

Blackout Knowledge Module® for PATROL® by Sentry Software™ User Guide



Supporting

Blackout Knowledge Module® for PATROL® by Sentry Software™ version 1.1

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Blackout KM for PATROL - User Guide

This document explains the procedure to follow in order to use and run the Blackout KM for PATROL.

Blackout Knowledge Module® for PATROL® is a Knowledge Module for BMC Software® PATROL® that allows the administrators to temporarily and under certain conditions suspend the monitoring of some part of their IT infrastructure. A blackout can be useful when a monitored system (a database or an application) encounters abnormal but planned activities like back-ups. Such unusual activities will cause PATROL® to trigger false positives. Thanks to the Blackout KM, administrators can dramatically reduce false alerts that operators have to process.

Section I - Getting started

1 - Requirements

1.1 - Software requirements

Blackout KM for PATROL requires the following software component to be installed on the monitored systems:

- BMC Software PATROL Agent 3.4.00 or higher
- For real-time monitoring of processes and NT Services on Windows servers, the WBEM layer (WMI, Windows Management Instrumentation)

Blackout KM for PATROL requires the following software component to be installed on the Console system:

- BMC Software PATROL Console v3.4.00 or higher or PATROL Central or PATROL Console Web-edition

1.2 - Hardware requirements

Blackout KM for PATROL does not have any specific requirements. The standard PATROL Agent requirements are sufficient for the KM to run properly.

The footprint of Blackout KM on the monitored system is very limited:

- less than 1 percent of processor time
- less than 1 megabyte of memory
- less than 2 megabytes of disk usage
- no network bandwidth usage

2 - Loading Blackout KM for PATROL

Before loading Blackout KM for PATROL, please make sure that all requirements have been met and that the product has been properly installed on all PATROL Agents and Consoles using the procedure described in the *Installation Guide*.

Prior to using Blackout KM for PATROL you must load the Knowledge Modules (KMs) on the PATROL Console. Follow the steps below to load Blackout KM for PATROL:

Loading Blackout for PATROL from the PATROL Console for Windows or the PATROL Console for UNIX

- Step 1** Select “File → Load KM” in the PATROL Console for Windows menu
- Step 2** In the dialog box, select “SEN_BO_BLACKOUT.kml” and click [Open]

Loading Blackout for PATROL from PATROL Central Operator

- Step 1** Select “Action → Load Knowledge Modules...”
- Step 2** In the dialog box, check the box next to the managed systems for which you wish to load Blackout KM for PATROL and click [Next]
- Step 3** Click the “Knowledge Module lists” tab, check the box near “SEN_BO_BLACKOUT.kml” and click [Next]
- Step 4** Click on the [Finish] button.

Loading Blackout for PATROL from PATROL Central Web Edition

- Step 1** In the "General Tasks" panel, click “Load Knowledge Modules”
- Step 2** In the dialog box, click on the managed systems for which you wish to load Blackout KM for PATROL and click [Next]
- Step 3** Select “SEN_BO_BLACKOUT.kml” from the list and click [Next]
- Step 4** Click on the [Finish] button.

The following classes should be loaded on the Monitored System and Console:

Class name	Description
SEN_BO_BLACKOUT_MANAGER	Main Blackout instance used to manage Blackout KM for PATROL
SEN_BO_BLACKOUT	Blackout instances

If a class of Blackout KM for PATROL has not been loaded, an alert is triggered and the following message is displayed in the System Output Window (SOW) of the PATROL Console:

```
"The <class name> class for Blackout KM is not loaded!
All the classes of Blackout KM have to be preloaded to work properly.
PLEASE LOAD THE <class name> CLASS."
```

Preloading Blackout KM for PATROL

To make sure Blackout KM for PATROL is loaded as soon as the PATROL Agent starts up and is executed as long as the PATROL Agent is running, Blackout KM for PATROL needs to be preloaded.

In order to preload Blackout KM for PATROL, add the KM file list above to the `"/AgentSetup/preloadedKMs"` configuration variable. Please, check the *"PATROL Agent Reference Manual"* for more information on how to modify configuration variables.

If Blackout KM for PATROL is not preloaded, an alert is triggered and the following message is displayed in the System Output Window (SOW) of the PATROL Console:

```
"The <class name> class for Blackout KM is not preloaded!  
All the classes of Blackout KM have to be preloaded to work properly."
```

3 - Making sure Blackout KM for PATROL is running

If Blackout KM for PATROL is properly installed and running, the following instance is created in the PATROL Console: “Blackout Manager <version number>.”



This is the main Blackout instance from which you can plan blackouts and edit the product settings. New blackouts are created under this icon.

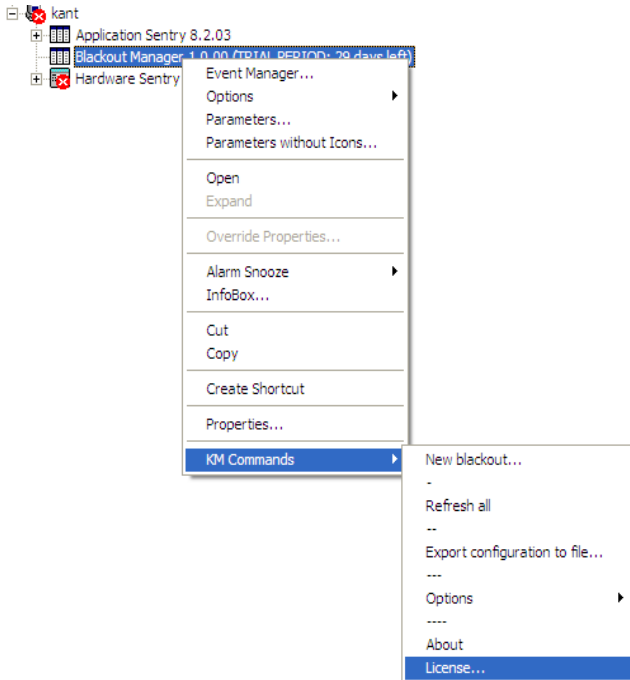
If you are using Blackout KM for PATROL during the trial period, the main instance label displays the remaining days of the trial period. At the end of the trial period, the main instance is disabled and all blackouts are canceled.

If you purchased the KM, read the next section for information about how to enter the license key.

4 - Trial period and license keys

When Blackout KM for PATROL is first loaded the automatic 30-day trial is activated. At the end of the trial period Blackout KM for PATROL is disabled. A license key must be entered to continue using the product.

With your license key, follow the steps below:

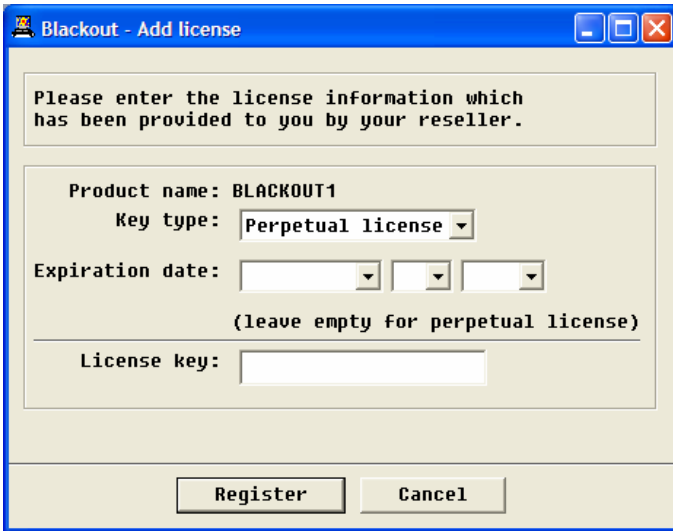


[Right-click] the Blackout Manager icon and select “**KM Commands → License...**” from the menu.



A dialog box appears and shows the license Blackout KM for PATROL is currently working with (automatic 30-day trial, term license or perpetual license).

To enter a new license key, click on the [Register a new license] button.



Blackout - Add license

Please enter the license information which has been provided to you by your reseller.

Product name: BLACKOUT1

Key type: Perpetual license

Expiration date: [][] [][][][]
(leave empty for perpetual license)

License key: []

Register Cancel

Choose the key type depending on the license you purchased (Perpetual License or Term License).

If you purchased a Term License, you must enter your Term License expiration date.

If you purchased a Perpetual License, you should leave the expiration date field blank.

Then, enter your license key in the last field and press the [Register] button.



Blackout - License

License Information for
Blackout

Registered Licenses:

Automatic trial, expires on: EXPIRED
Perpetual license registered
Term license, expires on: Mar 26, 2005 3 day(s) remaining
Term license, expires on: Jan 30, 2014 3235 day(s) remaining
Trial extension, expires on: Nov 20, 2012 2799 day(s) remaining

* *
*

Register a new license Close

Once the license key has been accepted, the license dialog box is refreshed and shows the new license as registered.

It possible to have multiple registered licenses.

Deploying license keys on monitored systems

Entering the license key on a monitored system creates the following licensing information:

- a variable in the PATROL Agent configuration called: “/SENTRY/BLACKOUT1/license”
- a file on the PATROL Agent called: “%PATROL_HOME/lib/SEN_BO_license4”

To deploy the license key on all monitored servers, you do one of the following:

- deploy the license key extracted on the PATROL Agent configuration with PATROL Configuration Manager (PCM)
- deploy the license file with PATROL Distribution Server (DS)

Only one of these pieces of licensing information is required for the license key to be validated.

Section II - Using Blackout KM for PATROL

1 - Blackout KM for PATROL's purpose

The blackout of a PATROL KM is used to temporarily disable the monitoring of certain software during special operations such as backups, updates, etc. Its purpose is to make sure no false alerts are triggered while performing such operations. For example, if an application is stopped to upgrade to the latest version, it is not necessary to receive an alert in the PATROL Console because the application's processes are down.

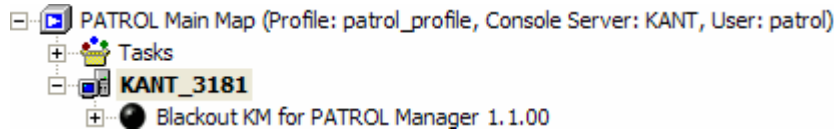
Blackout KM for PATROL can disable a whole Knowledge Module (KM) down to a single PATROL instance. Several modes can be used to automatically trigger the blackout:

- at a given date and time
- upon the presence or absence of a file
- upon the presence or absence of a process
- upon the presence or absence of a NT Service

The same modes can be used to stop the Blackout or a timeout can be set.

2 - Blackout representation in the PATROL Console

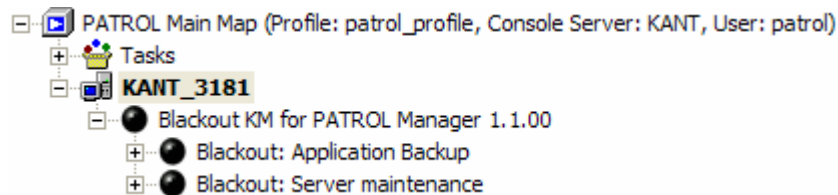
Blackout KM for PATROL is displayed in the PATROL Console as any Knowledge Module for PATROL. An instance is created under your monitored system icon, called “Blackout Manager <version number>”, as shown in the picture below:



The main blackout options, such as creating a new blackout or turning on the debug mode, are accessed by right-clicking the Blackout Manager instance and selecting “KM Commands” from the pop-up menu.

Each new blackout schedule creates an instance under the “Blackout Manager” icon, providing an easy way to check the blackouts planned for the current monitored system. Options for each blackout are accessed by right-clicking a blackout.

There are no limitations on the number of blackout for a monitored system.



3 - Real-time reactivity in Blackout KM for PATROL

Blackout KM for PATROL has been built so that it reacts instantaneously to events. False alerts are completely avoided since the blackout starts exactly when it was supposed to and not after a certain delay.

