



BlackBerry UEM

Monitoring and reporting

Administration

12.21

Contents

Monitoring and reporting in BlackBerry UEM.....	5
Manage dashboard reports.....	6
Creating event notifications.....	7
Create an event notification.....	7
Create a reusable schedule component for event notifications.....	7
Create a reusable distribution list for event notifications.....	8
Managing licenses for devices.....	9
View license information.....	9
Communicating with the licensing infrastructure.....	9
Licensing status.....	10
View unlicensed features.....	11
Change the expiration warning period.....	11
Generate a device report.....	12
Export an app deployment report to an HTML file.....	13
Export a BlackBerry Dynamics app report to a CSV file.....	14
Monitor the performance of BlackBerry Dynamics apps.....	15
View device-performance alert notifications.....	15
View a performance alert for a single device.....	15
View security log files for Android Enterprise devices.....	17
View mobile OS vulnerabilities.....	18
Using log files.....	19
Managing BlackBerry UEM log files.....	19
Configure global logging settings.....	19
Set a log level for individual BlackBerry UEM components.....	21
Configure per-user logging settings.....	21
Configure instance logging settings.....	21

Finding log files in an on-premises environment.....	22
Finding log files for a BlackBerry Connectivity Node.....	23
Reading log files.....	23
Reading .csv log files.....	23
Reading .txt log files.....	24
Log file levels.....	26
Using log files for troubleshooting.....	26
View device actions.....	28
Retrieving device logs.....	29
Get device logs using a BlackBerry UEM command.....	29
Send log files from the BlackBerry UEM Client.....	29
Send log files from the BlackBerry UEM App Catalog.....	29
Logging phone call and SMS/MMS activity.....	30
Log phone call and SMS/MMS activity.....	30
Troubleshooting: SMS/MMS log files.....	30

Auditing events in BlackBerry UEM..... 32

Configure audit settings.....	32
View and filter the administrator audit events.....	33

Monitoring BlackBerry UEM using SNMP tools..... 34

Supported SNMP operations.....	34
System requirements: SNMP monitoring.....	35
MIBs for BlackBerry UEM.....	35
Compile the MIB and configure the SNMP management tool.....	36
Configure SNMP to monitor components.....	36
SNMP counters for enterprise connectivity.....	37
SNMP counters for BlackBerry UEM Core.....	54
SNMP counters for BlackBerry Secure Connect Plus.....	57

Send system events to a SIEM solution..... 59

Legal notice..... 60

Monitoring and reporting in BlackBerry UEM

You can create event notifications, generate reports from the dashboard and the user list, manage licenses for devices, and monitor BlackBerry Dynamics app performance in BlackBerry UEM

You can also monitor the status of BlackBerry UEM using log files, audit log files, and SNMP tools.


The following table summarizes the administration tasks that are covered in this guide.

Task	Description
Manage dashboard reports.	On the dashboard, you can view information from the UEM services about users and devices on your system.
Create event notifications.	You can set up event notifications to alert administrators by email about certain UEM events.
Manage licenses.	You can manage the licenses for devices within your organization.
Generate a device report.	You can generate a device report to view detailed information about each device that is associated with UEM.
Export a BlackBerry Dynamics app report to a CSV file.	You can export BlackBerry Dynamics app activity or compliance-violation data from the management console.
Monitor the performance of BlackBerry apps.	You can monitor the performance of the BlackBerry Work and BlackBerry Connect apps.
View mobile OS vulnerabilities.	You can view a list of the Common Vulnerabilities and Exposures (CVE), as identified, defined, and tracked by the National Vulnerability Database , for Android and iOS devices that are used in your organization's environment.
Manage and use log files.	You can use log files to identify and troubleshoot issues with the UEM components or devices in your organization's environment.
Audit events in UEM.	If you have UEM on-premises, administrator and security audit events are saved in log files.
Use SNMP tools to monitor UEM.	If you have UEM on-premises, you can use third-party SNMP tools to monitor the activity of several UEM components.
Send system events to a SIEM solution.	If you have UEM on-premises, you can add a SIEM connector and send UEM system events to your organization's SIEM software.

Manage dashboard reports

The dashboard uses graphs to present information from the BlackBerry UEM services about users and devices on your system. You can hover the cursor over a data point to see information about the users or devices.

If you need more information, you can display a report from the graph to see detailed information about users or devices. The maximum number of records in a report is 2000. You can generate a .csv file from a report and export the file for further analysis or reporting purposes.

- To open and manage a user account, click the user or device in a report.
- To change the type of graph, click  beside a graph and select a type of graph from the drop-down list.
- To export a dashboard report to a .csv file:
 1. To open a report, click a graph.
 2. To sort the records based on the column selected, click a column header.
 3. Click **Export**.

Creating event notifications

You can set up event notifications to alert administrators by email about certain BlackBerry UEM events.

Each event notification is associated with an email distribution list, a schedule, and an email template. You can create distribution lists that include individual email addresses, recipients with certain administrator roles, or recipients that belong to certain groups. Schedules define the days of the week and times of day that notifications are sent. Email templates define the content of email notifications.

Create an event notification

Before you begin: If you don't want to use the default event notification email, [create an event notification email template](#).

1. In the management console, on the menu bar, click **Settings > General settings**.
2. Click **Event notifications**.
3. On the **Event notifications** tab, click **+**.
4. Select one event type.
5. Click **Next**.
6. In the **Date/time to send email notification** drop-down list, select one of the following options:
 - **Always after an event:** Email notifications are sent whenever the event occurs.
 - Any preconfigured schedule in the list.
 - **Add new scheduler:** Create a schedule and click **Save**.
7. In the **Recipients** field, select one of the following options:
 - **Add new distribution list:** Create a distribution list and click **Save**.
 - Any preconfigured distribution list.
8. In the **Email template** drop-down list, select the email template that you want to use for the event notification.
9. In the **Status** drop-down list, select **On** to enable the event notification or **Off** to disable the event notification.
10. Click **Preview email** to see the event notification email and the list of recipients.
11. Click **Save**.

After you finish: To disable an event notification without deleting it, click on the event notification, and in the **Status** drop-down list, click **Off**. Click **Save**.

Create a reusable schedule component for event notifications

You can configure the schedule components to associate with event notifications. Event notifications are sent only for events that occur during the days and hours defined in the schedule.

1. In the management console, on the menu bar, click **Settings > General settings**.
2. Click **Event notifications**.
3. On the **Schedule components** tab, click **+**.
4. Type a name for the schedule.
5. Select the days of the week to send notifications.
6. Select one of the following options:

- If you select the **All day event** check box, notifications are sent at any time.
- If you deselect the **All day event** check box, you must select the hours each day that notifications are sent. Notifications are sent only for events that occur within these hours.

7. Click **Save**.

Create a reusable distribution list for event notifications

You can create distribution lists to associate with event notifications. Distribution lists can include user groups, administrator roles, and individual email addresses.

1. In the management console, on the menu bar, click **Settings > General settings**.
2. Click **Event notifications**.
3. On the **Distribution list** tab, click **+**.
4. Type a name for the distribution list.
5. If you want to include individual email addresses, click **+** in the **Email recipients** section, type an email address and click **Save**.
6. If you want to include administrators that belong to a group, select one or more groups in the **Available user groups** list and click **➔**.
7. If you want to include administrators that have a particular role, select one or more roles from the **Available user roles** list and click **➔**.
8. Click **Add**.

Managing licenses for devices

Licenses control the number of devices that your organization can activate with BlackBerry UEM and BlackBerry UEM Cloud. Some licenses also give your users access to other BlackBerry software such as BlackBerry Enterprise Identity, BlackBerry 2FA, and BlackBerry Dynamics apps. On the Licensing summary page in the management console, you can:

- View license information for each license type
- Monitor licensing status and review warnings or errors
- Identify and correct license compliance issues

For more information on available licenses, [see the Licensing content](#).

To manage licenses in UEM, the administrator account that you use must be assigned a role with the appropriate permissions. UEM administrators require the following permissions:

- View licensing summary
- Edit licensing settings

BlackBerry UEM Cloud administrators require only the View licensing summary permission.

The preconfigured roles in UEM have different permissions turned on by default. The Security Administrator role and the Enterprise Administrator role have licensing permissions.

View license information

You can view license information for your organization. The management console displays license information based on the last snapshot of the license pool in the licensing infrastructure.

If you remove features from users or devices or deactivate devices, the changes will appear immediately on the user's Device tab, but they will not appear on the Licensing summary page until BlackBerry UEM takes a new snapshot of the license pool in the licensing infrastructure.

The Licensing summary displays the licenses in use across all on-premises and cloud instances in your organization. Each license type displays a warning if it will expire soon. By default, the warning appears 28 days before licenses expire. If you renew licenses, the new expiration date will appear in the Licensing summary after the existing licenses expire.

If the Licensing summary page does not display any license information, the connection to the licensing infrastructure is not available.

1. In the management console, on the menu bar, click **Settings > Licensing**.
2. View the following license information for each license type:
 - Total in use: This is the number of identity-based and server licenses in use.
 - SIM license: This is the number of identity-based licenses in use.
 - Server license: This is the total number of server licenses, the number of available licenses, the number of licenses in use, and the license expiration dates.

After you finish: To view license information for a device, go to the appropriate device tab for a user account.

Communicating with the licensing infrastructure

When you view the Licensing summary page in the management console, the license information is based on the last snapshot of your organization's license pool in the licensing infrastructure.






On the Licensing settings page, you can view the last contact time with the licensing infrastructure.




BlackBerry UEM contacts the licensing infrastructure for the following events:

Level	Event	Activity
User	<ul style="list-style-type: none"> • Activate or deactivate a device • Add or remove a feature 	<p>License information is updated only for the user.</p> <p>The changes will not appear on the License summary page until BlackBerry UEM takes a new snapshot of the license pool in the licensing infrastructure.</p>
Organization	<ul style="list-style-type: none"> • Obtain more licenses • Service is out of compliance • Scheduled contact (once a day) 	<p>The license pool is adjusted to optimize license usage and license information is updated for the organization. As a result, license usage may change for multiple users and license types.</p> <p>BlackBerry UEM takes a new snapshot of the license pool in the licensing infrastructure.</p>

Licensing status

If a licensing issue requires your attention, a warning or error icon appears on the menu bar in the management console. If more than one issue exists, the icon for the most serious issue appears. You can monitor licensing status and review warnings or errors on the Licensing summary page.

