Create the user's account again.

When their account is recreated, the new **MaxInitialCalAge** is applied.

Note: *Significantly increasing the **MaxInitialCalAge** registry key creates a larger cache, increasing the time to initialize the user's account. For faster performance, Zimbra recommends a smaller **MaxInitialCalAge** value.*

Turning off the Data Execution Prevention Feature

If you are receiving message alerts from the Data Execution Prevention feature (DEP), you can disable this feature. Below are the steps to turn off the DEP for key BES processes:

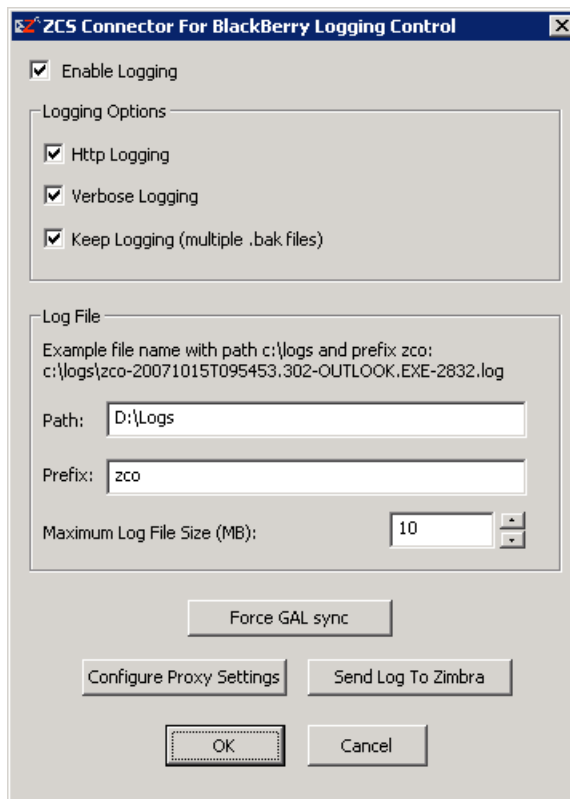
1. On your computer, click **Start**
2. Select **Control Panel**
3. Select **System**
4. Click the **Advanced** tab
5. In the **Performance** region select **Settings**
6. Click the **Data Execution Prevention** tab in the dialog box that opens
7. Select **Turn on DEP for all programs and services except for those I select**
8. Click **Add**.
9. The open dialog box will open. Browse and select applications (BlackBerryAgent.exe, CalHelper.exe, BlackBerryMailStoreSrvr.exe)
10. Click **Open**

11. Click **Apply**
12. Click **Ok**
13. Reboot your system.

Using Logging Control for troubleshooting

ZCOLogCtl.exe is installed when ZCB is installed. If users encounter problems when accessing their Zimbra accounts using their BlackBerry mobile device, you can enable the logging control tool to log errors and events that occur while they are using ZCB. Logging Control should be used for all troubleshooting. Once you have enabled logging and have recreated the issue, you can then send this log to Zimbra for analysis.

This logging control tool is in the local ID directory, **\Program files\Common Files\System\MSMAPI\1033**.



The following options can be specified:

- **HTTP Logging.** Enabling HTTP logging logs any HTTP connections.
- **Verbose Logging.** Enabling verbose logging creates more detailed logs, but may affect performance.
- **Keep Logging.** When you enable this option, the logging control tool saves more than one backup log file. By default, only one backup log file is saved.

- **Log File Path.** In this field, you can specify in what directory log files should be saved.
- **Log File Prefix.** In this field, you can specify the prefix for log files.
- **Maximum Log File Size.** You can indicate the maximum size of a log file. The default log file size is 10 megabytes. When the size of the log reaches the limit, the current log is set aside and a second log is created.
- **Force GAL sync** completely resync the GAL and could take some time depending on the size of your GAL. Actual GAL sync is performed by BB Manager as well as BB Agent. It is important for BB controller service as well as BB manager processes to be running at the time when GAL sync is initiated by user.

When the problem has been recreated, you can then send the log files to Zimbra. Open the ZCS Connector for Blackberry Logging Control again and click **Send Log to Zimbra**.

Note: *Configure Proxy Settings is not necessary for ZCB. They should be NO.*

To further configure logging controls, see Configuring logging settings on page 25.

Note: *Enable Logging should be unchecked to disable logging when not being used for troubleshooting. If logging is on continuously, performance may be affected.*

Configuring logging settings

ZCB logging control can be further configured by creating the following registry keys.