3.1 - On Windows monitored systems

On Windows monitored systems, Blackout KM for PATROL reacts to the following events in real-time:

- date and time: the blackout will start/stop at the exact second it was planned to start
- file creating/deletion: the blackout will start/stop with no more than a five second delay at the creation or deletion of a file
- process started/stopped: the blackout will start/stop with no more than a five second delay when a process is started or stopped (the WBEM layer must be installed)
- NT service started/stopped: the blackout will start/stop with no more than a five second delay most when an NT service is started or stopped (the WBEM layer must be installed)

If the WBEM layer is not installed and the blackout should start/stop when a process or NT service status changes, the blackout will react with no more than a two minute delay.

Real-time monitoring uses less than 1% of processor time.

3.2 - On UNIX monitored systems

On UNIX monitored systems, Blackout KM for PATROL reacts to the following events in real-time:

- date and time: the blackout will start/stop at the exact second it was planned to start
- file creating/deletion: the blackout will start/stop with no more than a five second delay at the creation or deletion of a file

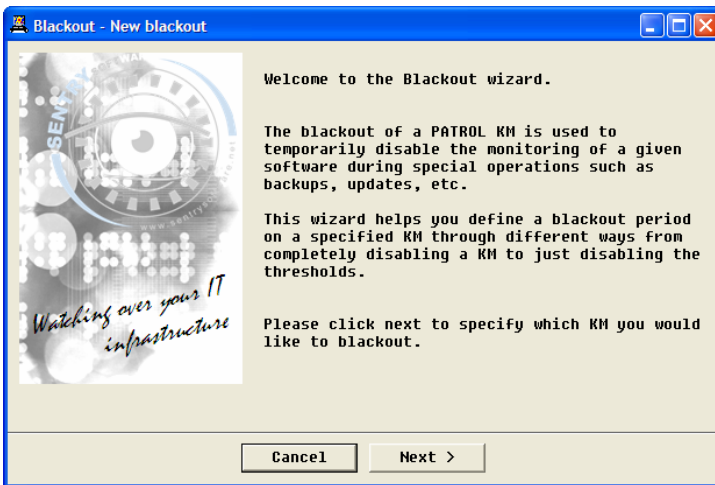
Because of the high processor time required to monitor processes on UNIX systems, it is not possible for Blackout KM for PATROL to react in real-time to process events. However, by default, Blackout KM for PATROL will check the processes' status every minute (60 seconds). It is possible to change this polling interval by modifying a configuration variable. See the "Additional information" section for more information about this subject.

4 - Planning a Blackout

Planning a Blackout is done from a PATROL Console through an interface. A blackout wizard guides you through the seven steps needed to provide the planning information.

The Blackout wizard allows you to set up a Blackout by helping you to select the period of time during which the blackout will run, the PATROL objects whose monitoring will be paused as well as the type of blackout that will be used.

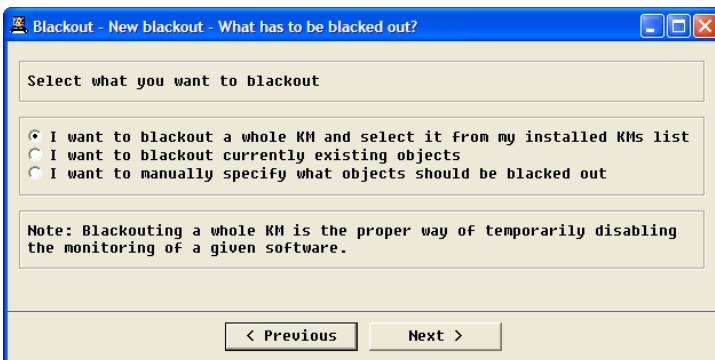
The Blackout wizard is launched by right-clicking the Blackout Manager in the PATROL Console and selecting “New blackout...” The panel below welcomes you to the Blackout wizard.



Click [Next] to continue.

Note: Canceling the wizard is only possible in this window. If you want to cancel the wizard at any step, you need go [Back] to this window and click [Cancel].

4.1 - Selecting the PATROL objects to blackout



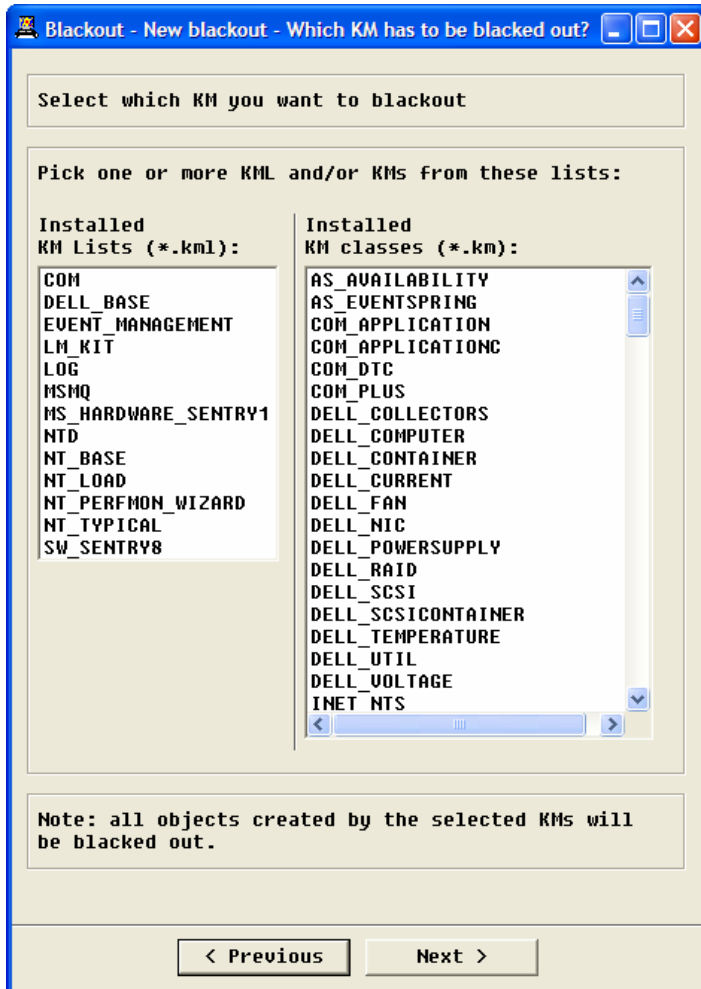
There are three different ways to select the PATROL objects to blackout:

- by selecting a whole KM
- by picking the PATROL objects from a list of currently existing instances
- by entering the KM or instance name.

Each method is described in the following sections.

Note: When the blackout starts, if the selected PATROL objects, KM or KMLs do not exist anymore, no error message will be displayed and no alert triggered. This way, you can easily deploy a set of items to blackout to all your PATROL Agents without worrying about getting false alerts.

Selecting a whole KM



This is the recommended method to blackout a whole KM.

Blackout KM for PATROL automatically builds a list of installed KM and KML (Knowledge Module List) files installed on the server. The lists are then displayed in the panel, as shown in the screenshot.

It is possible to either select a list of KML files, a list of KM files or a list of both file types.

When performing the blackout, Blackout KM for PATROL will blackout all instances of the selected class. So, if you simply want to blackout one particular instance of a KM, you should use the second method called “existing objects” to pick the specific PATROL object.

If a KML file is selected, Blackout KM for PATROL will blackout all PATROL instances of all KMs forming the KML.

Pick the KMs and KMLs you want to blackout from the list and click the [Next] button to continue with the wizard.

Examples:

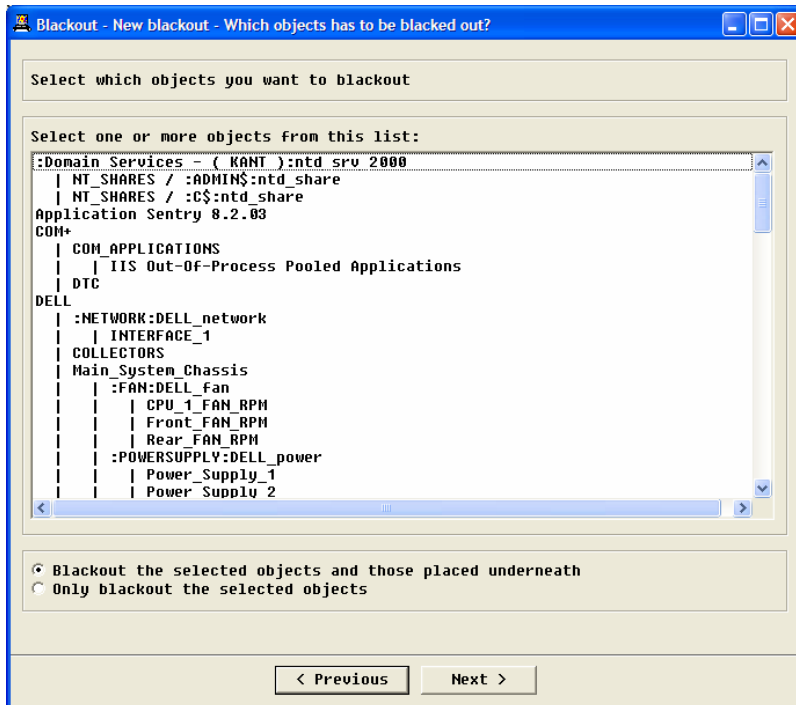
1. To blackout the whole PATROL for DELL OpenManage KM, you could either select “DELL_BASE” from the KML list, or all “DELL_” items in the KM list.

2. To blackout all process monitoring of Application Sentry KM for PATROL, select the “SW_PROCESSES” KM.

Important:

The above examples are relevant to all blackout methods except the “no collect” method. Since this method is a bit different than the others, the way the items to blackout are selected is a little different.

Selecting a list of currently existing objects



This is the easiest way to select PATROL objects to blackout from a list of existing objects in the PATROL Console.

Blackout KM for PATROL reads the PATROL Agent's configuration and builds a list of currently existing PATROL instances. The list is displayed in a tree-like list, outlining the way the objects are displayed in the PATROL Console.

To select the instances to blackout, simply find the item in the list and click on it. It is possible to select several items at the same time.

If you wish to select an item as well as the item's subitems (the items placed underneath it), select the object from the list and click on "**Blackout the selected objects and those placed underneath.**"

Select the PATROL instances to blackout and click on [Next] to continue.

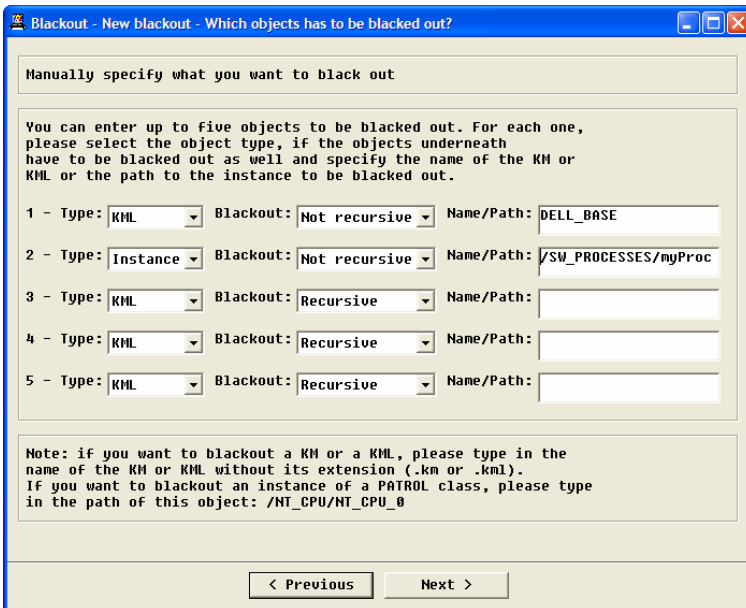
Examples:

1. To blackout the whole PATROL for DELL OpenManage KM, select the "DELL" item from the list and click on "**Blackout the selected objects and those placed underneath.**"
2. To blackout one or several process monitoring of Application Sentry KM for PATROL, simply select each process from the tree.

