IBM Endpoint Manager
Version 9.1

Power Management Setup Guide

IBM Endpoint Manager
Version 9.1

Power Management Setup Guide

Note
Before using this information and the product it supports, read the information in "Notices" on page 25.

This edition applies to version 9, release 1, modification level 0 of IBM Endpoint Manager (product number 5725-C46) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Chapter 1. Overview

The Power Management Setup Guide describes the initial setup, configuration, installation, and activation of the Tivoli Endpoint Manager Power Management components. It is intended for Tivoli Endpoint Manager administrators and operators, and evaluators of the product.

To learn about how to use and optimize the Power Management product in your environment, see the Power Management *User's Guide.*

Power Management supports many features, including:

- Managing computer power settings and policies
- Tracking and reporting computer power usage, including measuring power usage, potential power savings, and more
- Tracking of computer states to create power policies that maximize power savings
- Advanced Wake-on-LAN capabilities, including Last Man Standing, Wake-on-LAN "Medic", scheduled wake-up times, and more
- Support for PC Insomnia detection and prevention
- A client-side dashboard where you can view power usage

New Features

Power Management has been updated to include the following features and enhancements:

- More comprehensive Power Consumption summary dashboard
- BES Plugin Service Configuration Wizard
- Analysis properties that track the previous week's power usage during office hours, outside office hours, and weekend
- Multiple power profiles that can be applied to an endpoint by time of day or day of week
- Configurable office hours and weekend time settings in the Manage Assumptions task wizard
- Power profile offers displayed in the client-side dashboard under the Your Power Foot tab
- Additional web reports: Weekly Power Consumption Over Time and Weekly Idle Time Breakdown

System requirements

IBM® Endpoint Manager for Power® Management has the following requirements:

- Windows XP, Windows Vista, Windows 2003, Windows 2008, Windows 2008 R2, Windows 7, and Windows 8
- Mac OS 10.4, 10.5, 10.6, 10.7, and 10.8

Subscribe to the site

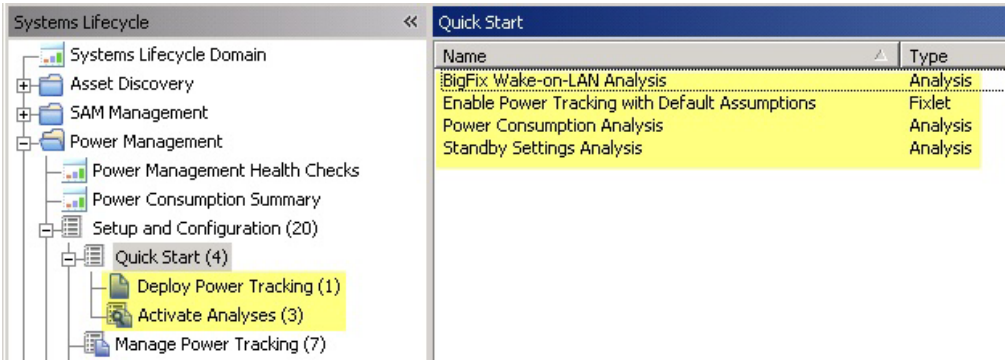
The process to use for site subscription depends on your version of the IBM Endpoint Manager console. See the technote about Power Management site subscriptions.

Chapter 2. Setup and configuration

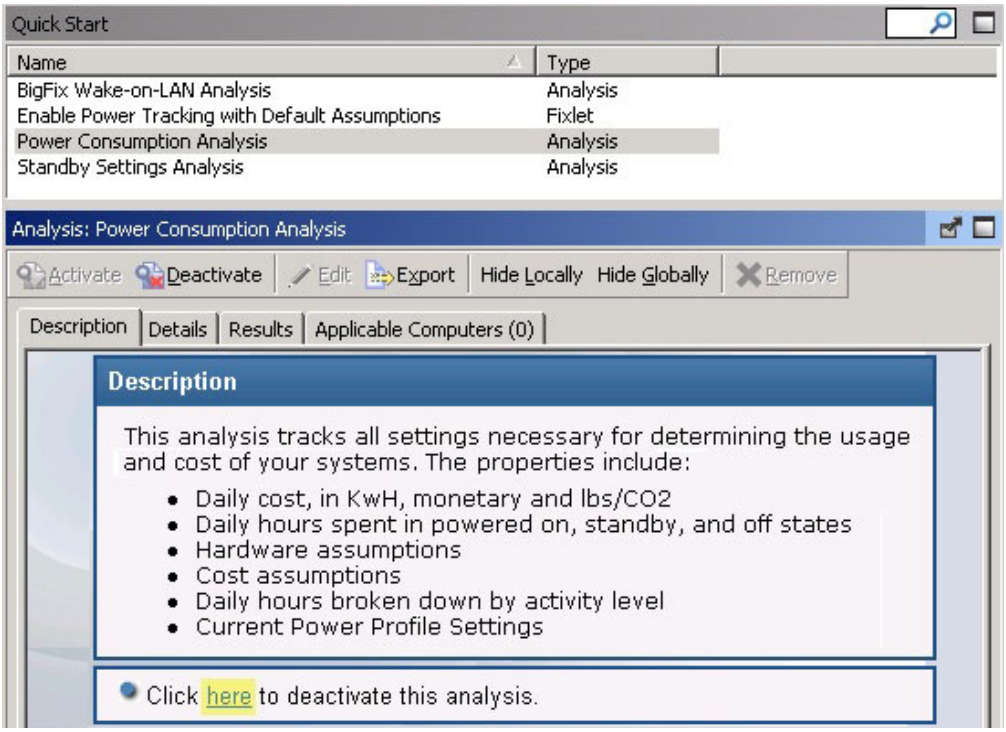
Quick Start

After you subscribe to the new Power Management Fixlet site, you must enable and configure Power Management with some basic configuration steps in the IBM Endpoint Manager console.

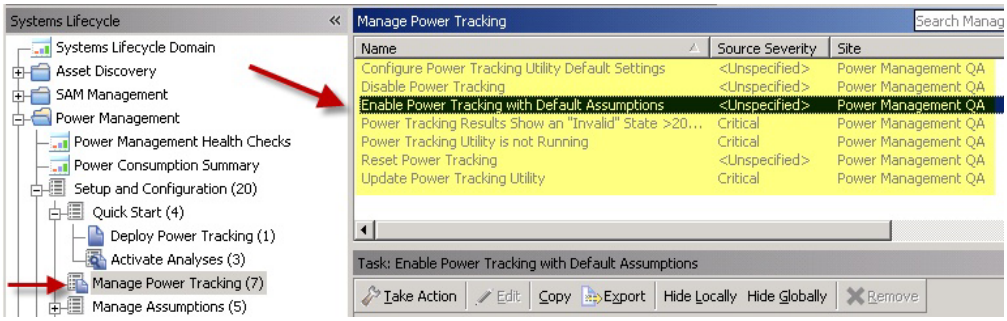
The *Quick Start* subnode under *Setup and Configuration* includes several analyses and Fixlets for setting Wake-on-LAN, Power Consumption, Standby, and Power Tracking parameters in your deployment.



Use the List Panel on the top right of your console to access each analysis and Fixlet. Click the applicable item, and click the link at the bottom of the work panel to deploy the action.



Manage Power Tracking

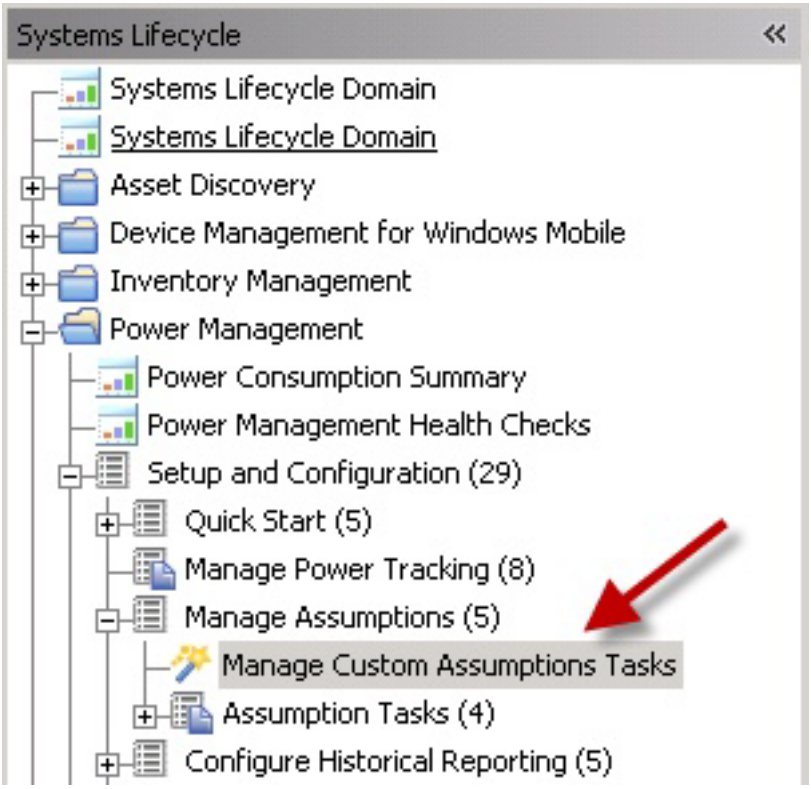


Manage Power Tracking located in the *Setup and Configuration* node includes tasks for configuring, setting, enabling, and updating your Power Tracking capabilities. These optional tasks are not required for initial setup and can be used during the configuration process.