Important: *Creating either of the following keys can adversely affect performance. Additionally, both of these keys require more disk space for log storage.*

| Key Name | Value Type | Description |
|--|------------|---|
| The following key should be created under HKEY_LOCAL_MACHINE\Software\Zimbra\ | | |
| verboseLogging | REG_DWORD | This registry key indicates whether to enable verbose logging. Enabling verbose logging will create more detailed logs, but may affect performance. A value of 1 indicates that verbose logging is enabled. |

The following key should be created under
HKEY_CURRENT_USER\Software\Zimbra\Logging

| | | |
|-------------|-----------|---|
| KeepLogging | REG_DWORD | This registry key indicates whether to save all logs. By default, only one backup log file is saved. A value of 1 indicates to save all backup log files. |
|-------------|-----------|---|

Additional Resources

If your issue is not a known or common issue, or is persisting despite troubleshooting, you can use the following additional resources to search for information about your issue.

- **Zimbra Forums.** The Zimbra Forums, <http://www.zimbra.com/forums>, are a great place to find answers to problems and issues you may be experiencing.
- **BlackBerry/Research in Motion Forums.** Some problems may not be ZCB specific issues. For information on issues with the BlackBerry Enterprise Server, you can use the BlackBerry Forums, <http://www.blackberryforums.com>, the BlackBerry Support Community Forums, <http://supportforums.blackberry.com/rim/>, or the BlackBerry Support & Services site, <http://na.blackberry.com/eng/support>.

Contacting Zimbra Support

Zimbra Support can be contacted at support@zimbra.com. To provide the highest level of service, gather the following information before contacting support.

- **General Information**
 - **Hardware configuration.** CPU and RAM.
 - **Software configuration.** OS version, BES version, and ZCB version.
 - **Networking specifics.** Information about any proxy servers and firewalls.
 - **ZCS Configuration.** Information about any multi-node configuration.
 - **BES Configuration.** Information about multi-agent configuration, and any SQL databases.
 - **Additional information.** Any other information that you think may help diagnose the issue.
- **Log Files.** There are two sets of logs that are very important in debugging ZCB problems. You need to include logs generated by ZCB Logging Control, described in Using Logging Control for troubleshooting on page

24. You also need to include the BlackBerry Enterprise Server logs that are stored in daily folders. Refer to the BlackBerry Enterprise Server documentation for information on how to locate and configure these logs.

- **Automatic Core Dumps.** If the BlackBerry Agent crashes, a core dump file is automatically generated. This core dump file contains useful information for support and engineering to help diagnose a particular problem. The core dump files are generated in the **%TEMPT%\zco-cores** folder on the server. If these files exist, have them available for support.
- **Manual Core Dumps.** If the BlackBerry Agent process is hanging, you can manually generate a core dump to send to support. The steps to generate a core dump are located in the Zimbra Wiki, at http://wiki.zimbra.com/index.php?title=Creating_a_Core_Dump_from_a_Running_Process_using_WinDbg.

Note: *When following these directions, be sure to select BlackBerryAgent.exe from the list of processes instead of Outlook.exe.*

Note: *If you are running multiple agents, you must attach to the particular BlackBerryAgent.exe process in question. The BlackBerry Controller logs output the mapping of process ID to agent ID, which could facilitate attaching WinDbg to the right process.*

Appendix A Upgrading BES with Latest ZCB

To upgrade from ZCB 5.0.16 or later versions to ZCB 6.0:

Go to www.zimbra.com to download the latest version of the BES software.

1. Stop the BlackBerry Controller service.
2. Open the ZCB .msi file to start the Installation Wizard.
3. Accept the license agreement and continue to follow the steps in the Installation Wizard.
4. Restart the BlackBerry Controller service.

Your upgrade of ZCB is now complete.

It is not necessary to reprovision accounts after the upgrade.

Appendix B ZCB Supports Multi-Agent BES Configuration

When a single instance of BES used with the Zimbra Collaboration Suite Zimbra Connector for BlackBerry Enterprise Server (ZCB) is expected to support more than 100 users, the Zimbra multi-agent configuration (MAC) for BES can be used. In the multi-agent configuration, processing of users provisioned on BES is distributed among multiple static agents.

Note: *If you assign multiple static agents, each one initiates a new BlackBerryAgent.exe process and a new CalHelper.exe process on BES.*

How It Works

The multi-agent configuration for BES lets you set up different combinations of number of agents and number of users per agent. No more than 100 users should be assigned to one agent at a time and the maximum number of users that can be provisioned on BES with ZCB is 250.

Balancing users in a multi-agent configuration for better performance

In a BES configuration with 250 users, the users could be distributed among multiple agents. For example, for more reliability, you could use 5 agents with 50 users per agent, or for faster processing use fewer agents with more users per agent.