Important:

The list of objects to blackout is dynamically built at the start of each blackout. This has no impact on the blackout if the option "**Only blackout the selected objects**" was chosen. However, if the option "**Blackout the selected objects and those placed underneath**" was chosen, the list of subitems may change at the start of each blackout to reflect the current list of subitems at the time of the blackout.

Manually entering the list of instances or KMs to blackout



This method of selecting the objects to blackout is most commonly used when a mix of KMLs, KMs and PATROL instances is required. This is also the only way to select objects or KMs that do not yet exist on the PATROL Agent. However, it requires a good knowledge of the PATROL architecture.

It is possible to enter up to five objects to blackout, whether they are KMLs, KMs, PATROL instances or a combination of all these types.

For each of them you need to enter:

- The type of object (KML, KM or PATROL instance)
- If an instance is entered, whether the objects placed underneath should be blacked-out as well (“Recursive”) or not (“Not recursive”)

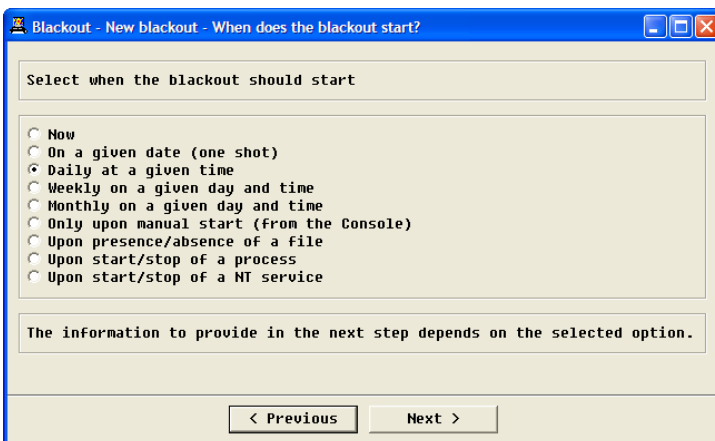
- Either the name of the KML or KM, or the path to the instance (usually “/<class name>/<PATROL ID>”)

Enter the objects to blackout and click on [Next] to continue.

Note:

When entering a KML or KM name, the path does not need to be entered and the extension should be left out. By default, Blackout KM for PATROL will read the file from the %PATROL_HOME% directory. Also, make sure you selected the appropriate type of object (KML or KM).

4.2 - Planning the start of the Blackout



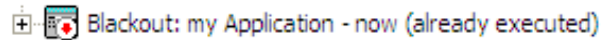
Blackout KM for PATROL allows several ways to plan the start of a blackout. You can either schedule the start of a blackout by time periods, by monitoring the status of an external component (process, file or NT service) or by a manual command. In addition, recurring blackouts are possible.

The information to provide depends on the schedule type. It is detailed in the following sections.

Start: now

The blackout will start as soon as the Blackout wizard is finished. No further information about the start of the blackout is required.

The blackout will not be scheduled to start again. As soon as it is finished, the PATROL instance representing the blackout is paused and the label “(already executed)” is added to its name.

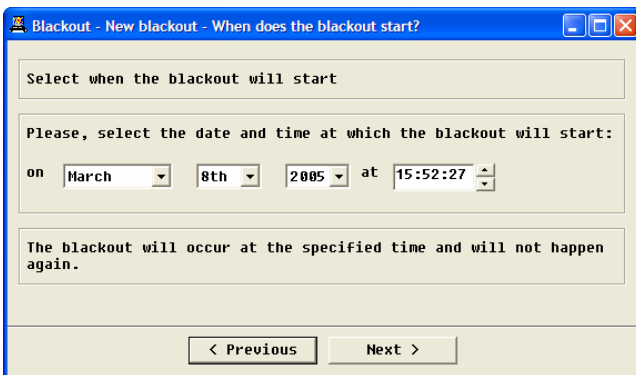


To restart a blackout which schedule was scheduled for “now”, edit the blackout and change its starting schedule.

Note:

A starting schedule of type “now” is actually considered by Blackout KM for PATROL as a “one shot” schedule which starting date is the current date and time.

Start: on a given date



The blackout will start at the date and time provided in the panel displayed on the left.

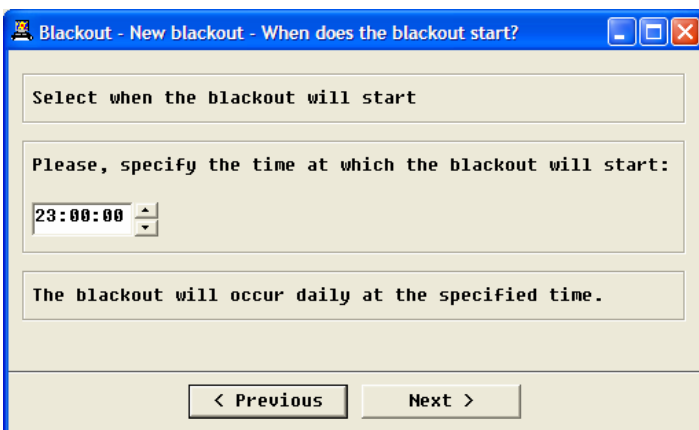
Simply select the month, day of the month, year and time at which the Blackout will start and click the [Next] button.

This is a “one shot” blackout. This means that the blackout will not be scheduled to start again. As soon as it is finished, the PATROL instance representing the blackout is paused and the label “(already executed)” is added to its name.

To restart a blackout which was scheduled to be “on a given date,” edit the blackout and change its starting schedule.

Using this method, it is possible to plan a blackout up to a year ahead.

Start: daily at a given time



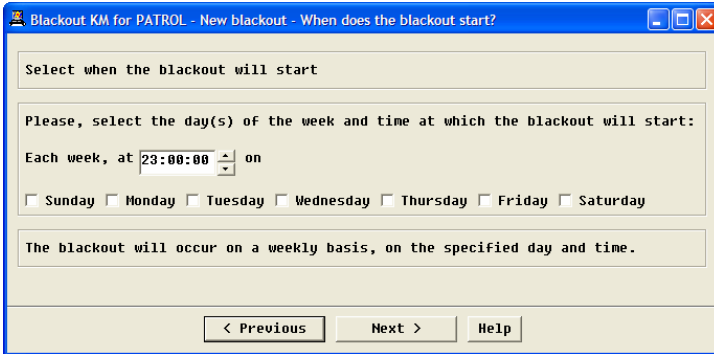
This type of blackout scheduling is a recurring event that will occur every day at the specified time.

Enter the time of the day at which the blackout will start and click [Next].

Note:

Time is in a 24 hour format.

Start: weekly at a given time



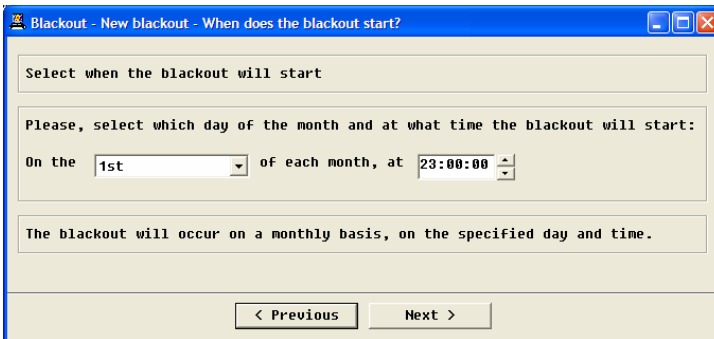
This method allows a blackout to run every week at one or more specified days and time.

Select the list of days as well as the time at which the blackout will start and click [Next] to continue.

Note:

Time is in a 24 hour format.

Start: monthly on a given day and time



This is the way to schedule a blackout on a given day at a specified time.

Select the day of the month as well as the time at which you want the blackout to start and click [Next] to continue.

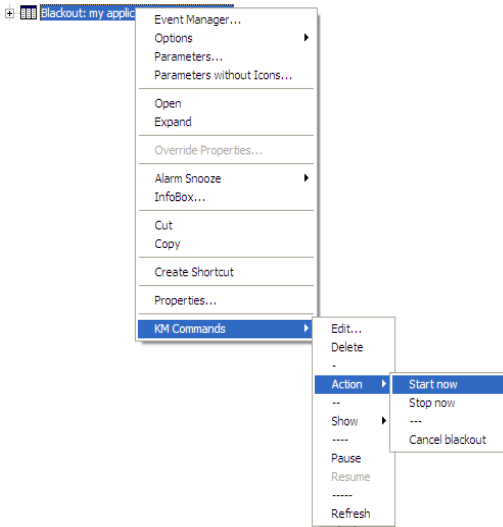
Note:

Time is in a 24 hour format.

Important:

You can schedule the blackout to start on the last day, or the day before the last day, of the month by selecting this option from the dropdown menu.

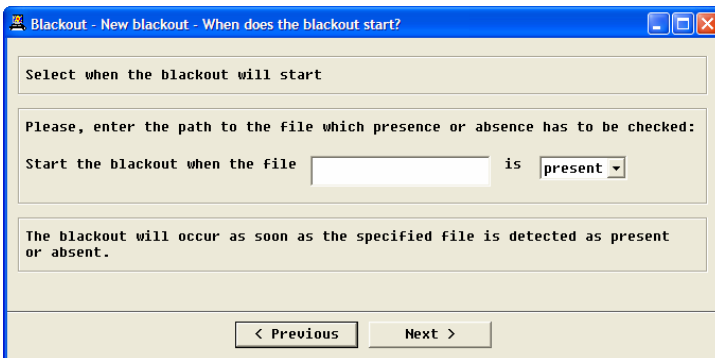
Start: upon manual start (from the Console)



In this case, no schedule is actually planned. The blackout starts from a manual command only. To start the blackout, right-click the blackout PATROL instance from the PATROL Console and select “**KM Commands** → **Action** → **Start now**”.

This method of starting a blackout is well-suited for blackouts that need only be started occasionally.

Start: upon presence/absence of a file



Selecting this option allows you to set Blackout KM for PATROL to start the blackout when a file is present or missing.

Enter the file name, preceded by the path to the file, and select whether the blackout should start when the file actually exists (“present”) or does not exist (“absent”).

Then, click on [Next] to continue.

Note:

The presence or absence of a file does not always mean the blackout will start. If the blackout is manually stopped through KM Commands or is stopped because a timeout is reached, Blackout KM for PATROL will wait for the file to change status twice before starting again. This is done to make sure the blackout does not restart right away when it is stopped abnormally.

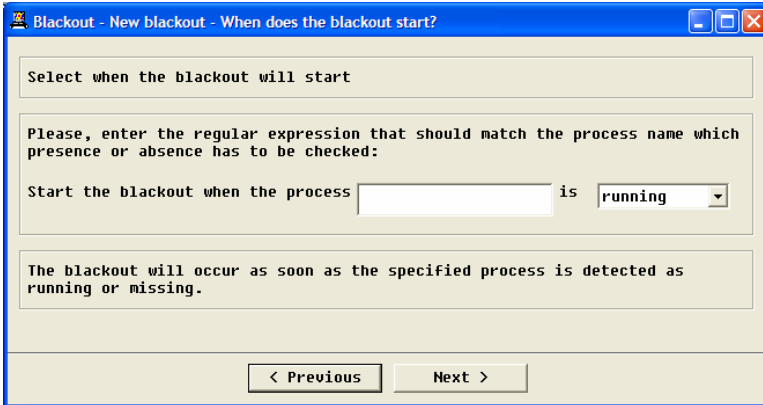
Example:

The blackout should start when the file “C:\MyApplication\backup.log” is present.

At one point, Blackout KM for PATROL detects that the file has been created and starts the blackout of the application monitoring. Then, the PATROL administrator manually stops the blackout through the command menu, or a specified timeout is reached and the blackout automatically stops.