Manage Assumptions

IBM Endpoint Manager calculates power consumption by measuring the amount of time a computer spends in Active, Idle, Standby, and Off power states, and factoring in "assumptions" for hardware power draw and endpoint cost per kWh. Power Management uses default values based on experience and research with typical computers manufactured in the last few years and average CO2 and electricity costs. You can choose the default values or you can override them with known values specific to your computers and costs.

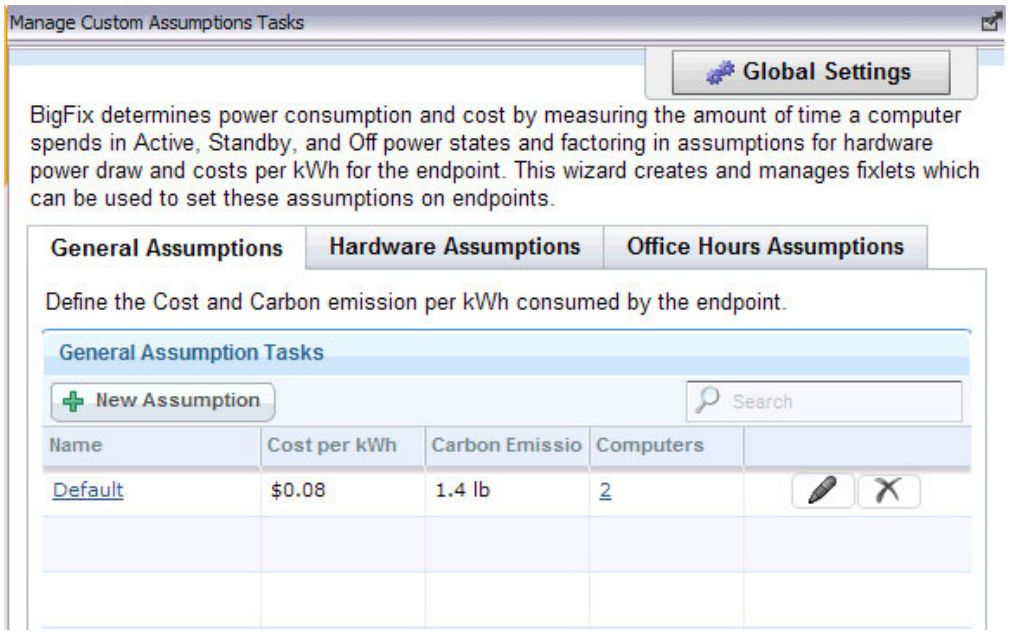
You use the Manage Assumptions dashboard for customizing your deployment through assumptions. The Manage Assumptions dashboard can be found in the navigation tree under Setup and Configuration/Manage Assumptions/Manage Custom Assumptions Tasks.



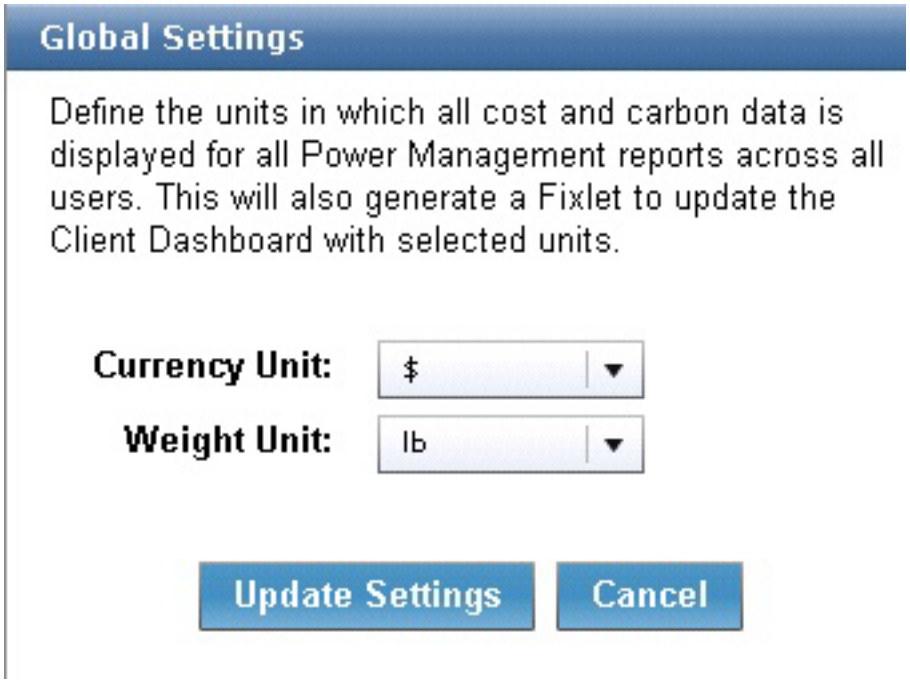
Note: Managing Assumptions is an optional feature in IBM Endpoint Manager Power Management. If you do not set custom assumptions, default assumptions are used.

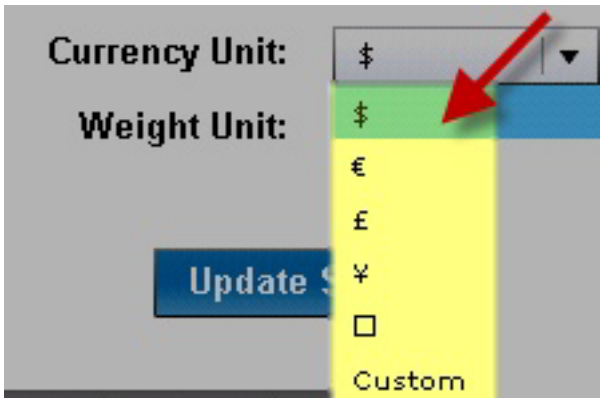
Global Settings

To access the Global Settings dialog, click the icon located in the top right corner of the Manage Custom Assumptions Tasks Wizard.



In this dialog, you can set international currency and weight units in your deployment.





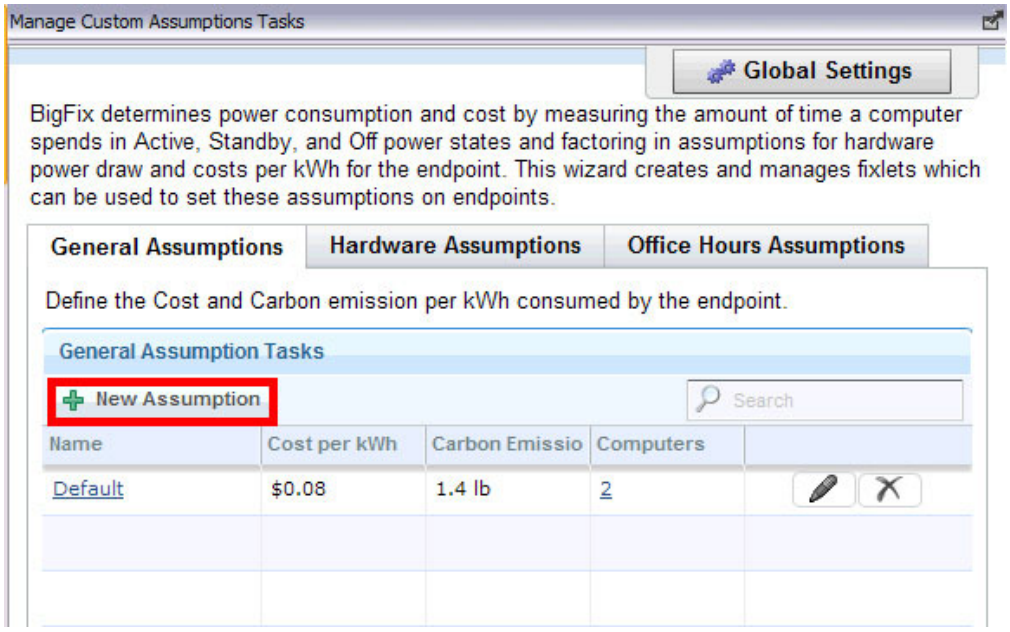
After making a selection from the drop-down lists, click **Update Settings**.

