

## PowerMAN Server 5.4

### Management Reporting Platform Guide

Release 5.4.0 March 2016. Revised May 2016



## About Data Synergy



Data Synergy is a British company based in Sheffield. We have over fifteen years' experience developing and supporting software solutions for enterprise PC deployment and management. We do not resell other vendors' products and do all of our development, sales and support from our UK base.

Our products have evolved through listening to customer ideas and applying our unrivalled knowledge of PC internals. If you have a suggestion for a new product or feature we would love to talk to you.

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## Overview

The PowerMAN reporting platform complements the PowerMAN client software by giving you powerful, organisation-wide, reporting of PC energy usage, costs and waste.

The reporting software is available in two separate products:

- **PowerMAN Hosted Reporting** - Running on Data Synergy's servers this solution avoids the need to purchase, configure and maintain your own server. This is ideal for small-medium sized organisations below approximately 10,000 computers.
- **PowerMAN Enterprise Server** – Running on your own server this product provides your own private reporting system. This is ideal for larger organisations or where use of the hosted service is not practical.

The reporting solution is optional – the PowerMAN client software will provide central control of PC power management without it. However, the management reports can be extremely useful to monitor the on-going effectiveness of your PowerMAN installation and determine if any improvements can be made. Whichever solution you select both provide identical reporting features.

This guide explains how to use and manage the reporting system. The guide is written for both users and site administrators. Separate administrator guides are available which explain how to initially configure PowerMAN Enterprise Server and how to deploy the PowerMAN client software.

## Accessing the demonstration system

The Data Synergy website includes a live demonstration of the PowerMAN reporting system.

The example shows an organisation divided into two areas:

- **No power management** - before PowerMAN
- **Active power management** - with active PowerMAN management

You can access the demonstration and explore the features described in this document at the following link: <http://www.datasynergy.co.uk/demo.aspx>

## Reporting sites and sub-sites

PowerMAN can group similar or related computers together into **sites**. The grouping is configured by the system administrator and may be revised without any data loss. Typically computers are organised by location, computer type or business function.

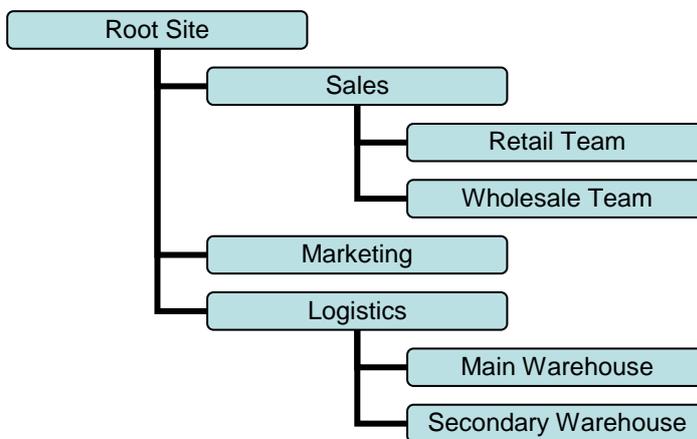
Reporting sites may be created in several different ways:

- Manual site created by system administrator on server
- Automatic site creation based upon client-side settings and then allocation of reporting site by system administrator
- Fully automatic site creation based upon computer Active Director (OU) hierarchy. This feature requires PowerMAN client v5.2.6 or later

Each site is identified by a unique identity called a **SiteGUID**. Unless you are the system administrator you will not need to know the intricate details of how the SiteGUID identity operates – *all you need to remember is that it is unique*. An example SiteGUID:

```
{94818dbc-308c-4a61-a59b-714c047703d5}
```

The system administrator can create as many sites as are required for your organisation. Sites can be nested within each other to reflect the organisation structure or Active Directory hierarchy. For instance an example structure could be:



You can use PowerMAN to report on any site or any hierarchy of sites.

For instance, using the example, a report for **Sales** would include **Retail Team** and **Wholesale Team**.

Whilst computers can be moved between sites at any time it is good practice to put some initial thought into the site hierarchy so that it accurately reflects your organisation structure.

