NetIQ® AppManager® for BlackBerry Enterprise Server

Management Guide

April 2014

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Contents

About this Book and the Library

The NetIQ AppManager product (AppManager) is a comprehensive solution for managing, diagnosing, and analyzing performance, availability, and health for a broad spectrum of operating environments, applications, services, and server hardware.

AppManager provides system administrators with a central, easy-to-use console to view critical server and application resources across the enterprise. With AppManager, administrative staff can monitor computer and application resources, check for potential problems, initiate responsive actions, automate routine tasks, and gather performance data for real-time and historical reporting and analysis.

Intended Audience

This guide provides information for individuals responsible for installing an AppManager module and monitoring specific applications with AppManager.

Other Information in the Library

The library provides the following information resources:

Installation Guide for AppManager

Provides complete information about AppManager pre-installation requirements and step-by-step installation procedures for all AppManager components.

User Guide for AppManager Control Center

Provides complete information about managing groups of computers, including running jobs, responding to events, creating reports, and working with Control Center. A separate guide is available for the AppManager Operator Console.

Administrator Guide for AppManager

Provides information about maintaining an AppManager management site, managing security, using scripts to handle AppManager tasks, and leveraging advanced configuration options.

Upgrade and Migration Guide for AppManager

Provides complete information about how to upgrade from a previous version of AppManager.

Management guides

Provide information about installing and monitoring specific applications with AppManager.

Help

Provides context-sensitive information and step-by-step guidance for common tasks, as well as definitions for each field on each window.

The AppManager library is available in Adobe Acrobat (PDF) format from the AppManager Documentation page of the NetIQ Web site.

About NetIQ Corporation

We are a global, enterprise software company, with a focus on the three persistent challenges in your environment: Change, complexity and risk—and how we can help you control them.

Our Viewpoint

Adapting to change and managing complexity and risk are nothing new

In fact, of all the challenges you face, these are perhaps the most prominent variables that deny you the control you need to securely measure, monitor, and manage your physical, virtual, and cloud computing environments.

Enabling critical business services, better and faster

We believe that providing as much control as possible to IT organizations is the only way to enable timelier and cost effective delivery of services. Persistent pressures like change and complexity will only continue to increase as organizations continue to change and the technologies needed to manage them become inherently more complex.

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1 Introducing AppManager for BlackBerry Enterprise Server

AppManager for BlackBerry Enterprise Server helps you monitor many aspects of your Research in Motion (RIM) BlackBerry solution.

The AppManager for BlackBerry Enterprise Server module is different from the AppManager for BlackBerry module. The Knowledge Script category name for AppManager for Blackberry Enterprise Server is **BES**.

AppManager for Blackberry Enterprise Server can monitor log files and services automatically, on a scheduled basis. AppManager for BlackBerry Enterprise Server lets you monitor the operation and performance of the BlackBerry Enterprise Server through the same console you are already using to monitor your Windows or UNIX environment.

The Knowledge Scripts in the BES category raise events when problems arise. For example, if the number of queued e-mail messages exceeds a threshold, or if a service is not running, the Knowledge Scripts collect information about the BlackBerry Enterprise Server that you can use for trend analysis and reporting.

With AppManager for BlackBerry Enterprise Server and the Knowledge Scripts in the BES category, you can monitor the following:

- Performance and availability of key BlackBerry Enterprise Server components and major services, including service up and down status, and the status of key performance counters.
- The presence of BlackBerry Server-related entries in debug logs, as well as the size and age of those logs.
- The response time required to send an email message through a specific Exchange server to a handheld device and to receive an automated reply from that device.
- The number of inactive and orphaned users currently being supported by a specified BlackBerry Server.
- The number of filtered, sent, received, and queued messages on a server.
- The up or down status of the Server Routing Protocol (SRP) connection between the BlackBerry Enterprise Server and the Research in Motion (RIM) wireless network.
- The presence of expired messages, which are messages that were never successfully sent to a handheld device, and the size of message queues.
- The percentage of users whose Inboxes contain pending messages.
- The log file of BlackBerry agents and BlackBerry Enterprise Server for hung threads.
- The number of BlackBerry Mobile Data Service (MDS) device and push connections and connection failures.
- The mode of the BlackBerry Enterprise Server, either PRIMARY or STANDBY, and when the primary server is down and the standby server takes over.

- Failover status of BlackBerry Enterprise Server.
- Web Administrative Services and BlackBerry Collaboration Services for failure.

2 Installing AppManager for BlackBerry Enterprise Server

This chapter provides installation instructions and describes system requirements for AppManager for BlackBerry Enterprise Server.

This chapter assumes you have AppManager installed. For more information about installing AppManager or about AppManager system requirements, see the *Installation Guide for AppManager*, which is available on the AppManager Documentation page.

2.1 System Requirements

For the latest information about supported software versions and the availability of module updates, visit the AppManager Supported Products page. Unless noted otherwise, this module supports all updates, hotfixes, and service packs for the releases listed below.

AppManager for BlackBerry Enterprise Server has the following system requirements:

Software/Hardware	Version
NetIQ AppManager installed on the AppManager repository (QDB) computers, on the BES computers you want to monitor (agents), and on all console computers	7.0.4 or later Support for Windows Server 2008 on AppManager 7.x requires AppManager Windows Agent hotfix 71704 or later. For more information, see the AppManager Suite Hotfixes Web page.
Microsoft Windows operating system on the agent computers	One of the following: ◆ Windows Server 2012 ◆ Windows Server 2008 R2 ◆ Windows Server 2008 (32-bit and 64-bit)
AppManager for Microsoft Windows module installed on repository, agent, and console computers	Support for Windows Server 2008 R2 requires the AppManager for Windows module, version 7.6.170.0 or later. For more information, see the AppManager Module Upgrades & Trials Web page.

Software/Hardware	Version
BlackBerry Enterprise Server on the agent computers	One of the following: ◆ Version 10.0 or later **NOTE:** The following Knowledge Scripts are not supported in BES 10 and later versions: ◆ BES_BlackBerryAgent ◆ BES_InactiveUsers ◆ BES_MessageSize ◆ BES_ResponseTime ◆ BES_ServerActivity ◆ BES_UserActivity ◆ BES_UsersWithPendingMessages ◆ Version 5.0 MR1 or later ◆ Version 4.1 with SP6
Mail Server	◆ Microsoft Exchange Server 2013 ◆ Microsoft Exchange Server 2010 ◆ Microsoft Exchange Server 2007 ◆ Microsoft Exchange Server 2003

If you encounter problems using this module with a later version of your application, contact NetIQ Technical Support.

2.2 Installing the Module

Run the module installer on the BlackBerry Enterprise Server computers you want to monitor (agents) to install the agent components, and run the module installer on all console computers to install the Help and console extensions.

Access the `AM70-BES-7.x.x.0.msi` module installer from the `AM70_BES_7.x.x.0` self-extracting installation package on the AppManager Module Upgrades & Trials page.

For Windows environments where User Account Control (UAC) is enabled, install the module using an account with administrative privileges. Use one of the following methods:

- Log in to the server using the account named Administrator. Then, run the module installer `BES.msi` file from a command prompt or by double-clicking it.
- Log in to the server as a user with administrative privileges and run the module installer `BES.msi` file as an administrator from a command prompt. To open a command-prompt window at the administrative level, right-click a command-prompt icon or a Windows menu item and select **Run as administrator**.

You can install the Knowledge Scripts and the Analysis Center reports into local or remote AppManager repositories (QDBs). The module installer installs Knowledge Scripts for each module directly into the QDB instead of installing the scripts in the `\AppManager\qdb\kp` folder as in previous releases of AppManager.

You can install the module manually, or you can use Control Center to deploy the module to a remote computer where an agent is installed. For more information, see Section 2.3, "Deploying the Module with Control Center," on page 14. However, if you use Control Center to deploy the module, Control Center only installs the *agent* components of the module. The module installer installs the QDB and console components as well as the agent components on the agent computer.

To install the module manually:

1. Double-click the module installer `.msi` file.
2. Accept the license agreement.
3. Review the results of the pre-installation check. You can expect one of the following three scenarios:
   - **No AppManager agent is present:** In this scenario, the pre-installation check fails, and the installer does not install agent components.
   - **An AppManager agent is present, but some other prerequisite fails:** In this scenario, the default is to not install agent components because of one or more missing prerequisites. However, you can override the default by selecting **Install agent component locally**. A missing application server for this particular module often causes this scenario. For example, installing the AppManager for Microsoft SharePoint module requires the presence of a Microsoft SharePoint server on the selected computer.
   - **All prerequisites are met:** In this scenario, the installer installs the agent components.
4. To install the Knowledge Scripts into the QDB:
   - **4a** Select **Install Knowledge Scripts** to install the repository components, including the Knowledge Scripts, object types, and SQL stored procedures.
   - **4b** Specify the SQL Server name of the server hosting the QDB, as well as the case-sensitive QDB name.

     Note Microsoft .NET Framework 3.5 is required on the computer where you run the installation program for the QDB portion of the module. For computers running more recent versions of Windows operating systems that use a newer version of .NET, install .NET 3.5 with the Add Roles and Features wizard in Windows Server Manager, as described in this Microsoft article.
5. (Conditional) If you use Control Center 7.x, run the module installer for each QDB attached to Control Center.
6. (Conditional) If you use Control Center 8.x, run the module installer only for the primary QDB. Control Center automatically replicates this module to secondary QDBs.
7. Run the module installer on all console computers to install the Help and console extensions.
8. Run the module installer on the BlackBerry Enterprise Server computers you want to monitor (agents) to install the agent components.
9. Configure your SNMP community string and SQL Server login information in AppManager Security Manager. For more information, see Section 2.6, "Storing Permission Information in Security Manager," on page 16.
10. (Conditional) If you have not discovered BlackBerry Enterprise Server resources, run the Discovery_BES Knowledge Script on all agent computers where you installed the module. For more information, see Section 2.7, "Discovering BES Resources," on page 18.
11. To get the updates provided in this release, upgrade any running Knowledge Script jobs. For more information, see Section 2.8, "Upgrading Knowledge Script Jobs," on page 19.

After the installation has completed, the *BES*_Install.log file, located in the \NetIQ\Temp\NetIQ_Debug*ServerName* folder, lists any problems that occurred.

2.3 Deploying the Module with Control Center

You can use Control Center to deploy the module to a remote computer where an agent is installed. This topic briefly describes the steps involved in deploying a module and provides instructions for checking in the module installation package. For more information, see the *Control Center User Guide for AppManager*, which is available on the AppManager Documentation page.

2.3.1 Deployment Overview

This section describes the tasks required to deploy the module on an agent computer.

To deploy the module on an agent computer:

1. Verify the default deployment credentials.
2. Check in an installation package. For more information, see Section 2.3.2, "Checking In the Installation Package," on page 14.
3. Configure an email address to receive notification of a deployment.
4. Create a deployment rule or modify an out-of-the-box deployment rule.
5. Approve the deployment task.
6. View the results.

2.3.2 Checking In the Installation Package

You must check in the installation package, `AM70-BES-7.x.x.0.xml`, before you can deploy the module on an agent computer.

To check in a module installation package:

1. Log in to Control Center using an account that is a member of a user group with deployment permissions.
2. Navigate to the **Deployment** tab (for AppManager 8.x) or **Administration** tab (for AppManager 7.x).
3. In the Deployment folder, select **Packages**.
4. On the Tasks pane, click **Check in Deployment Packages** (for AppManager 8.x) or **Check in Packages** (for AppManager 7.x).
5. Navigate to the folder where you saved `AM70-BES-7.x.x.0.xml` and select the file.
6. Click **Open**. The Deployment Package Check in Status dialog box displays the status of the package check in.
7. To get the updates provided in this release, upgrade any running Knowledge Script jobs. For more information, see Section 2.8, "Upgrading Knowledge Script Jobs," on page 19.

2.4 Silently Installing the Module

To silently (without user intervention) install a module using the default settings, run the following command from the folder in which you saved the module installer:

```
msiexec.exe /i "AM70-BES-7.x.x.0.msi" /qn
```

where *x.x* is the actual version number of the module installer.

To get the updates provided in this release, upgrade any running Knowledge Script jobs. For more information, see Section 2.8, "Upgrading Knowledge Script Jobs," on page 19.

To create a log file that describes the operations of the module installer, add the following flag to the command noted above:

```
/L* "AM70-BES-7.x.x.0.msi.log"
```

The log file is created in the folder in which you saved the module installer.

NOTE: To perform a silent install on an AppManager agent running Windows Server 2008 R2 or Windows Server 2012, open a command prompt at the administrative level and select **Run as administrator** before you run the silent install command listed above.

To silently install the module to a remote AppManager repository, you can use Windows authentication or SQL authentication.

Windows authentication:

```
AM70-BES-7.x.x.0.msi /qn MO_B_QDBINSTALL=1 MO_B_MOINSTALL=0 MO_B_SQLSVR_WINAUTH=1
MO_SQLSVR_NAME=SQLServerName MO_QDBNAME=AM-RepositoryName
```

SQL authentication:

```
AM70-BES-7.x.x.0.msi /qn MO_B_QDBINSTALL=1 MO_B_MOINSTALL=0 MO_B_SQLSVR_WINAUTH=0
MO_SQLSVR_USER=SQLLogin MO_SQLSVR_PWD=SQLLoginPassword
MO_SQLSVR_NAME=SQLServerName MO_QDBNAME=AM-RepositoryName
```

2.5 Permissions for Running Knowledge Scripts

AppManager for BlackBerry Enterprise Server requires that the NetIQ AppManager Client Resource Monitor (netiqmc) and the NetIQ AppManager Client Communication Manager (netiqccm) agent services run using the Local System account.

NOTE: The BES Knowledge Scripts that work with Microsoft Exchange require that the agent services account has SendAs and ReceiveAs permissions in Microsoft Exchange so the scripts can send and receive messages.

By default, the module installer configures the agent to use the Windows Local System account.

