



# BigFix<sup>®</sup> Power Management



Setup Guide

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# QuickStart

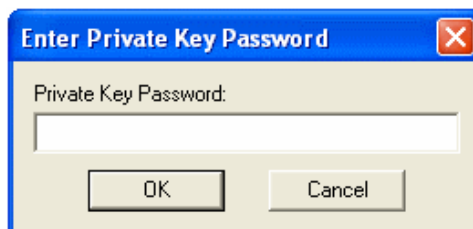
The BigFix Power Management *Setup Guide* describes the initial setup, installation and activation of the components of the BigFix Power Management solution. It is intended for BigFix administrators and operators, as well as evaluators of the product.

To learn about how to use and optimize the Power Management product within your environment, refer to the Power Management *User's Guide* available on the BigFix support site.

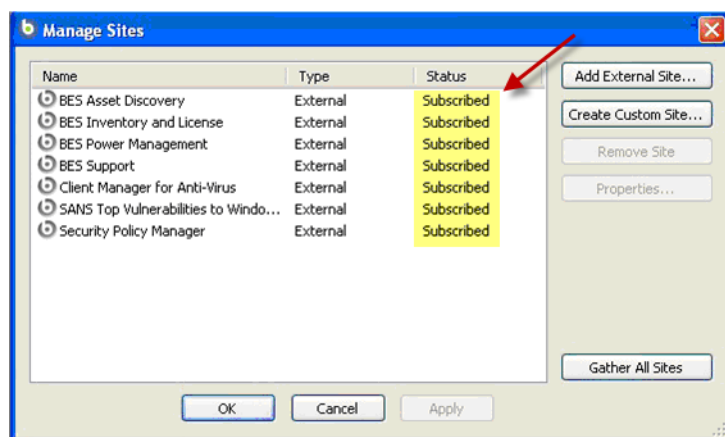
## Beginning Setup

This procedure assumes that you have already installed the BigFix Platform and are familiar with the [BES Console Operator's Guide](#).

1. Obtain a masthead for the BigFix Power Management site by emailing [licensing@bigfix.com](mailto:licensing@bigfix.com). Refer to the [BES Console Operator's Guide](#) for more information about mastheads.
2. Add the BigFix Power Management site by double-clicking the masthead file. A dialog box will appear – click Yes to add the site and enter your Private Key Password. Click OK.



At this point, the BigFix Power Management site will begin the gathering process, in which Fixlets, Tasks and Analyses are gathered from the central BigFix server. When the gathering process is complete, the site's status will change to *Subscribed*. Next, you will activate the Dashboard.



# Power Tracking Information Dashboard

The Power Tracking Information dashboard is the central navigation and control panel for the BigFix Power Management site. From here, you can view important power usage information and quickly create, deploy, enforce, and report on Power Management actions. You can also access individual Fixlets, Tasks and Analyses by going to the specific tabs in the Console.

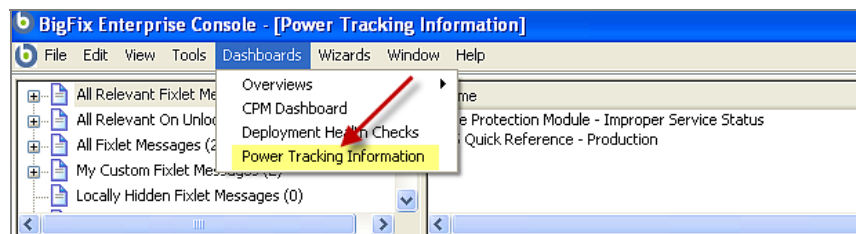
When the dashboard is first opened, everything except the Power Controls panel is hidden, as you have not yet enabled power tracking and gathered power information from your computers. The dashboard will lead you through the process of enabling the analyses necessary for optimizing full Power Management capabilities.

Initially, you will be prompted to enable power monitoring by selecting the computers you wish to monitor. You can choose to make this action a Policy Action by removing the expiration date. This means new computers that come online will have monitoring automatically enabled. For more information about Actions, consult the [BES Console Operator's Guide](#).