Message	Icon	Description
Licensing infrastructure	 OK	<p>BlackBerry UEM successfully contacted the licensing infrastructure the last time that it tried to connect. You can view the last contact time on the Licensing settings page.</p> <p>This message is not displayed in BlackBerry UEM Cloud.</p>
Licensing infrastructure - Unable to connect	 Error	<p>BlackBerry UEM could not contact the licensing infrastructure. Verify that your organization's firewall allows outbound connections over port 3101 (TCP).</p> <p>This message is not displayed in BlackBerry UEM Cloud.</p>
Overall compliance status	 OK	<p>There are no licensing issues that require your attention.</p>
In grace period, <i>x</i> days remaining	 Warning	<p>When usage is exceeded for one or more device types, features, or services, BlackBerry UEM starts a grace period for the applicable service to give you time to correct the license compliance issues. The message indicates the number of days that remain until the grace period ends.</p>
Out of compliance	 Error	<p>When the grace period ends and one or more license compliance issues still exist, the organization is out of compliance for the applicable service.</p>

Message	Icon	Description
Licenses will expire soon	 Warning	Trial, subscription, or term licenses will expire soon. You can view the expiration dates for each license type.
Trial expires in x days	 Warning	When the organization has trial licenses for a single trial period, BlackBerry UEM indicates the number of days that remain until the trial period ends. BlackBerry UEM displays this message if the organization has only trial licenses.
Next trial expires in x days	 Warning	When the organization has trial licenses for multiple trial periods, BlackBerry UEM indicates the number of days that remain until the first trial period ends. BlackBerry UEM displays this message if the organization has only trial licenses.

View unlicensed features

Unlicensed features are tracked at the organization level, so you can view the list of unlicensed features when you log in to any BlackBerry UEM domain or BlackBerry UEM Cloud tenant. When the UEM service is in grace period or out of compliance, you can use the list of unlicensed features to help you identify license compliance issues.

1. In the management console, on the menu bar, click **Settings > Licensing**.
2. Click **View unlicensed features** to view the following information:
 - Activation type or licensed feature: Each row displays a unique feature set which can include activation type, licensed feature, or both.
 - Number of non-compliant users: This is the number of users without a valid license that are associated with a feature set.


Change the expiration warning period

You can change the expiration warning period to customize when the BlackBerry UEM management console displays a warning that licenses will expire soon.

1. In the management console, on the menu bar, click **Settings > Licensing > Licensing settings**.
2. In the **License expiration warning** drop-down list, click the appropriate warning period.
3. Click **Save**.

Generate a device report

You can generate a device report to view detailed information about each device that is associated with BlackBerry UEM.


1. In the management console, on the menu bar, click **Users > Managed devices**.
2. Search for a user account.
3. In the search results, click the name of the user account.
4. Select the device tab.
5. In the **Manage device** section, click **View device report**.
6. To save the device report to a file on the computer, click .

Export an app deployment report to an HTML file

You can export app deployment reports for apps, including BlackBerry Dynamics apps, to an .html file from the Apps screen in the management console. The report includes information about apps deployed by BlackBerry UEM and the users that currently have the apps installed on their devices. For example, you can find device information about all users that have a specific app, including the device ID, model, OS version, and installation status.

You can choose the apps that you want to include in a report. Each app that you choose to include in the report is given a separate section listing its app version information and the device information for each user that has the app installed.

Note: For iOS devices with the User privacy activation type, the report lists all devices that the app has been assigned to. BlackBerry UEM can't confirm if the app is still installed on the device when the report is generated.

1. In the management console, on the menu bar, click **Apps > Apps**.
2. For each app that you want to include in the report, select the check box beside the app. To select all apps, select the check box at the top of the apps list.
3. Click .

Export a BlackBerry Dynamics app report to a CSV file

When BlackBerry UEM and BlackBerry Dynamics are integrated, you can export BlackBerry Dynamics app activity or compliance-violation data from the management console. You can use this information to take action on inappropriate or suspicious activity. App activity reports include app activity data for each BlackBerry Dynamics app (for example, app version information, activation date, and the last contact with the server). Compliance-violation reports include compliance-violation data for each app (for example, the policy rules that were violated and when the violation occurred).

If you export a report from BlackBerry UEM Cloud, each report has a limit of 5000 records. In an on-premises environment, the default number of records is 5000. You can change the limit in the BlackBerry Dynamics global properties.

1. In the management console, on the menu bar, click **Settings > BlackBerry Dynamics > Reporting**.
2. In the **Export data to .csv** section, select the type of report that you want to export:
 - **BlackBerry Dynamics app activity**
 - **BlackBerry Dynamics app compliance violations**
3. Click **Export**.

Monitor the performance of BlackBerry Dynamics apps


You can monitor the performance of the BlackBerry Work and BlackBerry Connect apps and choose the issues that you want to be reported.

To enable BlackBerry Work or BlackBerry Connect monitoring, you must edit the app configuration that is assigned to it.

1. In the management console, on the menu bar, click **Apps**.
2. Click the BlackBerry Work or BlackBerry Connect app that you want to monitor.
3. On the BlackBerry Dynamics tab, in the **App configuration** table, click the name of the app configuration that you want to edit.
4. On the **Performance Reporting** tab, configure any of the following:
 - To specify whether to monitor the performance of the app, select **Enable Performance Reporting**.
 - To specify whether to report HTTP connection errors between the app and the specified application servers, select **HTTP Connection Error**.
 - To specify whether to report HTTP responses that are taking longer than the specified time, select **HTTP Response Time** and type the application server addresses to monitor.
 - To specify whether to report a specified HTTP status code, select **HTTP Status Code** and type the application server addresses to monitor.
 - To wait a certain amount of time before sending another report, select **Don't send reports for duration (in seconds)** and type the amount of time.
5. Click **Save**.

View device-performance alert notifications

Before you begin: [Monitor the performance of BlackBerry Dynamics apps](#).

1. In the management console, on the menu bar, click **Audit and logging > Device performance**.
2. Choose a date range and click **View**.
3. Under **Filters**, click a category to expand it.
4. Select the filters that you want to apply and click **Submit**.
5. If necessary, do one of the following:
 - To remove a filter, click **X** beside the filter that you want to remove.
 - To clear all filters, click **Clear all**.
6. To export the results to a .csv file, click .

View a performance alert for a single device

Instead of viewing a list of performance alerts based on date and alert type, you can also view all of the performance alerts for a single device in the last 24 hours. If there are performance alerts for a device, a caution icon appears on the device tab and a message is displayed that tells you how many alerts have been detected on the device.

Before you begin: [Monitor the performance of BlackBerry Dynamics apps](#)

1. In the management console, on the menu bar, click **Users > Managed devices**.

2. Search for a user account.
3. In the search results, click the name of the user account.
4. Select the device tab for the device that you want to view alerts for. A device with performance alerts or compliance violations is flagged with a caution icon.
5. If there are performance alerts for the device, click **View all** beside the performance alert message to view the list of performance alerts for that device.

View security log files for Android Enterprise devices

In BlackBerry UEM on-premises, you can view security logs for Android Enterprise devices that have been activated using an Android Enterprise activation type.

Note: If you are using BlackBerry UEM Cloud and you want to use this feature, contact BlackBerry support.

Before you begin: Enable the "Send security logs to UEM" rule in the IT policy that is assigned to the users.

1. In the management console, on the menu bar, click **Audit and logging > Android security**.
2. Choose a date range and click **View**.
3. Under **Filters**, click a category to expand it.
4. Select the filters that you want to apply and click **Submit**.
5. If necessary, do one of the following:
 - To remove a filter, click **X** beside the filter that you want to remove.
 - To clear all filters, click **Clear all**.
6. To search for a specific user, use the **Username** field.



View mobile OS vulnerabilities

You can view a list of the Common Vulnerabilities and Exposures (CVE), as identified, defined, and tracked by the [National Vulnerability Database](#), for Android and iOS devices that are used in your organization's environment. For each OS version, you can view the number of devices that use that version, the total CVE count for that OS version, the risk classification and brief description of each CVE, and a link to view full details in the National Vulnerability Database.

UEM checks and updates the CVE data for all devices in your environment the day after a UEM upgrade, and every 15 days. If users perform actions to resolve CVE issues on devices (for example, upgrading their OS), or actions to increase the count of CVE issues, the updated CVE data will not be reflected in the device vulnerabilities view and your CVE search results until UEM checks and updates the data.

Note that when a new device is activated on UEM, the CVE data related to that specific device is reflected in the device vulnerabilities view and in CVE search results within 15 minutes.

1. In the management console, on the menu bar, click **Users > Device vulnerabilities**.
2. Do any of the following:

Task	Steps
Search for specific CVE results.	In the search field, specify the search criteria. When you search for a specific CVE number, you can see the device operating systems that are impacted by that CVE.
Select the data that you want to view.	Click  and select the desired columns.
Sort the data.	Click a column to sort the data in ascending or descending order.
Apply filters to the data.	<ol style="list-style-type: none">a. Expand Filters and select the filter criteria.b. Click Submit.
View CVE details.	<ol style="list-style-type: none">a. Click a link under a CVE severity column (Critical, High, Medium, Low) to view a list of the specific CVEs for an OS version, or click a link under the Total CVE column to view a list of all the vulnerabilities for an OS version.b. In the CVE column, click a link to view details in the National Vulnerabilities Database.
View the details for affected devices.	Click a link under the Affected devices column. The filters are set to view the affected devices only.
Export the data to a CSV file.	Click  .

Using log files

You can use log files to identify and troubleshoot issues with the BlackBerry UEM components or devices in your organization's environment. The UEM logging capabilities allow you to:

- Track the activity of the UEM components using the server logs
- Send UEM log file data to a syslog server or to a text file
- Retrieve log files from Android devices
- Audit phone call and SMS activity on Android devices

Managing BlackBerry UEM log files

The features for managing log files described in this section are available in an on-premises environment but are not available in BlackBerry UEM Cloud.

The size of the log files varies depending on the number of users and devices in your UEM environment and their level of activity. If you have UEM on-premises, it is a best practice to monitor and control the amount of disk space used by the log files. To prevent them from taking up too much disk space, you can specify a maximum file size and debug level for the log files.

You can configure logging settings at the following levels:

- **Global logging settings:** These settings apply to all the UEM instances in your organization that share the same database. These settings include the destination of the syslog messages and the maximum size for the log files.
- **Per-user logging settings:** These settings allow you to enable payload logging for individual user accounts for a specified length of time for troubleshooting purposes.
- **Instance logging settings:** These settings apply only to the UEM instance that you select and they override global settings. These settings include enabling the option of a local location for log files and logging level.

Configure global logging settings

These settings are not included in BlackBerry UEM Cloud.