To update the agent services:

1. Start the Services Administrative Tool. You can access the Administrative Tools folder from the Windows Control Panel.
2. Right-click the **NetIQ AppManager Client Communication Manager** (`netiqccm`) service in the list of services, and select **Properties**.
3. On the **Logon** tab, specify the appropriate account to use and click **OK**.
4. Repeat steps 2 through 3 for the **NetIQ AppManager Client Resource Monitor** (`netiqmc`) service.
5. Restart both services.

2.6 Storing Permission Information in Security Manager

BES Knowledge Scripts need to access the BlackBerry Enterprise Server SNMP server or its SQL Server database. Configure SNMP community strings and SQL Server login information in AppManager Security Manager, which keeps community strings and passwords secure and private.

If you use mirrored databases with SQL authentication, you must configure primary and secondary database security information in Security Manager.

2.6.1 Configuring SNMP Community Strings

The following Knowledge Scripts query the BlackBerry Enterprise Server SNMP server. To enable them to run, you must configure the appropriate SNMP community string information in AppManager Security Manager.

- BlackberryAgent
- HungThreads
- InactiveUsers
- MDSConnections
- MDSFailures
- MessageSize
- ServerActivity
- SRPConnectionStatus
- UserActivity
- UserCount
- UsersWithPendingMessages

On the **Custom** tab in Security Manager, complete the following fields:

Field	Description
Label	BESSNMP$<*Name of BlackBerry Enterprise server on which you installed the module*>
Sub-label	community
Value 1	Read-only community string, such as `private or public`
Value 2	Leave this field blank.
Value 3	Leave this field blank.
Extended application support	Leave this option unselected.

2.6.2 Configuring SQL Server Security Information

The following BES Knowledge Scripts require permissions to access the BlackBerry Enterprise Server management database (`BESMgmt.mdf`). To use SQL authentication to access the database, configure password information in AppManager Security Manager before you run these Knowledge Scripts.

- InactiveUsers
- MDSConnections

- MDSFailures
- MessageSize
- ServerActivity
- SRPTest
- UserActivity
- UsersWithPendingMessages

NOTE: For MDSConnections and MDSFailures, the following configuration is not required for BES 10 and later versions.

The ResponseTime Knowledge Script requires permission to access the Microsoft Exchange Server. You can provide the necessary permissions for all of the Knowledge Scripts using AppManager Security Manager.

On the **Custom** tab in Security Manager, complete the following fields:

Field	Description
Label	`besdb$<`*BlackBerry Enterprise Sever database computer name*`>`
Sub-label	The SQL login
Value 1	The password for the SQL login
Value 2	Leave this field blank.
Value 3	Leave this field blank.
Extended application support	Required field. Encrypts the user name and password in Security Manager. Do not leave this option unselected.

2.6.3 Configuring Mirrored Database Security Information

The following BES Knowledge Scripts support functionality on mirrored databases. To use SQL or Windows authentication to access the mirror database, configure password information in AppManager Security Manager before you run these Knowledge Scripts. To use Windows authentication, also supply the log in account in the **Mirror database login** parameter in the Knowledge Script.

- InactiveUsers
- MDSConnections
- MDSFailures
- MessageSize
- ServerActivity
- UserActivity
- UsersWithPendingMessages

NOTE: For MDSConnections and MDSFailures, the following configuration is not required for BES 10 and later versions.

The ResponseTime Knowledge Script requires permission to access the Microsoft Exchange Server. You can provide the necessary permissions for all of the Knowledge Scripts using AppManager Security Manager.

Before you provide information to Security Manager for the mirror database, ensure that you have configured the Blackberry Enterprise Server to support mirroring, and then configure the primary SQL Server security information in AppManager Security Manager.

On the **Custom** tab in Security Manager, complete the following fields:

Field	Description
Label	`besdb$<`*BlackBerry Enterprise Sever mirror database computer name*`\Instance name>`
Sub-label	The SQL login for the mirror database
Value 1	The password for the SQL login for the mirror database
Value 2	Leave this field blank.
Value 3	Leave this field blank.
Extended application support	Required field. Encrypts the user name and password in Security Manager. Do not leave this option unselected.

2.7 Discovering BES Resources

Use the Discovery_BES Knowledge Script to discover configuration and resource information for BES Servers. The Discovery_BES script also tracks, displays, and provides various alerts about BES services.

Before running this Knowledge Script, set the proper accounts and permissions. For more information, see Section 2.6, "Storing Permission Information in Security Manager," on page 16.

Run this script on a BlackBerry Enterprise Server object. By default, this script is only run once for each computer.

Set the Values tab parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Discovery_BES job fails. The default is 5.
Raise event if discovery succeeds?	Select **Yes** to raise an event when discovery succeeds. The default is Yes.
Event severity when discovery succeeds	Set the event severity level, from 1 to 40, to indicate the importance of an event in which discovery succeeds. The default is 25.
Raise event if discovery fails?	Select **Yes** to raise an event when discovery fails. The default is Yes.
Event severity when discovery fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which discovery fails. The default is 5.

Parameter	How to Set It
Raise event if AppManager for BlackBerry Enterprise Server managed object not installed?	Select **Yes** to raise an event if the managed object for AppManager for BlackBerry Enterprise Server is not installed on the selected computer. The default is Yes.
Event severity when AppManager for BlackBerry Enterprise Server managed object not installed	Set the event severity level, from 1 to 40, to indicate the importance of the event in which the managed object cannot be found. The default is 15.

2.8 Upgrading Knowledge Script Jobs

If you are using AppManager 8.x or later, the module upgrade process now *retains* any changes you might have made to the parameter settings for the Knowledge Scripts in the previous version of this module. Before AppManager 8.x, the module upgrade process *overwrote* any settings you might have made, changing the settings back to the module defaults.

As a result, if this module includes any changes to the default values for any Knowledge Script parameter, the module upgrade process ignores those changes and retains all parameter values that you updated. Unless you review the management guide or the online Help for that Knowledge Script, you will not know about any changes to default parameter values that came with this release.

You can push the changes for updated scripts to running Knowledge Script jobs in one of the following ways:

- Use the AMAdmin_UpgradeJobs Knowledge Script.
- Use the Properties Propagation feature.

2.8.1 Running AMAdmin_UpgradeJobs

The AMAdmin_UpgradeJobs Knowledge Script can push changes to running Knowledge Script jobs. Your AppManager repository (QDB) must be at version 7.0 or later. Upgrading jobs to use the most recent script version allows the jobs to take advantage of the latest script logic while maintaining existing parameter values for the job.

For more information, see the **Help** for the AMAdmin_UpgradeJobs Knowledge Script.

2.8.2 Propagating Knowledge Script Changes

You can propagate script changes to jobs that are running and to Knowledge Script Groups, including recommended Knowledge Script Groups and renamed Knowledge Scripts.

Before propagating script changes, verify that the script parameters are set to your specifications. You might need to appropriately set new parameters for your environment or application.

If you are not using AppManager 8.x or later, customized script parameters might have reverted to default parameters during the installation of the module.

You can choose to propagate only properties (specified in the **Schedule** and **Values** tabs), only the script (which is the logic of the Knowledge Script), or both. Unless you know specifically that changes affect only the script logic, you should propagate the properties and the script.

For more information about propagating Knowledge Script changes, see the "Running Monitoring Jobs" chapter of the *Control Center User Guide for AppManager*.

2.8.3 Propagating Changes to Ad Hoc Jobs or Knowledge Script Groups

You can propagate the properties and the logic (script) of a Knowledge Script to ad hoc jobs started by that Knowledge Script. Corresponding jobs are stopped and restarted with the Knowledge Script changes.

You can also propagate the properties and logic of a Knowledge Script to corresponding Knowledge Script Group members. After you propagate script changes to Knowledge Script Group members, you can propagate the updated Knowledge Script Group members to associated running jobs. Any monitoring jobs started by a Knowledge Script Group member are restarted with the job properties of the Knowledge Script Group member.

To propagate changes to ad hoc Knowledge Script jobs or Knowledge Script Groups:

1. In the Knowledge Script view, select the Knowledge Script or Knowledge Script Group for which you want to propagate changes.
2. Right-click the script or group and select **Properties propagation** > **Ad Hoc Jobs**.
3. Select the components of the Knowledge Script that you want to propagate to associated ad hoc jobs or groups and click **OK**:

Select	To propagate
Script	The logic of the Knowledge Script.
Properties	Values from the Knowledge Script Schedule and Values tabs, such as schedule, monitoring values, actions, and advanced options. If you are using AppManager 8.x or later, the module upgrade process now *retains* any changes you might have made to the parameter settings for the Knowledge Scripts in the previous version of this module.

3 BES Knowledge Scripts

AppManager provides the following Knowledge Scripts for monitoring BlackBerry Enterprise Server resources.

From the Knowledge Script view of Control Center, you can access more information about any Knowledge Script by selecting it and clicking **Help**. In the Operator Console, select any Knowledge Script in the Knowledge Script pane and press **F1**.

Knowledge Script	What It Does
BlackberryAgent	Monitors the Blackberry agent log files for hung threads and the server being in STANDBY mode.
DebugLogSearch	Uses regular expressions to search for specified strings in log files.
DebugLogSize	Calculates the total debug log size, and purges log files if they exceed a size or age threshold.
HungThreads	Monitors the BlackBerry Enterprise Server service for hung threads.
InactiveUsers	Monitors the inactive users on a BlackBerry Enterprise Server.
MDSConnections	Monitors usage statistics for device and push connections.
MDSFailures	Monitors failure statistics for MDS connections.
MessageSize	Monitors the average size of messages forwarded and of messages to which replies with text were sent for a user on a BlackBerry Enterprise Server.
OrphanedUsers	Collects information on mismatched users from BlackBerry and Exchange Servers.
Report_EndToEndResponseTime	Generates a report about e-mail round-trip response time.
Report_LastUserCount	Generates a report about the last recorded user count and the percentage of licenses in use for a BlackBerry Enterprise Server.
Report_ServerMessageSummary	Generates a report about message activity on a BlackBerry Enterprise Server, including messages sent, received, filtered, and queued during the monitoring interval.
Report_SRPConnectivity	Generates a report about the percentage of uptime for the connection to the wireless network.
Report_UserMessageSummary	Generates a report about message activity per user on a BlackBerry Enterprise Server, including messages sent, received, filtered, and queued during the monitoring interval.
ResponseTime	Sends a message to a handheld device from the BlackBerry-enabled Exchange mailbox, checks for a reply, and determines end-to-end response time.

Knowledge Script	What It Does
ServerActivity	Monitors the number of messages that were forwarded, received, pending, expired, non-deliverable, and filtered by the server, plus the total number of messages processed by the server during a monitoring interval.
ServiceHealth	Monitors BlackBerry Enterprise Server service health, the amount of memory used, and the percentage of CPU time used by BlackBerry server processes.
SRPConnectionStatus	Monitors the status of the Server Routing Protocol (SRP) connection between the BlackBerry Enterprise Server and the Research in Motion (RIM) wireless infrastructure.
SRPTest	Performs a test of the SRP connection to make sure the wireless network can be reached.
UserActivity	Monitors the number of messages that were forwarded, received, pending, expired, non-deliverable, and filtered per user, plus the total number of messages processed by the server during the monitoring interval.
UserCount	Monitors the number of users on a BlackBerry Enterprise Server and the percentage of licenses used.
UsersWithPendingMessages	Monitors the percentage of users on a BlackBerry Enterprise Server who have messages pending for their handheld devices.

NOTE: The following Knowledge Scripts are not supported in BES 10 and later versions:

- BES_BlackBerryAgent
- BES_InactiveUsers
- BES_MessageSize
- BES_ResponseTime
- BES_ServerActivity
- BES_UserActivity
- BES_UsersWithPendingMessages

3.1 BlackberryAgent

Use this Knowledge Script to monitor a Blackberry agent for hung threads. Hung threads decrease the number of requests that can be concurrently processed by the service. Any thread that starts and then does not finish is considered hung.

This script raises an event only when both the number of hung threads and the wait count (in cycles) exceed the specified thresholds. You also have the option to restart the hung service automatically. If you choose to collect data, this script returns data about the number of hung threads, the thread IDs, and the wait count.

The wait count value that you set in the *Wait count -- Cycles to wait before restarting service* parameter refers to the number of cycles that a thread has been blocked. If you enable data collection, this script returns the average wait count for the server. Use this statistic as guidance when you set a wait count.

To find hung threads, this script searches for several event IDs in the Blackberry agent event logs. These IDs are defined in the following table. You can also configure this script to look for additional event IDs. For more information, see Section 3.4.4, "Monitoring Additional Event IDs," on page 35.

Event ID	Explanation
10019 -- All worker threads seem to be blocked	All worker threads are unresponsive and cannot be allocated for work.
10165 -- Thread: main timer thread appears to be blocked	RIM provides little information about this event or what it signifies. The event text mentions a "Queuing alarm" from BlackBerry Messaging.
20266 -- At least one worker thread seems to be blocked (*N*)	One of the worker threads is blocked and unable to process mail. The parameter in parentheses indicates a wait count. The value of this parameter indicates how long the thread has been unresponsive: ◆ 1 = 10 minutes ◆ 2 = 20 minutes ◆ 3 = 30 minutes **NOTE:** The BlackBerry Enterprise Server should automatically free hung threads and resume mail processing unless the Exchange Server is down.
20315 -- Thread: *** No Response *** Thread Id=0xFC, Handle=0x238, WaitCount=7, SCS thread not responding, SCS - duplicate PIN check	An unresponsive worker thread has been found. Until it becomes unblocked, the thread cannot complete its work. The WaitCount indicates how long the thread has been in this state. In situations where the WaitCount value exceeds 10, the thread is unlikely to recover on its own.
30000 -- Hung threads detected	An event with the 30000 ID contains the words "hung threads detected".
30038 -- {0xD3} Thread: *** No Response ***	An unresponsive worker thread has been located. Until it becomes unblocked, the thread cannot complete its work. The condition will most likely be resolved without the need to restart the BlackBerry Enterprise Server.
50020 -- {0xC3} Some worker threads have been blocked for 6 health checks	Worker threads that have been unresponsive for six health checks (60 minutes) have been found.
50023 -- All worker threads of one of the pools seem to be blocked	All the threads assigned to a particular Exchange server are not responding. This could indicate a communication issue with that Exchange server, or it could indicate more widespread issues.