General Assumptions

You define the cost and carbon emissions per kWh that are consumed by your endpoints on the *General Assumptions* tab in *Manage Custom Assumptions Tasks*. Click the tab in the wizard to display the following information:

- Name
- Cost per kWh
- Carbon Emissions per kWh
- Computers

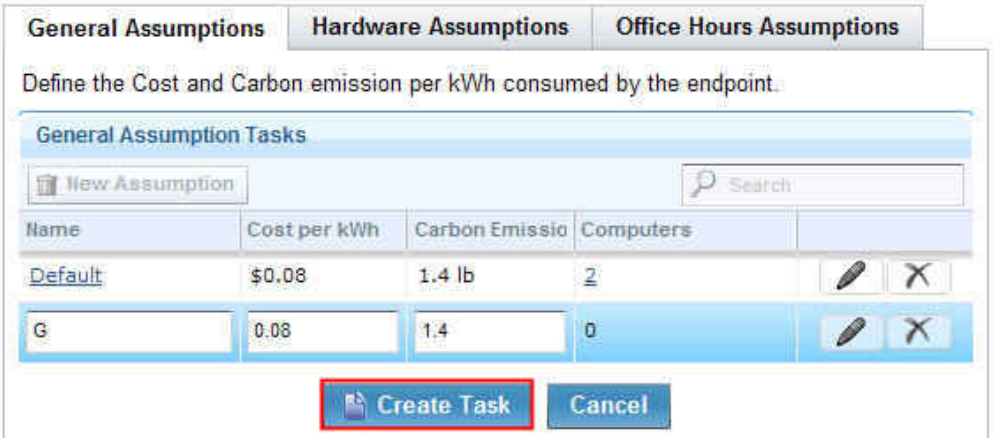
If you do not have General Assumptions set, then you are using default values. To override the default values and use values specific to your deployment, click *New Assumption*.



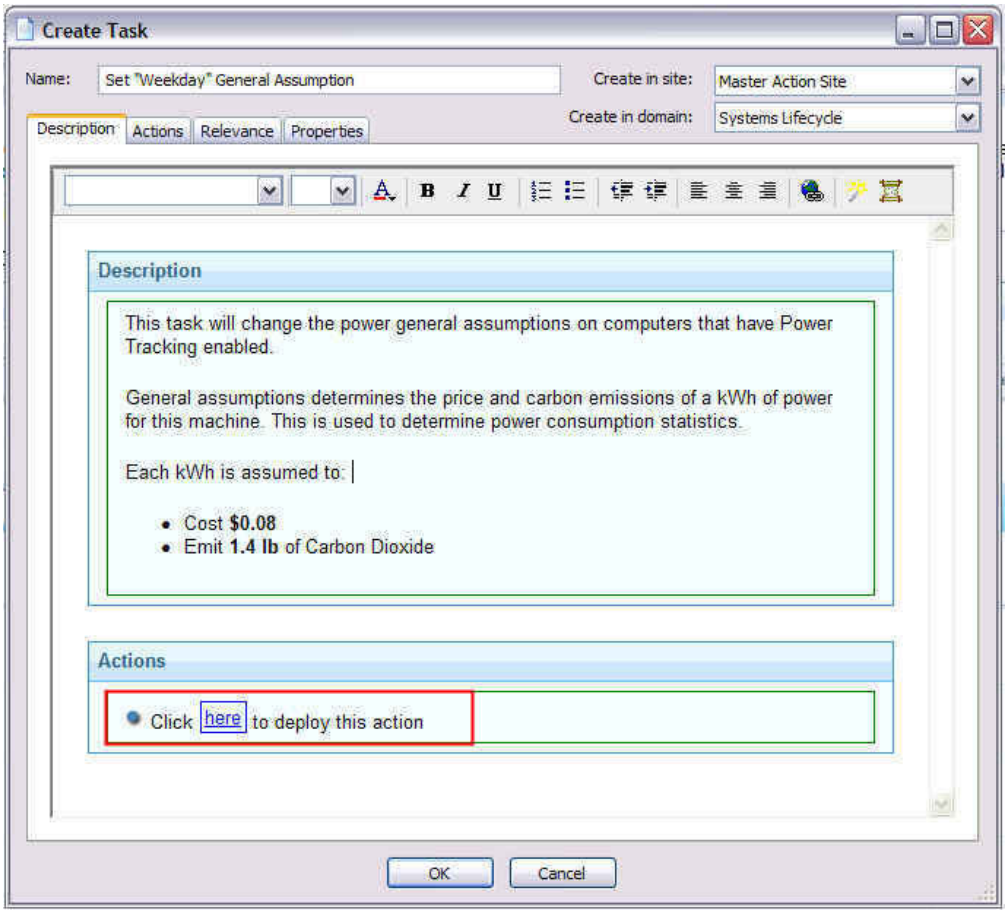
Your electricity provider can provide your cost per kWh of electricity and the amount of carbon released to create each kWh. If you have multiple providers, you can choose to average the values and assign them to all computers. Alternatively, you can create multiple assumptions and assign each assumption to the

appropriate computers based on location. The latter approach is more accurate, but it is more time consuming and difficult to maintain over time.

Enter a name for the assumption, cost per kWh, and carbon emissions per kWh. Click **Create Task**.



On the work panel, click *OK* and enter your Private Key Password. When the task has gathered the required information, the task window opens as shown in the following image. Click in the Actions box to deploy the action.

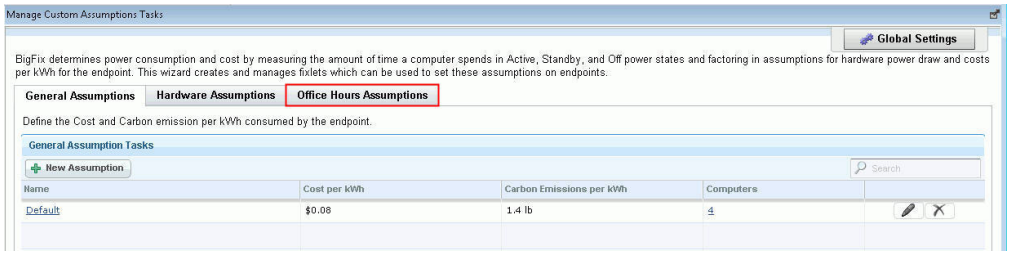


Office Hours Assumptions

You can set how your organization defines work hours and workdays in the *Office Hours Assumptions* tab.

To define office hours assumptions settings, go to the **Systems Lifecycle Domain**. From the navigation tree, click **Power Management** > **Manage Assumptions** > **Manage Custom Assumptions Tasks.**

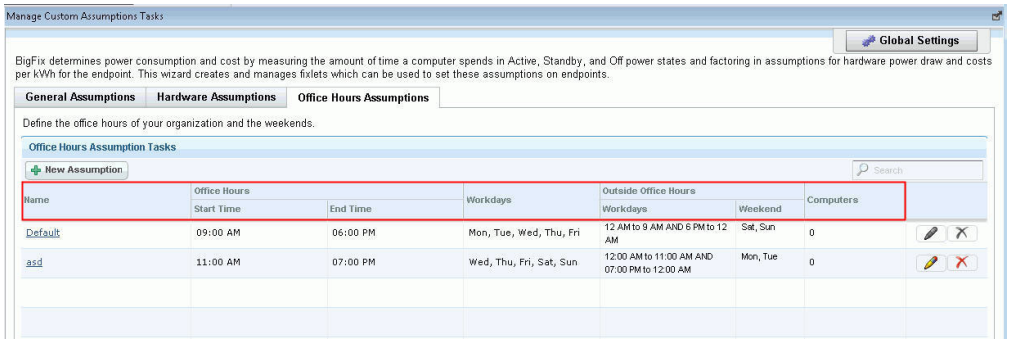
Click the **Office Hours Assumptions** tab. You can create, edit, and delete assumptions from this tab.