1. In the management console, on the menu bar, click **Settings > Infrastructure > Logging**.
2. Expand **Global logging settings** and configure the following settings as required for your organization's environment:

Task	Steps
Route system events to a syslog server.	<ol style="list-style-type: none">a. Select the SysLog checkbox.b. Type the host name and port number for the seyslog server where you want to route the BlackBerry UEM log events.
Specify a location on the server instance where the BlackBerry UEM component log files are stored.	Select the Enable local file destination checkbox.
Enable the ability to compress the folder containing the log files.	Select the Enable logging folder compression checkbox.

Task	Steps
Enable advanced logging of server-to-device communications for troubleshooting.	Select the Enable MDM payload logging checkbox. Note: You can choose to enable MDM payload logging only for specific user accounts. For more information, see Configure per-user logging .
Enable payload logging for the BlackBerry Dynamics infrastructure.	Select the Enable CAP payload logging checkbox.
Enable the ability to audit only UEM/SQL communication without enabling debug logging.	Select the Enable SQL logging checkbox.
Enable the logging of REST calls outbound from BlackBerry UEM Core.	Select the Enable HTTP payload logging checkbox.
Set a maximum size limit for the BlackBerry UEM component log files.	In the Maximum server log file size field, specify the maximum size, in MB, that each log file can reach. When a log file reaches the maximum size, BlackBerry UEM starts a new instance of the log file.
Set the maximum server log file age for the BlackBerry UEM component log files.	In the Maximum server log file age field, specify the maximum number of days to keep the server log files before they are deleted. If you do not specify a value, the log files are not deleted.
Specify a network destination path for Android device log files.	In the Device log network location field, type the UNC path where you want to store activity log files that you retrieve from devices using the management console.
Specify the maximum device app audit log file size.	In the Maximum device app audit log file size field, specify the maximum size, in MB, that the device app audit log file can reach.
Specify the maximum device app audit log file age.	In the Maximum device app audit log file age field, specify the maximum number of days to keep the device app audit log files before they are deleted. If you do not specify a value, the log files are not deleted.
Specify an override for a service that is being logged.	To add an override: a. In the Service logging override table, click + and select a service. b. From the Logging Level drop-down list, select the logging level. To delete an override, click X next to the service.

3. Click **Save**.

Set a log level for individual BlackBerry UEM components

To help aid in troubleshooting and to prevent performance impact due to excess log file generation, you can enable individual BlackBerry UEM components to write to log files at different information levels. For example, you can configure the BlackBerry UEM Core to generate log files at the Debug level, and leave the rest of the components to generate log files at the Info level.

1. In the management console, on the menu bar, click **Settings > Infrastructure > Logging**.
2. Expand **Global logging settings**.
3. In the **Service logging override** section, click **+**.
4. Select a UEM component.
5. From the **Logging level** drop-down list, select a logging level.
6. Click **Save**.

After you finish: If necessary, you can override these settings. For more information, see [Change the default settings for BlackBerry Connectivity Node instances](#) and [Create a server group](#) in the Installation content.

Configure per-user logging settings

To help aid in troubleshooting and to prevent performance impact due to excess log file generation, you can enable MDM payload logging for specific user accounts.

For information about enabling MDM payload logging for all users, see [Configure global logging settings](#).

1. In the management console, on the menu bar, click **Settings > Infrastructure > Logging**.
2. Expand **Per-user logging**.
3. In the **Add a user** search field, search for the user account that you want to enable logging for. You can add up to 16 users.
4. From the **Expiration** drop-down list, select the length of time to enable logging for that user.
5. Click **Save**.

Configure instance logging settings

1. In the management console, on the menu bar, click **Settings > Infrastructure > Logging**.
2. Expand the server instance that you want to configure.
3. Configure the following settings as required for your organization's environment:

Task	Steps
Specify the location where the BlackBerry UEM component log files are stored.	<p>In the Server log path field, type the path where you want to store the server log files. By default, log files are stored in <code>C:\Program Files\BlackBerry\UEM\Logs\yyyymmdd</code>.</p> <p>Note: You must select the Enable local file destination checkbox in the global logging settings before you can change this setting.</p>

Task	Steps
Set the level of detail included in the log files.	<p>In the Log debug levels drop-down list, select one of the following:</p> <ul style="list-style-type: none"> • Info: Write daily activities, warning, and error messages to the log file. • Warn: Write warning and error messages to the log file. Warning messages are unexpected events that may require you to take action. • Error: Write all error messages to the log file. When an error condition appears, typically you must take action. • Debug: Write information required only to debug a problem. <p>By default, the debug level is set to Info.</p>
Specify the folder for the Android device app audit log files.	<p>In the Device app audit log path field, type the path where you want to store device app audit log files.</p>
Set a maximum size limit for the device app audit log file.	<p>In the Maximum app audit log size field, specify the maximum size, in MB, that the device app audit log files can reach.</p> <p>When a log file reaches the maximum size, BlackBerry UEM starts a new instance of the log file.</p>

4. Click **Save**.

Finding log files in an on-premises environment

By default, a server log file is created for each on-premises BlackBerry UEM component and is stored daily on the computer where the component is installed. If you install multiple UEM instances, each computer creates its own log files. UEM names the log files `<server_name>_<component_identifier>_<yyyymmdd>_<log_number>.<file extension>` (for example, `BBServer01_MDAT_20140730_0001.txt`).

The following log files are available in an on-premises UEM solution:

- Log files for components used to manage iOS, Android, and Windows devices.

Log files are:

- ACCS - Tomcat access log files for BlackBerry UEM Core
- BGS - BlackBerry Gatekeeping Service log files
- BP - BlackBerry Proxy service log files
- BSG - BlackBerry Secure Gateway log files
- CORE - BlackBerry UEM Core log files
- EVNT - BlackBerry UEM Core event log files
- TMCT - Tomcat server log files for BlackBerry UEM Core
- UI - BlackBerry UEM management console log files

Additional log files are created when you first install UEM.

By default these log files are stored in `<drive>:\Program Files\BlackBerry\UEM\Logs\<date or folder name>`

- Log files used for BlackBerry Secure Connect Plus are:

- BSCP - BlackBerry Secure Connect Plus log files which log data for connections with the BlackBerry Secure Connect Plus app
- BSCP-TS - BlackBerry Secure Connect Plus core log files which log data about the BlackBerry Secure Connect Plus component
- Log files for BBM logs, phone logs, PIN to PIN logs, SMS/MMS logs, and video chat logs are stored in .csv format and are used to audit app activity.

By default, app audit log files for Android devices are stored in *C:\Program Files\BlackBerry\UEM\Logs*.

Finding log files for a BlackBerry Connectivity Node

By default, several log files are created for each BlackBerry Connectivity Node and stored daily on the computer where the BlackBerry Connectivity Node is installed.

The following log files are available in the BlackBerry Connectivity Node:

- Log files for components used to manage iOS, Android, and Windows devices.

Log files are:

- BCC - BlackBerry Cloud Connector log files
- BCC-ACCS - Tomcat access log files for BlackBerry Connectivity Node
- BCC-TMCT - Tomcat server log files for BlackBerry Connectivity Node
- BGS - BlackBerry Gatekeeping Service log files
- BP - BlackBerry Proxy service log files
- BSG - BlackBerry Secure Gateway log files

By default these log files are stored in *<drive>:\Program Files\BlackBerry Connectivity Node\Logs\<date or folder name>*

- Log files used for BlackBerry Secure Connect Plus are:
 - BSCP - BlackBerry Secure Connect Plus log files which log data for connections with the BlackBerry Secure Connect Plus app
 - BSCP-TS - BlackBerry Secure Connect Plus core log files which log data about the BlackBerry Secure Connect Plus component

Reading log files

BlackBerry UEM log files are saved in two formats, comma-separated value and text files.

BlackBerry Messenger contact and message, phone call, PIN, SMS, and video chat logs are stored in CSV format.

All other log files are stored in TXT format.

Reading .csv log files

Comma-separated log files contain different information depending what component, what device, or what device app, they log information for. An example of log files in .csv format is the device app audit files, such as the BBM or Phone call log.

You can identify information contained in .csv log files because each log line presents information in a simple and consistent manner, for example, each line in the SMS log file will present information in the following format:

```
Name.ID,"Email Address","Type of Message","To","From","Callback Phone
Number","Body","Send/Received Date","Server Log Date","Overall Message
Status","Command","UID"
```

Each line in a Phone log file uses the following format:

```
Name.ID,"Type of Call","Name","Phone Number","Start Date","Server Log
Date","Elapsed Time","Memo","Command","UID","Phone Line"
```

Reading .txt log files

Log files stored as .txt files have two basic formats:

- The first format is the most common and usually starts with the date and time, providing information in the following manner:

```
DateTime Appname ProcessID LoggingFeature LoggingComponent StructuredData
LogLevel Message
```

For example:

```
2019-04-23T13:16:56.883+0100 - CORE {wff-thread-37} none|none [{{Correlation-
Id,b417051d-13c3-4a29-95f2-512c48b2b018}}{Method,POST}{Uri,/tomcat/startup}
{host,computer.example.com}}] - INFO Discrete snapin load finished
```

- The second format, starting with a numerical level indicator, provides information in the following manner:

```
Level Date Thread CID Message
```

For example:

```
<#03>[30000] (09/10 00:00:00.122):{0x520} [DIAG] EVENT=Thread_report,
THREADID=0x1390, THREADNAME="SRPReceiverHandler"
```

There may be some variation, based on the component or function that is being logged, but all log files stored as .txt files contain the following basic information.

Item	Description
Date or Timestamp	A timestamp in of the form <Date><Time><difference from UTC>. The Date/Time indicates the date and time of a particular event. The date and time stamp are in the local server time.
Hostname or component identification	Component identification, or hostname, tells you which component that the log file is for. In some cases, this is clear, such as CORE, in others it is less clear, using a numerical identifier.
Appname	The Appname is the same for all log files and is shown as MDM.