Even though the file is still present, the blackout will not re-start right away. Blackout KM for PATROL will track the file’s status and the blackout will automatically start again only after the file is removed and created again.

Start: upon start/stop of a process



Select when the blackout will start

Please, enter the regular expression that should match the process name which presence or absence has to be checked:

Start the blackout when the process is

The blackout will occur as soon as the specified process is detected as running or missing.

< Previous Next >

Often times, a blackout of an application monitoring should start as soon as an other application (such a backup application) is launched. Such applications have processes so it would be a good idea to set the Blackout KM to run a blackout when a process is found. On the other hand, it is also possible to start the blackout when the application is stopped and its processes are not running anymore.

This is the purpose of this panel. Simply enter a regular expression matching the process' name you want to monitor and

select whether the blackout should start when the process is “running” or “not running.”

Note:

The presence or absence of a process does not always mean the blackout will start. If the blackout is manually stopped through KM Commands or is stopped because a timeout is reached, Blackout KM for PATROL will wait for the process to change status twice before starting again. This is done to make sure the blackout does not restart right away when it is stopped abnormally.

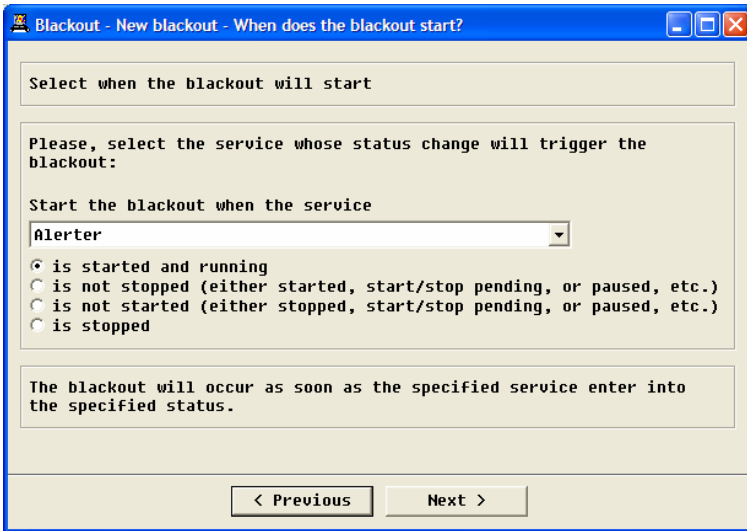
Example:

The blackout should start when the process “myApplicationProcess.exe” is present.

At one point, Blackout KM for PATROL detects that the process has been created and starts the blackout of the application monitoring. Then, the PATROL administrator manually stops the blackout through the command menu, or a specified timeout is reached and the blackout automatically stops.

Even though the process is still present, the blackout will not re-start right away. Blackout KM for PATROL will track the process's status and the blackout will automatically start again only after the process is stopped and launched again.

Start: upon start/stop of a NT service



Selecting this option means that you want the blackout to start when a specified NT service enters a specified state.

Blackout KM for PATROL reads the server's configuration and retrieves the list of installed services.

Select a service name from the dropdown list of services and pick which service state will trigger the blackout:

- is started and running
- is not stopped (started, pending, paused, etc)
- is not started (stopped, pending, paused, etc.)
- is stopped

Blackout KM for PATROL will monitor the specified service and start the blackout as soon as the service enters the specified state.

Note:

This option is only available on PATROL Agents running on Microsoft Windows.

Note:

The fact that the monitored service status and the status entered match does not always mean the blackout will start. If the blackout is manually stopped thanks to a KM Commands or is stopped because a timeout is reached, Blackout KM for PATROL will wait for the service to change status twice before starting again. This is done to make sure the blackout does not restart right away when it is stopped abnormally.

Example:

The blackout should start when the process "myApplicationService" is running.

At one point, Blackout KM for PATROL detects that the service has been started and starts the blackout of the application monitoring. Then, the PATROL administrator manually stops the blackout through the command menu, or a specified timeout is reached and the blackout automatically stops.

Even though the service is still running, the blackout will not re-start right away. Blackout KM for PATROL will track the service's status and the blackout will automatically start again only after the service is stopped and launched again.

4.3 - Planning the end of a blackout

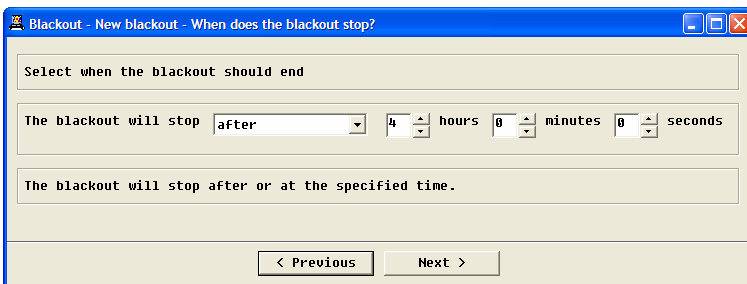
The next step of the wizard consists in configuring Blackout KM for PATROL to automatically stop the blackout. Although it is possible to manually stop a blackout through the KM Commands, a blackout should at the very least have a timeout that will automatically stop the blackout and pick up the monitoring where it stopped.

What will stop a blackout depends on what started it. If a blackout start is time dependant, you are required to specify a time at which the blackout will stop. If a blackout start depends on a file, process or NT service status, the blackout will stop when the monitored item's state changes to the opposite of what started the blackout. Therefore, if for example, a blackout should start when a specified file is present, the blackout will automatically stop when the file does not exist anymore. In this scenario, it is also possible to specify a date and time that, when reached, will automatically stop the blackout.

Since the information that will cause changes depends on the option selected to start the blackout, there are two different panels.

End of a blackout at a given time

If the blackout starts at a given date and time, whether this is an recurring event or not, the panel below is displayed.



In this panel, you are asked to specify either a timeout or a time at which the blackout will end.

By default, the blackout will last four hours but it is possible to select from the drop down menu to stop the blackout:

- **“after”** a specified number of hours, minutes and seconds. Blackout KM for PATROL will wait for the given time and stop the blackout.
- **“the same day at”** a specified time. In this case, “hours,” “minutes” and “seconds” are used to enter the time at which the blackout will stop. The blackout will stop the same day it was started at the specified time.
- **“the day after at”** a specified time. In this case, “hours,” “minutes” and “seconds” are used to enter the time at which the blackout will stop. The blackout will stop the day after at the specified time.
- **“two days after at”** a specified time. In this case, “hours,” “minutes” and “seconds” are used to enter the time at which the blackout will stop. The blackout will stop two days later at the specified time.
- **“three days after at”** a specified time. In this case, “hours,” “minutes” and “seconds” are used to enter the time at which the blackout will stop. The blackout will stop three days later at the specified time.

Note:

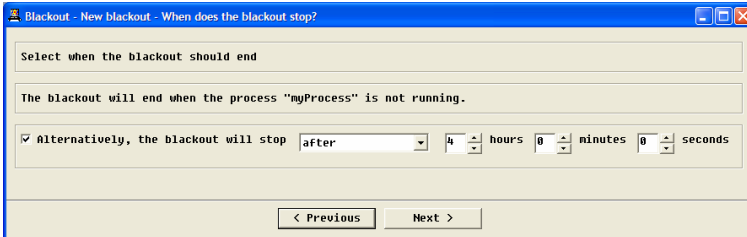
If a blackout starts at a given day and time, it may last as long as 3 days, 23 hours, 59 minutes and 59 seconds.

End of a blackout when an event occurs or at a specified time

If you selected that the Blackout should start upon the presence of a file, process or NT Service, Blackout KM for PATROL will automatically end the blackout when the opposite of the starting condition is reached.

So, for example, if you specified that a blackout should start when the file “C:\MyApplication\Backup.log” exists, the blackout will automatically stop when the file is not found anymore.

Alternatively, it is possible to specify a timeout that, when reached, will stop the blackout.

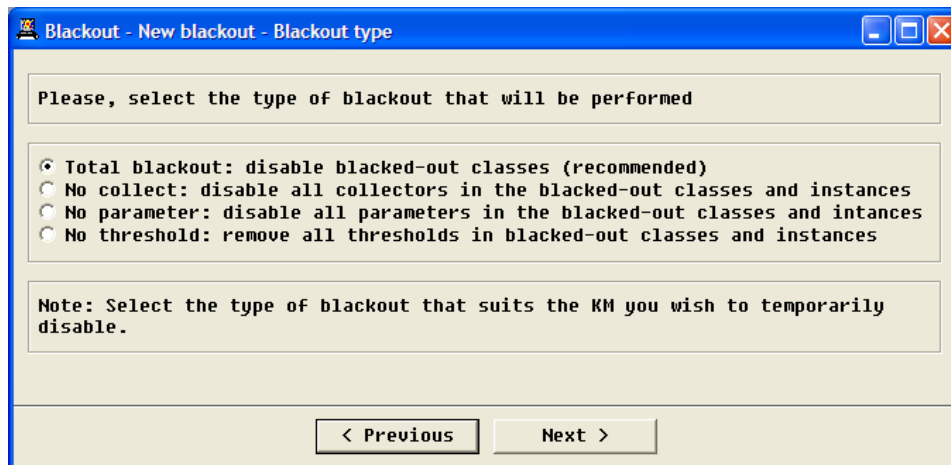


By default, a timeout is selected and the blackout will last four hours. However, it is possible to stop the blackout by selecting from the drop down:

- **“after”** a specified number of hours, minutes and seconds. Blackout KM for PATROL will wait for the given time and stop the blackout.
- **“the same day at”** a specified time. In this case, “hours,” “minutes” and “seconds” are used to enter the time at which the blackout will stop. The blackout will stop the same day it was started at the specified time.
- **“the day after at”** a specified time. In this case, “hours,” “minutes” and “seconds” are used to enter the time at which the blackout will stop. The blackout will stop the day after at the specified time.
- **“two days after at”** a specified time. In this case, “hours,” “minutes” and “seconds” are used to enter the time at which the blackout will stop. The blackout will stop two days later at the specified time.
- **“three days after at”** a specified time. In this case, “hours,” “minutes” and “seconds” are used to enter the time at which the blackout will stop. The blackout will stop three days later at the specified time.

4.4 - Selecting the blackout type

Blackout KM for PATROL offers four different types of blackout. Because of the way Knowledge Modules are built, each type of blackout has advantages and drawbacks. There is no single way that will work on every Knowledge Module for PATROL.



Before selecting the type of blackout to perform, **it is very important that you carefully read the information below** and get as much information as possible on the way the KM you want to blackout works.

1. Total blackout (recommended method): disable blacked-out classes

This method disables the selected class (KM) or the class associated with the instance to blackout. Each blacked-out instance disappears from the PATROL Console and no monitoring is performed. This is the most reliable way of blacking-out and the recommended method.

The drawback is, since the entire class (KM) is disabled, all class instances are removed from the PATROL Console and their monitoring is stopped. In other words, it is not possible to blackout a single instance of a class using this method.

2. No collect: disable all collectors in the blacked-out classes and instances

This type of blackout disables all collectors in the selected classes and instances. This way, collecting is no longer performed. Therefore, there can be no alert triggered by the blacked-out Knowledge Module. Using this method, a single instance of a class can be blacked-out while others are still being monitored.

However, if a Knowledge Module for PATROL dynamically activates/deactivates collectors, this method of blacking-out this particular KM will not work. The collectors that are deactivated at the start of the blackout will indeed be reactivated by the KM during the discovery period for instance.

For example, blacking-out a file system monitoring performed by PATROL for Windows KM for PATROL or PATROL for UNIX KM for PATROL is not possible using the “No collect” method.

Very important:

While the other blackout methods imply that you directly select the objects to blackout in the Blackout wizard, the way the objects to blackout are picked using the “No collect” method is a little different. Since the instances and classes for which you wish to pause the monitoring will not actually be the ones that are blacked-out, but rather the collectors, you need to select the instances or classes that contains the collector. There is indeed no way for the Blackout KM to determine which collector is associated with an instance.