The following columns are displayed in the *Office Hours Assumptions* tab:

- Name
- Office Hours
  - Start Time
  - End Time
- Workdays
- Outside Office Hours
  - Workdays
  - Weekends
- Computers

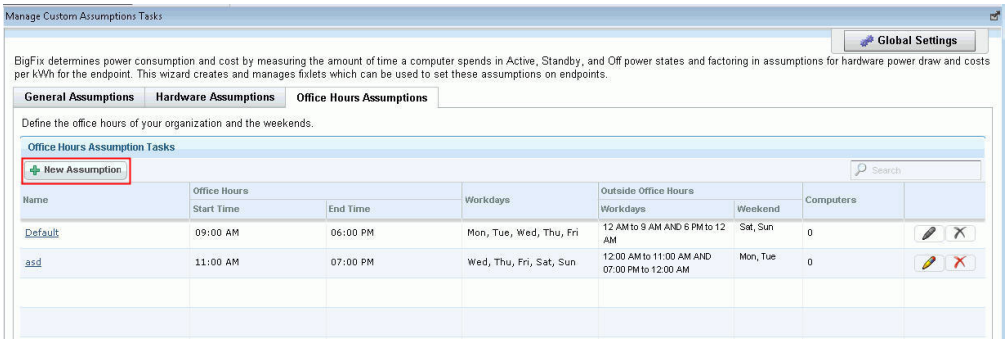
By default, in the **Office Hours** column, the *Start Time* is set to 09:00 AM and the *End Time* is set to 06:00 PM. The workdays are also set, by default, from Monday to Friday.



Note: If power tracking is deployed before setting new office hours assumptions, the default start time, end time, and work days settings are used.

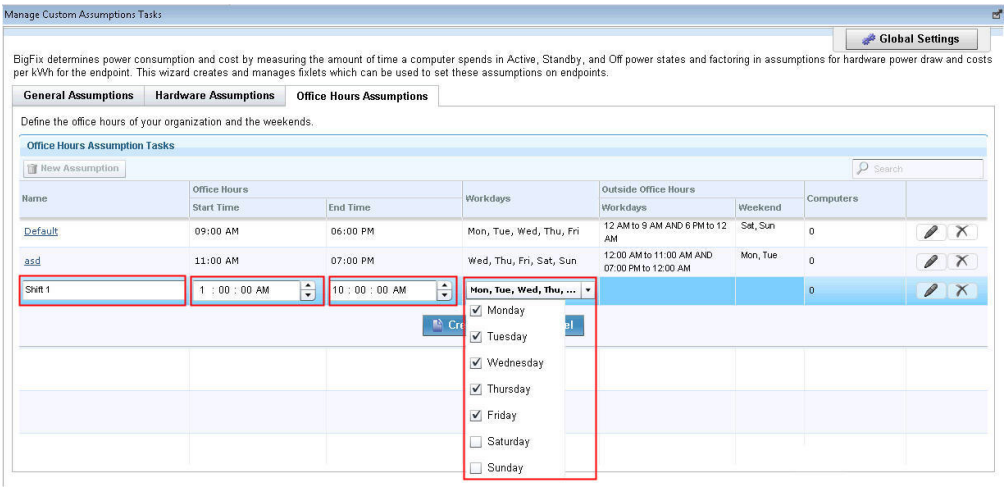
Creating Office Hours Assumptions

To create an office hour assumption, click **New Assumption**.

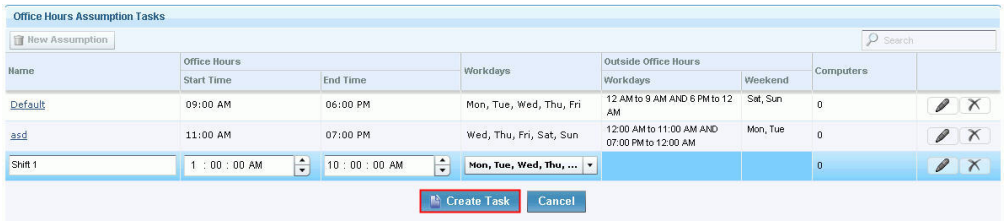


A row is added. Enter the name of the new assumption in the **Name** field. Define the office hours by selecting the **Start Time** and **End Time**.

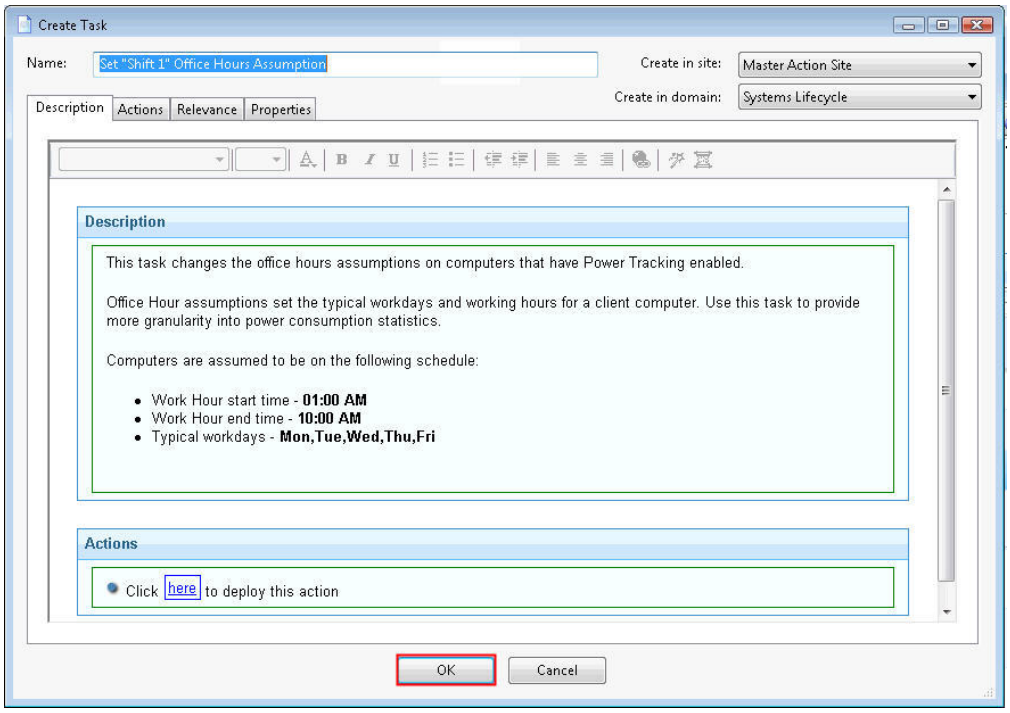
Under the **Workdays** column, click the **All days** drop-down menu and click to select the applicable days.



Click **Create Task**.



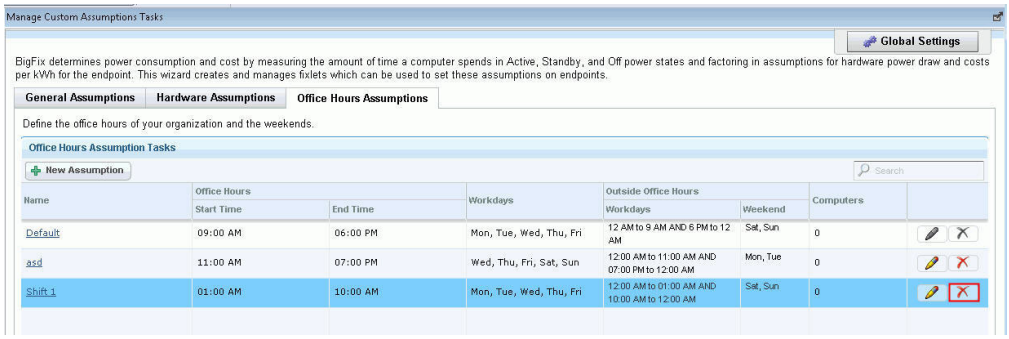
The **Create Task** window opens. Click **OK** to create the task.



Click in the **Actions** box of the task window to deploy the action.