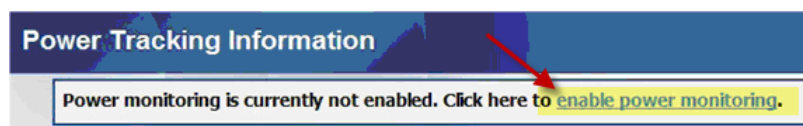
## Activating the Dashboard

To activate the Dashboard:

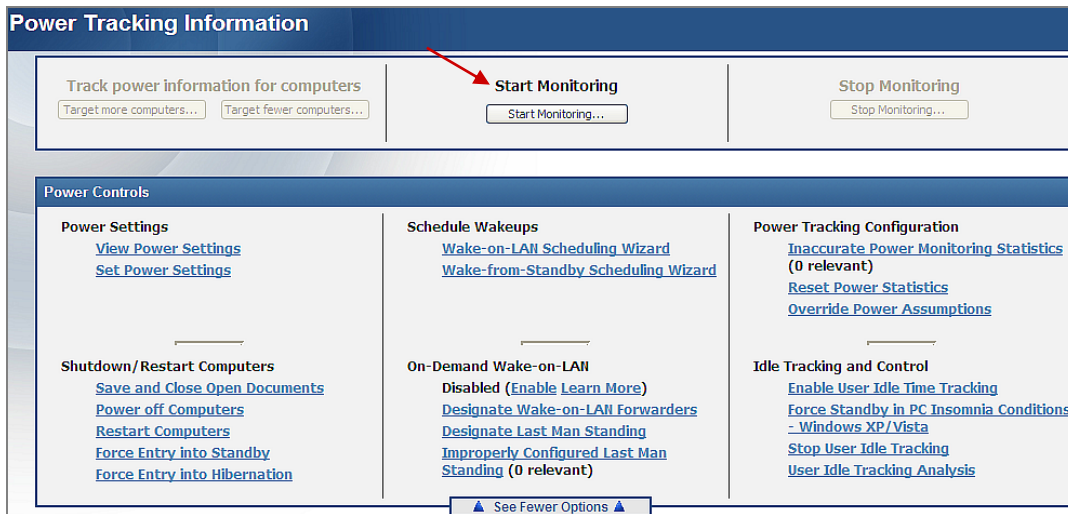
1. Click the *Dashboards* pull down menu and select *Power Tracking Information*.



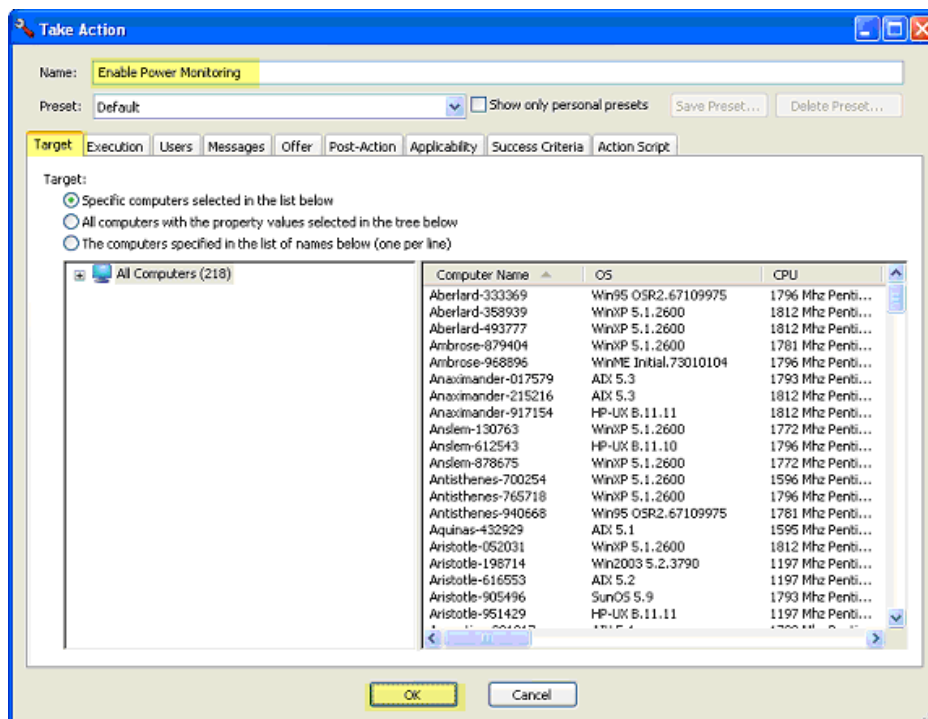
2. Click where indicated to enable power monitoring.