Item	Description
ProcessID or Thread	<p>Represents the Java Thread Id of the thread which is currently logging a message. For example:</p> <pre>localhost-startStop-1</pre>
MessageID	<p>The MessageId identifies the type of message being sent to the log file. It is a combination of the feature and component being logged using the format <feature> <component>. For example:</p> <pre>admin.application.management appmgmt</pre>
StructuredData	<p>Zero or more name value pairs which represent structured data. For example:</p> <pre>[{ {requestId, 543ade23} {myContextInfo, runningContext} }]</pre>
Message	<p>The message indicates the activity and describes the nature of the event. A message could include information about the hardware or software running, or the problem that is occurring. For example:</p> <pre>INFO Total 2 routes, of which 2 is started.</pre>
Level	<p>The event level indicates the type of log entry. Commonly, events will fit into one of the following categories:</p> <ul style="list-style-type: none"> • ERROR = Error • WARN = Warning • INFO = Informational • ENV = Environmental • DEBUG = Debug • Other: DIAG = Diagnostic <p>In some log files, the level is shown with a numerical value, in the following format:</p> <ul style="list-style-type: none"> • [10000] = Error • [20000] = Warning • [30000] = Informational • [40000] = Debug • [50000] = Other

Log file levels

Level	Description
DEBUG	<p>This level specifies information that is valuable for debugging coding issues. Events can include the following:</p> <ul style="list-style-type: none">• States of suspect resources in error conditions• Transitions between internal and external components• REST requests to the BlackBerry UEM Core• Requests to Microsoft Active Directory
ERROR	<p>This level specifies an error condition that requires you or a support specialist to take action. Events can include the following:</p> <ul style="list-style-type: none">• Encoding exceptions• Data level exceptions• Recoverable coding exceptions
INFO	<p>This level specifies normal system events that administrators or support specialists might want to see.</p> <p>This level is the default log level for BlackBerry UEM.</p>
WARN	<p>This level can indicate a warning condition, that action might be required, or an unexpected event might have occurred. Events can include the following:</p> <ul style="list-style-type: none">• Inconsistent data• Unexpected requests• Authorization failures• Authentication failures

Using log files for troubleshooting

Component identifier	Logging component	Description
ACCS	Apache Tomcat server access log files	<p>The Apache Tomcat ACCS log files record all requests for access to the BlackBerry UEM web services.</p> <p>You can use these log files when you want to check access requests to the BlackBerry UEM web services for success or failure.</p>
BCC	BlackBerry Cloud Connector	<p>Logs data about the BlackBerry Cloud Connector component. You can use these log files to verify that BlackBerry Cloud Connector is connected to the BlackBerry Infrastructure.</p>

Component identifier	Logging component	Description
BGS	BlackBerry Gatekeeping Service	<p>You can use these log files when troubleshooting issues with:</p> <ul style="list-style-type: none"> • Devices that cannot activate in an environment where the BlackBerry Gatekeeping Service is in use • Connectivity to your BlackBerry Gatekeeping Service • Connectivity between BlackBerry UEM and the BlackBerry Infrastructure • The sending of policies and profiles • iOS and Android connectivity
BP	BlackBerry Proxy	<p>Logs connection traffic between BlackBerry Dynamics containers and endpoints such as a Microsoft Exchange server.</p>
BSCP	BlackBerry Secure Connect Plus	<p>Logs data about the BlackBerry Secure Connect Plus component.</p> <p>You can use these log files to verify that BlackBerry Secure Connect Plus is connected to the BlackBerry Infrastructure. For example:</p> <pre>2015-01-19T13:17:47.540-0500 - BSCP {TcpClientConnectorNio#2} logging.feature.bscp.service logging.component.bscp.pss.bcp [{}] - DEBUG Received Ping from [id: 0x60bce5a3, /192.0.2.0:28231 => bcp.example.com/192.0.2.124:3101], responding with Pong. 2015-01-19T13:18:22.989-0500 - BSCP {ChannelPinger#1} logging.feature.bscp.service logging.component.bscp.pss.bcp [{}] - DEBUG Sending Ping to [id: 0xb4a1677a, /192.0.2.0:28232 => bcp.example.com/192.0.2.124:3101]</pre>
BSCP-TS	BlackBerry Secure Connect Plus core	<p>Logs data for connections with the BlackBerry Secure Connect Plus client.</p> <p>You can use these log files to verify that BlackBerry Secure Connect Plus is ready to receive calls from the BlackBerry Secure Connect Plus client on devices. For example:</p> <pre>47: [14:13:21.231312][3][AsioTurnSocket-1] Connected, host=68-171-243-141.rdns.blackberry.net 48: [14:13:21.239312][3][AsioTurnSocket-1] Creating TURN allocation 49: [14:13:21.405121][3][AsioTurnSocket-1] TURN allocation created</pre> <p>Use to verify that devices are using the secure tunnel. For example:</p> <pre>74: [10:39:45.746926][3][Tunnel-2FFEC51E] Sent: 2130.6 KB (1733), Received: 201.9 KB (1370), Running: 00:07:00.139249</pre>

Component identifier	Logging component	Description
BSG	BlackBerry Secure Gateway	You can use these log files when troubleshooting issues with: <ul style="list-style-type: none"> • iOS devices that can't send or receive email messages • Connectivity between BlackBerry UEM and the BlackBerry Infrastructure • Connectivity between the BlackBerry Infrastructure and the Microsoft Exchange or Microsoft 365 mail server
CORE	BlackBerry UEM Core	You can use these log files when troubleshooting issues with: <ul style="list-style-type: none"> • Core services or transactions • BlackBerry 2FA transactions • Data migration from BES10
EVNT	BlackBerry UEM Core	You can use these log files to find notifications about specific events in the BlackBerry UEM Core.
TMCT	Apache Tomcat server log files	The Apache Tomcat TMCT log files record all activities of the Apache Tomcat web services. You can use these log files when troubleshooting issues with the management console.
UI	Management console	You can use these log files when troubleshooting issues with the management console.

View device actions

Actions that were taken or are in progress on a device as a result of commands that you sent from the BlackBerry UEM management console, such as locking a device, disabling the work space, or deleting device data.

Availability of these commands depends on the device and activation type.

The status of a device command can be:

- Command canceled
- Command completed by device
- Command delivered to device
- Command delivery acknowledged by device
- Command failed
- Command in progress
- Notification acknowledged by device
- Notification sent to device
- Queued

1. In the management console, on the menu bar, click **Users > Managed devices**.
2. Search for a user account.
3. In the search results, click the name of a user account.
4. Click the tab for the device that you want to view the device actions for.

5. Click **View device actions**.

Retrieving device logs

You can retrieve log files from devices in three ways:

- [Get device logs using a BlackBerry UEM command](#)
- [Send log files from the BlackBerry UEM Client](#)
- [Send log files from the BlackBerry UEM App Catalog](#)

Get device logs using a BlackBerry UEM command

In an on-premises environment, you can retrieve log files from iOS and Android devices by using the "Get device logs" command. A snapshot of the log files for the device is collected every time you use the device command to retrieve them. Users are notified of your ability to collect system log files during device activation and may be notified again when you send the command to retrieve the log files, depending on the device settings.

This command is not available in BlackBerry UEM Cloud.

The log files retrieved are BlackBerry UEM Client logs only.

Before you begin:

- iOS and Android devices must have the UEM Client installed.
 - By default, the Junior HelpDesk role cannot retrieve log files.
1. In the management console, on the menu bar, click **Users > Managed devices**.
 2. Search for a user account.
 3. In the search results, click the name of the user account.
 4. Click the device tab.
 5. In the **Manage devices** window, click **Get UEM client logs**.
 6. Click **Request**.

After you finish:

Retrieve the device log files. By default, the log files are stored in C:\Program Files\BlackBerry\UEM\Logs\device_logs.

Send log files from the BlackBerry UEM Client


On iOS and Android devices, users can email log files to their administrator from the Help menu in the BlackBerry UEM Client.

1. On the device, tap the **UEM Client** icon.
2. Tap **Help**.
3. Tap **Send Logs** or **Bug report**.
4. In the **To:** field, select or type an email address.
5. Tap **>**. The log files are attached to the email as a .zip file.

Send log files from the BlackBerry UEM App Catalog

On Windows 10 devices, users can email log files to their administrator from the Help menu in the BlackBerry UEM App Catalog.

1. On the device, tap the **App Catalog** icon.

2. Tap **Help**.
3. Tap **Bug report**.
4. In the **To:** field, select or type an email address.
5. Tap . The log files are attached to the email as a .zip file.

Logging phone call and SMS/MMS activity

You can log and review phone call and SMS/MMS activity for Android devices with the Work space only (Premium) activation type.


BlackBerry UEM stores separate .csv log files for both phone calls and SMS/MMS. UEM names the log files `<server_name>_<component_identifier>_<event_definition_version>_<yyyymmdd>_<log_number>.<file extension>` (for example, BBServer01_phone_1.0_20160730_0001.csv).

In an on-premises environment, the default log file location is: `<drive>:\Program Files\BlackBerry\UEM\Logs\device_logs\<date or folder name>`. In a UEM Cloud environment the BlackBerry Connectivity Node stores the log files. The default location is: `<drive>:\Program Files\BlackBerry Connectivity Node\Logs\Device Logs`.

Log phone call and SMS/MMS activity

In an on-premises environment, you need only to set the appropriate IT policy rules to log SMS/MMS and phone activity.

Before you begin: To log SMS/MMS and phone activity in a BlackBerry UEM Cloud environment, the BlackBerry Connectivity Node must be installed and activated. See [Installing BlackBerry Connectivity Node instances](#).

1. In the management console, on the menu bar, click **Policies and profiles**.
2. Click **Policy > IT policies**.
3. Click the IT policy that is applied to the device.
4. Click .
5. Perform one of the following to select the IT policy rules for the activities that you want to log:
 - In an on-premises environment, on the **Android** tab, select one or both:
 - Send SMS/MMS logs to UEM
 - Send phone logs to UEM
 - In a BlackBerry UEM Cloud environment, on the **Android** tab, select one or both:
 - Send SMS/MMS logs to the BlackBerry Connectivity Node
 - Send phone logs to the BlackBerry Connectivity Node
6. Click **Save**.

Troubleshooting: SMS/MMS log files

Log files don't contain outgoing SMS/MMS messages

Cause

In your organization's IT policy for Android devices, the "Allow RCS features" and "Send SMS/MMS logs to UEM" options are selected and your organization's carrier supports Rich Communication Services (RCS).

Solution

Deselect the Allow RCS features option in your organization's IT policy and restart the affected device or stop and start the SMS messages app on the device.

Auditing events in BlackBerry UEM

If you have BlackBerry UEM on-premises, UEM keeps administrator and security audit events in log files that you can use to investigate any administrator actions and interactions between UEM and devices.

Viewing and exporting administrator and security audit events is not supported for UEM.

UEM records all actions that administrators perform in the management console. From the Audit configuration screen, you can choose the types of security events that you want to record in the log file. You can also filter the list of actions to display only the actions that are relevant to your investigation. For further analysis or reporting purposes, you can export the filtered list to a .csv file.


Security audit events include server actions such as the delivery of commands or policies, starting or stopping a UEM instance, initiation or termination of trust channels, certificate validation status, and changes to the audit settings.

Configure audit settings

You can enable auditing of administrator or security events in BlackBerry UEM. When auditing is enabled, you can choose how long you want to keep records, the number of results to display, and when to delete old records. When auditing is disabled, all records are deleted.

This feature is not supported for BlackBerry UEM Cloud.