NOTE: This script currently is not supported for use with BES 10 and later.

3.1.1 Resource Object

Blackberry agent

3.1.2 Default Schedule

The default interval is **Every 10 minutes**.

3.1.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackberryAgent job fails. The default is 5.
Restart BES services if hung threads detected?	Select **Yes** to have this script automatically restart services that have hung threads. Any service that has hung threads that have not become unblocked after the wait count has expired (see the *Wait count* parameter) will then be restarted. The default is unselected. When you enable this parameter, a service may be restarted automatically. However, the blocked thread must also meet one of the following conditions: ◆ One (or both) of the following events is found in the event log: -- 10019: All worker threads seem to be blocked -- 50023: All worker threads of one of the pools seem to be blocked ◆ The wait count you set using the *Wait count -- Cycles to wait before restarting service* parameter has been exceeded by one of the hung threads that was found. ◆ The value you set for the *Hung threads -- Maximum number before restarting service* parameter has been exceeded by the number of hung threads found in the server event log.
Wait count -- Cycles to wait before restarting service	Set a wait count for each hung thread. This script waits the specified number of cycles to detect whether hung threads become unblocked. The default is 3 cycles. **NOTE:** You should plan to run this script for a few days and collect data for average wait count on the server to use as guidance for an appropriate wait count.
Hung threads -- Maximum number before restarting service	Specify the maximum number of hung threads that can be detected for a service before it is automatically restarted. **Notes** ◆ Services are not automatically restarted unless you enable the *Restart service if hung threads detected?* parameter. ◆ You should plan to run this script for a few days and collect data for average hung threads on the server to use as guidance for an appropriate maximum number of hung threads. The default is 5 hung threads.
Raise event if service restart succeeds?	Select **Yes** to raise an event if the attempt to restart services that have hung threads is successful. The default is Yes.
Event severity when service restart succeeds	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a service is restarted successfully. The default is 25.
Raise event if service restart fails?	Select **Yes** to raise an event if the attempt to restart services that have hung threads fails. The default is Yes.

Parameter	How to Set It
Event severity when service restart fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a service is not restarted. The default is 5.
Raise event if hung thread log entries found?	Select **Yes** to raise an event if event log entries related to hung threads are found. The default is Yes.
Event severity when hung thread log entries found	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the log contains entries for hung threads. The default is 15.
Raise event if user name found in hung thread log entries?	Select **Yes** to raise an event if a user name is found in the hung thread log entries. The default is Yes.
Event severity when user name found in hung thread log entries	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a user name is found in the hung thread log entries. The default is 15.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Monitor number of hung threads	
Event Notification	
Raise event if number of hung threads exceeds threshold?	Select **Yes** to raise an event if the number of hung threads for any service exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of hung threads	Specify the maximum number of hung threads that can be detected for a service before an event is raised. The default is 5 hung threads.
Event severity when number of hung threads exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of hung threads exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of hung threads?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of hung threads on the server. The default is unselected.
Monitor average thread wait count	
Data Collection	
Collect data for average thread wait count?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the average wait count for threads on the server. The default is unselected.

3.2 DebugLogSearch

Use this Knowledge Script to search the local debug logs for selected text strings. Restrict the types of debug log entries that raise an event by setting up regular-expression filters. Use the filtering parameters to include or exclude specific text strings. The script help includes examples of common filters. The table below identifies common regular-expression syntax.

NOTE: The search performed by this script can be highly resource-intensive and is intended for limited use only.

Each time this script runs, it checks the monitored debug log for entries matching your selection criteria and raises an event if matching entries are found. The event detail message returns the text of the log entries found. You can determine the number of entries to return in a single event using the *Number of matches per event*

parameter.

This script runs two different ways, depending on the type of schedule you set. When you set an "interval" schedule (such as "Every 24 hours"), the first time this script runs, it sets a starting point for future searches. It does not return any results on the first iteration. As the script continues to run on an interval schedule, only new log entries created since the last interval are checked for matches against the text strings you entered for the filter parameters.

On any other type of schedule, such as "Run once," "Daily," or "Weekly", this script searches all the contents of all the debug log files on the selected Log resource objects. Each resource object often contains many such log files. Such a search may therefore be very resource-intensive.

When data collection is enabled, this script returns the number of log entries found, and the data point detail message returns the text of the log entries.

3.2.1 Using Regular Expression Filters

A regular expression is a pattern that describes a specific portion of text. Create regular-expression filters to limit the types of debug log entries that this Knowledge Script looks for. The filtering parameters let you use regular expressions to include or exclude specific text strings.

You must specify an **Include filter**. Optionally, you can also specify an **Exclude filter**. If you use both filters, the script returns log entries that contain any included search strings *and* do not contain any excluded strings.

The filtering parameters in this script support standard regular-expression syntax. The following table highlights common regular expression types and their usage.

For more information about regular expression syntax, see related Web sites such as www.wikipedia.org/wiki/Regular_expression or www.regular-expressions.info.

Regular Expression Type	Description
Literal	A literal expression consists of a single character that matches the first occurrence of that character in the text string. For example, if the expression is "a" and the text string is "`The gray cat is purring`," then the match is the "a" in "`gray`." All characters are literals except for the following: ".", "|", "*", "?", "+", "(", ")", "{", "}", "[", "]", "^", "$" and "\". These characters are treated as literals when preceded by a "\".

Regular Expression Type	Description
Wildcard	The dot wildcard "." matches any single character except line break characters. For example, the expression "`gr.y`" matches `gray`, `grey`, `gr%y`, and so on.
Repeat	A repeat is an expression that is repeated an arbitrary number of times. ◆ A question mark, "?", indicates that the preceding character in the expression is optional. For example, the expression "`ba?`" returns "b" or "`ba`". ◆ An asterisk, "*", indicates that the preceding character is to be matched zero or more times. For example, the expression "`ba*`" returns all instances of "b", "`ba`", "`baaa`", and so on. ◆ A plus sign, "+", indicates that the preceding character is to be matched one or more times. The expression "`ba+`" returns all instances of "`ba`" or "`baaaa`", for example, but not "b". ◆ Curly braces, {}, indicate a specific amount of repetition. For example, the expression "`a{2}`" returns the letter "a" repeated exactly twice. The expression "`a{2,4}`" returns the letter "a" repeated between 2 and 4 times. The expression "`a{2,}`" returns the letter "a" repeated at least twice, with no upper limit. For example, the expression "`ba{2,4}`" returns "`baa`", "`baaa`", and "`baaaa`".
Non-Greedy Repeat	A non-greedy, or lazy, repeat matches the shortest possible string. Whenever the "extended" regular-expression syntax is in use (which is the default), non-greedy repeats are made possible by appending a "?" after the repeat. For example, the following greedy expression, "`<.+>`", returns `<EM>test</EM>` from the string `This is a <EM>test</EM>`. To return only the HTML tag, rewrite the expression as a non-greedy repeat, "`<.+?>`" which will match only the `<EM>` in the string.
Parentheses	Use parentheses, or round brackets, to group characters and then apply a repetition operator to the group. For example, the expression "`(ab)*`" returns all of the string "`ababab`".
Non-Marking Parentheses	Parentheses create sub-expressions, or backreferences, which store part of the string matched by the expression inside the parentheses. To use parentheses to group characters but not create backreferences, use non-marking parentheses: `(?:expression)`. For example, the following expression creates no backreference: `(?:ab)*`

Regular Expression Type	Description
Anchor	Anchors do not match characters. Instead, they match a position before, after, or between characters. They “anchor” the regular expression match at a certain point. ◆ A “^” matches a position before the first character in a text string. For example, the expression “^a” applied to the text string abc returns “a” because “a” is at the beginning of the text string. The expression “^b” applied to the same text string returns no value, because “b” is not at the beginning of the text string. ◆ A “$” matches right after the last character in a text string. For example, the expression “c$” applied to the text string abc returns “c” because “c” is at the end of the text string. The expression “a$” applied to the same string returns no value, because “a” is not at the end of the text string.

3.2.2 Resource Object

BlackBerry Log

3.2.3 Default Schedule

The default interval is **Run once**.

3.2.4 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of the event when the DebugLogSearch job fails. The default is 5.
Filter name	Specify a name to be used to associate data streams with the filter. If no filter is specified, the job ID is used. The default is none. **NOTE:** Do not specify a filter name that ends in “apostrophe s” (‘s). Filter names that end with “‘s” prevent the data details from being shown and cause an error message.

Parameter	How to Set It

Include filter	Only log entries that contain a text string that matches this regular expression filter are considered for data collection and events.
	
	By default, no filtering is applied. However, to run this script successfully, you must enter a value for this parameter.
	
	Examples
	
	◆ To find Error event IDs, which are five-digit numbers beginning with “1” (1xxxxx), type the following regular expression:
	`^\[1\d{4}\]*`
	
	◆ To find log entries related to hung thread error code 30038, type the following regular expression:
	`^\[30038\].*?Thread:*$`
	
	NOTE: This field is limited to 10,000 characters.

Exclude filter	Only log entries that do **not** contain a text string that matches this regular expression filter are considered for data collection and events.
	
	By default, no filtering is applied.
	
	Examples
	
	◆ To find all event IDs **except** for those belonging to Informational events, which are five-digit numbers beginning with “3” (3xxxx), type the following regular expression:
	`^\[3\d{4}\]*`
	
	◆ To find all log entries **except** for those related to threads, type the following regular expression:
	`Thread:+`
	
	NOTE: This field is limited to 10,000 characters.

Number of matches per event	Set the maximum number of debug log entries that can be returned in each event report. For example, if this value is set to 25, and 57 debug log entries are found, three event reports are raised: two reports containing 25 events and one report containing seven events. The default is 50 entries per event message.
Raise event if log matches found?	Select **Yes** to raise an event when log entries that match the filtering criteria are found. The default is Yes.
Event severity when log matches found	Set the event severity level, from 1 to 40, to indicate the importance of an event in which log entries that match the filtering criteria are found. The default is 25.
Monitor number of matches	
Event Notification	
Raise event if number of matches exceeds threshold?	Select **Yes** to raise an event when the number of entries in a debug log file exceeds the threshold. The default is Yes.
Threshold -- Maximum number of matches	Specify the maximum number of debug log entries that can match the filtering criteria before an event is raised. Enter a value from 0 to 32000 entries. The default is 10 entries.

Parameter	How to Set It
Event severity when number of matches exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of debug log entries that match the filtering criteria exceeds the threshold. The default is 5.
Data Collection	
Collect data for number of matches?	Select **Yes** to collect data for charts and reports. If enabled, data collection, returns the number of matching debug log entries. The data details include the text of the entries. The default is unselected.

3.3 DebugLogSize

Use this Knowledge Script to monitor the size, in MB, of BlackBerry debug logs.

If data collection is enabled, a different data stream is created for each log file. The total size on disk of all monitored logs is also returned. An event is raised if the size threshold you set is exceeded.

This script can automatically purge log files when a log exceeds both a size and age threshold you set. An event is raised if an automatic purge is performed.

3.3.1 Resource Object

BlackBerry Log

3.3.2 Default Schedule

The default interval for this script is **Every 24 hours**.

3.3.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of the event when the DebugLogSize job fails. The default is 5.
Automatically purge log files?	Select **Yes** to automatically purge a log file if its size exceeds the *Log file size* and if its age exceeds the *Log file age* you set. The default is unselected.
Log file size -- Maximum size before purging	Specify the largest size that the log file can attain before it is purged. **NOTE:** The *Log file age* value must also be met before the purge is performed. The default is 100 MB.
Log file age -- Maximum age before purging	Specify the maximum age that the log file can attain before it is purged. **NOTE:** The *Log file size* value must also be met before the purge is performed. The default is 180 days.

Parameter	How to Set It
Raise event if log files purged?	Select **Yes** to raise an event if a log file exceeds the size and age limits you set and is subsequently purged. The default is Yes.
Event severity when log files purged	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a log file is purged. The default is 25.
Monitor size of log file	
Event Notification	
Raise event if size of log file exceeds threshold?	Select **Yes** to raise an event if the log file size exceeds the threshold you set.
Threshold -- Maximum size of log file	Specify the maximum size, in Megabytes, that the monitored log file can reach before an event is raised. The default is 100 MB.
Event severity when size of log file exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the size of the log file exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for size of log file?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the size of the log file. The default is unselected.
Monitor total size of all monitored log files	
Event Notification	
Raise event if size of all monitored log files exceeds threshold?	Select **Yes** to raise an event if the log file size exceeds the threshold you set. The default is Yes.
Threshold -- Maximum total size of all monitored log files	Specify the maximum size, in Megabytes, that the total of all monitored log files can reach before an event is raised. The default is 1000 MB.
Event severity when total size of all monitored log files exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the combined size of all log files exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for total size of all monitored log files?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total size of all the log files selected for monitoring. The default is unselected.
Monitor number of log files purged	
Event Notification	
Raise event if number of log files purged exceeds threshold?	Select **Yes** to raise an event if the number of log files automatically purged exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of log files purged	Specify the maximum number of log files that can be purged because they have exceeded the size and age thresholds before an event is raised. The default is 10 log files purged.

Parameter	How to Set It
Event severity when number of log files purged exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of purged log files exceeds the threshold. The default is 5.
Data Collection	
Collect data for number of log files purged?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of log files that were automatically purged when they exceeded the size and age thresholds you set. The data details contain the file names of logs that were removed. The default is unselected.

3.4 HungThreads

Use this Knowledge Script to monitor the BlackBerry Enterprise Server service for hung threads. Hung threads decrease the number of requests that can be concurrently processed by the service. Any thread that starts and then does not finish is considered hung.