3. Enter your Private Key Password. The *Power Tracking Information* dashboard opens, showing the *Power Controls* panel.



4. Click *Start Monitoring* and enter your Private Key Password. The Take Action dialog for the *Enable Power Monitoring* Action opens.
5. On the *Target* tab, select the computers you want to monitor, then click *OK*. Enter your Private Key Password. When you initiate power monitoring, the BigFix Agent tracks powered-on statistics about each computer's uptime, powered-on time per day, and other power usage information used in power calculations.

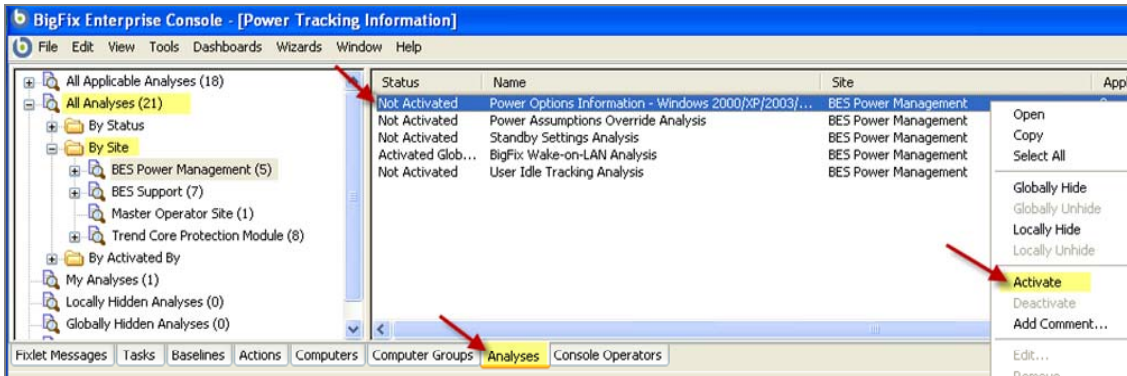


For more information about setting options using the tabs in the Action window, consult the [BES Console Operator's Guide](#).

6. Click the Power Options Information link to activate reporting of power management settings, such as hard drive, computer, and monitor power management on both Windows and Mac computers.

Please activate the [Power Options Information - Windows 2000/XP/2003/Vista and Mac OS 10.4/10.5](#) to enable this section.

7. To activate the analysis, navigate to the *Power Options Information* analysis as shown in the image below. Right click on the analysis, then click *Activate* in the pull down menu. Enter your Private Key Password.



## Viewing the Dashboard

After you enable power monitoring, the dashboard will populate several new sections. The dashboard is divided into five main sections: *Power Controls*, *Power Consumption*, *Aggregate Statistics*, *General Statistics*, and *Custom Statistics*.

**Note:** The dashboard must be refreshed manually. To do so, click the *Refresh* button at the top right of the Power Tracking Information dashboard screen.



## Power Controls

The *Power Controls* section provides quick access to a number of commonly-used power management Fixlets and Tasks.

## Power Controls

The screenshot shows a dashboard titled "Power Controls" with three main columns of links:

- Power Settings:**
  - [View Power Settings](#)
  - [Set Power Settings](#)
- Schedule Wakeups:**
  - [Wake-on-LAN Scheduling Wizard](#)
  - [Wake-from-Standby Scheduling Wizard](#)
- Power Tracking Configuration:**
  - [Inaccurate Power Monitoring Statistics \(0 relevant\)](#)
  - [Reset Power Statistics](#)
  - [Override Power Assumptions](#)

Below these columns are three sections:

- Shutdown/Restart Computers:**
  - [Save and Close Open Documents](#)
  - [Power off Computers](#)
  - [Restart Computers](#)
  - [Force Entry into Standby](#)
  - [Force Entry into Hibernation](#)
- On-Demand Wake-on-LAN:**
  - Disabled** ([Enable Learn More](#))
  - [Designate Wake-on-LAN Forwarders](#)
  - [Designate Last Man Standing](#)
  - [Improperly Configured Last Man Standing \(0 relevant\)](#)
- Idle Tracking and Control:**
  - [Enable User Idle Time Tracking](#)
  - [Force Standby in PC Insomnia Conditions - Windows XP/Vista](#)
  - [Stop User Idle Tracking](#)
  - [User Idle Tracking Analysis](#)