Even though up to 100 users can be assigned to one agent, a good balance for users per agent is shown in the following table.

| Maximum # of users your BES server will support | # of Messaging Agents Required |
|---|---|
| 80 | 1 |
| 160 | 2 |
| 250 | 3 |
| 251 or more | Not supported - Use 2 or more BES servers |

Although the scheme with more agents is more reliable, having more agents slows processing because extra time is spent in inter-process communication (IPC).

In addition, all the agents use Outlook Object Model for calendar conversion. The calendar conversion processing is performed in a separate process. Agents are simultaneously sending conversion requests over the process boundaries to Outlook.exe. In order to prevent lockups inside of the outlook process, a configuration with fewer agents gives the best performance results.

Setting maximum number of messaging agents to run

The maximum number of BlackBerry Messaging Agents that can run at a time is controlled by the following registry value.

HKEY_LOCAL_MACHINE\SOFTWARE\Research In Motion\BlackBerry Enterprise Server\Agents\NumAgents

To change the maximum number of BlackBerry Messaging Agents, complete the following steps:

1. To open the Registry Editor, click **Start > Run**, type **regedit** and click **OK**.
2. Go to **HKEY_LOCAL_MACHINE\SOFTWARE\Research In Motion\BlackBerry Enterprise Server\Agents**.
3. Double-click **NumAgents**.
4. In the **Value** data field, type the value and select the **Decimal** option.
5. Click **OK**.
6. Close the Registry Editor.

Note: For additional information, use documentation available from *Research in Motion (RIM)*.

Configuring Multiple Agents

You can setup the multi-agent configuration in one of the following ways:

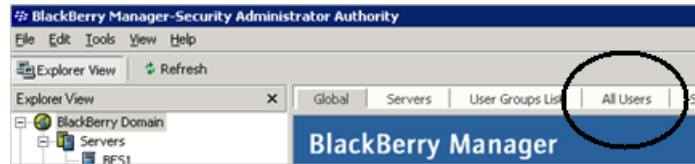
- Distribute users one at a time
- Distribute users in batches of up to 100 users at a time

Users must be provisioned on BES before they can be reassigned to a different agent. See *Zimbra Collaboration Suite Connector for BlackBerry Enterprise Server* guide for information about provisioning users.

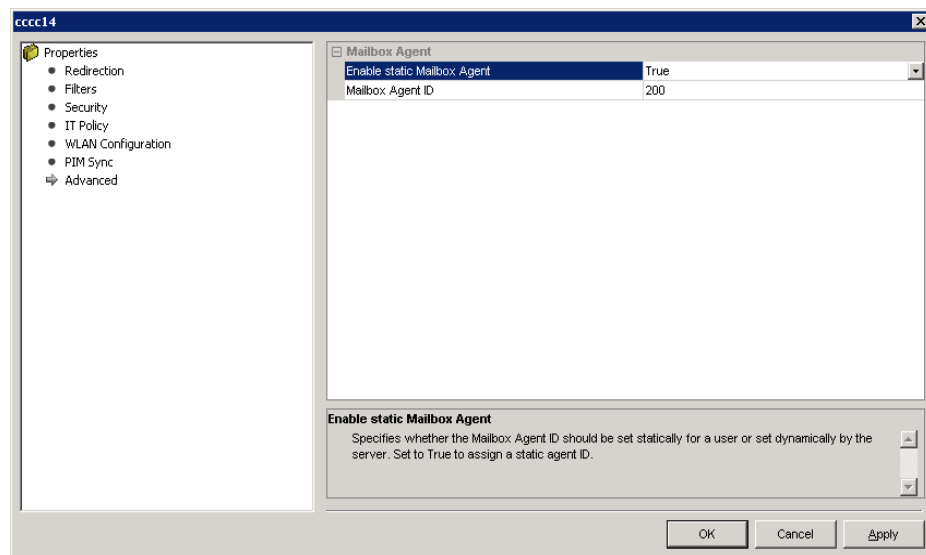
New users are assigned the default AgentId 0, the following steps distribute users to new static agents.

Distribute users one at a time

1. Log on to BlackBerry Manager
2. Open the **All Users** tab and select a user to be assigned to a static agent and click on the selection to open the user properties page.