This can be tricky since sometimes, the collector getting the data for a parameter is not found in the parameter’s class but in a different class instead. In this case, you would need to select the class containing the collector from the objects to blackout and not the parameter’s class.

So, for each parameter to blackout you need to:

- find the parameter’s collector by checking the Knowledge Module documentation (“Reference Guide”)
- select the collector itself and **not** the instance to blackout from the list of objects to blackout in the Blackout wizard.

The Blackout KM will try to find the collector of the instances to blackout when you click on the [Next] button. If it cannot find the collector of one or more objects to blackout, a warning message is displayed letting you know that the objects may not be blacked-out.

When the blackout starts and Blackout KM for PATROL cannot find a collector for a specified instance or class to blackout, the warning message below is displayed in the PATROL Console’s system output window:

```
“Could not find collector for the instances listed below. These instances will not be blacked-out.”
```

Please, check the blackout settings and make sure you selected the appropriate instance to blackout (the one containing the collector). See the Help file for more information.

Instances that are not blacked-out:

```
<Instance list>
```

In addition, an event is generated and the Blackout “Status” parameter triggers a warning.

3. No parameter: disable all parameters in the blacked-out classes and instances

This blackout method, which consists of disabling all parameters in the blacked-out classes and instances, is probably the most “natural” of all blackouts. By disabling the parameters, Blackout KM for PATROL ensures that all blacked-out parameters cannot trigger an alert since they have no value.

Be wary though, that some Knowledge Modules dynamically update the status of their parameters, usually during recurring discoveries, and may enable a parameter that has been disabled by Blackout KM for PATROL. This, in essence, will cancel the blackout and alerts may be triggered even though the blackout is running. So, before selecting this blackout method, make sure that the blacked-out KM set the parameter status during the initial discovery only and never again afterwards.

Application Sentry KM for PATROL runs a full discovery every hour that checks the parameter status and enable/disable these parameters depending on the information found in the configuration. This means that the “No parameter” method will not work with Application Sentry as a discovery will enable parameters disabled by Blackout KM for PATROL.

4. No thresholds: remove all thresholds in blacked-out classes and instances

This type of blackout removes thresholds from the selected classes and instances during the blackout period. So, while collects are still being performed and parameter values are updated normally, no alert is triggered because the thresholds have been removed from the parameters. This can be useful if you want to check the monitoring data after the blackout period.

The drawback of this method is that some Knowledge Modules dynamically set the parameter thresholds regularly which cancels the blackout effect. So, while the blackout is started and thresholds have been removed, a blacked-out KM may set the parameters thresholds back.

This method may not work with Hardware Sentry KM for PATROL since thresholds are dynamically set at each discovery depending on the manufacturer’s agent information.

Important

A backup of thresholds is performed before the removal. The backup ensures that thresholds are not lost if the PATROL Agent is stopped or the server restarted, for example. If this should happen, and as soon as the PATROL Agent is up and running again, thresholds are set back so that your monitoring is not altered.

In addition, a backup file containing all the thresholds before their removal is created under the name:

```
%PATROL_HOME/SEN_BO_LOG/SEN_BO_<blackout ID>_backup_<starting time>_<starting date>.cfg
```

This “.cfg” file can be read by PATROL wpconfig and xpconfig and directly applied to the PATROL agent to restore thresholds, if any threshold loss should occur. Please, see the *PATROL Agent Reference Manual* for more information about wpconfig and xpconfig.

Conclusion

The only blackout method that is guaranteed is the one that deactivates the classes to blackout, which is “total blackout.” All the other methods may have their blackout effect canceled depending on the way the KM to blackout is built. So, selecting any other method than “total blackout” implies that you have a good understanding of the KM to blackout to make sure the blackout is not canceled during operation.

The methods that are we recommended:

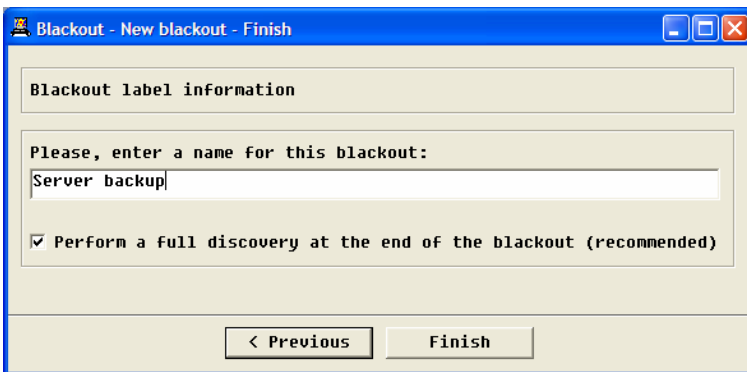
- to blackout a whole KM or all instances of a class: “total blackout”
- to blackout single instances of a class: “no thresholds”

Finally, Sentry Software guarantees that no alert will be triggered during the blackout period. However, alerts triggered before or after a blackout will not be blacked-out.

Select the blackout method and click [Next] to proceed to the end of the Blackout wizard.

4.5 - Naming the blackout

This is the last step of the wizard in which you name the blackout scheduling you are about to create. The instance created in the PATROL Console will be named after what you enter in this panel.



Enter the blackout name in the box and click [Finish] to finish the Blackout wizard.

The label “Blackout: “ will be added at the front of the blackout name so that you can quickly identify the purpose of the instance in the PATROL Console.

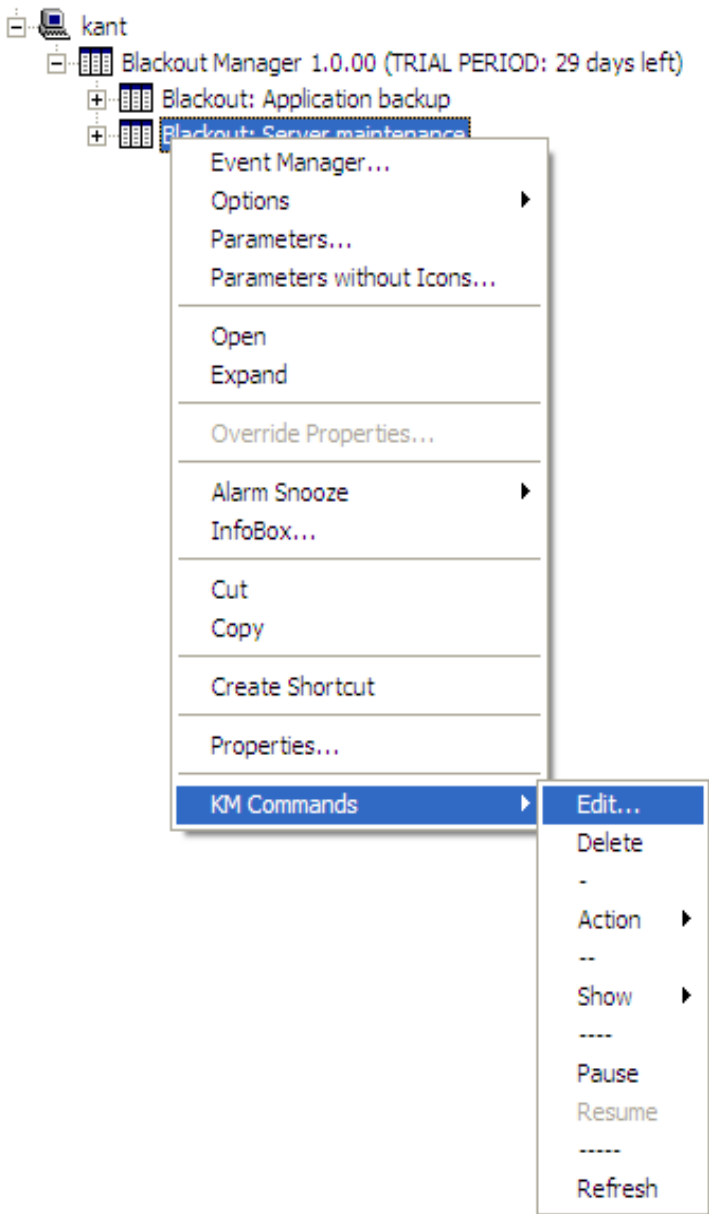
The instance representing this new blackout schedule is created under the main Blackout instance in the PATROL Console.

If the blackout method you selected is “Total blackout” a check box appears at the bottom of the panel which allows you to perform a full discovery at the end of the blackout period. This is highly recommended since the blacked-out instances are removed from the PATROL Console at the time of the blackout and will not be re-created until the next discovery of the blacked-out KM.

Checking this box ensures that all blacked-out instances are re-created in the PATROL Console at the end of the blackout and that the monitoring can resume normally.

If another blackout method was selected, this check box is not available.

5 - Modifying a Blackout configuration



It is possible to modify a blackout configuration at any time. Any of the options, including the schedule or the PATROL objects to blackout, can be modified.

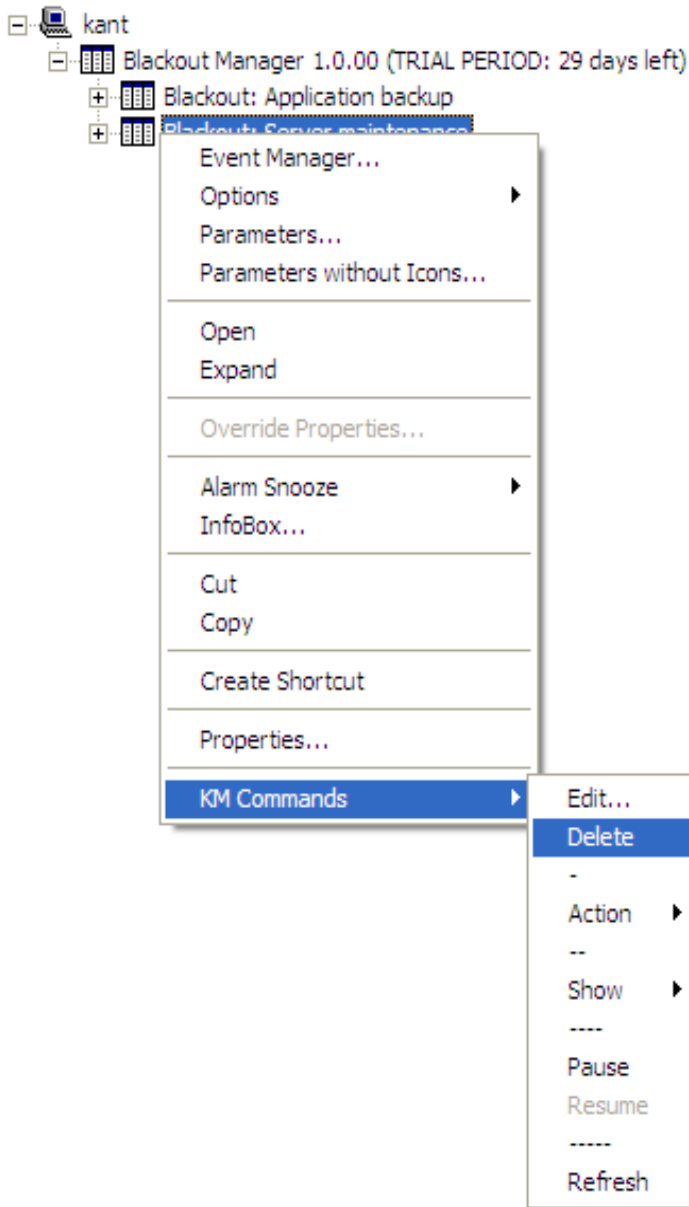
To change a blackout, right-click the blackout instance in the PATROL Console and select “**KM Commands** → **Edit...**” as shown on the picture.

The Blackout wizard comes up and allows you to go through all the steps and modify the configuration as you please.

For more information on each step of the Blackout wizard, please see “**4 - Planning a Blackout**”.