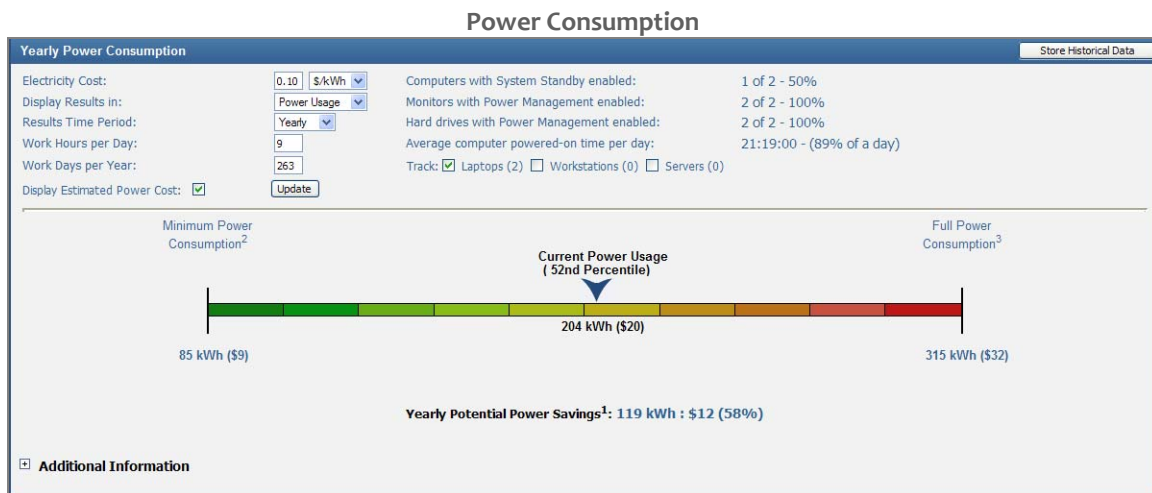
At the bottom center, there is a button: [▲ See Fewer Options ▲](#)

From here, you have easy access to the *Wake-on-LAN* Wizard, which allows you to “wake” computers. There are also instructions on how to set up right click Wake-on-LAN. With this feature enabled, you can right-click on any computer listed in the BigFix *Computers* tab and select it for Wake-on-LAN. The right-click Wake-on-LAN feature will only work if you are in the same subnet as the BigFix Clients or if your network allows you to send UDP packets to the broadcast address of different subnets.

Using the Power Settings options, you can deploy an Analysis to track Power Options information by clicking the *View Power Settings* link from the dashboard. With the information provided, you can change the power settings profile for computers in your deployment. These profiles set options for when the hard disk or monitor turns off, or when the system goes into standby. There are also links for deploying reboot or shutdown actions.

## Power Consumption

The *Power Consumption* section is one of the key areas for viewing information about your overall Power Management status. If you change the *Results Time Period* from Weekly to Monthly or Yearly, you will see the same information for the corresponding time period and the section titles will change.





The Power Consumption section combines information about the number and type of computers, powered-on time per day, power options of each computer, and other power-related information to calculate *Current Power Usage*. By placing your current power usage on a spectrum, you can quickly see how your power usage compares with the minimum possible power consumption (computers only powered-on during work hours) and maximum power consumption (computers always powered-on with no power saving settings). You can choose how you want the information to display from the available pull down menus. For example, you can display information in either CO<sub>2</sub> Emissions or Power Usage view. In the CO<sub>2</sub> Emissions view, the section displays the potential ecological impact of your power savings on cars removed or acres of trees planted.

Your Current Power Usage will change based on the settings of your computers. If you change the power options of computers to enable/disable power standby or monitor power management, the Current Power Usage will change to reflect the new power usage information. Additionally, BigFix keeps track of how long computers are powered on and off, as this information is important to track the overall power usage of a computer. The aggregate average can be seen in the *Average computer powered-on time per day* statistic. To reset a computer's powered-on time per day, use the *Reset Power Statistics* task.

To store your data for reporting, click the *Store Historical Data* button. Your data will be saved for viewing in Web Reports in the *Historical Power State* and *Power Trends* reports.

Your dashboard selection (as well as all dashboard inputs for power assumptions) will affect what is saved and displayed in Web Reports. As a result, the feature will prompt you if something has changed since the last save. For example, if you chose to display only laptops and then clicked *Store*, the report for that day would only show power consumption for laptops. If the next day you changed the display to show laptops *and desktops* and then clicked *Store*, the report would show a jump in power consumption and cost from one day to the next.