3. In the Navigation pane, select **Advanced**.

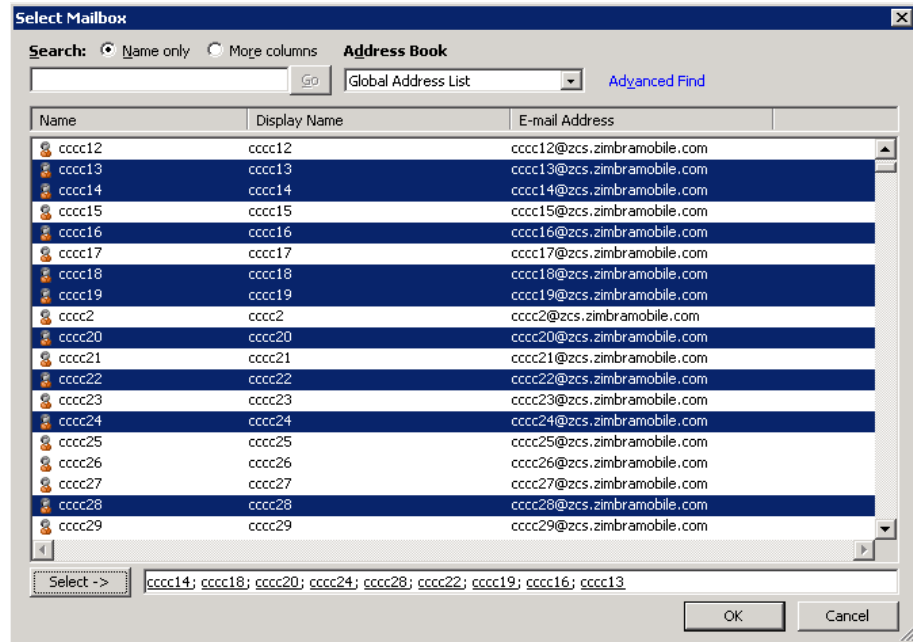


4. In the right pane **Agent** section, select **Enable Static Mailbox Agent** and set the static agent ID to **True**.
5. Select **Mailbox Agent ID**. Set the value between 200-399 to indicate a statically-assigned Agent ID for this user.
6. Click **OK** to save the changes. The user's AgentId is changed to the number specified in Step 5.

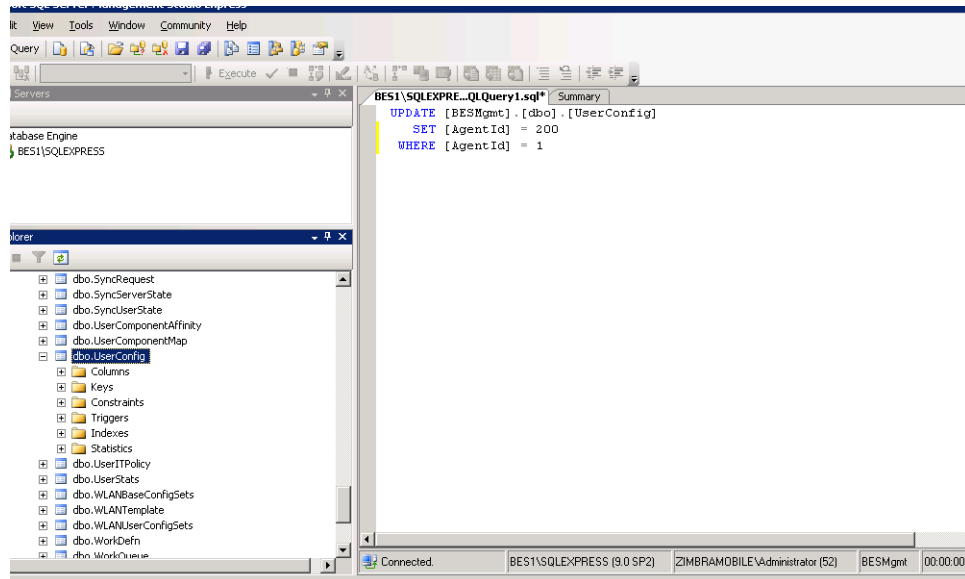
Distribute up to 100 BES users at once

When you are adding many users at once, you can use the standard "bulk add" functionality that is available on BlackBerry Manager's Add User panel.

Multiple users can be selected and added at once. You should not add more than 100 users at a time.



1. Start your database application to connect to the BES database engine.
2. Select Databases>(BESMgmt)>Tables. BESMgmt is the default, enter the name of your BES database engine.



3. Click **New Query** in the menu to update the user's AgentId setting. Example query:

update UserConfig set AgentId=201 where MailboxDN LIKE 'user@domain'

The mailbox AgentId number is a value in the range of 200-399.

Add up to 100 user email addresses in one query. To do this create a script to iterate through the accounts that you batch-added through BES Manager.

4. Click **Execute** to execute and commit the changes. The users' AgentID is changed to the value set in the query.

Note: *There may be some network latency issues when you use this bulk method (Bug 34408) If you are having problems, restart the BES controller.*