Changes are applied right-away unless the modified blackout is currently started. In this case, the changes will be applied at the end of the blackout.

6 - Removing a blackout



Blackout KM for PATROL provides a simple way of removing a blackout. By selecting this option, you delete the blackout from the PATROL Console and the PATROL Agent configuration. In other words, the blackout will not start again and there is no way to retrieve a deleted blackout. So please, use this option carefully.

To delete a blackout, right-click the blackout instance in the PATROL Console and select “**KM Commands** → **Delete**” as shown on the picture.

A message pops-up, asking you to confirm the deletion of the blackout. You can still cancel the action at this point by clicking the [No] button. Confirm the removal of the blackout by clicking on [Yes].


If a blackout is taking place when you choose to delete it, the confirmation message will inform you that the blackout will be stopped before being removed. This is done to make sure no monitoring is lost and everything is back to normal before deleting the blackout.

Section III - Day-to-day tasks


1 - Checking a blackout state

A blackout can have four states:


- **Started:** the blackout is currently in action and objects are blacked-out. Its state is shown in the blackout name with the “(started !)” label.

 **Blackout: Application backup (started!)**


- **Stopped:** the blackout is stopped, no objects are blacked-out. The blackout is waiting for the next blackout period.

 **Blackout: Application backup**

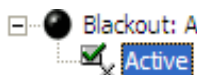
- **Paused:** the blackout can be either started or stopped depending on the state that it was in when it was suspended. Its state will not change until the PATROL Administrator resumes its monitoring.

 **Blackout: Application backup**

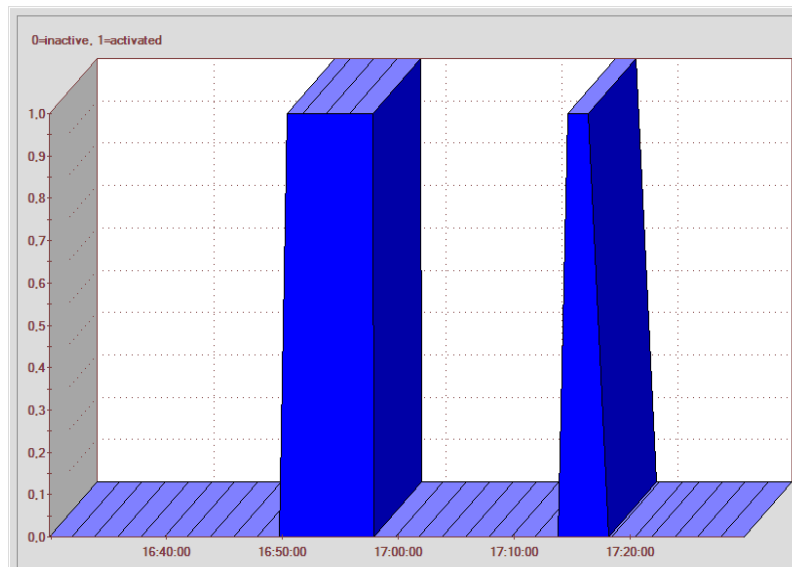
- **Already executed:** this only applies to blackouts of type “one shot” or “now”. In this status, the blackout has been executed and is now stopped. The blackout will not run again unless it is edited and its scheduled settings are changed.

 **Blackout: Application backup (already executed)**

All blackouts have a parameter called “Active.”

 **Blackout: Application backup**

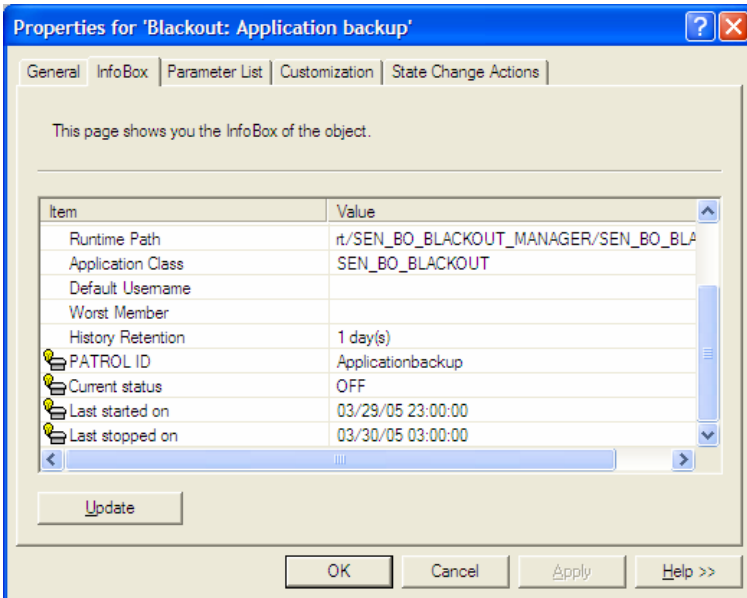
You can check whether the blackout is started or stopped right now by left clicking on the cross icon next to the blackout name in the PATROL Console to expand the object. The parameter is then displayed and left-click the parameter to see the blackout state graph.



When the blackout is started, the “Active” parameter value is “1”. When it is stopped, its value is “0”.

In addition to showing the current state of the blackout, the “Active” graph provides an easy way to check the blackout state in the past. It is possible to see when the blackout was started and stopped in the past hours, days or even months.

Finally, the infobox contains information about the last blackout and its current status. How to view the blackout infobox depends on the version of the PATROL Console so you check the PATROL Console User Guide for more information.



The infobox shows the current status of the blackout. It is either “ON” (started), or “OFF” (not started).

The panel also displays the date and time at which the blackout was last started and stopped.

2 - Alerts triggered by a blackout

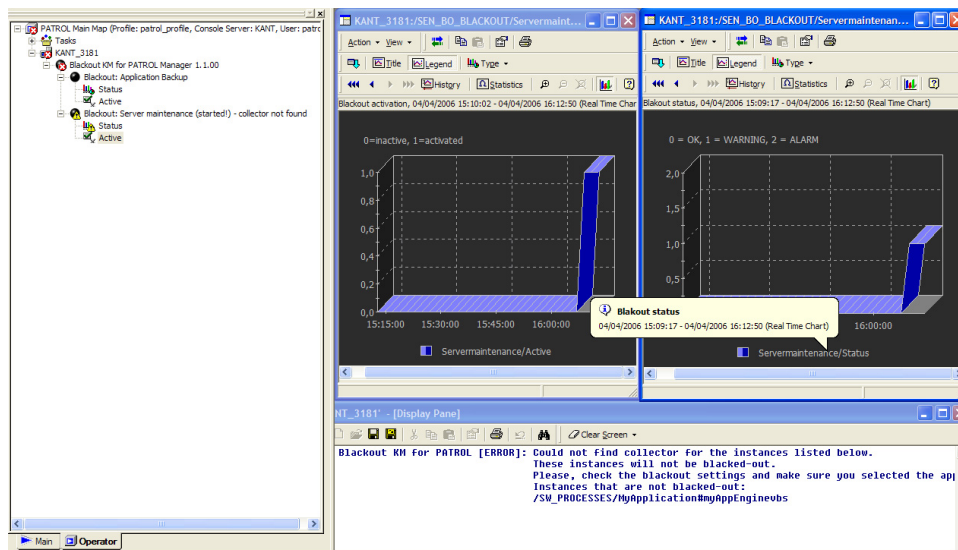
When a blackout starts, a few checks are made to make sure the blackout can be properly performed. If one of the checks fails the Blackout “Status” parameter triggers an alert.

Three problems can be detected depending on the blackout type:

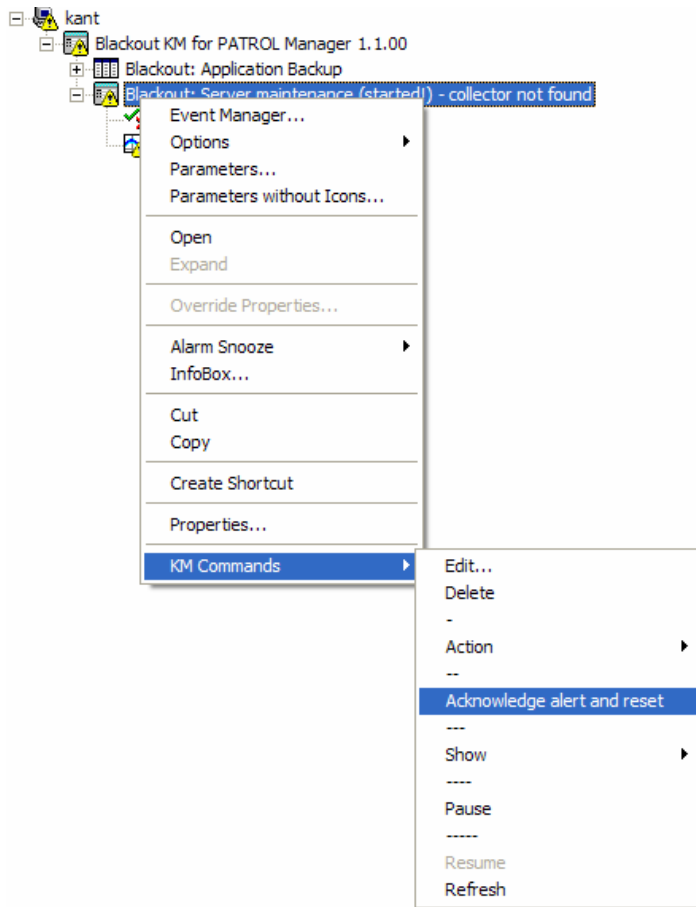
Alert severity	Blackout type	Blackout label	Description of the problem
Warning	No collect	collector not found	The Blackout KM could not find the collector of an instance that is scheduled to be blacked-out
Warning	No threshold	overlap of no threshold blackout	When two “no threshold” blackout types overlap each other, time and instance wise (i.e. the second blackout tries to blackout instances that are already blacked-out by the first one). In this case, the second blackout will NOT blackout the instances that are already blacked-out by the first one. This means that the blackout of the overlapping instances may stop sooner than expected in order to avoid threshold loss.
Alert	No threshold	backup failure	The blackout KM could not write the file containing the thresholds backup of the PATROL instances to blackout. The blackout is canceled.

When an error occurs, the Blackout KM takes the following actions:

- send event with the same severity as the alert
- print an error message to the PATROL console’s system output window
- annotate the graph with the complete description of the error
- the blackout label is changed to contain a description of the error for as long as the blackout is active or until the alert is acknowledged (see above)

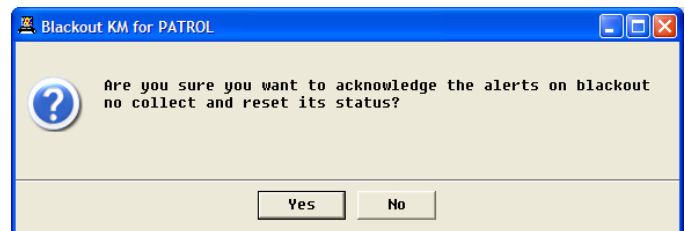


3 - Acknowledging a blackout alert



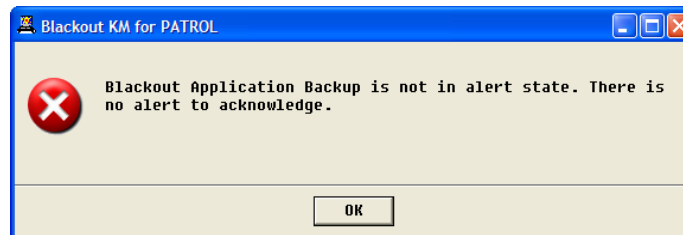
An error can occur, usually at the start of a blackout, and trigger an alert on the “Status” parameter of a blackout. The alert will carry on until the blackout starts again and the alert will be automatically acknowledged if the problem is solved. However, if the problem still exists when the blackout starts again, the “Status” parameter will stay still be in alert mode.