This script raises an event when hung threads are detected and when the number of hung threads exceeds the threshold you set. You also have the option to restart the hung service automatically. If you choose to collect data, this script returns data about the number of hung threads, the thread ID, and the wait count.

NOTE

- This script does not search for hung threads associated with MDS, Collaboration, MailStore, and Administration services.
- This script monitors BlackBerry Attachment and BlackBerry Router services for hung threads if the BlackBerry Enterprise Server is running in STANDBY mode.

The wait count value that you set in the *Wait count -- Cycles to wait before restarting service* parameter refers to the number of cycles that a thread has been blocked. If you enable data collection, this script returns the average wait count for the server. Use this statistic as guidance when you set a wait count.

To find hung threads, this script searches for the following event IDs in the BlackBerry Enterprise Server event logs. These IDs are defined in the following table. You can also configure this script to look for additional event IDs. For more information, see Section 3.4.4, “Monitoring Additional Event IDs,” on page 35.

Event ID	Explanation
10019 -- All worker threads seem to be blocked	All worker threads are unresponsive and cannot be allocated for work.
10165 -- Thread: main timer thread appears to be blocked	RIM provides little information about this event or what it signifies. The event text mentions a “Queuing alarm” from BlackBerry Messaging.

Event ID	Explanation
20266 -- At least one worker thread seems to be blocked (*N*)	One of the worker threads is blocked and unable to process mail. The parameter in parentheses indicates a wait count. The value of this parameter indicates how long the thread has been unresponsive: ◆ 1 = 10 minutes ◆ 2 = 20 minutes ◆ 3 = 30 minutes **NOTE:** The BlackBerry Enterprise Server should automatically free hung threads and resume mail processing unless the Exchange Server is down.
20315 -- Thread: *** No Response *** Thread Id=0xFC, Handle=0x238, WaitCount=7, SCS thread not responding, SCS - duplicate PIN check	An unresponsive worker thread has been found. Until it becomes unblocked, the thread cannot complete its work. The WaitCount indicates how long the thread has been in this state. In situations where the WaitCount value exceeds 10, the thread is unlikely to recover on its own.
30000 -- Hung threads detected	An event with the 30000 ID contains the words “hung threads detected”.
30038 -- {0xD3} Thread: *** No Response ***	An unresponsive worker thread has been located. Until it becomes unblocked, the thread cannot complete its work. The condition will most likely be resolved without the need to restart the BlackBerry Enterprise Server.
50020 -- {0xC3} Some worker threads have been blocked for 6 health checks	Worker threads that have been unresponsive for six health checks (60 minutes) have been found.
50023 -- All worker threads of one of the pools seem to be blocked	All the threads assigned to a particular Exchange server are not responding. This could indicate a communication issue with that Exchange server, or it could indicate more widespread issues.

3.4.1 Resource Object

BlackBerry Enterprise Server service

3.4.2 Default Schedule

The default interval is **Every 10 minutes**.

3.4.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	

Parameter	How to Set It
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event when the HungThreads job fails. The default is 5.
Restart service if hung threads detected?	Select **Yes** to have this script automatically restart services that have hung threads. Any service that has hung threads that have not become unblocked after the wait count has expired (see the *Wait count* parameter) will then be restarted. The default is unselected. When you enable this parameter, a service may be restarted automatically; however, the blocked thread must also meet one of the following conditions: ◆ One (or both) of the following events is found in the event log: -- 10019: All worker threads seem to be blocked -- 50023: All worker threads of one of the pools seem to be blocked ◆ The wait count you set using the *Wait count -- Cycles to wait before restarting service* parameter has been exceeded by one of the hung threads that was found. ◆ The value you set for the *Hung threads -- Maximum number before restarting service* parameter has been exceeded by the number of hung threads found in the server event log.
Wait count -- Cycles to wait before restarting service	Set a wait count for each hung thread. This script waits the specified number of cycles to detect whether hung threads become unblocked. The default is 3 cycles. **NOTE:** You should run this script for a few days and collect data for average wait count on the server to use as guidance for an appropriate wait count.
Hung threads -- Maximum number before restarting service	Specify the maximum number of hung threads that can be detected for a service before it is automatically restarted. **Notes** ◆ Services are not automatically restarted unless you enable the *Restart service if hung threads detected?* parameter. ◆ You should plan to run this script for a few days and collect data for average hung threads on the server to use as guidance for an appropriate maximum number of hung threads. The default is 5 hung threads.
Raise event if service restart succeeds?	Select **Yes** to raise an event if the attempt to restart services that have hung threads is successful. The default is Yes.
Event severity when service restart succeeds	Set the event severity level, from 1 to 40, to indicate the importance of an event in which services are restarted successfully. The default is 25.
Raise event if service restart fails?	Select Yes to raise an event if the attempt to restart services that have hung threads fails. The default is Yes.
Event severity when service restart fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which services cannot be restarted. The default is 5.
Raise event if hung thread log entries found?	Select **Yes** to raise an event if event log entries related to hung threads are found. The default is Yes.
Event severity when hung thread log entries found	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the log contains entries for hung threads. The default is 15.

Parameter	How to Set It
Raise event if user name found in hung thread log entries?	Select **Yes** to raise an event if a user name is found in the hung thread log entries. The default is Yes.
Event severity when user name found in hung thread log entries	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a user name is found in the hung thread log entries. The default is 15.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Monitor number of hung threads	
Event Notification	
Raise event if number of hung threads exceeds threshold?	Select **Yes** to raise an event if the number of hung threads for any service exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of hung threads	Specify the maximum number of hung threads that can be detected for a service before an event is raised. The default is 5 hung threads.
Event severity when number of hung threads exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of hung threads exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of hung threads?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of hung threads on the server. The default is unselected.
Monitor average thread wait count	
Data Collection	
Collect data for average thread wait count?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the average wait count for threads on the server. The default is unselected.

3.4.4 Monitoring Additional Event IDs

By default, the BlackberryAgent and HungThreads Knowledge Scripts look for the following event IDs in the events logs for the BlackBerry agent and the BlackBerry Enterprise Server service:

- 10019
- 10165

- 20266
- 20315
- 30000
- 30038
- 50020
- 50023

You can customize these scripts to look for additional event IDs by altering the `beserrorcodes.xml` file, which is installed by default in `ProgramFiles\AppManager\NetIQ\bin`. In the XML file, you can indicate which event ID to look for and assign an event action to an event ID.

The `beserrorcodes.xml` file has the following format:

```
<?xml version="1.0" encoding="utf-8" ?>
<BES>
    <HungThreads>
      <!-- The Event tag value should be a Perl regular expression for search criteria.-->
      <!-- Action="Restart" will trigger service to be restarted-->
      <Event Action="Restart">^\[10019\].*?All worker threads seem to be blocked.*$</Event>
      <Event>^\[10165\].*?Thread: main timer thread appears to be blocked.*$ </Event>
      <Event>^\[20266\].*?At least one worker thread seems to be blocked.*$</Event>
      <Event>^\[20315\].*?Thread: \*\*\* No Response \*\*\* Thread Id=.*?, Handle=.*?,
WaitCount=\d+.*$
</Event>
      <Event>^\[30038\].*?Thread: \*\*\* No Response \*\*\*.*$</Event>
      <Event>^\[50020\].*?Some worker threads have been blocked for \d+ health checks.*$ </
Event>
      <Event Action="Restart">^\[50023\].*?All worker threads of one of the pools seem to be
blocked.*$
</Event>
      <Event>^\[30000\].*?hung threads detected.*$</Event>
   </HungThreads>
</BES>
```

- where `<BES>` is the document name and a mandatory section.
- where `<HungThreads>` is a mandatory section for the HungThreads and BlackberryAgent Knowledge Scripts.
- where `<Event>` identifies the search criteria.
- where `<Event Action="Restart">` indicates that a service will be restarted if a service's log file contains at least one entry of this event in its log file.

To monitor additional event IDs:

1. Navigate to `ProgramFiles\AppManager\NetIQ\bin` and open `beserrorcodes.xml` in an XML editor.
2. Add a new row using the format shown in the graphic above. Use a Perl regular expression to indicate the event ID you want to monitor, and assign an event action if necessary.
3. Save and close the file. Do not save it with a new name.

3.5 InactiveUsers

Use this Knowledge Script to determine which BlackBerry users have been inactive for a specified period of time.

Inactivity is determined by the times of the last message forwarded or of the last device interaction. You can set thresholds for each inactivity measurement. If you enable data collection, this script returns the following data streams for each user:

- The number of days since the last device interaction
- The number of days since the last message forwarded to this user

NOTE: This script currently is not supported for use with BES 10 and later.

3.5.1 Resource Object

BlackBerry Server

3.5.2 Default Schedule

The default schedule is **Every 24 hours**.

3.5.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of the event when the InactiveUsers job fails. The default is 5.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.

Parameter	How to Set It
Database login	If you want to use SQL authentication, supply login information to access the BlackBerry Enterprise Server database. **NOTE:** This information must already be configured in AppManager Security Manager.
Mirror database login	To use SQL authentication in a mirrored database environment, supply login information to access the BlackBerry Enterprise Server secondary database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Maximum number of users to record data streams for	Specify the maximum number of users to include when collecting data. When data collection is enabled, this script returns the time of the last message forwarded to each user on the server. This parameter sets an upper limit on the number of users for whom such data should be collected and returned. The default is 100 users.
Monitor time since last message forwarded	
Event Notification	
Raise event if time since last message forwarded exceeds threshold?	Select **Yes** to raise an event if the time since a user account last forwarded a message exceeds the threshold you set. The default is Yes.
Threshold -- Maximum time since last message forwarded	Specify the maximum number of days that a user can be inactive (defined as the last time that user's account has forwarded a message) before an event is raised. The default is 30 days.
Event severity when time since last message forwarded exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of days that a user has been inactive exceeds the threshold. The default is 5.
Data Collection	
Collect data for time since last message forwarded?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the time that the last message was forwarded to each user. The default is unselected.
Monitor time since last device interaction?	
Event Notification	
Raise event if time since last device interaction exceeds threshold?	Select **Yes** to raise an event if the time since a user last interacted with a BlackBerry device exceeds the threshold you set. The default is Yes.
Threshold -- Maximum time since last device interaction	Specify the maximum number of days that a user can be inactive (defined as the last time a device interaction was associated with that user) before an event is raised. The default is 30 days.
Event severity when time since last device interaction exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of days a user is inactive exceeds the threshold you set. The default is 5.
Data Collection	

Parameter	How to Set It
Collect data for time since last device interaction?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the time of the last device interaction for each user. The default is unselected.

3.6 MDSConnections

Use this Knowledge Script to monitor the BlackBerry Mobile Data Service (MDS) for the number of device and push connections, as well as the maximum packet size and the number of packets for these connections.

Although they both monitor the Mobile Data Service, this script is independent of the MDSFailures Knowledge Script. Therefore, failures may be occurring even if this script shows that connections are succeeding.

MDS usage statistics are stored by the BlackBerry configuration database every 15 minutes. Therefore, this script cannot operate at intervals of less than 15 minutes. Furthermore, this script collects data only for fully completed intervals. For example, if the script is scheduled to run at 1:35 on a 15-minute interval, only the last completed 15-minute interval is recorded, for the period of 1:15 to 1:30.

If data is collected, this script returns the number of connections, the total packet size in bytes, and the number of packets from connections.

Even if you enable data collection, this script may not collect any data. At times, this script returns "null" data, which indicates that the database query returned no rows.

3.6.1 Resource Object

BlackBerry Server

3.6.2 Default Schedule

The default schedule is **Every 15 minutes**.

3.6.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the MDSConnections job fails. The default is 5.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.

Parameter	How to Set It
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Database login	To use SQL authentication, supply login information to access the BlackBerry Enterprise Server database. **NOTE:** This information must already be configured in AppManager Security Manager.
Mirror database login	To use SQL authentication in a mirrored database environment, supply login information to access the BlackBerry Enterprise Server secondary database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Monitor number of device connections?	
Event Notification	
Raise event if number of device connections exceeds threshold?	Select **Yes** to raise an event if the number of device connections to the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of device connections	Specify the maximum number of device connections that can be running to the MDS before an event is raised. The default is 50 connections.
Event severity when number of device connections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of device connections exceeds the threshold. The default is 5.
Data Collection	
Collect data for number of device connections?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of device connections to the MDS. The default is unselected.
Monitor number of push connections?	
Event Notification	
Raise event if number of push connections exceeds threshold?	Select **Yes** to raise an event if the number of push connections to the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of push connections	Specify the maximum number of push connections that can be running to the MDS before an event is raised. The default is 50 connections.
Event severity when number of push connections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of push connections exceeds the threshold. The default is 5.
Data Collection	

Parameter	How to Set It
Collect data for number of push connections?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of push connections to the MDS. The default is unselected.
Monitor packet size for device connections?	
Event Notification	
Raise event if packet size for device connections exceeds threshold?	Select **Yes** to raise an event if the maximum packet size for device connections to the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum packet size for device connections	Specify the maximum size, in Kilobytes, of a packet sent in a device connection to the MDS before an event is raised. The default is 2048 KB.
Event severity when packet size for device connections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which packet size exceeds the threshold. The default is 5.
Data Collection	
Collect data for packet size for device connections?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total packet size for device connections and the number of packets from device connections. The default is unselected.
Monitor packet size for push connections?	
Event Notification	
Raise event if packet size for push connections exceeds threshold?	Select **Yes** to raise an event if the maximum packet size for push connections to the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum packet size for push connections	Specify the maximum size, in Kilobytes, of a packet sent in a push connection to the MDS before an event is raised. The default is 2048 KB.
Event severity when packet size for push connections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which packet size exceeds the threshold. The default is 5.
Data Collection	
Collect data for packet size for push connections?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total packet size for push connections and the number of packets from push connections. The default is unselected.
Monitor number of packets from device connections?	
Event Notification	
Raise event if number of packets from device connections exceeds threshold?	Select **Yes** to raise an event if the number of packets from device connections to the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of packets from device connections	Specify the maximum number of packets from device connections to the MDS before an event is raised. The default is 1024 packets.
Event severity when number of packets from device connections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of packets exceeds the threshold. The default is 5.