An **ideal site** is a group of similar computers within a defined environment such as an office, department or computer room. A typical site can have anywhere from one to several hundred computers and will be **suitable for managing as a single entity**.

## Accessing the reporting system

The system administrator can supply you with a URL (web address) that can be used to access the reporting system. The administrator can configure the system security to allow:

- Allow anonymous viewing
- Require a login for authenticated viewing
- Require a login for authenticated site administration

System logins may be based upon your email address and a password or Windows user name. Windows based logins do not require a separate password.

**Tip:** The PowerMAN hosted reporting service is initially configured to allow anonymous viewing. This simplifies access which is especially useful when learning the PowerMAN system. You can request a login if you need a higher level of security. A login is **always** needed to make changes to the system configuration.

On a stand-alone PowerMAN Enterprise Server system this URL is usually in the following format:

<http://yourserver:8080/>

However, depending upon configuration, you may need a more complex URL to access the reports. The typical URL format is

<http://yourserver:8080/SiteSummary.aspx?SiteGUID=yourguid>

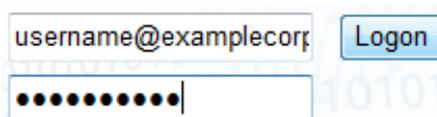
It may be helpful to bookmark the URL in your favourites. To access the URL paste it into your browser address bar:



## Login using email address and password

If your system requires you to logon using an email address and password you can enter your credentials using the boxes at the top of the screen. To login proceed as follows:

1. Enter you email address and password into the login fields (top right)
2. Press the **Logon** button

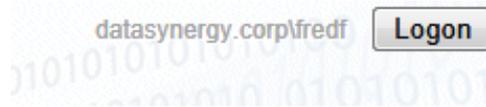


3. You will be redirected to your organisation root (top-level) site. This is the site that contains all other sub-sites.

## Login using Windows user account

If your system is configured to permit login using your Windows account then no separate password is necessary. This is known as **Windows integrated authentication**. If anonymous logins are permitted you will initially be logged in anonymously. In this case you may login (for instance to perform administration) by clicking the **Logon** button:

1. Press the **Logon** button



2. You will be redirected to your organisation root (top-level) site. This is the site that contains all other sub-sites.

## Online Help System



PowerMAN includes an on-line help system that can be used to complement this guide. To access the system press the question mark icon that is displayed next some features.

## User Interface Tabs

The PowerMAN user interface may be divided into a number of separate tabs. These are not visible if the live feature set is not enabled or the user does not have configuration rights:



The tabs have the following function:

- **Summary** – Historic power management reports
- **Live** – Instantaneous power management status (if available)
- **Devices** – Hardware / capability reporting on managed devices
- **Configuration** – PowerMAN reporting configuration (if available)

## Reporting System Basics

The PowerMAN reporting suite is designed to show energy management related statistics for computers within your organisation. You can use the reporting system to monitor performance and fine-tune your PC power management policies.

The reporting system uses a common colour coding scheme to show the various types of activity:

Colour / Activity	Meaning
 User Activity	The user was active during the time period. This typically means that the user operated the keyboard/mouse.
 Other Activity	A program or other protected activity configured by the system administrator was active during the time period. This colour will only be present if this feature has been enabled.
 User Inactivity  No Logon Inactivity	The computer was inactive whilst a user was logged on / off. No other significant activity was detected.  <b>Tip:</b> Used correctly, the primary purpose of PowerMAN is to reduce the amount of time spent 'inactive' to a minimum. It is unlikely that you will be able to completely remove all inactive time but you should be able to remove almost all of it without disrupting productivity. In most cases it is simpler to reduce inactivity when no user is logged on first.

PowerMAN reporting divides the day into small (15 minute) time slots and records anonymous information about the activity on each computer. For each time slot PowerMAN collects information such as:

- Was there any user\* activity?
- Was a user logged on?
- Was the monitor, hard disk or screen saver on or off?
- Did any application prevent sleep or hibernation?