Deleting Office Hours Assumptions

To delete existing office hours assumptions, go to the **Office Hours Assumptions** tab. Select the assumption and click the **Delete.**



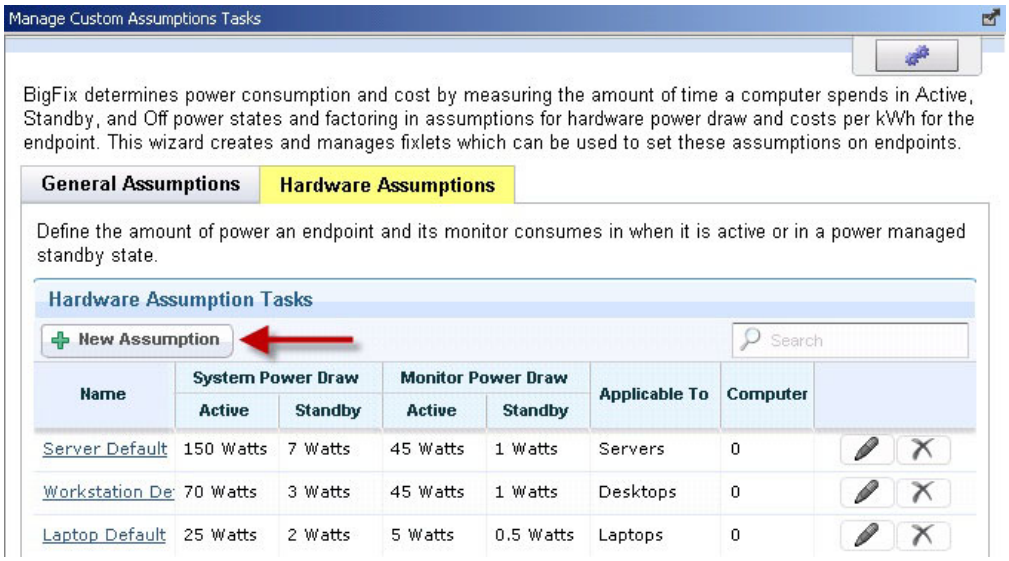
Click **Delete** to confirm deletion of the Assumption Fixlet. The Remove Tasks window opens. Click **Yes**, then **OK** to confirm the removal of the task. The assumption task is now deleted.

Hardware Assumptions

Define endpoint power consumption in Active or Standby mode in the *Hardware Assumptions* tab. The following fields are displayed:

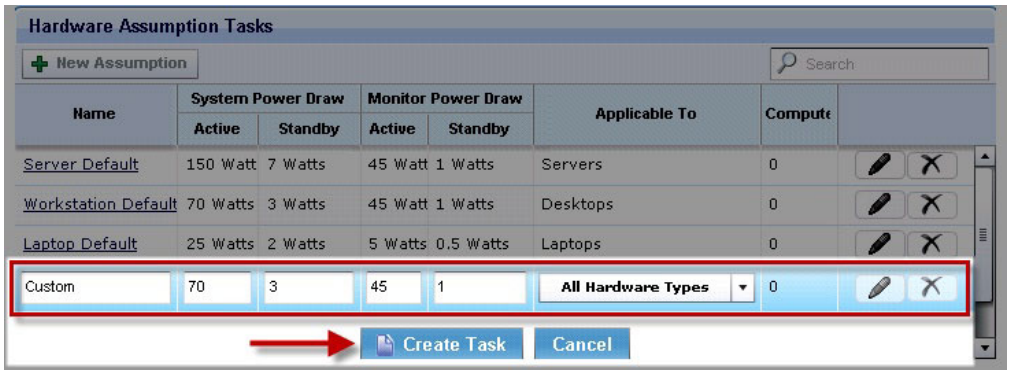
- Name
- System Power Draw - Active or Standby
- Monitor Power Draw - Active or Standby
- Applicability to hardware such as servers or desktops
- Computers

If you do not have Hardware Assumptions set, you are using default values. To override default values with values specific to your deployment, click *New Assumption*.



To effectively set assumptions, you must discover the amount of electricity used by your computers. You can determine this amount by plugging systems into an electricity usage device, such as a *Kill a Watt* electricity usage monitor. Because power usage varies only minimally per computer model, you might want to check power values for representative models. If you have many computer models, you can choose to average the values and assign them to all computers or create multiple assumptions and assign each assumption to the appropriate computers based on their models. The latter approach is more accurate, but it is more time consuming and difficult to maintain over time.

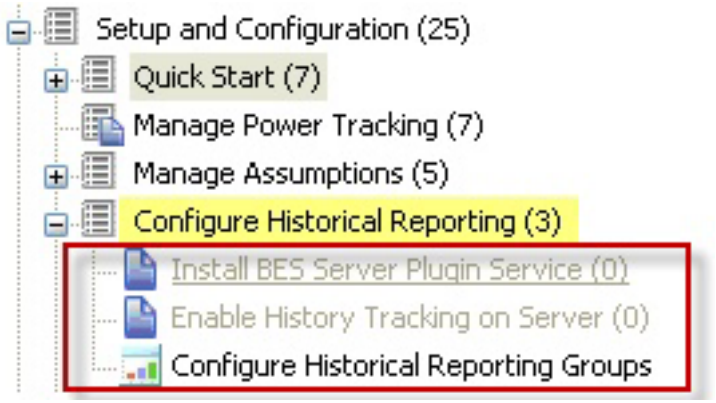
After clicking *New Assumption*, an additional row displays at the bottom of the window, where you can manually populate fields corresponding to the new task Name, System Power Draw, Monitor Power Draw, and the applicability to different hardware types. When complete, click *Create Task*, click *OK*, and enter your Private Key Password. Click in the Actions box of the task window to deploy the action.



Configure Historical Reporting

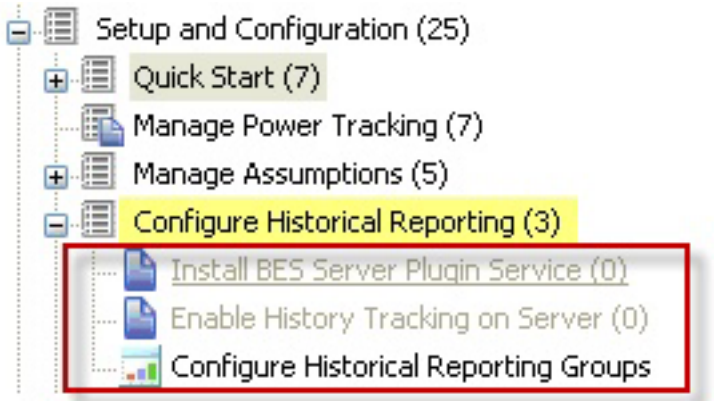
Endpoint Manager for Power Management provides power information based on the current state of computers in your deployment. You can see historical data trends for power usage and capture historical data to address reporting needs.

The *Configure Historical Reporting* subnode under *Setup and Configuration* includes tasks for installing the BES Server Plugin and enabling historical tracking on a server, and a wizard for configuring historical reporting groups.



Install BES Plugin Service

The BES Server Plugin Service facilitates communication and automation of the Endpoint Manager Server and Web Reports components with server-side utilities. Several IBM Endpoint Manager applications, such as Power Management, require this plug-in service to fully use the available functions.



You must install the BES Server Plugin service before you use the historical reporting feature.

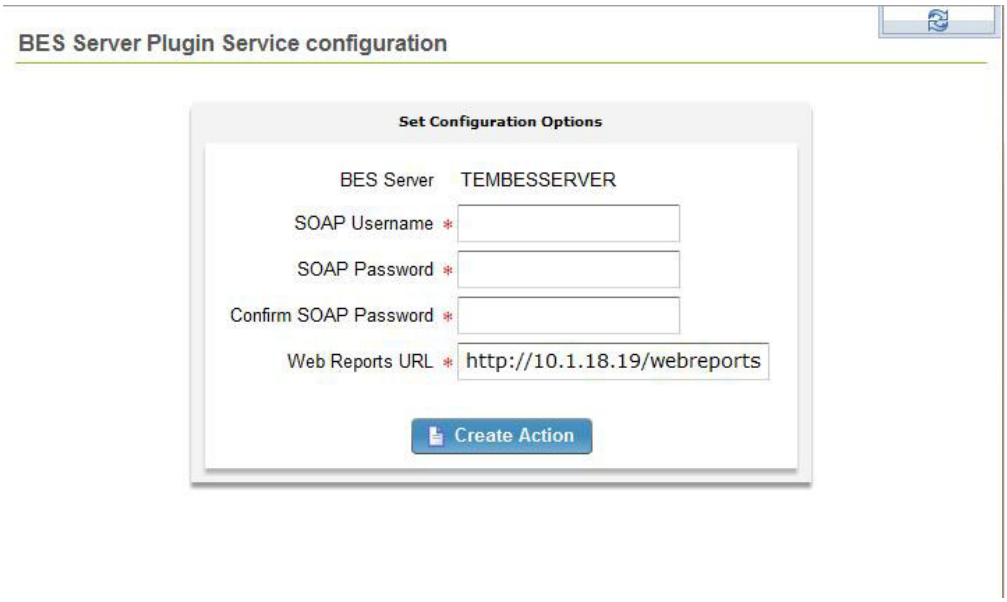
BES Plugin Configuration Wizard

You can use the BES Plugin Configuration Wizard if the BES Plugin Service has not yet been installed. Go to **Setup and Configuration** > **Configure Historical Reporting** > **Install BES Server Plugin Service**.