Note: Enabling security event auditing requires significant database resources. Use the [UEM performance calculator](#) to estimate the resources required.

1. In the management console, on the menu bar, click **Settings > Infrastructure > Audit settings**.
2. In the right pane, click .
3. In the **Administrator event audit settings** section:
 - a) In the **Administrator event auditing** drop-down list, click **Enabled**.
 - b) In the **Administrator audit record retention** field, type the maximum number of days to keep a record.
 - c) In the **Maximum number of records** field, type the maximum number of records to display in the UI. If the number of records exceeds this value, then the administrator must shorten the date range or select a category to reduce the number of records.
 - d) In the **Daily delete time (UTC)** field, choose the time of day to delete records.
4. In the **Security event audit settings** section:
 - a) In the **Security event auditing** drop-down list, click **Enabled**.
 - b) In the **Security audit record retention** field, type the maximum number of days to keep a record.
 - c) In the **Daily delete time (UTC)** field, choose the time of day to delete old records.
 - d) To stop auditing a security event, click **X** beside the event type.
 - e) To add security events to audit, click **+**. Select the events and click **Add**.
 - f) Optionally, if a drop-down list is available in the **Setting** column beside an event type, choose the condition to log the event.
5. Click **Save**.



After you finish:


- Restart the BlackBerry UEM Core service on every computer that hosts a BlackBerry UEM instance.
- Log in to the management console again.
- To export all security audit events to a .csv file, in the **Security event auditing settings** section, click **Export**.

- To delete audit records before the next daily delete time, in the **Administrator event auditing settings** section or the **Security event auditing settings** section, click **Delete**.
- To disable administrator event auditing and purge all records, in the **Administrator event auditing** drop-down list, click **Disabled**.
- To disable security event auditing and purge all records, in the **Security event auditing** drop-down list, click **Disabled**.

View and filter the administrator audit events

The following task is for viewing and filtering the administrator event audit log only. Note that the filter name will appear in the audit record. To view the security audit event log, see [Configure audit settings](#). This feature is not supported for BlackBerry UEM Cloud.

1. In the management console, on the menu bar, click **Audit and Logging > System audit**.
2. Click **Edit**.
3. Choose a category and date range. Click **Submit**.
4. Under **Filters**, click a category to expand it. **Note:** Under the **Role** category, a role named Work Apps is displayed if a user is accessing work apps from their device. Work Apps is not an existing role; it is assigned dynamically to add the minimum set of permissions to access the user's work apps.
5. Select the filters that you want to apply and click **Submit**.
6. Optionally, in the right pane, click . Select the columns that you want to view.
7. If necessary, do one of the following:
 - To remove a filter, click  beside the filter that you want to remove.
 - To clear all filters, click **Clear all**.

After you finish: To export the administrator audit events to a .csv file, in the left pane, filter the audit log to view only the data that you want to include in the .csv file. Click .

Monitoring BlackBerry UEM using SNMP tools

If you have BlackBerry UEM on-premises, you can use third-party SNMP tools to monitor the activity of several UEM components. Monitoring UEM using SNMP tools is not supported for BlackBerry UEM Cloud.

SNMP monitoring requires an SNMP service and an SNMP management tool. You run the SNMP service on the computers that host UEM. The SNMP service, located in the Windows Services, includes an SNMP agent that collects data from the UEM components.

You use an SNMP management tool (for example, an MIB browser) to view and analyze the data that is received from the agent. The management tool typically includes an SNMP trap management tool that is used to retrieve and interpret trap messages from the agent. The management tool can be installed on the computer that hosts UEM or on a separate computer.

There are two places where you configure SNMP:

- To monitor the BlackBerry UEM Core, BlackBerry Secure Connect Plus, BlackBerry Secure Gateway, and BlackBerry Cloud Connector you configure SNMP in the management console. See [Configure SNMP to monitor components](#).
- To monitor UEM enterprise connectivity components, you configure the SNMP service.

By default, the management tool displays the OID of a condition, which is a sequence of integers that identify a class value in a class hierarchy. All SNMP OIDs and SNMP traps for UEM begin with a class value of 1.3.6.1.4.1.3530.8. A suffix (for example, 25.1.1), uniquely identifies each OID value.

MIBs specify the conditions that the SNMP agent monitors. A MIB is a database that defines and describes the variables and management data of UEM components, including what each SNMP trap value represents. The MIB determines the types of data the SNMP service can collect about the components. When you configure SNMP monitoring, you use the management tool to compile the MIB.

Supported SNMP operations

You can use SNMP operations to collect data from the SNMP agent that runs on the computers where BlackBerry UEM is installed. BlackBerry UEM supports the following SNMP operations:

Operation	Description
Get	Retrieves the value for a specific MIB item
Get next	Retrieves the value and OID of items in the order that they appear in the MIB file
Trap	Sends SNMP trap messages from the SNMP agent to the SNMP trap management tool. SNMP trap messages contain data about specific actions that a BlackBerry UEM component performs

System requirements: SNMP monitoring

Item	Requirement
Supported BlackBerry UEM components	<p>You can configure SNMP monitoring for the following UEM components:</p> <ul style="list-style-type: none"> • BlackBerry Cloud Connector • BlackBerry Secure Connect Plus • BlackBerry Secure Gateway • BlackBerry UEM Core <p>Other UEM components do not support SNMP monitoring.</p>
SNMP management tool	<p>If the management tool does not include a MIB compiler, install a MIB compiler on the computer that hosts the management tool.</p> <p>If you want the SNMP service to send trap messages to report on server activity, verify that the management tool includes an SNMP trap management tool. Alternatively, you can install a standalone SNMP trap management tool on a computer that hosts UEM, or on a separate computer.</p>
Network access	<p>The computer that hosts the SNMP management tool, or a standalone SNMP trap management tool, must be able to access and receive data from the computers where UEM is installed.</p>
SNMP service	<p>On the computers where UEM is installed, install an SNMP service that includes an SNMP agent and SNMP trap service.</p> <p>An SNMP service is available in most versions of Windows.</p>
SNMP service settings	<p>On the computers where UEM is installed, in the Windows Services, configure the following SNMP service settings:</p> <ul style="list-style-type: none"> • A valid SNMP community name • A minimum of read-only permission for the SNMP community • The IP addresses or names of the computers that the SNMP service can accept SNMP data from.

MIBs for BlackBerry UEM

By default, the MIBs for BlackBerry UEM are on the computer where BlackBerry UEM is installed, in `<drive>\Program Files\BlackBerry\UEM\Monitoring\bin\mib`.

BlackBerry UEM includes the following MIBs that you can use to analyze data from BlackBerry UEM components:

MIB file	Description
BES-BCCMIB-SMIV2	Contains a definition of the OID tree root for the SNMP interface of BlackBerry Cloud Connector.

MIB file	Description
BES-BCCMonitoringMIB-SMIV2	Contains definitions of the managed BlackBerry Cloud Connector objects that are accessible and retrievable using the SNMP management tool.
BES-BSCPMIB-SMIV2	Contains a definition of the OID tree root for the SNMP interface of BlackBerry Secure Connect Plus.
BES-BSCPMonitoringMIB-SMIV2	Contains definitions of the managed BlackBerry Secure Connect Plus objects that are accessible and retrievable using the SNMP management tool.
BES-BSGMIB-SMIV2	Contains a definition of the OID tree root for the SNMP interface of the BlackBerry Secure Gateway.
BES-BSGMonitoringMIB-SMIV2	Contains definitions of the managed BlackBerry Secure Gateway objects that are accessible and retrievable using the SNMP management tool.
BES-CoreEventingMIB-SMIV2	Contains definitions of the traps and notifications that the BlackBerry UEM Core issues.
BES-CoreMIB-SMIV2	Contains a definition of the OID tree root for the SNMP interface of the BlackBerry UEM Core.
BES-CoreMonitoringMIB-SMIV2	Contains definitions of the managed objects that are accessible and retrievable using the SNMP management tool.

Compile the MIB and configure the SNMP management tool

To enable your organization's SNMP monitoring software to monitor BlackBerry UEM components, you must use the SNMP management tool to compile the MIB files of BlackBerry UEM. If the tool does not include an MIB compiler, install a MIB compiler on the computer that hosts the tool.

Before you begin: Read the documentation for the SNMP management tool to learn how to use the tool to compile a MIB.

1. On the computer that hosts BlackBerry UEM, browse to `<drive>\Program Files\BlackBerry\UEM\Monitoring\bin\mib`.
2. Use the SNMP management tool (or the MIB compiler that you installed separately) to compile the .mib files.

Configure SNMP to monitor components

To use SNMP to monitor the BlackBerry UEM Core, BlackBerry Secure Connect Plus, BlackBerry Secure Gateway, or BlackBerry Cloud Connector, you must configure the SNMP settings in the management console.

The BlackBerry UEM Core consists of several subcomponents responsible for managing devices. BlackBerry Secure Connect Plus provides a secure IP tunnel between work space apps on Knox Workspace, and Android Enterprise devices and your organization's network. BlackBerry Secure Gateway provides a secure connection for iOS devices to your organization's mail server through the BlackBerry Infrastructure. The BlackBerry Cloud

Connector allows the BlackBerry Connectivity Node components to communicate with the BlackBerry UEM Core. All communication between the BlackBerry Cloud Connector and BlackBerry UEM Core travels through the BlackBerry Infrastructure.

For information about key SNMP counters for monitoring performance and activity, see:

- [SNMP counters for enterprise connectivity](#)
- [SNMP counters for BlackBerry UEM Core](#)
- [SNMP counters for BlackBerry Secure Connect Plus](#)

1. In the management console, on the menu bar, click **Settings > Infrastructure > SNMP**.
2. Expand **Global settings** and select the **Enable SNMP monitoring** check box.
3. In the **Community** field, replace the default by typing a new community name.
4. In the **IP address** field, type the IPv4 UDP address for the server where the trap management tool is installed.
5. In the **Port** field, type the port number for the trap management tool. By default, the port number is 1620.
6. Click **Save**.
7. Expand each BlackBerry UEM instance name. If necessary, you can change the port numbers that you want BlackBerry UEM to use to listen for SNMP data requests. The following port numbers are assigned by default:
 - BlackBerry UEM Core: 1610
 - BlackBerry Secure Connect Plus: 1611
 - BlackBerry Secure Gateway: 1612
 - BlackBerry Cloud Connector: 1613

To change the port number for the BlackBerry Cloud Connector, you need to edit the value of `com.rim.platform.mdm.zed.snmp.monitoring.udpport` in the BlackBerry UEM database.

You can't set ports for specific BCN components; however, these services start listening to the assigned default ports after being restarted if Windows SNMP services is installed and configured and **Enable SNMP monitoring** is selected.