It is possible to manually acknowledge an alert by right-clicking the blackout object in the PATROL console and selecting “**KM Commands** → **Acknowledge alert and reset.**” Doing so resets the “Status” parameter and cancels the alert. A confirmation panel is displayed: click on [Yes] to acknowledge the alert, on [No] to cancel.

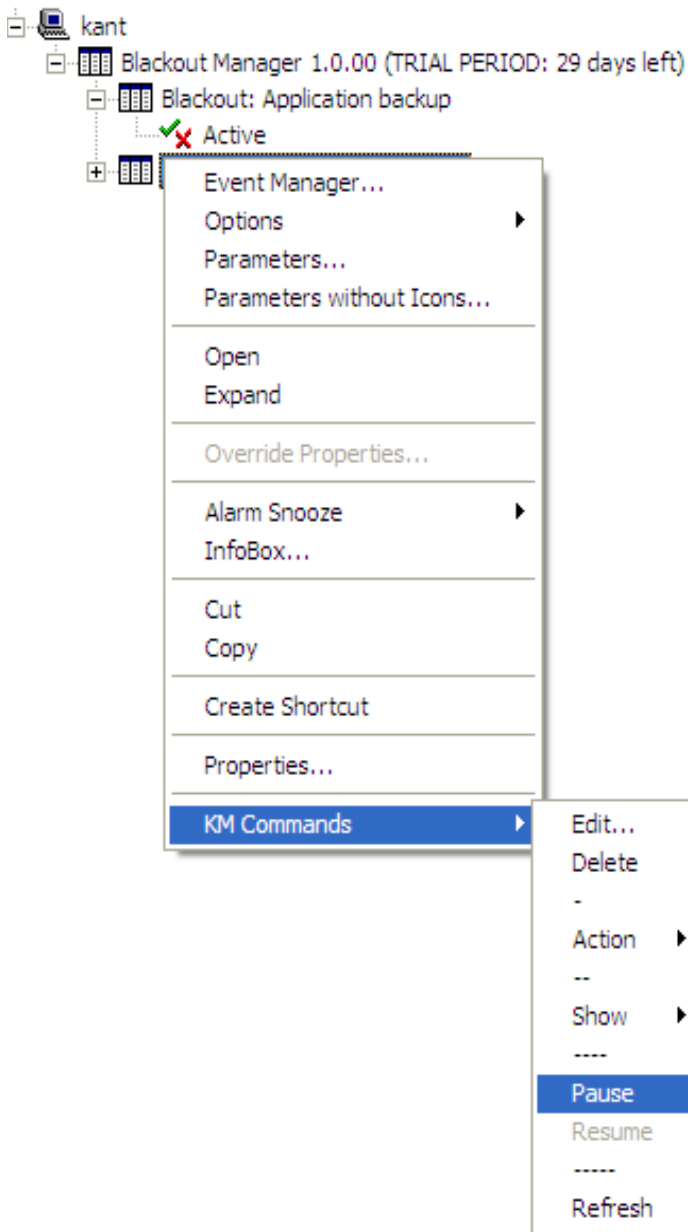


Please note that the problem that triggered the alert may still exist and the blackout is likely to encounter the same problem the next time it is scheduled to start. which will trigger another alert.

Clicking on the “Acknowledge alert and reset” menu when the “Status” parameter is not in alert mode displays a message letting you know that there is no alert to acknowledge:



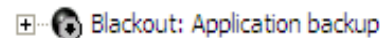
4 - Temporarily suspend a blackout schedule



Blackout KM for PATROL provides an easy way to temporarily suspend a blackout schedule. If, for example, a scheduled server backup is exceptionally canceled, it is possible to pause a blackout so that the monitoring is not suspended during the usual backup hours. You can then resume the blackout schedule when the usual backup period is over.

To pause a blackout schedule, right-click the blackout instance in the PATROL Console and select “**KM Commands** → **Pause**” from the pop-up menu.

The blackout icon will be grayed out as in the picture below:

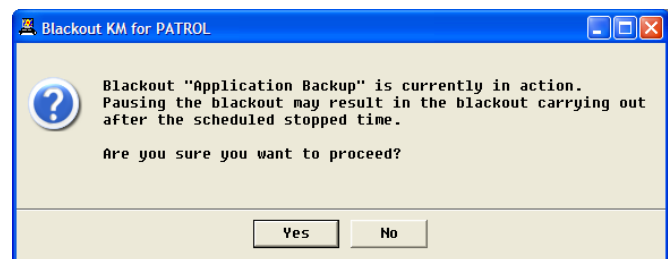


The blackout state will not change until the PATROL Administrator resumes the monitoring by right-clicking the instance again and selecting “**KM Commands** → **Resume**”.

Important

You should never pause a blackout schedule if the blackout is currently in action (“started!”). Doing so may result in the blackout carrying out after the scheduled stop time. In other words, the monitoring performed by PATROL may not work properly.

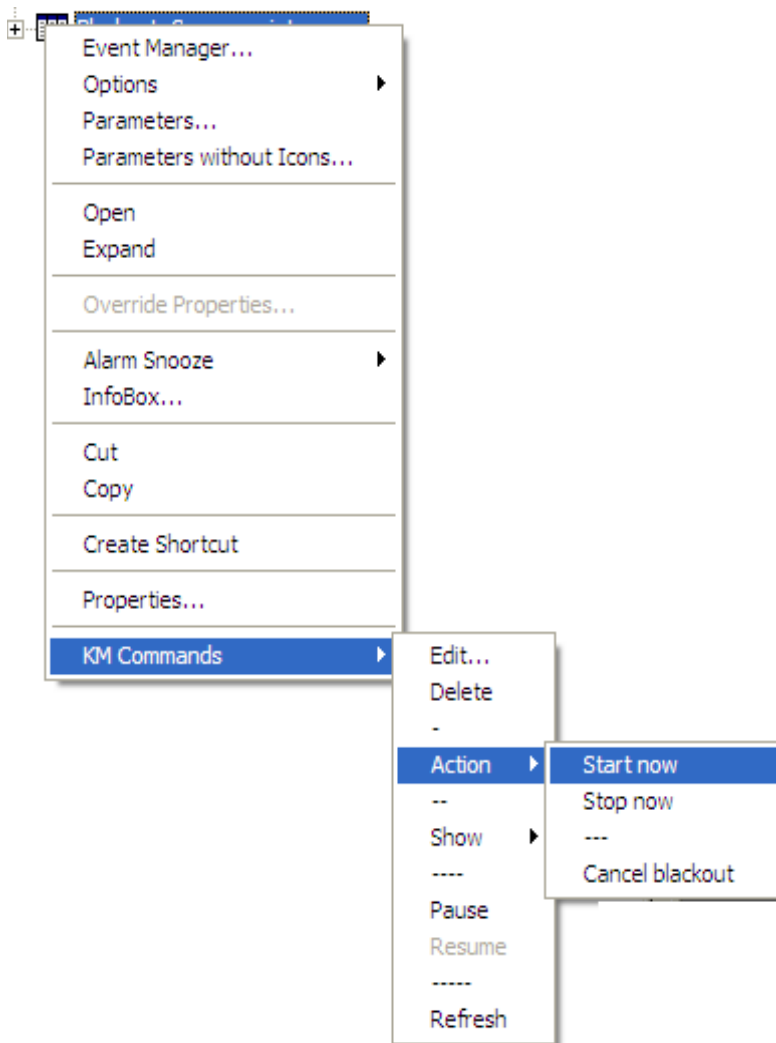
If you chose to pause a blackout schedule when the blackout is currently in action, the following message pops-up, asking you to confirm:



Click on [Yes] to pause the blackout schedule or [No] to cancel.

We strongly recommend that you cancel and manually stop the blackout before suspending the blackout schedule.

5 - Manually start or stop a blackout



Blackouts can be scheduled to start on a specified date and time or upon another condition, but they can also be manually started or stopped through a KM command.

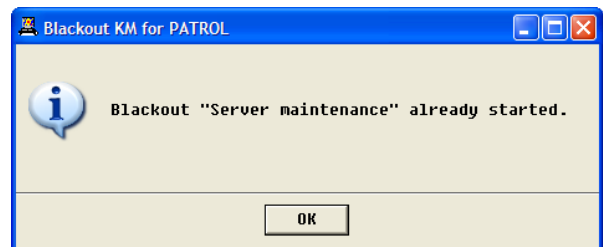
Manual start

Starting a blackout is performed independently of the blackout schedule and has no impact on the rest of the blackout schedule. So, you can manually start a blackout at 9:00am, stop it a couple of hours later and it will start again at 11:00 pm as it was scheduled to do.

If a blackout is manually started, its usual stopping condition still applies. If a blackout normally stops at a given time, the manually started blackout will also stop at the usual time.

Manually starting a blackout is done by right-clicking the blackout instance in the PATROL Console and selecting “**KM Commands** → **Action** → **Start now**.”

Executing this command while the blackout is already started displays a pop-up to warn you that the blackout is already in action:



In addition, the following message is displayed in the PATROL System Output Window:

```
Blackout [INFORMATION]: Blackout "Blackout: <blackout name> (started!)"
already in action.
```

Manual stop

If a blackout is started, it is possible not to have to wait for its normal stop condition and manually stop the blackout. By selecting this option, the blackout will stop right away whether its stop conditions are met or not.

The usual blackout starting condition will still apply unless the blackout is scheduled to start upon the presence, or absence, of a file, process or NT service. In this case, Blackout KM for PATROL will wait for the monitored item to change status twice before starting again. This is done to make sure the blackout does not restart right away when it is manually stopped.

Manually stopping a blackout is performed by right-clicking the blackout instance in the PATROL Console and selecting “**KM Commands** → **Action** → **Stop now.**”

If you try to manually stop a blackout that is not started, the following message is displayed in the PATROL System Output Window:

```
Blackout [INFORMATION]: Blackout <blackout name> already stopped.
```

A message also pops-up:



6 - Displaying information relating to a blackout

You can display information relating to a blackout by right-clicking the instance in the PATROL Console and browsing to the “**KM Commands → Show**” menu.

From there you can select to show either the blackout settings or the currently blacked-out objects.