Fill in the following fields:

- SOAP Username
- Password
- Confirm the SOAP Password
- Web Reports URL

Click **Create Action**.



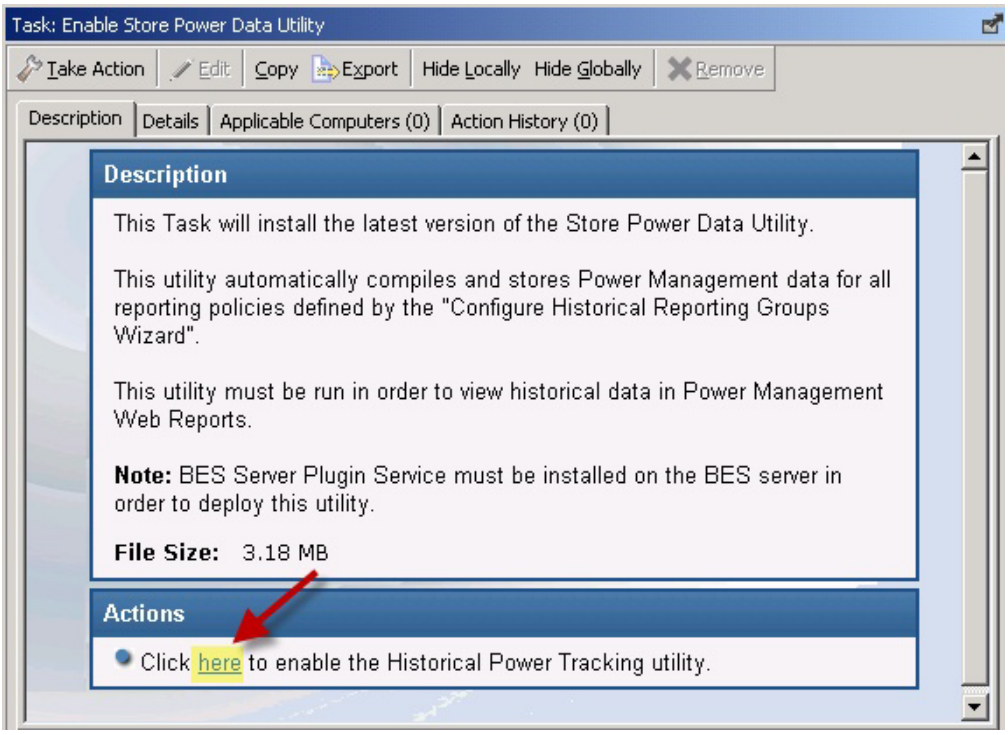
Note: You must upgrade the fixlet if the BES Plugin Service is installed.

The wizard performs validation on the username and password using the web report URL before creating the action. The validation might fail if the web report

URL is not accessible from the console machine. The wizard still gives the option to proceed when validation fails.

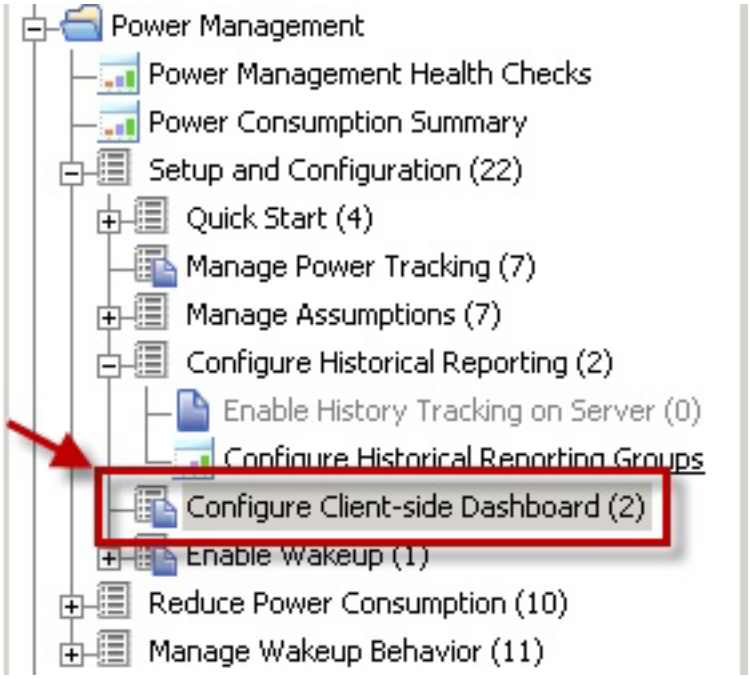
Enable History Tracking

To enable History Tracking on a server, click the appropriate task from the navigation tree. Click in the Actions box of the task window to enable the Store Power Data Utility.