8. Click **Save**.

After you finish: Complete one of the following tasks:

- If you enable monitoring for the BlackBerry UEM Core, in the Windows Services, restart the **BlackBerry UEM - UEM Core** service.
- If you enable monitoring for BlackBerry Secure Connect Plus, in the Windows Services, restart **BlackBerry UEM - BlackBerry Secure Connect Plus** service.
- If you enable monitoring for BlackBerry Secure Gateway, in the Windows Services, restart **BlackBerry UEM - BlackBerry Secure Gateway** service.
- If you enable monitoring for BlackBerry Cloud Connector, in the Windows Services, restart **BlackBerry UEM - BlackBerry Cloud Connector** service.

SNMP counters for enterprise connectivity

The following tables provide information about some key SNMP counters for monitoring the performance and activity of BlackBerry UEM components

BlackBerry Router

Table	Counters
Group: routerProcess (.1.3.6.1.4.1.3530.8.7.35.5)	
routerProInfoTable • .1.3.6.1.4.1.3530.8.7.35.5.2 • Watch for PID changes.	routerProInfoTablePID • .1.3.6.1.4.1.3530.8.7.35.5.2.1.1 • Integer • A numeric identifier for the process.
Group: routerStatistics (.1.3.6.1.4.1.3530.8.7.35.20)	
routerBaseStatsTable .1.3.6.1.4.1.3530.8.7.35.20.5	routerBaseStatsTableSocksConnections • .1.3.6.1.4.1.3530.8.7.35.20.5.1.6 • The number of SOCKS connections currently provided by the BlackBerry Router.
Group: routerEvents (.1.3.6.1.4.1.3530.8.7.35.30)	
routerEventsServiceStartEvent • .1.3.6.1.4.1.3530.8.7.35.30.2 • Trap • Specifies that the service for the component has started.	
routerEventsServiceStopEvent • .1.3.6.1.4.1.3530.8.7.35.30.3 • Trap • Specifies that the service for the component has stopped.	
Group: routerSOCKSTrafficStats (.1.3.6.1.4.1.3530.8.7.35.45)	
routerRouterSOCKSTrafficStatsTable .1.3.6.1.4.1.3530.8.7.35.45.5	routerRouterSOCKSTrafficStatsTableBytesReceived • .1.3.6.1.4.1.3530.8.7.35.45.5.1.4 • Counter64 • The total number of bytes received over SOCKS connections.
	routerRouterSOCKSTrafficStatsTableBytesSent • .1.3.6.1.4.1.3530.8.7.35.45.5.1.6 • Counter64 • The total number of bytes sent over SOCKS connections.

Table	Counters
	routerRouterSOCKSTrafficStatsTableReceiveTransactions <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.45.5.1.8 • Counter64 • The total number of receive operations over SOCKS connections.
	routerRouterSOCKSTrafficStatsTableSendTransactions <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.45.5.1.10 • Counter64 • The total number of send operations over SOCKS connections.
Group: routerSOCKSConn (.1.3.6.1.4.1.3530.8.7.35.130)	
routerSOCKSConnSOCKSConnConfigTable .1.3.6.1.4.1.3530.8.7.35.130.10	routerSOCKSConnSOCKSConnConfigTableDownstreamSocksHost <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.130.10.1.2 • Octet string • The host name for the downstream endpoint.
	routerSOCKSConnSOCKSConnConfigTableUpstreamSocksHost <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.130.10.1.4 • Octet string • The host name for the upstream endpoint.
	routerSOCKSConnSOCKSConnConfigTableUpstreamSocksPort <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.130.10.1.6 • Integer • The port for the upstream endpoint.
routerSOCKSConnSOCKSConnStateTable .1.3.6.1.4.1.3530.8.7.35.130.15	routerSOCKSConnSOCKSConnStateTableConnected <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.130.15.1.2 • Integer • Specifies whether the connection is established.
	routerSOCKSConnSOCKSConnStateTableLastConDate <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.130.15.1.4 • Integer • The last time the connection was established successfully.
routerSOCKSConnSOCKSConnEvents .1.3.6.1.4.1.3530.8.7.35.130.140	routerSOCKSConnSOCKSConnEventsConnectEvent <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.130.140.2 • Trap • Specifies that the connection has been established.

Table	Counters
	routerSOCKSConnSOCKSConnEventsDisconnectEvent <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.35.130.140.3 • Trap • Specifies that the connection has been lost.

BlackBerry Affinity Manager

Table	Counters
Group: affinitymgrProcess (.1.3.6.1.4.1.3530.8.7.145.5)	
affinitymgrProInfoTable .1.3.6.1.4.1.3530.8.7.145.5.2	Watch for PID changes in: <ul style="list-style-type: none"> • affinitymgrProInfoTablePID • .1.3.6.1.4.1.3530.8.7.145.5.2.1.1 • Integer • A numeric identifier for the process.
Group: affinitymgrConfig (.1.3.6.1.4.1.3530.8.7.145.10)	
affinitymgrFailoverAssignment ConfigTable .1.3.6.1.4.1.3530.8.7.145.10.25 Watch for load distribution configuration.	affinitymgrFailoverAssignmentConfigTableMinimumDifference <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.10.25.1.4 • Integer • The minimum user device count difference between BlackBerry UEM instances before the load balancer intervenes.
	affinitymgrFailoverAssignmentConfigTableMaximumBatchSize <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.10.25.1.6 • Integer • The maximum number of user devices in a single assignment.
	affinitymgrFailoverAssignmentConfigTableMaximumPerServer <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.10.25.1.8 • Integer • The maximum number of user devices that can be assigned to a BlackBerry UEM instance.
affinitymgrRcpConfigTable .1.3.6.1.4.1.3530.8.7.145.10.30	affinitymgrRcpConfigTableNumProcThreads <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.10.30.1.2 • Integer • Number of threads processing RCP connections.
Group: affinitymgrRCPTrafficStats (.1.3.6.1.4.1.3530.8.7.145.15)	

Table	Counters
affinitymgrRCPStatsTable .1.3.6.1.4.1.3530.8.7.145.15.5	affinitymgrRCPStatsTableBytesReceived <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.15.5.1.4 Counter64 The total number of bytes received over RCP connections.
	affinitymgrRCPStatsTableBytesSent <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.15.5.1.6 Counter64 The total number of bytes sent over RCP connections.
	affinitymgrRCPStatsTableReceiveTransactions <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.15.5.1.8 Counter64 The total number of receive operations over RCP connections.
	affinitymgrRCPStatsTableSendTransactions <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.15.5.1.10 Counter64 The total number of send operations over RCP connections.
	affinitymgrRCPStatsTableExternalRcpConnections <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.15.5.1.12 Integer The total number of external RCP connections.
	affinitymgrRCPStatsTableInternalSrvConnections <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.15.5.1.14 Integer The total number of internal server connections.
Group: affinitymgrHA (.1.3.6.1.4.1.3530.8.7.145.20)	
affinitymgrHASTatsTable .1.3.6.1.4.1.3530.8.7.145.20.20	affinitymgrHASTatsTableHAMode <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.20.20.1.2 Integer Specifies whether the high-availability mode of the component is primary or standby. 1 is primary.
Group: affinitymgrEvents (.1.3.6.1.4.1.3530.8.7.145.30)	
affinitymgrEventsServiceStart Event	<ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.30.2 Trap

Table	Counters
affinitymgrEventsServiceStop Event <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.30.3 Trap 	
Group: affinitymgrDatabaseConn (.1.3.6.1.4.1.3530.8.7.145.90)	
affinitymgrDatabaseConnBase ConfigTable .1.3.6.1.4.1.3530.8.7.145.90.5	affinitymgrDatabaseConnBaseConfigTableLastModTime <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.90.5.1.1 Integer The last time that the set of values changed.
	affinitymgrDatabaseConnBaseConfigTableEndB <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.90.5.1.6 Octet string The connection end-point names.
affinitymgrDatabaseConn ConnectionStatsTable .1.3.6.1.4.1.3530.8.7.145.90.15	affinitymgrDatabaseConnConnectionStatsTableConnected <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.90.15.1.2 Integer Specifies whether the connection is established.
	affinitymgrDatabaseConnConnectionStatsTableLastConDate <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.90.15.1.4 Integer The last time the connection with the BlackBerry UEM database was established successfully.
	affinitymgrDatabaseConnConnectionStatsTableLastErrRsn <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.90.15.1.6 Octet string The reason for the last connection error.
	affinitymgrDatabaseConnConnectionStatsTableLastErrCode <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.90.15.1.8 Integer The error code for the last error with the BlackBerry UEM database connection. Check the log files for more information.
	affinitymgrDatabaseConnConnectionStatsTableLastErrorTime <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.145.90.15.1.10 Integer The last time the connection failed.

Table	Counters
	affinitymgrDatabaseConnConnectionStatsTableNumTrans <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.90.15.1.12 • Integer • The number of SQL transactions sent to the BlackBerry UEM database.
	affinitymgrDatabaseConnConnectionStatsTableAvgRspTime <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.90.15.1.14 • Integer • The average response time for the connection.
	affinitymgrDatabaseConnConnectionStatsTableErrs <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.90.15.1.16 • Integer • The number of errors encountered for the database connection.
affinitymgrDatabaseConnEvents .1.3.6.1.4.1.3530.8.7.145.90.20	
affinitymgrDatabaseConnEvents ConnectEvent <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.90.20.2 • Trap 	
affinitymgrDatabaseConnEvents DisconnectEvent <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.90.20.3 • Trap 	
Group: affinitymgrExternalRcpConn (.1.3.6.1.4.1.3530.8.7.145.100)	
affinitymgrExternalRcpConnRCP ConnStatsTable .1.3.6.1.4.1.3530.8.7.145.100.15	affinitymgrExternalRcpConnRCPConnStatsTableConnected <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.100.15.1.2 • Integer • Specifies whether the connection to the BlackBerry UEM database is established.
	affinitymgrExternalRcpConnRCPConnStatsTableLastConDate <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.100.15.1.4 • Integer • The last time the connection was established successfully.