Click the *Close* link to close the message box.

For more information about how power savings are calculated, click the *Additional Information* link in the *Power Consumption* section. This section shows how many computers are tracked in the Powering Monitoring and Power Options Information analyses, and the Current Power Consumption Algorithm.

### Additional Information

Additional Information

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<p>Computers tracked in "Power Monitoring Analysis": 1</p> <p>Computers tracked in "Power Options Information": 2</p> <p>Valid computers tracked in both analyses: 1</p> <p>Computers tracked in "Power Assumption Override Analysis": 0</p> <p><b>Current Power Consumption Algorithm:</b></p> <p>Current Power Consumption = (ComputersActivePowerUsage * Workday) + ((AverageRunTime - Workday) * PowerManagementPowerUsage)</p> <p><b>Power consumption source data:</b> <a href="#">Restore Defaults</a></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Workstations actively draw: 58 watts</td> <td style="width: 33%;">Workstations in standby draw: 28 watts</td> <td style="width: 33%;">Hard drives with PM save an additional 8 watts from active power draw.</td> </tr> <tr> <td>Monitors actively draw: 80 watts</td> <td>Monitors in standby draw: 6 watts</td> <td>Only workstations with Hard drive PM enabled and without Standby Mode will gain this benefit.</td> </tr> <tr> <td>Laptops actively draw: 18 watts</td> <td>Laptops in standby draw: 4 watts</td> <td></td> </tr> <tr> <td>Servers draw: 90 watts</td> <td>Each kWh emits: 1.4 lb of CO<sub>2</sub></td> <td></td> </tr> <tr> <td><small>Servers are considered to be always on and never in PM.</small></td> <td><small>A car emits 11,560 lb of CO<sub>2</sub> a year (based on EPA data)</small></td> <td><small>An acre of trees processes 7,333 lb of CO<sub>2</sub> (Based on EPA data)</small></td> </tr> </table> <p style="font-size: small; text-align: center;">                     Default power consumption data provided by <a href="http://anduse.fsl.gov/Info/18N1-45917b.pdf">http://anduse.fsl.gov/Info/18N1-45917b.pdf</a>                      CO<sub>2</sub> emissions data provided by <a href="http://www.ea.doe.gov/cneef/electricity/page/co2_report/co2emiss.pdf">http://www.ea.doe.gov/cneef/electricity/page/co2_report/co2emiss.pdf</a> </p>	Workstations actively draw: 58 watts	Workstations in standby draw: 28 watts	Hard drives with PM save an additional 8 watts from active power draw.	Monitors actively draw: 80 watts	Monitors in standby draw: 6 watts	Only workstations with Hard drive PM enabled and without Standby Mode will gain this benefit.	Laptops actively draw: 18 watts	Laptops in standby draw: 4 watts		Servers draw: 90 watts	Each kWh emits: 1.4 lb of CO <sub>2</sub>		<small>Servers are considered to be always on and never in PM.</small>	<small>A car emits 11,560 lb of CO<sub>2</sub> a year (based on EPA data)</small>	<small>An acre of trees processes 7,333 lb of CO<sub>2</sub> (Based on EPA data)</small>	<p><sup>1</sup> Only computers tracked in "Power Options Information" and "Power Monitoring Analysis" are used in calculations.</p> <p><sup>2</sup> Power required to maintain all computers only during the workday.</p> <p><sup>3</sup> Power required to maintain all computers for the entire day (no power savings enabled).</p>
Workstations actively draw: 58 watts	Workstations in standby draw: 28 watts	Hard drives with PM save an additional 8 watts from active power draw.														
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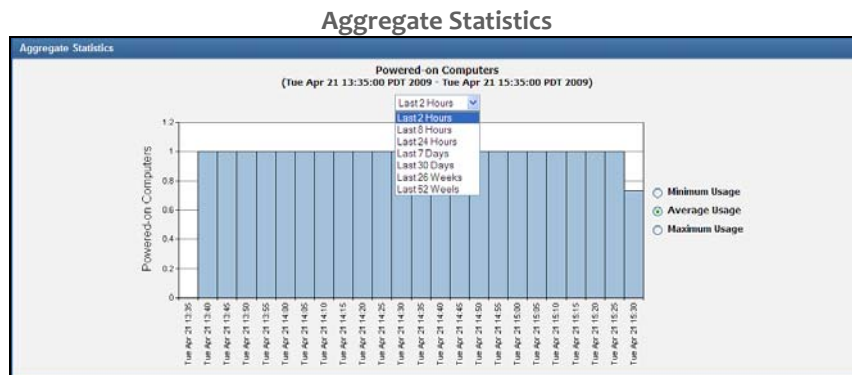
**Note:** Only computers that are tracked in both analyses (as listed in that section) are used in Power Consumption calculations.