Clicking on “Settings” opens up a new window in the PATROL Console. Left-click the new task to get the following blackout information:

- PATROL ID
- Name
- List of objects to blackout
- Start condition
- Stop condition(s)
- Blackout type

```

Blackout configuration information
-----
PATROL ID: ApplicationSentryblackout
-----
Label: Application Sentry blackout
-----
Blackout kind: whole KM
-----
|           KM           |           KML           | |
|           |           |           |
|           | SU_SENTRY8 |           |
|           |           |           |
-----
Start condition: monthly on the lastday of each month at 22:30:00
-----
Stop condition(s):
-----
1. The Blackout will stop after 3 hour(s), 30 minute(s) and 0 second(s)
Blackout type: total-blackout (disable blacked-out classes)
-----

```

Clicking on “Show currently blacked-out objects” when the blackout is active displays the list of blacked-out objects:

PATROL ID: ApplicationSentryblackout
Blackout name: Application Sentry blackout

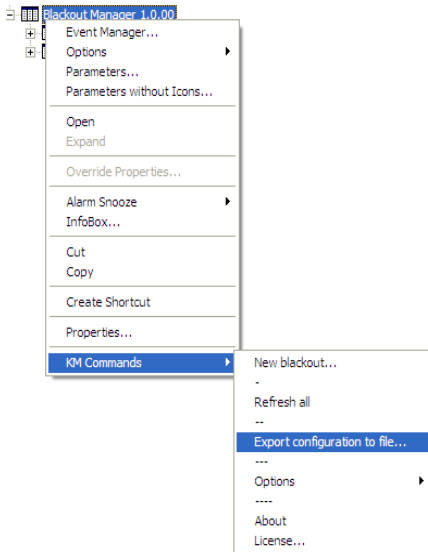
List of PATROL objects (classes, instances or parameters) currently blacked-out:

SW_SENTRY

7 - Exporting a blackout configuration to a file

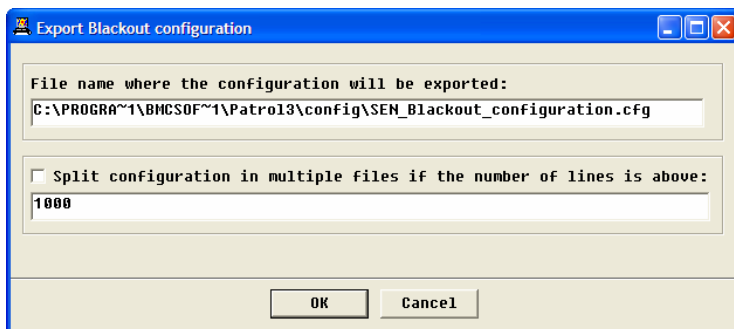
This option provides an easy way to save a PATROL Agent's configuration in exporting it to another PATROL Agent. The configuration is saved to a file that can then be loaded onto a different PATROL Agent through the PATROL interface. This method offers a simple way to:

- copy a PATROL Agent's configuration without going through the hassle of manually setting it up
- make sure that both configurations are identical



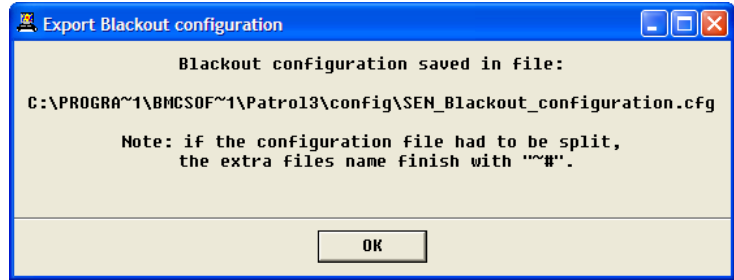
To export a configuration to a file, right-click the “Blackout Manager” icon in the PATROL Console and select “**KM Commands** → **Export configuration to file...**”

The panel below pops-up, asking you for information:



Enter the path and file name of the file that will contain the PATROL Agent's configuration and click the [OK] button. After a few seconds, a message will pop-up to confirm that the file has been created and to display the configuration file name.

Note: By default, the configuration file is created in the “%PATROL_HOME%\config” directory and the file named “SEN_Blackout_configuration.cfg”.



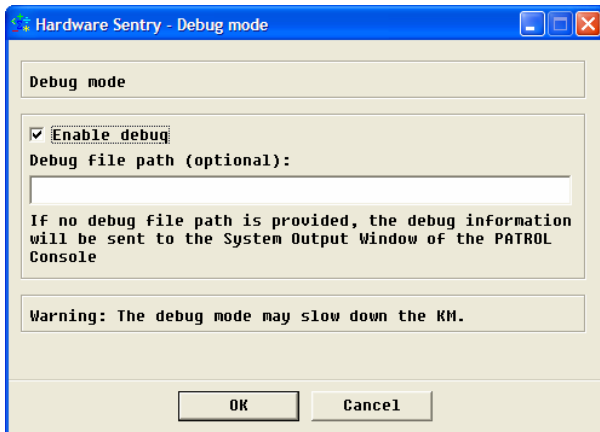
If the configuration is pretty large, it is possible to split the configuration into several files. To do so, check the “Split configuration in multiple files if the number of lines is above” and enter a maximum number of lines per configuration file (“1000” is the default number of lines).

Every time the maximum number of lines is reached, Blackout KM for PATROL creates a configuration file named “<entered file name>~n.cfg”, with *n* being the current file number.

8 - Enabling the Debug Mode

By default, Blackout KM for PATROL sends only the most critical information, warning and error messages to the System Output Window of the PATROL Consoles. Most often, this information is accurate enough to ensure that Blackout KM for PATROL is properly working.

If you encounter a bug and want to report that bug to Sentry Software, you will be asked to enable the Debug Mode and provide the debug output to the Sentry Software support team.



To enable the debug mode, [right-click] the Blackout Manager icon and select “**KM Commands** → **Options** → **Debug...**” from the menu.

Check the "Enable debug" box.

By default, Blackout KM for PATROL will send its debug output to the System Output Window of the PATROL Consoles.

When debugging the discovery process of the Blackout KM at the starting time of the PATROL Agent, some debug information may be lost by the PATROL Console because it is not yet connected to the PATROL Agent. In other cases, or when you want to trace the activity of Blackout KM for PATROL during a few minutes, some debug information may be lost by the PATROL Console because its buffer is full.

In these cases, it can be useful to send the debug output of Blackout KM for PATROL to a specified file.

Note

That debug file is stored on the computer where the PATROL Agent is running

Warning!

Pay attention to the file size! The debug output of Blackout KM for PATROL may be very large after running for several days.

Section IV - Additional information

1 - Backup, log and temporary folders

The blackout KM automatically creates and writes the necessary information to the folder called: “%PATROL_HOME/SEN_BO_LOG”. This folder is used to save thresholds before a “no threshold” blackout as well as to write log information and temporary files.

The “SEN_BO_LOG” directory contains three sub-folders:

- **/BACKUP:** this is the directory threshold backups are written. Before starting a “no threshold” blackout, the Blackout KM writes a backup file (“.cfg”), readable by PATROL wpconfig or xpconfig, that contains the removed thresholds. In case a problem occurs and thresholds are not put back at the end of the blackout, it is possible to simply apply this threshold configuration file to the PATROL agent to set them back. The backup files are called:

SEN_BO_<blackout ID>_backup_<starting time>_<starting date>.cfg

- **/LOG:** contains log information written by the blackout KM. You may be asked to sent the files contained in this folder to the Sentry Software support if you open a case against the blackout KM.
- **/TMP:** folder containing various temporary files used by the Blackout KM.

The Blackout KM automatically clears any file in the “/BACKUP” and “/LOG” folders, which filename start by “SEN_BO” and last modification date is over 3 week old. This is performed to avoid over flooding the disk with obsolete information. If you wish to keep any of these files, you should either move them to another folder or rename them.

2 - Regular expressions

A regular expression is a string formatted with a specific syntax. It is intended to select some lines in a text, which will match the regular expression.

Regular expressions are commonly used in pattern matching, and especially on UNIX systems with the `grep`, `awk` and `sed` commands.

The following table describes the regular expression syntax that is supported in Blackout KM for PATROL.

Character	Meaning
. (dot)	Match any single character Example: <i>Err..</i> will match <i>Err01</i> , <i>Err02</i> or <i>ErrAB</i> , etc.
[xyz]	Match any character in the brackets Example: <i>Err[123]</i> will match <i>Err1</i> , <i>Err2</i> or <i>Err3</i> <i>[Ee]rror</i> will match either <i>error</i> or <i>Error</i>
[^xyz]	Match any character not in the brackets Example: <i>Err[^12345]</i> will match <i>Err0</i> , <i>Err6</i> , <i>Err7</i> , etc. but not <i>Err1</i>
[a-z]	Match any character in the range in the brackets Example: <i>Err[0-9]</i> will match <i>Err0</i> , <i>Err1</i> , etc. and <i>Err9</i> <i>Err[A-Z][0-9]</i> will match <i>ErrA0</i> , <i>ErrA1</i> , <i>ErrS9</i> , <i>ErrZ0</i> , etc. but not <i>Err1A</i> <i>Err[A-Z0-9]</i> will match <i>ErrA0</i> , <i>ErrA1</i> , etc. and <i>Err1A</i>
[^a-z]	Match any character not in the range in the brackets Example: <i>Application[^0-9]</i> will match <i>ApplicationA</i> , <i>ApplicationB</i> , <i>Application!</i> but not <i>Application1</i>
*	Match zero or more repetitions of the preceding Example: <i>Err[0-9A-F]*</i> will match <i>Err</i> , <i>Err0</i> , <i>ErrA</i> , <i>Err11</i> , <i>ErrBF0001</i> , etc. <i>Error.*ApplicationABC</i> will match all lines that contains <i>Error</i> and <i>ApplicationABC</i> further (<i>Critical Error 0x000295F0 on ApplicationABC</i>)
+	Match one or more repetitions of the preceding Example: <i>Err[0-9A-F]+</i> will match <i>Err0</i> , <i>ErrA</i> , <i>Err11</i> , <i>ErrBF0001</i> , etc. but not <i>Err</i>

^	<p>Match the beginning of the line</p> <p>Example:</p> <p><code>^Err</code> will match all lines that begin with <i>Err</i></p>
\$	<p>Match the end of the line</p> <p>Example:</p> <p><code>[0-9]+ connections\$</code> will match all lines that end with <i>xxx connections</i> where <i>xxx</i> is an integer</p>
\<	<p>Match the beginning of a word</p> <p>Example:</p> <p><code>\<set</code> will match any line that contains a word that begins with <i>set</i>. It will not match a line that only contains the word <i>unset</i></p>
\>	<p>Match the end of a word</p> <p>Example:</p> <p><code>[Aa]pplication\></code> will match all lines that contain the word <i>Application</i> or <i>application</i> but not <i>ApplicationAA</i></p>
\ (expression\)	<p>Defines an expression which has to be processed as a unit regarding the modifier *, + and \ </p> <p>Example:</p> <p><code>\([a-zA-Z0-9]\)+</code> will match only sequences like <i>_patrol</i>, <i>_patrol_agent</i>, <i>_patrol_console</i>, etc.</p>
exprA \ exprB	<p>Match either exprA or exprB</p> <p>Example:</p> <p><code>\(firewall\)\ (antivirus\)</code> will match all lines that contains either the word <i>firewall</i> or the word <i>antivirus</i></p>
\	<p>Avoid the meaning of the following character</p> <p>Example:</p> <p><code>\.</code> will match the single character dot (.)</p> <p><code>C:\\Program Files</code> will match <i>C:\Program Files</i></p>

3 - Configuration variables

The following table recapitulates the general configuration variables used by Blackout KM for PATROL. These variables are stored in the PATROL Agent configuration and can be managed through PATROL Configuration Manager (PCM), WPCONFIG.EXE (Windows) or xpconfig (UNIX/Linux).

All configuration variables are stored under the “/SENTRY/BLACKOUT1” folder in the configuration tree. By default, none of them are set.

Variable	Description
debugMode	When set to '1', enables the debug mode of Blackout KM for PATROL. Default: OFF
debugFile	Optional file name and path of the debug output when the debug mode is enabled. Default: No file output
lsCommand	Command used to get a directory file list on UNIX systems Default: ls -atp1 %{FOLDERPATH}
dirCommand	Command used to get a directory file list on Windows systems Default: dir /A:-D /B /O:-D /T:W %{FOLDERPATH} 2>nul
vmsDirCommand	Command used to get a directory file list on Windows systems Default: directory /columns=1 /notrailing /SELECT=(FILE=(NAME,NOVERSION)) /noheading %{FOLDERPATH}
psCommand	Command used to get the list of processes running Default: ps -A -o args
processPollingInterval	Polling interval, in seconds, at which the list of running processes is updated. This is most useful on UNIX systems for which there is no real-time process monitoring. Default: 60
noRealTimeMonitoring	Set it to '1' to turn off all real-time monitoring in Blackout KM for PATROL and '1' to enable it. Default: ON
noRealTimeProcessMonitoring	Set it to '1' to turn off processes real-time monitoring in Blackout KM for PATROL and '1' to enable it. Default: ON
noRealTimeServiceMonitoring	Set it to '1' to turn off NT services real-time monitoring in Blackout KM for PATROL and '1' to enable it. Default: ON
noRealTimeFileMonitoring	Set it to '1' to turn off files real-time monitoring in Blackout KM for PATROL and '1' to enable it. Default: ON
timeToDeletion	Number of seconds since the last modification of any file found under %PATROL_HOME/SEN_BO_LOG will be deleted. Default: 1814400 (21 days)