Table	Counters
	<p>affinitymgrExternalRcpConnRCPConnStatsTableLastErrCode</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.100.15.1.6 • Integer • The error code for the last connection error. Check the log files for more information. If the connection to the BlackBerry Infrastructure is failing, the value is non-zero. When the connection is successful, the counter clears and is set to zero.
<p>affinitymgrExternalRcpConnRCPConnEvents</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.100.20 • When a connection is established, it should remain. Watch for many disconnection and reconnection events and investigate why the connection doesn't persist. 	
<p>affinitymgrExternalRcpConnRCPConnEventsConnectEvent</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.100.20.2 • Trap 	
<p>affinitymgrExternalRcpConnRCPConnEventsDisconnectEvent</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.100.20.3 • Trap 	
<p>affinitymgrExternalRcpConnRCPConnProxyTable</p> <p>.1.3.6.1.4.1.3530.8.7.145.100.30</p>	<p>affinitymgrExternalRcpConnRCPConnProxyTableHost</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.100.30.1.2 • Octet string • The active proxy content server.
<p>Group: affinitymgrServers (.1.3.6.1.4.1.3530.8.7.145.120)</p>	
<p>affinitymgrServersServerStateTable</p> <p>.1.3.6.1.4.1.3530.8.7.145.120.30</p>	<p>affinitymgrServersServerStateTableNumUsers</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.145.120.30.1.6 • Integer • The number of users assigned to each server, indexed by the server ID.

BlackBerry MDS Connection Service

Table	Counters
Group: mdscsProcess (.1.3.6.1.4.1.3530.8.7.40.5)	
mdscsProInfoTable .1.3.6.1.4.1.3530.8.7.40.5.2	mdscsProInfoTablePID <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.5.2.1.1 Integer A numeric identifier for the process.
Group: mdscsStatistics (.1.3.6.1.4.1.3530.8.7.40.20)	
mdscsStatsTable .1.3.6.1.4.1.3530.8.7.40.20.5	mdscsStatsTableProcQLen <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.20.5.1.4 Counter64 The number of transactions pending in the processing queue.
Group: mdscsEvents (.1.3.6.1.4.1.3530.8.7.40.30)	
mdscsEventsServiceStartEvent <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.30.2 Trap 	
mdscsEventsServiceStopEvent <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.30.3 Trap 	
Group: mdscsMDSSStats (.1.3.6.1.4.1.3530.8.7.40.40)	
mdscsMDSSummaryTable .1.3.6.1.4.1.3530.8.7.40.40.15	mdscsMDSSummaryTableRefusedPackets <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.40.15.1.6 Counter64 The number of packets that the BlackBerry Dispatcher declined.
	mdscsMDSSummaryTableInvalidPackets <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.40.15.1.8 Counter64 The number of invalid packets sent to the BlackBerry Dispatcher.
	mdscsMDSSummaryTableExpiredPackets <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.40.15.1.9 Counter64 The number of expired IPPP packets.

Table	Counters
	<p>mdscsMDSSummaryTableTimedoutConnections</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.40.15.1.14 • Counter64 • The number of push connections that could not be delivered within the default timeout. This counter is reported only for push messages that do not have a specified delivery timeout.
	<p>mdscsMDSSummaryTableRefusedConnections</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.40.15.1.15 • Counter64 • The number of declined IPPP connections.
	<p>mdscsMDSSummaryTableSrpsuccess</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.40.15.1.16 • Counter64 • The number of successful SRP connections to the BlackBerry Dispatcher.
	<p>mdscsMDSSummaryTableSrpfailure</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.40.15.1.18 • Counter64 • The number of failed SRP connections to the BlackBerry Dispatcher.
Group: mdscsMDSAdvancedStats (.1.3.6.1.4.1.3530.8.7.40.70)	
mdscsRatesTable .1.3.6.1.4.1.3530.8.7.40.70.5	<p>mdscsRatesTableSocketConnectionFailedCount</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.70.5.1.34 • Counter64 • The number of outbound TCP socket connections that failed to open.
	<p>mdscsRatesTableMaxSocketConnections</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.70.5.1.36 • Counter64 • The number of outbound TCP socket connections that were open/active during previous reporting interval.
	<p>mdscsRatesTableSocketConnectionSuccessCount</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.70.5.1.38 • Counter64 • The number of outbound TCP socket connections that were successfully opened in the previous reporting interval.

Table	Counters
	<p>mdscsRatesTableSocketDisconnectionCount</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.70.5.1.40 • Counter64 • The number outbound TCP socket connections that were successfully closed in previous reporting interval.
	<p>mdscsRatesTableMessageSentCount</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.70.5.1.42 • Counter64 • The number of data packets sent over outbound TCP socket connections to external servers.
	<p>mdscsRatesTableMessageReceivedCount</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.70.5.1.44 • Counter64 • The number of data packets received over outbound TCP socket connections from external servers.
Group: mdscsMDSCSExtended (.1.3.6.1.4.1.3530.8.7.40.80)	
mdscsExtendedRatesTable .1.3.6.1.4.1.3530.8.7.40.80.5	<p>mdscsExtendedRatesTableNumActive</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.80.5.1.2 • Counter64 • The number of active IPPP/TCP connections.
	<p>mdscsExtendedRatesTableBytesIn</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.80.5.1.4 • Counter64 • The total number of bytes received over TCP connections (in KB).
	<p>mdscsExtendedRatesTableBytesOut</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.80.5.1.6 • Counter64 • The total number of bytes sent over TCP connections (in KB).
	<p>mdscsExtendedRatesTableConnectionErrors</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.40.80.5.1.8 • Counter64 • The number of socket connection errors.
Group: mdscsDatabaseConn (.1.3.6.1.4.1.3530.8.7.40.90)	

Table	Counters
mdscsDatabaseConnBase ConfigTable .1.3.6.1.4.1.3530.8.7.40.90.5	mdscsDatabaseConnBaseConfigTableEndB <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.90.5.1.6 Octet string The connection end-point names. The name of the BlackBerry UEM database.
mdscsDatabaseConnConfigTable .1.3.6.1.4.1.3530.8.7.40.90.10	mdscsDatabaseConnConfigTableConnParams <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.90.10.1.2 Octet string The parameters used to connect to the BlackBerry UEM database.
mdscsDatabaseConnConnection StatsTable .1.3.6.1.4.1.3530.8.7.40.90.15	mdscsDatabaseConnConnectionStatsTableConnected <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.90.15.1.2 Integer Specifies whether the connection is established.
mdscsDatabaseConnEvents .1.3.6.1.4.1.3530.8.7.40.90.20	
mdscsDatabaseConnEvents ConnectEvent <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.90.20.2 Trap 	
mdscsDatabaseConnEvents DisconnectEvent <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.90.20.3 Trap 	
Group: mdscsDispatcherConn (.1.3.6.1.4.1.3530.8.7.40.110)	
mdscsDispatcherConnConnection StatsTable .1.3.6.1.4.1.3530.8.7.40.110.10	mdscsDispatcherConnConnectionStatsTableConnected <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.110.10.1.2 Integer Specifies whether the connection is established.
	mdscsDispatcherConnConnectionStatsTableLastConDate <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.110.10.1.4 Integer The last time the connection was established successfully.
mdscsDispatcherConnEvents .1.3.6.1.4.1.3530.8.7.40.110.15	

Table	Counters
mdscsDispatcherConnEvents ConnectEvent	<ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.110.15.2 Trap
mdscsDispatcherConnEvents DisconnectEvent	<ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.40.110.15.3 Trap

BlackBerry Dispatcher

Table	Counters
Group: dispatcherProcess (.1.3.6.1.4.1.3530.8.7.15.5)	
dispatcherProInfoTable .1.3.6.1.4.1.3530.8.7.15.5.2	dispatcherProInfoTablePID <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.5.2.1.1 Integer A numeric identifier for the process.
Group: dispatcherStatistics (.1.3.6.1.4.1.3530.8.7.15.20)	
dispatcherDispatcherStatsTable .1.3.6.1.4.1.3530.8.7.15.20.5	dispatcherDispatcherStatsTableProcQLen <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.20.5.1.4 Integer The number of transactions pending in the processing queue.
	dispatcherDispatcherStatsTableNumUsers <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.20.5.1.6 Integer The number of users assigned to the service.
	dispatcherDispatcherStatsTableBIPPWorkQueueSize <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.20.5.1.8 Integer The number of work request packets in the BlackBerry interprocess protocol engine queue.
Group: dispatcherTrafficStats (.1.3.6.1.4.1.3530.8.7.15.30)	

Table	Counters
dispatcherTotalTrafficStatsToTable .1.3.6.1.4.1.3530.8.7.15.30.33	dispatcherTotalTrafficStatsToTableMTH <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.30.33.1.2 Integer The total number of messages sent to all devices.
dispatcherTotalTrafficStatsFromTable .1.3.6.1.4.1.3530.8.7.15.30.34	dispatcherTotalTrafficStatsFromTableMFH <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.30.34.1.2 Integer The total number of messages sent from all devices.
Group: dispatcherEvents (.1.3.6.1.4.1.3530.8.7.15.40)	
dispatcherEventsServiceStartEvent .1.3.6.1.4.1.3530.8.7.15.40.2	<ul style="list-style-type: none"> Trap
dispatcherEventsServiceStopEvent .1.3.6.1.4.1.3530.8.7.15.40.3	<ul style="list-style-type: none"> Trap
Group: dispatcherDatabaseConn (.1.3.6.1.4.1.3530.8.7.15.90)	
dispatcherDatabaseConnBaseConfigTable .1.3.6.1.4.1.3530.8.7.15.90.5	dispatcherDatabaseConnBaseConfigTableEndB <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.90.5.1.6 Octet string The connection end-point names.
dispatcherDatabaseConnConfigTable .1.3.6.1.4.1.3530.8.7.15.90.10	dispatcherDatabaseConnConfigTableConnParams <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.90.10.1.2 Octet string The parameters used to connect to the BlackBerry UEM database.
dispatcherDatabaseConnConnectionStatsTable .1.3.6.1.4.1.3530.8.7.15.90.15	dispatcherDatabaseConnConnectionStatsTableConnected <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.90.15.1.2 Integer Specifies whether the connection is established.
	dispatcherDatabaseConnConnectionStatsTableLastConDate <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.90.15.1.4 Integer The last time the connection was established successfully.