**\* The information collected does NOT include the name of the user or what specific programs, websites, keyboard activity they were performing. PowerMAN logs less than 4 bytes of information every 15 minutes. Please contact Technical Support for a detailed explanation of the information collected and the protocol used to transfer it to the PowerMAN server.**

## Site Summary

The site summary page provides a historic summary of power management performance. The top of the page includes details about the site and is followed by information about recent activity, sub-sites and computers. Depending upon system configuration some of these reports may be not be available for every site.

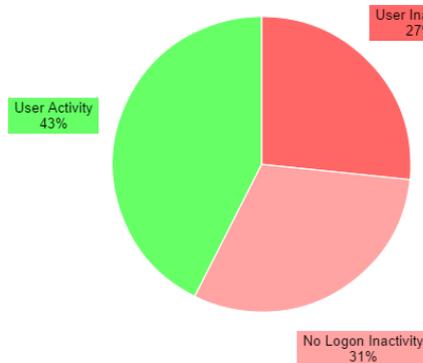
### Example Corporation Limited

<b>Organisation</b>	Example Corporation Limited	OU=Desktop,DC=corp,DC=local
<b>Created</b>	01/01/2009	<b>First Data</b> 25/02/2008
<b>Expires</b>	Never	<b>Last Data</b> 25/04/2009
<b>Min. Data Retention</b>	Unlimited	<b>Total Computers</b> 104 <a href="#">Export</a>
		<b>Total Sub-Sites</b> 2 <a href="#">Export</a>

### Site Information

Information about the site and site parameters

### Activity breakdown by type

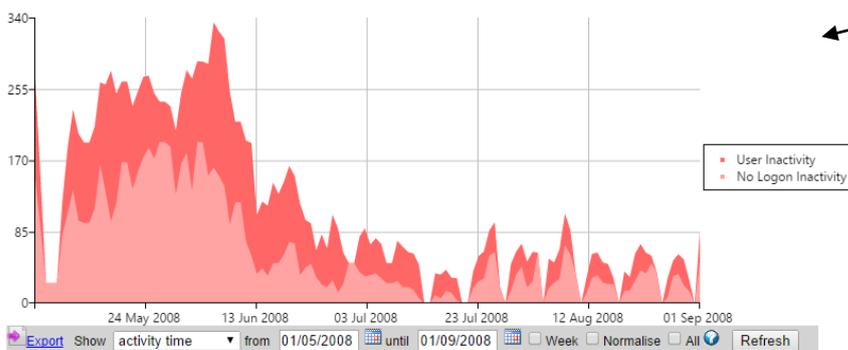


Majority inactive hours 31% due no user logon

### Site Summary Chart

This chart shows summary information for the current site and sub-sites broken down by activity type

### Inactivity (Waste) / Hours



### Site Activity History

This chart can show site activity in hours, estimated cost and estimated CO<sub>2</sub>

### Sub-Sites

Site	Computers	Last Status	Inactive Hours	Active Hours	No Logon	Inactive User	User	Other	Delete
<a href="#">Sales</a>	115	16/03/2012	39301.25	15535.00					
<a href="#">Technical</a>	79	27/01/2012	18279.50	7980.50					
<a href="#">Production and Logistics</a>	77	03/01/2012	14239.75	10566.25					
<a href="#">Development</a>	3	04/05/2011	1688.00	729.50					
<a href="#">Sales Laptops</a>	13	30/01/2012	0.00	0.00					

### Sub-Sites

This area shows sub-sites and their activity statistics for the displayed time period. You can navigate to each sub-site by clicking on the site name. The statistics for each site include all of its sub-sites.