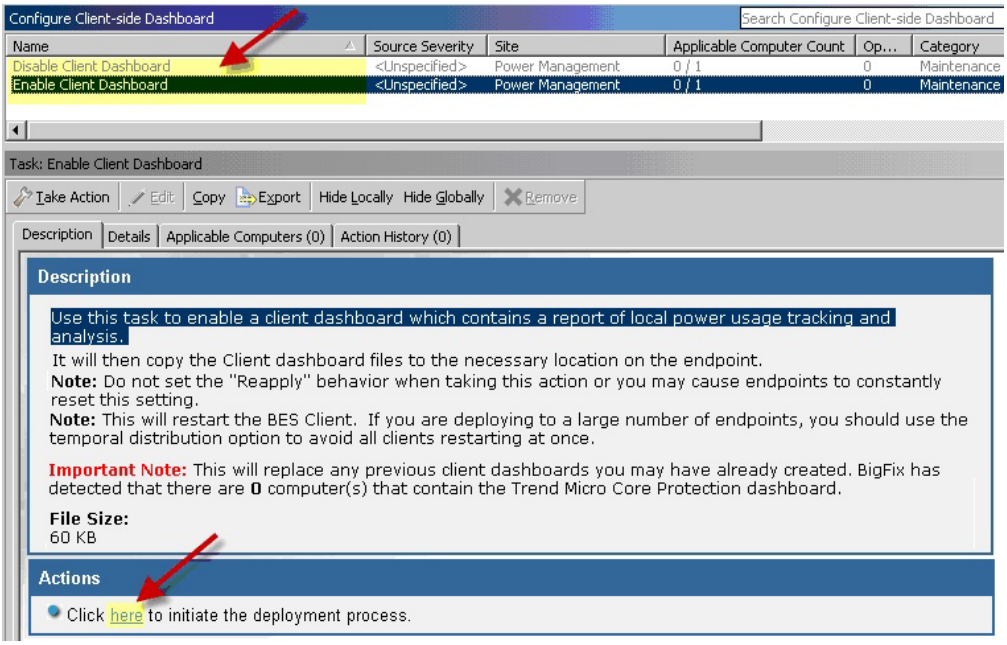


Configure Client-side Dashboard

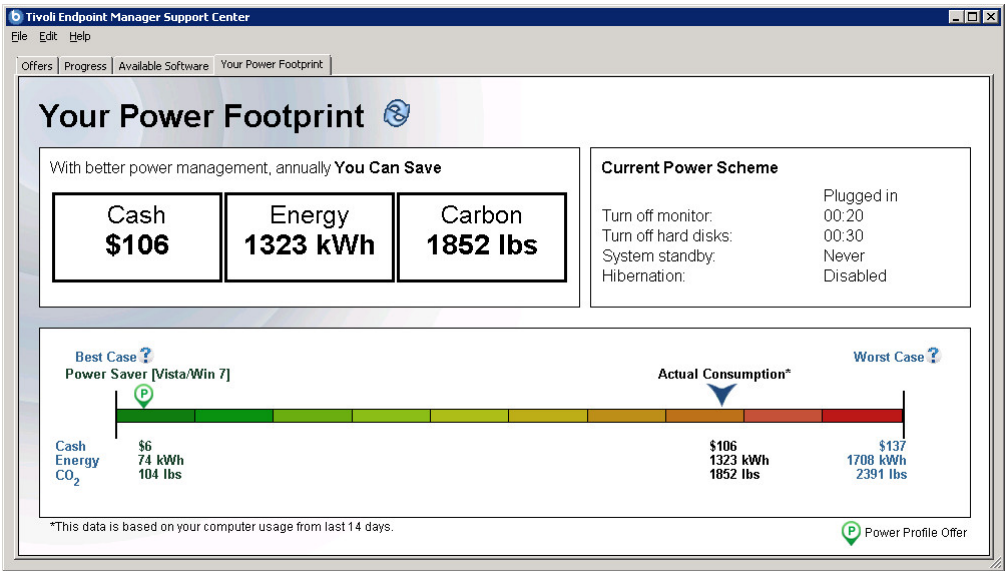
The Client-side Dashboard provides you with individual power footprints. Power Management includes tasks in the navigation tree for enabling and disabling the client-side dashboard.



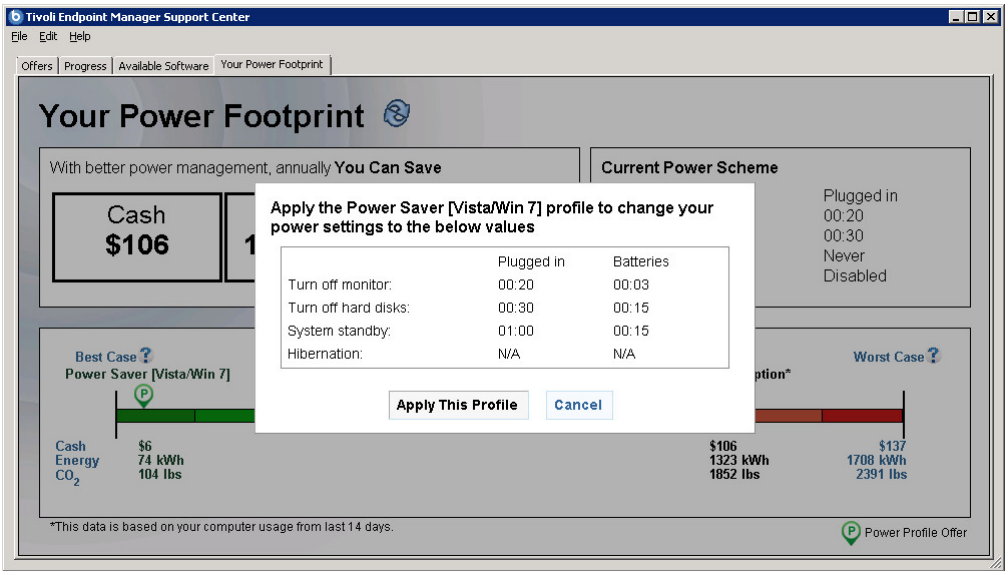
To start deployment, click the appropriate task, and then click the link in the Actions box.



From the **Take Action** window, you can make an action into an offer to have it become part of a list of offers made available in the client UI on applicable machines. This offer applies to the target machines and users that you choose in the **Take Action** window.



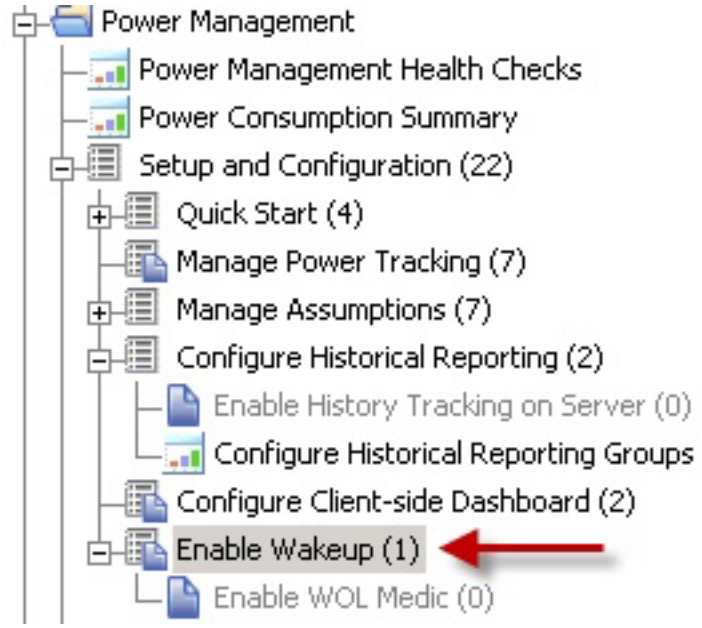
This example shows an offer for a single power profile from the **Your Power Footprint** tab. Click **Apply This Profile** to apply the offer without having to go to the **Offers** tab.



Note: Your BES Client version must be 8.2.1170.0 or later to view and apply the single power profile from the **Your Power Footprint** tab.

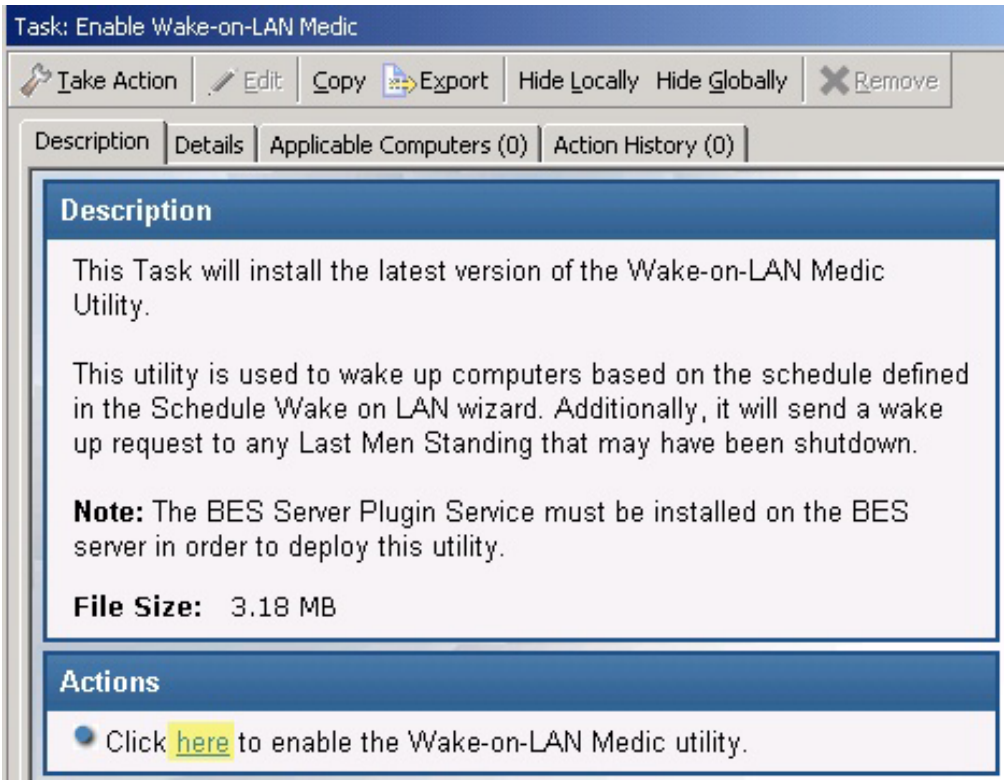
Enable Wakeup

Enable Wakeup includes a task for enabling the Wake-on-LAN Medic Utility. This utility is used to wake computers based on the schedule defined in the *Schedule Wake-on-LAN* wizard. It also sends a wake-up request to any Last Man Standing computers that are shut down.



As well as the IBM Endpoint Manager Wake-on-LAN technology, **BESWolMedic.exe** with versions 1.5.30 or later use a directed broadcast that does not need Wake-on-LAN forwarders and Last Man standing computers.

To enable the *Wake-on-LAN Medic Utility*, click the *Enable* task in the List Panel, and then click in the Actions box of the Task window.