Parameter	How to Set It
Data Collection	
Collect data for number of packets from device connections?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of packets from device connections. The default is unselected.
Monitor number of packets from push connections?	
Event Notification	
Raise event if number of packets from push connections exceeds threshold?	Select **Yes** to raise an event if the number of packets from push connections to the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of packets from push connections	Specify the maximum number of packets from push connections to the MDS before an event is raised. The default is 1024 packets.
Event severity when number of packets from push connections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of packets exceeds the threshold. The default is 5.
Data Collection	
Collect data for number of packets from push connections?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of packets from push connections. The default is unselected.

3.7 MDSFailures

Use this Knowledge Script to monitor the BlackBerry Mobile Data Service (MDS) for connection failures, device authentication failures, and bad packets sent to handheld devices.

Although they both monitor the Mobile Data Service, this script is completely independent of the MDSConnections Knowledge Script. Therefore, this script may indicate that failures are occurring even if the MDSConnections Knowledge Script shows that connections are succeeding.

MDS usage statistics are stored by the BlackBerry config database every 15 minutes. Therefore, this script cannot operate at intervals of less than 15 minutes. Furthermore, this script collects data only for fully completed intervals. For example, if the script is scheduled to run at 1:35 on a 15-minute interval, only the last completed 15-minute interval is recorded, for the period of 1:15 to 1:30.

If data is collected, this script returns the number of failed and truncated connections, the number of authentication failures, and the number of refused and invalid packets.

Even if you enable data collection, this script may not collect any data. At times, this script returns "null" data, which indicates that the database query returned no rows.

3.7.1 Resource Object

BlackBerry Server

3.7.2 Default Schedule

The default schedule is **Every 15 minutes**.

3.7.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the MDSFailures job fails. The default is 5.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Database login	To use SQL authentication, supply login information to access the BlackBerry Enterprise Server database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Mirror database login	To use SQL authentication in a mirrored database environment, supply login information to access the BlackBerry Enterprise Server secondary database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Monitor number of failed connections	
Event Notification	
Raise event if number of failed connections exceeds threshold?	Select **Yes** to raise an event if the number of failed connections to the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of failed connections	Specify the maximum number of connections to the MDS that can fail before an event is raised. The default is 25 connections.
Event severity when number of failed connections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of failed connections exceeds the threshold. The default is 5.
Data Collection	
Collect data for number of failed connections?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of failed connections to the MDS. The default is unselected.

Parameter	How to Set It
Monitor number of truncated connections	
Event Notification	
Raise event if number of truncated connections exceeds threshold?	Select **Yes** to raise an event if the number of truncated connections to the MDS exceeds the threshold you set. The default is Yes. A truncated connection is one that starts but stops unexpectedly.
Threshold -- Maximum number of truncated connections	Specify the maximum number of connections to the MDS that can be truncated before an event is raised. The default is 25 connections.
Event severity when number of truncated connections exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of truncated connections exceeds the threshold. The default is 5.
Data Collection	
Collect data for number of truncated connections?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of truncated connections to the MDS. The default is unselected.
Monitor number of authentication failures	
Event Notification	
Raise event if number of authentication failures exceeds threshold?	Select **Yes** to raise an event if the number of authentication failures at the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of authentication failures	Specify the maximum number of authentication failures that can occur at the MDS before an event is raised. The default is 10 failures.
Event severity when number of authentication failures exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of authentications failures exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of authentication failures?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of authentication failures at the MDS. The default is unselected.
Monitor number of refused packets	
Event Notification	
Raise event if number of refused packets exceeds threshold?	Select **Yes** to raise an event if the number of packets refused by the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of refused packets	Specify the maximum number of packets that can have been refused by the MDS before an event is raised. The default is 1024 packets.
Event severity when number of refused packets exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of refused packets exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of refused packets?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of packets refused by the MDS. The default is unselected.

Parameter	How to Set It
Monitor number of invalid packets	
Event Notification	
Raise event if number of invalid packets exceeds threshold?	Select **Yes** to raise an event if the number of invalid packets received by the MDS exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of invalid packets	Specify the maximum number of invalid packets that can be received by the MDS before an event is raised. The default is 1024 packets.
Event severity when number of invalid packets exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of invalid packets exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of invalid packets?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of invalid packets received by the MDS. The default is unselected.

3.8 MessageSize

Use this Knowledge Script to find the average size, in KB, of the messages forwarded and those that were replied to with text per user on a BlackBerry server. This script raises an event if the average message size exceeds the threshold you set.

NOTE: This script currently is not supported for use with BES 10 and later.

3.8.1 Resource Object

BlackBerry server

3.8.2 Default Schedule

The default schedule is **Every hour**.

3.8.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How To Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the MessageSize job fails. The default is 40.
Maximum number of users to record data streams for	Specify the maximum number of users on the selected BlackBerry server for whom this Knowledge Script should create data streams. The default is 100.

Parameter	How To Set It
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Monitor size of forwarded messages for a user	
Event Notification	
Raise event if average size of forwarded messages exceeds threshold?	Select **Yes** to raise an event if the average size of messages forwarded to a user on the BlackBerry server exceeds the threshold you set. The default is Yes.
Threshold -- Maximum average size of forwarded messages	Specify the maximum average size that messages forwarded to a user on the BlackBerry server can reach before an event is raised. The default is 1024 KB.
Event severity when average size of forwarded messages exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average size of forwarded messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for average size of forwarded messages for a user?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the average size, in KB, of messages forwarded per user on the BlackBerry server. The default is unselected.
Monitor size of messages replied to with text for a user	
Event Notification	
Raise event if average size of messages replied to with text exceeds threshold?	Select **Yes** to raise an event if the average size of messages to which replies with text were sent by a user on the BlackBerry server exceeds the threshold you set. The default is unselected.
Threshold -- Maximum average size of messages replied to with text	Specify the maximum average size that messages to which replies with text were sent can reach for a user on the BlackBerry server before an event is raised. The default is 25 connections.
Event severity when average size of messages replied to with text exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the average size of messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for average size of messages replied to with text for a user?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the average size, in KB, of messages to which replies with text were sent by a user on the BlackBerry server. The default is unselected.

3.9 OrphanedUsers

Use this script to determine which BlackBerry users have been orphaned. “Orphaned” users are those whose BlackBerry accounts no longer have matching, valid Exchange accounts.

If data collection is enabled, this script returns the number of BlackBerry users that have been orphaned. Further information about each orphaned user is returned in the data details for the data stream.

You must have a valid Messaging Application Programming Interface (MAPI) profile set up on the server where you are running the job. This profile is part of the requirements for installing the BlackBerry server. Consult your BlackBerry Enterprise Server documentation for instructions about obtaining the name of this profile, which you need to enter for the *MAPI profile* parameter.

NOTE: BES 10 no longer uses MAPI profile. However, a MAPI Profile is required to check and retrieve information from user mailboxes. Therefore, you need to manually create a MAPI profile on a BES Server machine and associate it with the Exchange Server. To create a MAPI profile:

1. Download `ExchangeMapiCdo.EXE` from Microsoft Exchange Server MAPI Client and Collaboration Data Objects 1.2.1 and install it.
2. Run the following utility from the `\AppManager\bin\BES` directory:

   ```
   prof.exe -s Exchangeservername -m usermailboxname -NOTM -p MAPIprofilename -
   registry
   ```

3.9.1 Resource Object

BlackBerry Server

3.9.2 Default Schedule

The default schedule is **Every 24 hours**.

3.9.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the OrphanedUsers job fails. The default is 5.
MAPI profile	Enter the name of the MAPI profile you are using on the BlackBerry server.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.

Parameter	How to Set It
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Database login	To use SQL authentication, supply login information to access the BlackBerry Enterprise Server database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Mirror database login	To use SQL authentication in a mirrored database environment, supply login information to access the BlackBerry Enterprise Server secondary database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Raise event if orphaned users exist?	Select **Yes** to raise an event if any orphaned users are found. The default is Yes.
Event severity when orphaned users exist	Set the event severity level, from 1 to 40, to indicate the importance of an event in which orphaned users are found. The default is 5.
Monitor number of orphaned users	
Event Notification	
Raise event if number of orphaned users exceeds threshold?	Select **Yes** to raise an event if the number of orphaned users exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of orphaned users	Specify the maximum number of orphaned users that can be found before an event is raised. The default is 10 orphaned users.
Event severity when number of orphaned users exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of orphaned users exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of orphaned users?	Select **Yes** to collect data for charts and reports. If enabled, returns the number of orphaned users on the BlackBerry server. The data details include information about each orphaned user. The default is unselected.

3.10 Report_EndToEndResponseTime

Use this Knowledge Script to generate a report about the round-trip response time for an e-mail message. This report includes a measurement of the round-trip response time for a message to travel from a client mailbox, through a selected Exchange Server, to a BlackBerry Enterprise Server handheld device, and for the handheld device to send a response.

This report uses data collected by the ResponseTime Knowledge Script.

NOTE: Note You may see a gap in data points if this report is run on a BlackBerry Enterprise Server on which the failover status changes from STANDBY to PRIMARY.

3.10.1 Resource Object

Report agent

3.10.2 Default Schedule

The default schedule is **Run once**.

3.10.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
Data Source	
Select computer(s)	Select the computers for your report.
Select the style	Select the style for the first page of the report: ◆ **By computer** provides links to pages showing the data collected from individual computers (each page shows all the data streams collected from a single computer) ◆ **By data stream** provides links to pages showing a side-by-side comparison of values for the same data stream collected from different computers (each page shows, for example, the value of the *NT_CpuResource-All Threads(#)* data stream from each computer) ◆ **By computer and data stream** provides links to pages showing a single data stream collected from a computer ◆ **All data streams on one page** generates a report with all data on a single page
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Aggregation by	Select the aggregation method for the data in your report: ◆ Minute ◆ Hour ◆ Day
Aggregation interval	Select the interval by which the data in your report is aggregated. Possible values range from 1 to 90.

Parameter	How to Set It
Statistics to show per period	Select a statistical method by which to display data in the report: ◆ **Average**: The average value of data points for the aggregation interval (for example, the average value for 1 hour) ◆ **Minimum**: The minimum value of data points for the aggregation interval ◆ **Maximum**: The maximum value of data points for the aggregation interval ◆ **Count**: The number of data points for the aggregation interval ◆ **Sum**: The total value of data points for the aggregation interval ◆ **3Sigma**: The average + (3 * standard deviation) and average - (3 * standard deviation) ◆ **Std**: The standard deviation ◆ **Box**: Lower fence, 25% point, median, 75% point, and upper fence for the aggregation interval ◆ **Open**: The first value for the aggregation interval ◆ **Close**: the last value for the aggregation interval
Report Settings	
Include parameter help table?	Select **yes** to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Select **yes** to include a table of data stream values in the report. The default is yes.
Include chart?	Select **yes** to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set properties for the output folder.
Add job ID to output folder name?	Select **yes** to append the job ID to the name of the output folder. A job ID is helpful to make the correlation between a specific instance of a Report Script and the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as needed.
Add timestamp to title?	Select **yes** to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. Adding a timestamp is useful in order to run consecutive iterations of the same report without overwriting previous output. The default is no.
Event Notification	
Raise event when report succeeds?	Select **yes** to raise an event when the report is successfully generated. The default is yes.
Event severity for report success	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report is successfully generated. The default is 35.
Event severity for report with no data	Set the severity level, from 1 to 40, to indicate the importance of an event in which the generated report contains no data. The default is 25.

Parameter	How to Set It
Event severity for report failure	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report cannot be generated. The default is 5.

3.11 Report_LastUserCount

Use this Knowledge Script to generate a report about the last recorded value for the user count and the percentage of licenses in use for a BlackBerry Enterprise Server. This script uses data collected by the UserCount Knowledge Script.

NOTE: Note You may see a gap in data points if this report is run on a BlackBerry Enterprise Server on which the failover status changes from STANDBY to PRIMARY.

3.11.1 Resource Object

Report agent

3.11.2 Default Schedule

The default schedule is **Run once**.

3.11.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
Data Source	
Select computer(s)	Select the computers for your report.
Select the style	Select the style for the first page of the report: ◆ **By computer** provides links to pages showing the data collected from individual computers (each page shows all the data streams collected from a single computer) ◆ **By data stream** provides links to pages showing a side-by-side comparison of values for the same data stream collected from different computers (each page shows, for example, the value of the *NT_CpuResource-All Threads(#)* data stream from each computer) ◆ **By computer and data stream** provides links to pages showing a single data stream collected from a computer ◆ **All data streams on one page** generates a report with all data on a single page
Select time range	Set a specific or sliding time range for data included in your report.
Report Settings	
Include parameter help table?	Select **yes** to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Select **yes** to include a table of data stream values in the report. The default is yes.

Parameter	How to Set It
Include chart?	Select **yes** to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set properties for the output folder.
Add job ID to output folder name?	Select **yes** to append the job ID to the name of the output folder. A job ID is helpful to make the correlation between a specific instance of a Report Script and the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as needed.
Add timestamp to title?	Select **yes** to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. Adding a timestamp is useful in order to run consecutive iterations of the same report without overwriting previous output. The default is no.
Event Notification	
Raise event when report succeeds?	Select **yes** to raise an event when the report is successfully generated. The default is yes.
Event severity for report success	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report is successfully generated. The default is 35.
Event severity for report with no data	Set the severity level, from 1 to 40, to indicate the importance of an event in which the generated report contains no data. The default is 25.
Event severity for report failure	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report cannot be generated. The default is 5.

3.12 Report_ServerMessageSummary

Use this Knowledge Script to generate a summary of total message traffic on a BlackBerry Enterprise Server during a monitoring interval, including the number of sent, received, and filtered messages.

This report uses data collected by the ServerActivity Knowledge Script.

NOTE: Note You may see a gap in data points if this report is run on a BlackBerry Enterprise Server on which the failover status changes from STANDBY to PRIMARY.