This section also displays the default power assumptions used for workstations, monitors, laptops, and servers when in the active and standby states, as well as the ratio of carbon emissions to kWh. Each of these data points can be overridden to be more representative of the hardware in your environment, which will result in more accurate power savings calculations.

For more granular application of overrides, you can use the Power Assumptions Override Wizard. Using this Wizard, assumption overrides can be applied by computer manufacturer or model. Administrators can even specify that their machines in Japan have a different CO<sub>2</sub> emissions rate than those in North America. See the Power Management *User's Guide* for additional details on the Power Assumptions Override Wizard.

## Aggregate Statistics

The *Aggregate Statistics* section shows a bar chart of the number of computers powered-on for a given interval, providing a general picture of your power usage. Power Monitoring must be enabled for this section to appear.



The graph can display powered-on statistics from the last 2 hours to the last 52 weeks, depending on your selection from the pull down menu. At least 10 minutes of data needs to be available before the graph will display information. You can view the graph for minimum, average, or maximum statistics. Minimum statistics reflect only the number of computers that have been powered on for that chosen time span; maximum reflects the number of computers that were powered on at any point in the chosen time span. You can manually refresh this data by clicking the *Refresh* button at the top right of the dashboard screen.

## General Statistics

The *General Statistics* section summarizes the power usage information for all computers that you track. This information gives you a sense of how often computers are powered on and off, most requested averages, and the total amount of power being used.

General Statistics	
Number of computers with ontime tracking	<u>1</u>
Average computer powered-on time per day	01:45:00 - (7% of a day)
Average time between restarts	02:07:52
Total powered-on time since tracking was enabled	10:39:24
Total powered-on time per computer since tracking was enabled	10:39:24

Clicking the link for *Number of computers with ontime tracking* displays a list of computers that have power tracking enabled.

## Custom Statistics

The *Custom Statistics* section displays a set of statistics about the powered-on behavior of computers within a given time interval.

Custom Statistics		
Computers that have reported in the last	<input type="text" value="1"/> hours	<a href="#">1</a>
Computers that have not reported in the last	<input type="text" value="1"/> hours	<b>0</b>
Computers that first tracked within the last	<input type="text" value="1"/> hours	<b>0</b>
Computers that first tracked before	<input type="text" value="1"/> hours ago	<a href="#">1</a>
Computers with an average run time equal/greater than	<input type="text" value="9"/> hours	<b>0</b>
Computers with an average run time less than	<input type="text" value="9"/> hours	<a href="#">1</a>

These statistics are designed to let you ask questions about the power usage of the computers. Example: "How many people have turned off their computers in the last week?"

**Note:** Statistical information is updated immediately after a time interval is changed. In this case, the dashboard does not need to be refreshed.

## Automatically Store Historical Data

**Note:** This automated mechanism replaces the need to select the *Store Historical Data* button in the Power Tracking Information dashboard.

You can save historical data through the *Store Power Results* utility. This utility enables administrators to automate the process of storing Power Management data for all Console Operators that have power monitoring enabled. Set the utility to run on the BES Server as a daily Windows Scheduled Task to completely automate power data storage.

You can download the tool using the *Download the Store Power Results Utility* Task in the Power Management site. For details on how to set up the Store Power Results Utility, click to access the applicable article on the [BigFix Knowledge Base](#).

## Support

BigFix offers a suite of support options to help optimize your user-experience and success with this product. Here's how it works:

- First, check the BigFix website [Documentation](#) page.
- Next, search the BigFix [Knowledge Base](#) for applicable articles on your topic.
- Then check the [User Forum](#) for discussion threads and community-based support.

If you still can't find the answer you need, [contact](#) BigFix's support team for technical assistance:

- **Phone/US:** 866 752-6208 (United States)
- **Phone/International:** 661 367-2202 (International)
- **Email:** enterprisesupport@bigfix.com