Table	Counters
	<p>dispatcherDatabaseConnConnectionStatsTableLastErrRsn</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.90.15.1.6 • Octet string • The reason for the last connection error.
	<p>dispatcherDatabaseConnConnectionStatsTableLastErrCode</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.90.15.1.8 • Integer • The error code for the last connection error. Check the log files for more information.
	<p>dispatcherDatabaseConnConnectionStatsTableLastErrorTime</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.90.15.1.10 • Integer • The last time the connection failed.
	<p>dispatcherDatabaseConnConnectionStatsTableNumTrans</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.90.15.1.12 • Integer • The number of transactions sent to the BlackBerry Configuration Database.
	<p>dispatcherDatabaseConnConnectionStatsTableAvgRspTime</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.90.15.1.14 • Integer • The average response time for the connection.
	<p>dispatcherDatabaseConnConnectionStatsTableErrs</p> <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.90.15.1.16 • Integer • The number of errors encountered for the database connection.
dispatcherDatabaseConnEvents	.1.3.6.1.4.1.3530.8.7.15.90.20
dispatcherDatabaseConnEvents ConnectEvent	<ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.90.20.2 • Trap
dispatcherDatabaseConnEvents DisconnectEvent	<ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.90.20.3 • Trap

Table	Counters
Group: dispatcherInternalSrvConn (.1.3.6.1.4.1.3530.8.7.15.110)	
dispatcherInternalSrvConnRCP ConnStatsTable .1.3.6.1.4.1.3530.8.7.15.110.15	dispatcherInternalSrvConnRCPConnStatsTableConnected <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.110.15.1.2 Integer Specifies whether the connection is established.
	dispatcherInternalSrvConnRCPConnStatsTableTransQLen <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.110.15.1.14 Integer The length of the transmission queue (the number of transactions waiting to be sent).
	dispatcherInternalSrvConnRCPConnStatsTableBytesReceived <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.110.15.1.16 Counter64 Bytes received over RCP connection.
	dispatcherInternalSrvConnRCPConnStatsTableBytesSent <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.110.15.1.18 Counter64 Bytes sent over RCP connection.
	dispatcherInternalSrvConnRCPConnStatsTableReceiveTransactions <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.110.15.1.20 Counter64 The number of receive operations over RCP connection.
	dispatcherInternalSrvConnRCPConnStatsTableSendTransactions <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.110.15.1.22 Counter64 The number of send operations over RCP connection.
dispatcherInternalSrvConnRCP ConnEvents .1.3.6.1.4.1.3530.8.7.15.110.20	
dispatcherInternalSrvConnRCP ConnEventsConnectEvent	<ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.110.20.2 Trap

Table	Counters
dispatcherInternalSrvConnRCP ConnEventsDisconnectEvent	<ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.110.20.3 Trap
Group: dispatcherRcpConn (.1.3.6.1.4.1.3530.8.7.15.120)	
dispatcherRcpConnRCPCConn StatsTable .1.3.6.1.4.1.3530.8.7.15.120.15	dispatcherRcpConnRCPCConnStatsTableLastModTime <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.120.15.1.1 Integer The last time that the set of values changed.
	dispatcherRcpConnRCPCConnStatsTableConnected <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.120.15.1.2 Integer Specifies whether the connection is established.
	dispatcherRcpConnRCPCConnStatsTableLastConDate <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.120.15.1.4 Integer The last time the connection was established successfully.
	dispatcherRcpConnRCPCConnStatsTableLastErrCode <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.120.15.1.6 Integer The error code for the last connection error. Check the log files for more information.
	dispatcherRcpConnRCPCConnStatsTableTransQLen <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.120.15.1.14 Integer The length of the transmission queue (the number of transactions waiting to be sent).
	dispatcherRcpConnRCPCConnStatsTableBytesReceived <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.120.15.1.16 Counter64 Bytes received over RCP connection.
	dispatcherRcpConnRCPCConnStatsTableBytesSent <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.7.15.120.15.1.18 Counter64 Bytes sent over RCP connection.

Table	Counters
	dispatcherRcpConnRCPCConnStatsTableReceiveTransactions <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.120.15.1.20 • Counter64 • The number of receive operations over RCP connection.
	dispatcherRcpConnRCPCConnStatsTableSendTransactions <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.120.15.1.22 • Counter64 • The number of send operations over RCP connection.
dispatcherRcpConnRCPCConn Events .1.3.6.1.4.1.3530.8.7.15.120.20	
dispatcherRcpConnRCPCConn EventsConnectEvent <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.120.20.2 • Trap 	
dispatcherRcpConnRCPCConn EventsDisconnectEvent <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.7.15.120.20.3 • Trap 	

SNMP counters for BlackBerry UEM Core

The following tables provide information about some key SNMP counters for monitoring the performance and activity of BlackBerry UEM Core:

Monitoring

Table	Counters
Group: monitors (.1.3.6.1.4.1.3530.8.1.1.2)	
reconciliationmonitor .1.3.6.1.4.1.3530.8.1.1.2.1	reconciliationmonitorReconciliationRequestCount <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.1.1.2.1.1 • Unsigned32 • The cumulative number of reconciliation requests.

Table	Counters
	reconciliationmonitorReconciliationCurrentTime <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.1.1.2.1.4 • Gauge32 • The time taken by the last reconciliation process.
	reconciliationmonitorReconciliationTotalTime <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.1.1.2.1.5 • Unsigned32 • he time taken by the all reconciliation processes.
coretobcpconnectionmonitor .1.3.6.1.4.1.3530.8.1.1.2.100	coretobcpconnectionmonitorConnectionCount <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.1.1.2.100.1 • Unsigned32 • The number of connections between BlackBerry UEM Core and the BlackBerry Infrastructure.
	coretobcpconnectionmonitorConnectionFailureCount <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.1.1.2.100.2 • Unsigned32 • The number of failed connections between BlackBerry UEM Core and the BlackBerry Infrastructure.
	coretobcpconnectionmonitorTotalProcessingTime <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.1.1.2.100.3 • Gauge32
	coretobcpconnectionmonitorBytesFromBcp <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.1.1.2.100.4 • Gauge32 • The total bytes received from the BlackBerry Infrastructure.
	coretobcpconnectionmonitorBytesToBcp <ul style="list-style-type: none"> • .1.3.6.1.4.1.3530.8.1.1.2.100.5 • Gauge32 • The total bytes sent to the BlackBerry Infrastructure.

Workflow

Table	Counters
Group: wffqueues (.1.3.6.1.4.1.3530.8.1.1.3)	

Table	Counters
androidnotificationqueue .1.3.6.1.4.1.3530.8.1.1.3.1	androidnotificationqueueAddOperations <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.1.1 Unsigned32 The number of adds to the queue.
	androidnotificationqueueSize <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.1.2 Unsigned32 The current size of the queue.
	androidnotificationqueueTakeOperations <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.1.3 Unsigned32 The number of takes from the queue.
applenotificationqueue .1.3.6.1.4.1.3530.8.1.1.3.2	applenotificationqueueAddOperations <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.2.1 Unsigned32 The number of adds to the queue.
	applenotificationqueueSize <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.2.2 Unsigned32 The current size of the queue.
	applenotificationqueueTakeOperations <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.2.3 Unsigned32 The number of takes from the queue.
bbnotificationqueue .1.3.6.1.4.1.3530.8.1.1.3.4	bbnotificationqueueAddOperations <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.4.1 Unsigned32 The number of adds to the queue.
	bbnotificationqueueSize <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.4.2 Unsigned32 The current size of the queue.
	bbnotificationqueueTakeOperations <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.3.4.3 Unsigned32 The number of takes from the queue.

Table	Counters
devicerestqueue .1.3.6.1.4.1.3530.8.1.1.3.7	devicerestqueueAddOperations • .1.3.6.1.4.1.3530.8.1.1.3.7.1 • Unsigned32 • The number of adds to the queue.
	devicerestqueueSize • .1.3.6.1.4.1.3530.8.1.1.3.7.2 • Unsigned32 • The current size of the queue.
	devicerestqueueTakeOperations • .1.3.6.1.4.1.3530.8.1.1.3.7.3 • Unsigned32 • The number of takes from the queue.
downloadrestqueue .1.3.6.1.4.1.3530.8.1.1.3.9	downloadrestqueueAddOperations • .1.3.6.1.4.1.3530.8.1.1.3.9.1 • Unsigned32 • The number of adds to the queue.
	downloadrestqueueSize • .1.3.6.1.4.1.3530.8.1.1.3.9.2 • Unsigned32 • The current size of the queue.
	downloadrestqueueTakeOperations • .1.3.6.1.4.1.3530.8.1.1.3.9.3 • Unsigned32 • The number of takes from the queue.

SNMP counters for BlackBerry Secure Connect Plus

The following table provides information about some key SNMP counters for monitoring the performance and activity of BlackBerry Secure Connect Plus:

Monitoring

Monitoring points	Counters
Group: monitors (.1.3.6.1.4.1.3530.8.2.1.2)	

Monitoring points	Counters
Ptsservicemonitor .1.3.6.1.4.1.3530.8.2.1.2.1 BlackBerry Secure Connect Plus service monitoring points	ptsservicemonitorptsTunnelCount <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.2.1.2.1.1 Gauge32 Total count of all device tunnels since startup.
	ptsservicemonitorcountOfCurrentPtsTunnels <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.2.1.2.1.2 Gauge32 Count of current device tunnels.
	ptsservicemonitorptsBytesSentTotal <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.2.1.2.1.7 Gauge32 Total BSCP bytes sent to clients.
	ptsservicemonitorptsBytesReceivedTotal <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.2.1.2.1.8 Gauge32 Total BSCP bytes received from clients.
	ptsservicemonitorptsBytesDroppedTotal <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.2.1.2.1.9 Gauge32 Total BSCP bytes dropped.
	ptsservicemonitoractiveTurnAllocations <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.2.1.2.1.10 Gauge32 Number of currently active connections to the BlackBerry Infrastructure.
	coretobcpconnectionmonitorBytesFromBcp <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.1.1.2.100.4 Gauge32 The total bytes received from the BlackBerry Infrastructure.
	ptsservicemonitorptsPacketsDroppedTotal <ul style="list-style-type: none"> .1.3.6.1.4.1.3530.8.2.1.2.1.11 Gauge32 Total BSCP packets dropped.

Send system events to a SIEM solution

Security Information and Event Management (SIEM) software collects, analyzes, and aggregates security data from multiple sources to detect potential security threats. To send BlackBerry UEM system events to your organization's SIEM software, you can add a SIEM connector. Currently, adding a SIEM connector is supported for UEM on-premises only.

Note: UEM uses TCP to communicate with SIEM. Plain text is not supported.

1. In the management console, on the menu bar, click **Settings > External integration > SIEM connectors**.
2. Click **+**.
3. In the **Name** field, type a name for the connector.
4. In the **Connector format** drop-down list, click a logging and auditing file format.
5. In the **SIEM endpoint server name** field, type the SIEM server name.
6. In the **Port** field, type the port of the SIEM server.
7. To use a TLS connection and host validation, verify that the **Enable TLS** and **Enable host validation** check boxes are selected.
8. From the **Status** drop-down list, select one of the following:
 - To use the connector, click **Enabled**.
 - To turn off the connector, click **Disabled**.
9. Click **Save**.

After you finish:

- If you enabled a TLS connection, in **Settings > External integration > Trusted certificates**, click **+** beside **SIEM server trusts** to upload a trust certificate.
- To see a list of auditable events, click **Settings > Infrastructure > Audit Settings** and click **✎**. In the **Security event audit settings** section, click **+**.

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Published in Canada