3.12.1 Resource Object

Report agent

3.12.2 Default Schedule

The default schedule is **Run once**.

3.12.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
Data Source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Select the style	Select the style for the report: ◆ **By computer** shows one value for each computer you selected. ◆ **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). ◆ **By computer and legend** shows one value for each unique legend from each computer.
Data Settings	
Statistics to show	Select a statistical method by which to display data in the report: ◆ **Average**: The average value of data points for the time range of the report ◆ **Minimum**: The minimum value of data points for the time range of the report ◆ **Maximum**: The maximum value of data points for the time range of the report ◆ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time range of the report ◆ **Range**: The range of values in the data stream (maximum - minimum = range) ◆ **StandardDeviation**: The measure of how widely values are dispersed from the mean ◆ **Sum**: The total value of data points for the time range of the report ◆ **Close**: The last value for the time range of the report ◆ **Change**: The difference between the first and last values for the time range of the report (close - open = change) ◆ **Count**: The number of data points for the time range of the report
Select sorting/display option	Select whether data is sorted, or the method of display: ◆ **No sort**: Data is not sorted ◆ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ◆ **Top %**: Chart only the top *N* % of selected data (sorted by default) ◆ **Top** *N*: Chart only the top *N* of selected data (sorted by default) ◆ **Bottom %**: Chart only the bottom *N* % of data (sorted by default) ◆ **Bottom** *N*: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Specify a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.

Parameter	How to Set It
Truncate top/bottom?	If set to yes, then the data table shows only the top or bottom N or % (for example, only the top 10%). Otherwise, the table shows all data. The default is no.
Show totals on the table?	If set to yes, then additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table: ◆ **Report Average**: An average of all values in a column ◆ **Report Minimum**: The minimum value in a column ◆ **Report Maximum**: The maximum value in a column ◆ **Report Total**: The total of all values in a column The default is no.
Report Settings	
Include parameter help table?	Select **yes** to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Select **yes** to include a table of data stream values in the report. The default is yes.
Include chart?	Select **yes** to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set properties for the output folder.
Add job ID to output folder name?	Select **yes** to append the job ID to the name of the output folder. A job ID is helpful to make the correlation between a specific instance of a Report Script and the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as needed.
Add timestamp to title?	Select **yes** to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. Adding a timestamp is useful in order to run consecutive iterations of the same report without overwriting previous output. The default is no.
Event Notification	
Raise event when report succeeds?	Select **yes** to raise an event when the report is successfully generated. The default is yes.
Event severity for report success	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report is successfully generated. The default is 35.
Event severity for report with no data	Set the severity level, from 1 to 40, to indicate the importance of an event in which the generated report contains no data. The default is 25.
Event severity for report failure	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report cannot be generated. The default is 5.

3.13 Report_SRPConnectivity

Use this Knowledge Script to generate a report about the connectivity (up or down) of the BlackBerry Enterprise Server SRP connection over a specified period.

This report uses data collected by the SRPConnectionStatus Knowledge Script.

NOTE: Note You may see a gap in data points if this report is run on a BlackBerry Enterprise Server on which the failover status changes from STANDBY to PRIMARY.

3.13.1 Resource Objects

Report agent

3.13.2 Default Schedule

The default schedule is **Run once**.

3.13.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
Data Source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Data Settings	
Hours or percentage on chart	Select whether to illustrate availability by hours or by percentage.
Select sorting/display option	Select whether data is sorted, or the method of display: ◆ **No sort**: Data is not sorted ◆ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ◆ **Top %**: Chart only the top *N* % of selected data (sorted by default) ◆ **Top** *N*: Chart only the top *N* of selected data (sorted by default) ◆ **Bottom %**: Chart only the bottom *N* % of data (sorted by default) ◆ **Bottom** *N*: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Specify a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.

Parameter	How to Set It
Truncate top/bottom?	If set to yes, the data table shows only the top or bottom N or % (for example, only the top 10%). Otherwise, the table shows all data. The default is no.
Report Settings	
Include parameter help table?	Select **yes** to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Select **yes** to include a table of data stream values in the report. The default is yes.
Include chart?	Select **yes** to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set properties for the output folder.
Add job ID to output folder name?	Select **yes** to append the job ID to the name of the output folder. A job ID is helpful to make the correlation between a specific instance of a Report Script and the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as needed.
Add timestamp to title?	Select **yes** to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. Adding a timestamp is useful in order to run consecutive iterations of the same report without overwriting previous output. The default is no.
Event Notification	
Raise event when report succeeds?	Select **yes** to raise an event when the report is successfully generated. The default is yes.
Event severity for report success	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report is successfully generated. The default is 35.
Event severity for report with no data	Set the severity level, from 1 to 40, to indicate the importance of an event in which the generated report contains no data. The default is 25.
Event severity for report failure	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report cannot be generated. The default is 5.

3.14 Report_UserMessageSummary

Use this Knowledge Script to generate a report about the per-user message traffic on a BlackBerry Enterprise Server during a monitoring interval, including the number of sent, received, and filtered messages per user.

This report uses data collected by the UserActivity Knowledge Script.

NOTE: Note You may see a gap in data points if this report is run on a BlackBerry Enterprise Server on which the failover status changes from STANDBY to PRIMARY.

3.14.1 Resource Object

Report agent

3.14.2 Default Schedule

The default schedule is **Run once**.

3.14.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
Data Source	
Select computer(s)	Select the computers for your report.
Select time range	Set a specific or sliding time range for data included in your report.
Select peak weekday(s)	Select the days of the week to include in your report.
Select the style	Select the style for the report: ◆ **By computer** shows one value for each computer you selected. ◆ **By legend** shows one value for each different legend (the legend is a truncated form of the data stream legend visible in the Operator Console). ◆ **By computer and legend** shows one value for each unique legend from each computer.
Data Settings	
Statistics to show	Select a statistical method by which to display data in the report: ◆ **Average**: The average value of data points for the time range of the report ◆ **Minimum**: The minimum value of data points for the time range of the report ◆ **Maximum**: The maximum value of data points for the time range of the report ◆ **Min/Avg/Max**: The minimum, average, and maximum values of data points for the time range of the report ◆ **Range**: The range of values in the data stream (maximum - minimum = range) ◆ **StandardDeviation**: The measure of how widely values are dispersed from the mean ◆ **Sum**: The total value of data points for the time range of the report ◆ **Close**: The last value for the time range of the report ◆ **Change**: The difference between the first and last values for the time range of the report (close - open = change) ◆ **Count**: The number of data points for the time range of the report

Parameter	How to Set It
Select sorting/display option	Select whether data is sorted, or the method of display: ◆ **No sort**: Data is not sorted ◆ **Sort**: Data is sorted by value (lowest to highest from front to back; highest to lowest from left to right) ◆ **Top %**: Chart only the top *N* % of selected data (sorted by default) ◆ **Top** *N*: Chart only the top *N* of selected data (sorted by default) ◆ **Bottom %**: Chart only the bottom *N* % of data (sorted by default) ◆ **Bottom** *N*: Chart only the bottom *N* of selected data (sorted by default)
Percentage/count for top/bottom	Specify a number for either the percent or count defined in the previous parameter (for example, Top 10%, or Top 10). The default is 25.
Truncate top/bottom?	If set to yes, then the data table shows only the top or bottom N or % (for example, only the top 10%). Otherwise, the table shows all data. The default is no.
Show totals on the table?	If set to yes, then additional calculations are made for each column of numbers in a table, and the following values are listed at the end of the table: ◆ **Report Average**: An average of all values in a column ◆ **Report Minimum**: The minimum value in a column ◆ **Report Maximum**: The maximum value in a column ◆ **Report Total**: The total of all values in a column The default is no.
Report Settings	
Include parameter help table?	Select **yes** to include a table in the report that lists parameter settings for the report script. The default is yes.
Include table?	Select **yes** to include a table of data stream values in the report. The default is yes.
Include chart?	Select **yes** to include a chart of data stream values in the report. The default is yes.
Select chart style	Define the graphic properties of the charts in your report.
Select output folder	Set properties for the output folder.
Add job ID to output folder name?	Select **yes** to append the job ID to the name of the output folder. A job ID is helpful to make the correlation between a specific instance of a Report Script and the corresponding report. The default is no.
Select properties	Set miscellaneous report properties as needed.

Parameter	How to Set It
Add timestamp to title?	Select **yes** to append a timestamp to the title of the report, making each title unique. The timestamp is made up of the date and time the report was generated. Adding a timestamp is useful in order to run consecutive iterations of the same report without overwriting previous output. The default is no.
Event Notification	
Raise event when report succeeds?	Select **yes** to raise an event when the report is successfully generated. The default is yes.
Event severity for report success	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report is successfully generated. The default is 35.
Event severity for report with no data	Set the severity level, from 1 to 40, to indicate the importance of an event in which the generated report contains no data. The default is 25.
Event severity for report failure	Set the severity level, from 1 to 40, to indicate the importance of an event in which the report cannot be generated. The default is 5.

3.15 ResponseTime

Use this Knowledge Script to measure the round-trip response time of an e-mail message sent to a BlackBerry handheld device and a response received from the handheld device. Response time is measured using a pair of script iterations. The first time this script runs, the AppManager agent on the selected computer sends a test e-mail message from the mailbox specified in the *Sender Mailbox* parameter to the handheld device by way of the Exchange Server specified in the *Sender Mail Server* parameter.

The test message includes an instruction to the handheld device to send an automated reply. On the second script iteration, the agent checks for the reply and calculates the response time. The BlackBerry Enterprise Server places a timestamp on the message on its way to the handheld device and a timestamp on the reply sent from the handheld device. The agent uses these timestamps to calculate the response time.

This script raises an event if response time exceeds the threshold you set, or if connectivity to the handheld device has been lost.

NOTE: This script currently is not supported for use with BES 10 and later.

3.15.1 Prerequisites

The Exchange server specified in the *Sender Mail Server* parameter must have a BES profile on the BES server. In addition, the Exchange server must be associated with a MAPI profile in order to log on and to enable this script to send e-mail to the user account. If the Exchange server has a BES profile, you can run the following utility from the `\AppManager\bin\BES` directory to create the MAPI profile:

```
prof.exe -s Exchangeservername -m usermailboxname -NOTM -p MAPIprofilename -
registry
```

3.15.2 Resource Object

BlackBerry Server

3.15.3 Default Schedule

The default interval is **Every 30 minutes**.

3.15.4 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the ResponseTime job fails. The default is 5.
Sender Mailbox (originates test message)	Provide the name of the Exchange mailbox from which the test e-mail message should be sent to the handheld device.
Sender Mail Server (sends test message to handheld)	Provide the name of the Exchange mail server through which the e-mail message should be sent.
SMTP e-mail address of handheld (receives test message)	Provide the e-mail address of the handheld device that will receive the test message through SMTP and reply to it.
Delete inactive test messages from Sender's Inbox?	Select **Yes** to remove old test messages used for previous iterations of this job. A test message can become inactive if it will no longer be used to calculate the response time. This may occur if the response time to the handheld device is greater than the job interval length.
Monitor round-trip response time	
Event Notification	
Raise event if round-trip response time exceeds threshold?	Select **Yes** to raise an event if the time taken for the e-mail message to be sent and for a response to be received exceeds the threshold you set. The default is Yes.
Threshold -- Maximum round-trip response time	Specify the maximum number of seconds allowed for the e-mail message to be sent and for a response to be received before an event is raised. Enter a value from 0 to 32000 seconds. The default is 180 seconds.
Event severity when round-trip response time exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which response time exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for round-trip response time?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the round-trip response time for the e-mail message. The default is unselected.
Monitor handheld connectivity	

Parameter	How to Set It
Event Notification	
Raise event if handheld connectivity is down?	Select **Yes** to raise an event if connectivity of the handheld device is down. The default is Yes.
Event severity when handheld connectivity is down	Set the event severity level, from 1 to 40, to indicate the importance of an event in which connectivity to the handheld device is lost. The default is 5.
Data Collection	
Collect data for handheld connectivity?	Select **Yes** to collect data for charts and reports. If enabled, returns the up or down status of the handheld device. Returns either: ◆ **0** -- handheld device is down, or ◆ **100** -- handheld device is up. The default is unselected.

3.16 ServerActivity

Use this Knowledge Script to monitor activity on a BlackBerry server. This script monitors the number of messages forwarded to handheld devices, received from handheld devices, pending, expired, non-deliverable due to error, and filtered by the server during a monitoring interval. This script also monitors the total number of messages processed during the interval: the sum of the messages forwarded to handheld devices, sent from handheld devices, and filtered.

NOTE: This script currently is not supported for use with BES 10 and later.

3.16.1 Resource Object

BlackBerry Server

3.16.2 Default Schedule

The default interval is **Every 15 minutes**.

3.16.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the ServerActivity job fails. The default is 5.

Parameter	How to Set It
Database login	To use SQL authentication, supply login information to access the BlackBerry Enterprise Server database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Mirror database login	To use SQL authentication in a mirrored database environment, supply login information to access the BlackBerry Enterprise Server secondary database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Monitor number of messages forwarded to handhelds	
Event Notification	
Raise event if number of messages forwarded to handhelds exceeds threshold?	Select **Yes** to raise an event if the number of messages forwarded to handheld devices exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of messages forwarded to handhelds	Specify the maximum number of messages that can have been forwarded to handheld devices by the monitored server before an event is raised. The default is 10 messages.
Event severity when number of messages forwarded to handhelds exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of forwarded messages exceeds the threshold. The default is 5.
Data Collection	
Collect data for number of messages forwarded to handhelds?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of messages forwarded to handheld devices by the BlackBerry server. The default is unselected.
Monitor number of messages sent from handhelds	
Event Notification	
Raise event if number of messages sent from handhelds exceeds threshold?	Select **Yes** to raise an event if the number of messages sent from handheld device exceeds the threshold you set. The default is Yes.