Your IBM Endpoint Manager Server firewall might prompt a network security warning when the utility is run for the first time. No directed broadcast is issued if the permission to access the network is not approved at your TEM Server. The existing IBM Endpoint Manager Wake-on-LAN technology will continue to work.

Remove previous version

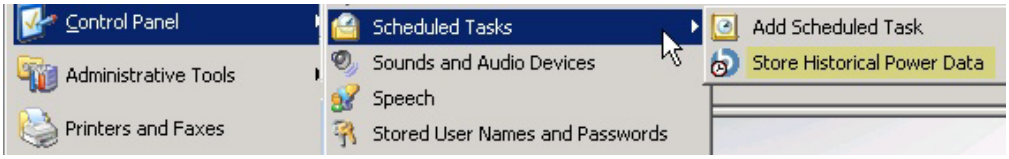
You can run the previous and current versions of both versions of Power Management simultaneously. However, the new version of Power Management uses different collection techniques. When you remove the old version, your historical data is not transferred.

Note: Remove the previous version of IBM Endpoint Manager Power Management after the new version is installed.

Disable previous Historical Tracking

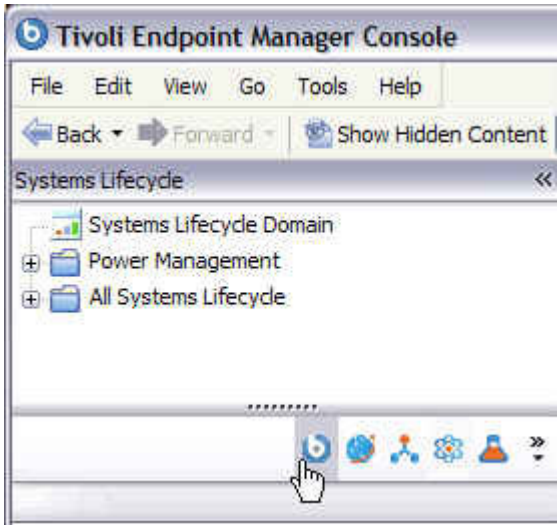
The previous version of Endpoint Manager for Power Management used a user-defined scheduled task in Windows to run the Store Historical Power Data process. If you previously set up this task, you must disable it after you remove the older Power Management Fixlet site.

To disable previous historical tracking, remove the scheduled task for storing the power results utility. To do this, access the Windows Control Panel and select Scheduled Tasks. Delete the *Store Historical Power Data* task.

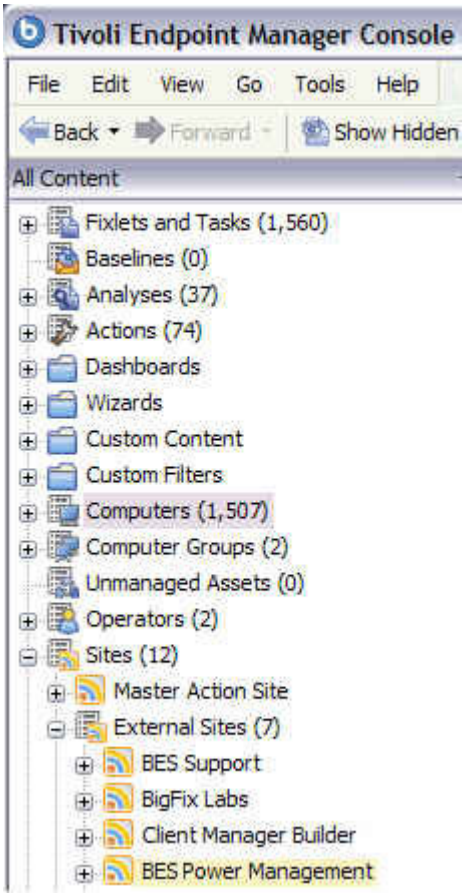


Unsubscribe from sites

To unsubscribe from the previous site, go to the domain icons at the bottom of the domain panel and click the *All Content* domain icon.



The *All Content* navigation tree displays in the domain panel on the left. In the *All Content* navigation tree, expand the *Sites* folder. Highlight the previous Power Management site and click *Remove* from the work panel.

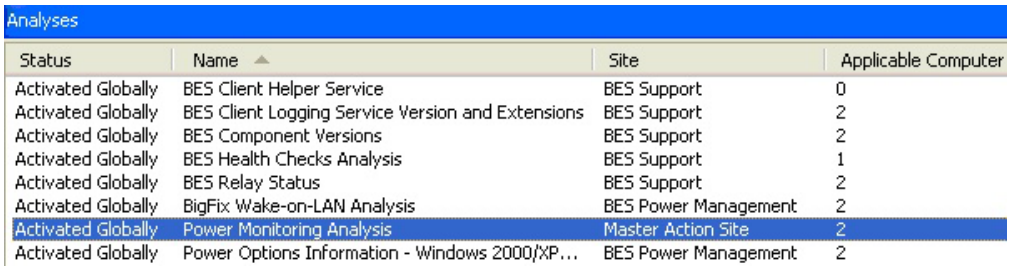


Remove custom analyses

The previous version of Power Management used a custom analysis to track power usage that was different for each console user. In the current version, tracking is done with a single analysis in the Fixlet site.

Remove the previous analysis after you unsubscribe from the older Power Management.

To remove custom analyses created in the previous Power Management site, click the Analyses node in the *All Content* navigation tree. In the List Panel that displays on the right, sort the list *by Name* and locate the previous site. It is called *Power Monitoring Analysis*. If there are several sites within your console, right-click each *Power Monitoring Analysis* site and select *Remove* from the list.


Analyses
Status
Name
Site
Applicable Computer
Activated Globally
BES Client Helper Service
BES Support
0
Activated Globally
BES Client Logging Service Version and Extensions
BES Support
2
Activated Globally
BES Component Versions
BES Support
2
Activated Globally
BES Health Checks Analysis
BES Support
1
Activated Globally
BES Relay Status
BES Support
2
Activated Globally
BigFix Wake-on-LAN Analysis
BES Power Management
2
Activated Globally
Power Monitoring Analysis
Master Action Site
2
Activated Globally
Power Options Information - Windows 2000/XP...
BES Power Management
2

Appendix. Support

For more information about this product, see the following resources:

- http://pic.dhe.ibm.com/infocenter/tivihelp/v26r1/topic/com.ibm.tem.doc_9.1/welcome/welcome.html
- IBM Endpoint Manager Support site
- IBM Endpoint Manager wiki
- Knowledge Base
- Forums and Communities

Notices

This information was developed for products and services that are offered in the USA.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
United States of America

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:
INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM websites are provided for convenience only and do not in any manner serve as an endorsement of those

websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
2Z4A/101
11400 Burnet Road
Austin, TX 78758 U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

All IBM prices shown are IBM's suggested retail prices, are current and are subject to change without notice. Dealer prices may vary.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

Portions of this code are derived from IBM Corp. Sample Programs.

Programming interface information

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at www.ibm.com/legal/copytrade.shtml.

Adobe, Acrobat, PostScript and all Adobe-based trademarks are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, other countries, or both.

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency which is now part of the Office of Government Commerce.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

ITIL is a registered trademark, and a registered community trademark of The Minister for the Cabinet Office, and is registered in the U.S. Patent and Trademark Office.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java™ and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

Linear Tape-Open, LTO, the LTO Logo, Ultrium, and the Ultrium logo are trademarks of HP, IBM Corp. and Quantum in the U.S. and other countries.

Terms and conditions for product documentation

Permissions for the use of these publications are granted subject to the following terms and conditions.

Applicability

These terms and conditions are in addition to any terms of use for the IBM website.

Personal use

You may reproduce these publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative work of these publications, or any portion thereof, without the express consent of IBM.

Commercial use

You may reproduce, distribute and display these publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these publications, or reproduce, distribute or display these publications or any portion thereof outside your enterprise, without the express consent of IBM.

Rights

Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the publications or any information, data, software or other intellectual property contained therein.

IBM reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the publications is detrimental to its interest or, as determined by IBM, the above instructions are not being properly followed.

You may not download, export or re-export this information except in full compliance with all applicable laws and regulations, including all United States export laws and regulations.

IBM MAKES NO GUARANTEE ABOUT THE CONTENT OF THESE PUBLICATIONS. THE PUBLICATIONS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

Product Number: 5725-C46

Printed in USA