Parameter	How to Set It
Threshold -- Maximum number of messages sent from handhelds	Specify the maximum number of messages that can have been sent from handheld devices to the BlackBerry server before an event is raised. The default is 10 messages.
Event severity when number of messages sent from handhelds exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of sent messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of messages sent from handhelds?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of messages sent from handheld devices to the BlackBerry server. The default is unselected.
Monitor number of messages pending to handhelds	
Event Notification	
Raise event if number of messages pending to handhelds exceeds threshold?	Select **Yes** to raise an event if the number of messages to handheld devices that are pending during the monitoring interval exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of messages pending to handhelds	Specify the maximum number of messages to handheld devices that can be pending before an event is raised. The default is 5 messages.
Event severity when number of messages pending to handhelds exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of pending messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for to number of messages pending to handhelds?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of messages pending to handheld devices associated with the monitored server. The default is unselected.
Monitor number of expired messages	
Event Notification	
Raise event if number of expired messages exceeds threshold?	Select **Yes** to raise an event if the number of expired messages exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of expired messages	Specify the maximum number of expired messages that can be found on the monitored BlackBerry server before an event is raised. The default is 10 messages.
Event severity when number of expired messages exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of expired messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of expired messages?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of expired messages on the BlackBerry server. The default is unselected.
Monitor number of non-deliverable messages	
Event Notification	

Parameter	How to Set It
Raise event if number of non-deliverable messages exceeds threshold?	Select **Yes** to raise an event if the number of non-deliverable messages queued at the BlackBerry server exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of non-deliverable messages	Specify the maximum number of non-deliverable messages that can be queued at the BlackBerry server before an event is raised. The default is 5 non-deliverable messages.
Event severity when number of non-deliverable messages exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of non-deliverable messages queued at the BlackBerry server exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of non-deliverable messages?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of non-deliverable messages queued at the BlackBerry server. The default is unselected.
Monitor number of filtered messages	
Event Notification	
Raise event if number of filtered messages exceeds threshold?	Select **Yes** to raise an event if the number of messages refused by the BlackBerry server exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of filtered messages	Specify the maximum number of messages that can be refused by the BlackBerry server before an event is raised. The default is 10 filtered messages.
Event severity when number of filtered messages exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of refused messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of filtered messages?	Select **Yes** to collect data for charts and reports. If enabled, returns the total number of messages refused by the BlackBerry server. The default is unselected.
Monitor total number of messages processed	
Event Notification	
Raise event if total number of messages processed exceeds threshold?	Select **Yes** to raise an event if the total number of messages processed by the BlackBerry server exceeds the threshold you set. The default is Yes.
Threshold -- Maximum total number of messages processed	Specify the maximum total number of messages that can be processed by the BlackBerry server during any monitoring interval before an event is raised. The default is 50 messages.
Event severity when total number of messages processed exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of processed messages exceeds the threshold you set. The default is 5.
Data Collection	

Parameter	How to Set It
Collect data for total number of messages processed?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of messages processed by the BlackBerry server during the monitoring interval. This total is the sum of the messages forwarded to handheld devices, sent from handheld devices, and filtered. The default is unselected.

3.17 ServiceHealth

Use this Knowledge Script to monitor the health of BlackBerry Enterprise Server services. This script monitors the status of services as well as the percentage of server CPU time and the amount of memory used by these services.

The following services are monitored:

- BlackBerry Alert Service
- BlackBerry Controller Service
- BlackBerry Database Consistency Service

  NOTE: The Database Consistency Service is not available in BES 5 and later.

- BlackBerry Dispatcher
- BlackBerry Mobile Data Service
  - MDS Connection Service
  - MDS Integration Service

    NOTE: The MDS Integration Service is not available in BES 5 and later.

- BlackBerry Policy Service
- BlackBerry Synchronization Service
- BlackBerry Router Service
- BlackBerry Attachment Service
- BlackBerry Administration Service - Application Server
- BlackBerry Administration Service - Native Code Container
- BlackBerry Collaboration Service
- BlackBerry Mail Store Service

This script raises an event if a service is down, or if memory or CPU utilization exceeds either of the thresholds you set.

You can set this script to automatically start a service that is down.

NOTE: The following services are not available in BES 10 and later:

- BlackBerry Alert
- BlackBerry Attachment Service
- BlackBerry Mail Store Service

- BlackBerry Policy Service
- BlackBerry Synchronization Service

3.17.1 Resource Object

BlackBerry Enterprise Server service

3.17.2 Default Schedule

The default interval is **Every 30 minutes**.

3.17.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the ServiceHealth job fails. The default is 5.
Restart service if down?	Select **Yes** to automatically restart a service that is not running. The default is unselected.
Raise event if attempt to restart service succeeds?	Select **Yes** to raise an event when AppManager successfully restarts a service that is not running. The default is Yes.
Event severity when attempt to restart service succeeds	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a service is successfully restarted. The default is 25.
Raise event if attempt to restart service fails?	Select **Yes** to raise an event when AppManager cannot restart a service that is not running. The default is Yes.
Event severity when attempt to restart service fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a service cannot be restarted. The default is 5.
Monitor service status	
Event Notification	
Raise event if service is down?	Select **Yes** to raise an event if a monitored BlackBerry Server service is not running. The default is Yes.
Event severity when service is down	Set the event severity level, from 1 to 40, to indicate the importance of an event in which a monitored service is not running. The default is 5.
Data Collection	
Collect data for service status?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the status of all instances of a BlackBerry Server service during the monitoring interval. The default is unselected.

Parameter	How to Set It
Monitor CPU utilization	
Event Notification	
Raise event if CPU utilization exceeds threshold?	Select **Yes** to raise an event if CPU utilization by BlackBerry Server services exceeds the threshold you set. The default is Yes.
Threshold -- Maximum CPU utilization for BlackBerry Administration Service - Application Server	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Administration Service - Application Server can have before an event is raised. The default is 30%.
Event severity when CPU utilization for BlackBerry Administration Service - Application Server exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Administration Service Application Server exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry Administration Service - Native Code Container	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Administration Service - Native Code Container can have before an event is raised. The default is 30%.
Event severity when CPU utilization for BlackBerry Administration Service - Native Code Container exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Administration Service Application Server - Native Code Container exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry Alert Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Alert Service can have before an event is raised. The default is 30%. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when CPU utilization for BlackBerry Alert Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Alert Service exceeds the CPU utilization threshold. The default is 5.
Threshold - Maximum CPU utilization for BlackBerry Attachment Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the Attachment Service can have before an event is raised. The default is 30%. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when CPU utilization for BlackBerry Attachment Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Attachment Service exceeds the CPU utilization threshold. The default is 5.
Threshold - Maximum CPU utilization for BlackBerry Collaboration Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Collaboration Service can have before an event is raised. The default is 30%.

Parameter	How to Set It
Event severity when CPU utilization for BlackBerry Collaboration Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Collaboration Service exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry Controller Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Controller Service can have before an event is raised. The default is 30%.
Event severity when CPU utilization for BlackBerry Controller Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Controller Server exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry Database Consistency Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Database Consistency Service can have before an event is raised. The default is 30%. **NOTE:** This parameter is not applicable for BES 5 and later.
Event severity when CPU utilization for BlackBerry Database Consistency Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Database Consistency Service exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry Dispatcher Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Dispatcher Service can have before an event is raised. The default is 30%.
Event severity when CPU utilization for BlackBerry Dispatcher Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Dispatcher Service exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry MailStore Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry MailStore Service can have before an event is raised. The default is 30%. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when CPU utilization for BlackBerry MailStore Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry MailStore Service exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry Mobile Data Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Mobile Data Service can have before an event is raised. The default is 30%.
Event severity when CPU utilization for BlackBerry Mobile Data Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Mobile Data Service exceeds the CPU utilization threshold. The default is 5.

Parameter	How to Set It
Threshold -- Maximum CPU utilization for BlackBerry Policy Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Policy Service can have before an event is raised. The default is 30%. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when CPU utilization for BlackBerry Policy Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Policy Service exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry Router Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Router Service can have before an event is raised. The default is 30%.
Event severity when CPU utilization for BlackBerry Router Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Router Service exceeds the CPU utilization threshold. The default is 5.
Threshold -- Maximum CPU utilization for BlackBerry Synchronization Service	Specify the maximum amount of CPU utilization (as a percentage of CPU time) that the BlackBerry Synchronization Service can have before an event is raised. The default is 30%. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when CPU utilization for BlackBerry Synchronization Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Synchronization Service exceeds the CPU utilization threshold. The default is 5.
Data Collection	
Collect data for CPU utilization?	Select **Yes** to collect data for charts and reports. If enabled, returns the percentage of CPU time used by BlackBerry Enterprise Server services during the monitoring interval. The default is unselected.
Monitor memory utilization	
Event Notification	
Raise event if memory utilization exceeds threshold?	Select **Yes** to raise an event if the memory utilization by BlackBerry server services exceeds the threshold you set. The default is Yes.
Threshold -- Maximum memory utilization for BlackBerry Administration Service - Application Server	Specify the maximum amount of memory that the BlackBerry Administration Service - Application Server can use before an event is raised. The default is 8192 Kilobytes.
Event severity when memory utilization for BlackBerry Administration Service - Application Server exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Administration Service - Application Server exceeds the memory utilization threshold. The default is 5.

Parameter	How to Set It
Threshold -- Maximum memory utilization for BlackBerry Administration Service - Native Code Container	Specify the maximum amount of memory that the BlackBerry Administration Service - Native Code Container can use before an event is raised. The default is 8192 Kilobytes.
Event severity when memory utilization for BlackBerry Administration Service - Native Code Container exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Administration Service - Native Code Container exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Alert Service	Specify the maximum amount of memory that the BlackBerry Alert Service can use before an event is raised. The default is 8192 Kilobytes. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when memory utilization for BlackBerry Alert Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Alert Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Attachment Service	Specify the maximum amount of memory that the BlackBerry Attachment Service can use before an event is raised. The default is 8192 Kilobytes. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when memory utilization for BlackBerry Attachment Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Attachment Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Collaboration Service	Specify the maximum amount of memory that the BlackBerry Collaboration Service can use before an event is raised. The default is 8192 Kilobytes.
Event severity when memory utilization for BlackBerry Collaboration Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Collaboration Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Controller Service	Specify the maximum amount of memory that the BlackBerry Controller Service can use before an event is raised. The default is 8192 Kilobytes.
Event severity when memory utilization for BlackBerry Controller Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Controller Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Database Consistency Service	Specify the maximum amount of memory that the BlackBerry Database Consistency Service can use before an event is raised. The default is 8192 Kilobytes. **NOTE:** This parameter is not applicable for BES 5 and later.

Parameter	How to Set It
Event severity when memory utilization for BlackBerry Database Consistency Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Database Consistency Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Dispatcher Service	Specify the maximum amount of memory that the BlackBerry Dispatcher Service can use before an event is raised. The default is 8192 Kilobytes.
Event severity when memory utilization for BlackBerry Dispatcher Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Dispatcher Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry MailStore Service	Specify the maximum amount of memory that the BlackBerry MailStore Service can use before an event is raised. The default is 8192 Kilobytes. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when memory utilization for BlackBerry MailStore Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry MailStore Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Mobile Data Service	Specify the maximum amount of memory that the BlackBerry Mobile Data Service can use before an event is raised. The default is 8192 Kilobytes.
Event severity when memory utilization for BlackBerry Mobile Data Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Mobile Data Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Policy Service	Specify the maximum amount of memory that the BlackBerry Policy Service can use before an event is raised. The default is 8192 Kilobytes. **NOTE:** This parameter is not applicable for BES 10 and later.
Event severity when memory utilization for BlackBerry Policy Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Policy Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Router Service	Specify the maximum amount of memory that the BlackBerry Router Service can use before an event is raised. The default is 8192 Kilobytes.
Event severity when memory utilization for BlackBerry Router Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Router Service exceeds the memory utilization threshold. The default is 5.
Threshold -- Maximum memory utilization for BlackBerry Synchronization Service	Specify the maximum amount of memory that the BlackBerry Synchronization Service can use before an event is raised. The default is 8192 Kilobytes. **NOTE:** This parameter is not applicable for BES 10 and later.

Parameter	How to Set It
Event severity when memory utilization for BlackBerry Synchronization Service exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the BlackBerry Synchronization Service exceeds the memory utilization threshold. The default is 5.
Data Collection	
Collect data for memory utilization?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the amount of memory used by BlackBerry Enterprise Server services during the monitoring interval. The default is unselected.

3.18 SRPConnectionStatus

Use this Knowledge Script to monitor the status of the Server Routing Protocol (SRP) connection between the BlackBerry server and the Research in Motion (RIM) infrastructure.

SRP makes a TCP/IP connection to the wireless network to transmit e-mail messages to and from your wireless ISP. SRP is built on top of a TCP session between Port 3101 of the BlackBerry Enterprise Server and the IP address `srp.blackberry.net` or `srp.na.blackberry.net`.

This script raises an event when the SRP connection is down, and when thresholds are exceeded for the number of failed attempts to reconnect to the wireless network or for the number of seconds the SRP connection can be down during a monitoring interval.

3.18.1 Resource Object

BlackBerry Server

3.18.2 Default Schedule

The default interval is **Every 5 minutes**.

3.18.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the SRPConnectionStatus job fails. The default is 5.
Raise event if last SRP connection error occurred during last monitoring interval?	Select **Yes** to raise an event if the last SRP connection error that this Knowledge Script detected occurred during the most recent monitoring interval. The default is Yes.

Parameter	How to Set It
Event severity when last SRP connection error occurred during last monitoring interval	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the last SRP connection error occurred during the most recent monitoring interval. The default is 5.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Monitor SRP connection status	
Event Notification	
Raise event if SRP connection is down?	Select **Yes** to raise an event if the SRP connection to the RIM wireless network is down. The default is Yes.
Event severity when SRP connection is down	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the SRP connection is down. The default is 5.
Data Collection	
Collect data for SRP connection status?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the status of the SRP connection to the wireless network, either: ◆ 0 -- SRP connection is down, or ◆ 100 -- SRP connection is up. The default is unselected.
Monitor number of failed SRP reconnects	
Event Notification	
Raise event if number of failed SRP reconnects exceeds threshold?	Select **Yes** to raise an event if the number of failed attempts to re-establish the SRP connection exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of failed SRP reconnects	Specify the maximum number of times that an attempt to re-establish a lost SRP connection to the wireless network can fail before an event is raised. The default is 2 times.
Event severity when number of failed SRP reconnects exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event if the number of attempts to re-establish a connection exceeds the threshold you set. The default is 5.

Parameter	How to Set It
Data Collection	
Collect data for number of failed SRP reconnects?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of times that an attempt to re-establish a lost SRP connection to the wireless network failed during the monitoring interval. The default is unselected.
Monitor number of seconds not connected to wireless network	
Event Notification	
Raise event if number of seconds not connected to wireless network exceeds threshold?	Select **Yes** to raise an event if the number of seconds that the SRP connection to the RIM wireless network was down exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of seconds not connected to wireless network	Specify the maximum number of seconds that the BlackBerry Enterprise Server was not connected to the wireless network because the SRP connection was down. If the threshold is exceeded, an event is raised. The default is 30 seconds.
Event severity when number of seconds not connected to wireless network exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event if the length of time the BlackBerry Enterprise Server was down exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of seconds not connected to wireless network?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the amount of time, in seconds, that the SRP connection to the RIM wireless network was down during the monitoring interval. The default is unselected.

3.19 SRPTest

Use this Knowledge Script to perform a Ping test of the Server Routing Protocol (SRP) connection between the BlackBerry server and the Research In Motion (RIM) wireless network.

SRP makes a TCP/IP connection to the wireless network to transmit e-mail messages to and from the wireless ISP. SRP is built on top of a TCP session between the BlackBerry Enterprise Server and an IP address.

An event is raised when the BlackBerry server SRP connection returns a non-zero exit code (meaning that a connection could not be established). The script can also raise an event if the Ping test is successful.

NOTE

- You should run this Knowledge Script only on Blackberry server.
- This script requires the BBSRPTest utility to run. If it is not installed in the default location, you need to supply a full path to its location.

3.19.1 Resource Object

BlackBerry Enterprise Server

3.19.2 Default Schedule

The default schedule is **Run once**.

3.19.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the SRPTest job fails. The default is 5.
Database login	To use SQL authentication, supply login information to access the BlackBerry Enterprise Server database. If left blank, Windows authentication is used. **NOTE:** SQL authentication information must already be configured in AppManager Security Manager.
Mirror database login	To use SQL authentication in a mirrored database environment, supply login information to access the BlackBerry Enterprise Server secondary database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Path and filename for BBSRPTest utility	Provide the path and filename for the BlackBerry utility required to run the Ping test. Leave blank to use the BlackBerry default path.
BBSRPTest utility timeout	Set a timeout value from 1 to 120 seconds. The script tries to locate the `BBSRPTest` utility (required to run the Ping test) until the timeout expires. The default is 20 seconds.
Raise event if Ping test succeeds?	Select **Yes** to raise an event if the Ping test to the BlackBerry server SRP connection is successful. The default is Yes.
Event severity when Ping test succeeds	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Ping test was successful. The default is 25.
Raise event if Ping test fails?	Select **Yes** to raise an event if the Ping test to the BlackBerry server SRP connection returns a non-zero exit code. The default is Yes.
Event severity when Ping test fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the Ping test returns a non-zero exit code. The default is 5.
Monitor SRP Ping status	
Data Collection	

Parameter	How to Set It
Collect data for SRP Ping status?	Select **Yes** to collect data for charts and reports. If enabled, returns the following: ◆ 100 -- SRP Ping test was successful ◆ 0 -- SRP Ping test failed. The default is unselected.

3.20 UserActivity

Use this Knowledge Script to monitor the activity of each user on a BlackBerry server. This script monitors, on a per-user basis, the number of messages forwarded to handheld devices, received from handheld devices, pending, expired, non-deliverable due to error, and filtered by the server during a monitoring interval. This script also monitors the total number of messages processed during the interval.

This script raises an event if a metric exceeds one of the thresholds you set.

If you have supplied a valid filename for the *File with list of users to monitor* parameter and you make any changes to that file, the changes will not take effect for that job. Nor can you start and stop the running job for the changes to take effect. You must instead create a new job using the modified file, because the file is read only when the UserActivity job is created. The values in the file are not updated until a new job is created.

NOTE: This script currently is not supported for use with BES 10 and later.

3.20.1 Resource Object

BlackBerry Server

3.20.2 Default Schedule

The default schedule is **Every hour**.

3.20.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the UserActivity job fails. The default is 5.
Database login	To use SQL authentication, supply login information to access the BlackBerry Enterprise Server database. If left blank, Windows authentication is used. **NOTE:** SQL authentication information must already be configured in AppManager Security Manager.

Parameter	How to Set It
Mirror database login	To use SQL authentication in a mirrored database environment, supply login information to access the BlackBerry Enterprise Server secondary database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Maximum number of users to record data streams for	Specify the maximum number of users to include when collecting data. When data collection is enabled, this script returns per-user statistics for each user on the server. This parameter sets an upper limit on the number of users for whom such data should be collected and returned. The default is 50 users.
File with list of users to monitor	Click **Browse** (...) to locate a file containing a list of the users you want to monitor with this script. The file should contain a list of the user names associated with the email accounts whose results you want to include in the event details. Separate each user name with a pipe (|).
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Monitor number of messages forwarded to handheld	
Event Notification	
Raise event if number of messages forwarded to handheld exceeds threshold?	Select **Yes** to raise an event if the number of messages forwarded to any handheld device by the monitored server exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of messages forwarded to handheld	Specify the maximum number of messages that can be forwarded to any handheld device by the monitored server before an event is raised. The default is 10 messages.
Event severity when number of messages forwarded to handheld exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of forwarded messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of messages forwarded to handheld?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of messages forwarded to each handheld device by the monitored server. The default is unselected.
Monitor number of messages sent from handheld	

Parameter	How to Set It
Event Notification	
Raise event if number of messages sent from handheld exceeds threshold?	Select **Yes** to raise an event if the number of messages sent from any handheld device exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of messages sent from handheld	Specify the maximum number of messages that can be sent from a handheld device to the BlackBerry Enterprise Server before an event is raised. The default is 10 messages.
Event severity when number of messages sent from handheld exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of sent messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of messages sent from handheld?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of messages sent from each handheld device to the BlackBerry Enterprise Server. The default is unselected.
Monitor number of messages pending to handheld	
Event Notification	
Raise event if number of messages pending to handheld exceeds threshold?	Select **Yes** to raise an event if the number of messages to any handheld device that are pending during the monitoring interval exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of messages pending to handheld	Specify the maximum number of messages to any handheld device that can be pending before an event is raised. The default is 5 messages.
Event severity when number of messages pending to handheld exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of pending messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for to number of messages pending to handheld?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of messages pending to each handheld device associated with the monitored server. The default is unselected.
Monitor number of expired messages	
Event Notification	
Raise event if number of expired messages exceeds threshold?	Select **Yes** to raise an event if the number of expired messages for any user exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of expired messages	Specify the maximum number of expired messages for any user that can be found on the monitored server before an event is raised. The default is 10 messages.
Event severity when number of expired messages exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of expired messages exceeds the threshold. The default is 5.
Data Collection	

Parameter	How to Set It
Collect data for number of expired messages?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of expired messages for each user on the monitored server. The default is unselected.
Monitor number of non-deliverable messages	
Event Notification	
Raise event if number of non-deliverable messages exceeds threshold?	Select **Yes** to raise an event if the number of undeliverable messages for any user on the monitored server exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of non-deliverable messages	Specify the maximum number of undeliverable messages that can be found for any user on the BlackBerry Enterprise Server before an event is raised. The default is 5 undeliverable messages.
Event severity when number of non-deliverable messages exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of undeliverable messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of non-deliverable messages?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of undeliverable messages per user on the monitored server. The default is unselected.
Monitor number of filtered messages	
Event Notification	
Raise event if number of filtered messages exceeds threshold?	Select **Yes** to raise an event if the number of messages for a user that were refused by the monitored server exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of filtered messages	Specify the maximum number of messages for any user that can be refused by the monitored server before an event is raised. The default is 10 filtered messages.
Event severity when number of filtered messages exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of refused messages exceeds the threshold you set. the default is 5.
Data Collection	
Collect data for number of filtered messages?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of messages for each user that were refused by the monitored server. The default is unselected.
Monitor total number of messages processed	
Event Notification	
Raise event if total number of messages processed exceeds threshold?	Select **Yes** to raise an event if the number of messages for any user that can be processed by the monitored server exceeds the threshold you set. The default is Yes.
Threshold -- Maximum total number of messages processed	Specify the maximum number of messages for any user that can be processed by the monitored server during any monitoring interval before an event is raised. The default is 50 messages.

Parameter	How to Set It
Event severity when total number of messages processed exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of processed messages exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for total number of messages processed?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the total number of messages for each user that were processed by the BlackBerry Enterprise Server during the monitoring interval. This total is the sum of the messages forwarded to handheld devices, sent from handheld devices, and filtered, on a per-user basis. The default is unselected.

3.21 UserCount

Use this Knowledge Script to report the total number of user connections and the percentage of licenses in use on your Blackberry environment.

3.21.1 Resource Object

BlackBerry Server

3.21.2 Default Schedule

The default schedule is **Every 24 hours**.

3.21.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the UserCount job fails. The default is 5.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.

Parameter	How to Set It
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Monitor number of users on a BlackBerry server	
Event Notification	
Raise event if number of users on a BlackBerry server exceeds threshold?	Select **Yes** to raise an event if the number of users on your BlackBerry environment exceeds the threshold you set. The default is Yes.
Threshold -- Maximum number of users on a BlackBerry server	Specify the maximum number of user connections allowed on your BlackBerry environment before an event is raised. The default is 1900 users.
Event severity when number of users on a BlackBerry server exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the number of users on your BlackBerry environment exceeds the threshold you set. The default is 5.
Data Collection	
Collect data for number of users on a BlackBerry server?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of users associated with the BlackBerry environment. The default is unselected.
Monitor percentage of licenses in use	
Event Notification	
Raise event if percentage of licenses in use exceeds threshold?	Select **Yes** to raise an event if the percentage of BlackBerry Enterprise Server licenses currently in use exceeds the threshold you set. The default is Yes.
Threshold -- Maximum percentage of licenses in use	Specify the maximum percentage of BlackBerry Enterprise Server licenses that can be in use before an event is raised. The default is 80%.
Event severity when percentage of licences in use exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the percentage of licenses in use exceeds the threshold. The default is 5.
Data Collection	
Collect data for percentage of licences in use?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the percentage of BlackBerry Enterprise Server licenses that are currently being used. The default is unselected.

3.22 UsersWithPendingMessages

Use this Knowledge Script to report on the percentage of all users whose handheld device accounts contain pending messages on a BlackBerry Enterprise Server. You can specify which users to monitor and can set a threshold for the maximum percentage of users with pending messages allowed on that server.

Any changes you make to the file specified in the *File with list of users to monitor* parameter while the job is running do not take effect for that job. Nor will the changes take effect if you start and stop the running job. You must instead create a new job using the modified file. Because the file is read-only when the UsersWithPendingMessages job is created, the values in the file are not updated until a new job is created.

NOTE: This script currently is not supported for use with BES 10 and later.

3.22.1 Resource Object

BlackBerry Server

3.22.2 Default Schedule

The default schedule is **Every 15 minutes**.

3.22.3 Setting Parameter Values

Set the following parameters as needed:

Parameter	How to Set It
General Settings	
Job Failure Notification	
Event severity when job fails	Set the event severity level, from 1 to 40, to indicate the importance of an event in which the UsersWithPendingMessages job fails. The default is 5.
Database login	To use SQL authentication, supply login information to access the BlackBerry Enterprise Server database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
Mirror database login	To use SQL authentication in a mirrored database environment, supply login information to access the BlackBerry Enterprise Server secondary database. If left blank, Windows authentication is used. **NOTE:** This information must already be configured in AppManager Security Manager.
File with list of users to monitor	Click **Browse** (...) to locate a file containing a list of the handheld device users you want to monitor with this script. The file should list the display names associated with the email accounts whose results you want to include in the event details. Place each display name on a separate line in the file.
Blackberry High Availability Notification	
Raise event when BlackBerry STANDBY mode detected?	Select Yes to raise an event when the BlackBerry Enterprise Server is in STANDBY mode. The default is unselected.
Event severity when BlackBerry STANDBY mode detected	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server is in STANDBY mode. The default is 15.
Raise event when BlackBerry STANDBY mode changed to PRIMARY mode?	Select **Yes** to raise an event when the BlackBerry Enterprise Server mode has changed from STANDBY to PRIMARY. The default is Yes.

Parameter	How to Set It
Event severity when BlackBerry mode changed to PRIMARY mode.	Set the severity level from 1 to 40 to indicate the importance of an event in which the BlackBerry Enterprise Server mode has changed to PRIMARY. The default is 15.
Monitor percentage of users with messages pending to handheld?	Select **Yes** to monitor the percentage of users on a BlackBerry server who can have messages pending and not yet sent to their handheld device. The default is Yes.
Event Notification	
Raise event if percentage of users with messages pending to handheld exceeds threshold?	Select **Yes** to raise an event if the percentage of users with messages pending and not yet sent to their handheld device exceeds the threshold you set. The default is Yes.
Threshold -- Maximum percentage of users with messages pending to handheld	Specify the maximum percentage of users associated with a BlackBerry server that can have messages pending before an event is raised. The default is 15%.
Event severity when percentage of users with messages pending to handheld exceeds threshold	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5.
Data Collection	
Collect data for percentage of users with messages pending to handheld?	Select **Yes** to collect data for charts and reports. If enabled, data collection returns the number of users associated with the BlackBerry server. The default is unselected.