### Computers

Computer	ClientVer	Last Status	Inactive %	Inactive Hours	Active Hours	No Logon	Inactive User	User	Other	Delete Move
<a href="#">EDUCATION2-1</a>	5.1.1.3472	15/06/2009	85.27	1814.25	313.50					
<a href="#">PURCHASING1-3</a>	5.0.8.2844	24/11/2008	84.03	1752.50	333.00					
<a href="#">HEALTH1-4</a>	5.2.2.5557	03/06/2011	96.50	1689.25	61.25					
<a href="#">EDUCATION1-4</a>	5.1.1.3472	16/04/2010	88.18	1430.75	191.75					
<a href="#">EDUCATION4-4</a>	5.0.8.2844	13/01/2009	84.14	1345.00	253.50					

### Site Computers

This area shows the activity statistics for computers in the current site. You can navigate to each computer by clicking on the computer's name

## Site Summary Information

The top of the site summary page displays information about the site and its sub-sites. Some of this information is technical data useful to the system administrator:

### Example Corporation Limited

<b>Organisation</b>	Example Corporation Limited	OU=Desktop,DC=corp,DC=local
<b>Created</b>	01/01/2009	<b>First Data</b> 25/02/2008
<b>Expires</b>	Never	<b>Last Data</b> 25/04/2009
<b>Min. Data Retention</b> 	Unlimited	<b>Total Computers</b> 104 <a href="#">Export</a>
		<b>Total Sub-Sites</b> 2 <a href="#">Export</a>

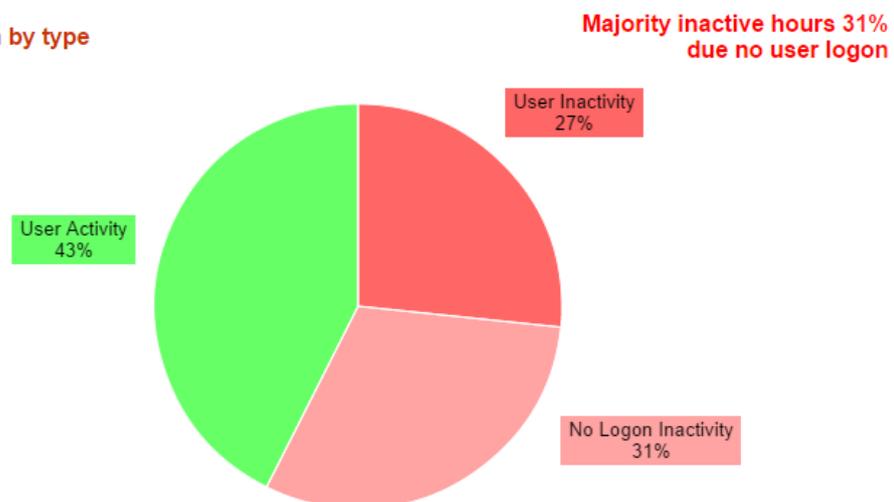
The information fields have the following meanings:

Field	Meaning
<b>Organisation / Site</b>	The name of the site
<b>Unique Identity</b>	The SiteGUID assigned by the system administrator or automatically by the server
<b>Created/Expires</b>	The date the site was created and will expire. The expiry date is determined by your PowerMAN product license key
<b>First/Last Data</b>	The date that data was first and most recently reported to the server for this site
<b>Min Data Retention</b>	The minimum period of time the server will retain the site data. Most sites are configured to discard data that is more than one year old. This period of time is primarily dictated by the available server storage capacity.
<b>Total Computers/Sites</b>	The number of computers and sub-sites within the current site

## Site Activity Summary

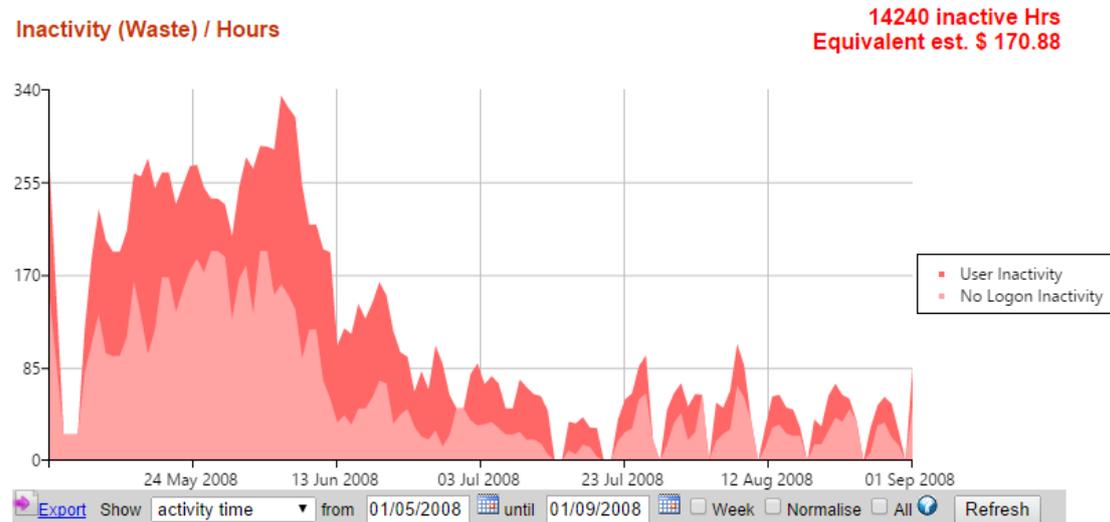
The site activity summary pie chart breaks down recent site activity by activity type. This includes all computers in the current site and all sub-sites of the current site. This chart provides a very quick overview of site performance:

Activity breakdown by type



## Site Activity History

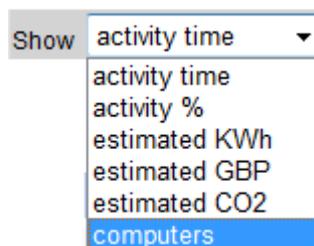
The site summary chart displays site activity for the selected calendar period. This activity includes all of the computers in the current site and all sub-sites of the current site. This chart is the primary reporting tool provided by PowerMAN and the quickest way to view historic performance:



The toolbar beneath the chart can be used to control the information displayed. It is worth spending five minutes to familiarise yourself with the powerful range of reports offered by this toolbar.

[Export](#)

The export link can be used to export the displayed data in the industry-standard CSV format. You can open and manipulate this file with Microsoft Excel or a similar program.



The drop down box is used to select the information displayed in the chart. Normally PowerMAN displays information as absolute activity time. However, you can also select % activity time, estimates costs, the number of computers active or estimated savings (against the baseline figure)



The date fields are used to control the date range used for the chart. All dates are inclusive. To select a date either input it directly into the box or press the calendar icon to display a convenient calendar.

PowerMAN displays dates using the format configured in your web browser. For instance in the UK dates are displayed as dd/mm/yyyy whilst in the US dates are displayed with the month first as mm/dd/yyyy.

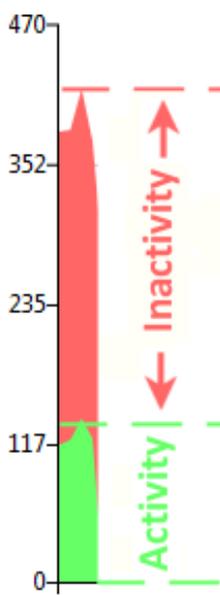
You can change the date format in Microsoft Internet Explorer by selecting Tools / Internet Options / Languages.

Week
  Normalise
  All

The tick boxes are used to configure how the information should be displayed in the chart:

- The **week** option aggregates date for each week together. This can be useful to remove daily fluctuations (especially weekends) from the data. This option is especially useful when looking at data over periods of many months.
- The **Normalise** option divides the displayed data by the number of computers active that day (or week). This is useful to remove the effect of a fluctuating number of computers. Please see the section below for further information on this topic.
- The show **All** option can be used to include or exclude the user and other activity fields. This can be useful to simplify the chart and display only the primary 'inactive' data.

**Tip:** The **Normalise** option can sometimes result in data with periodic spikes. This can especially happen at weekends when the level of activity (and possibly the number of computers) is greatly reduced from the weekday average. You can avoid this phenomenon by using the **weekly** setting.



When the show **All** option is enabled PowerMAN displays the separate activity classifications in a stacked format. The total activity time is the summation of each of the separate coloured areas as shown in this diagram. You can read the values using the scale on the right hand side.

## Normalisation Feature (average PC metrics)

Normalisation is a key statistical technique that averages results for all computers in the site.

This produces a **per-PC metric** that can be compared between days even when the number of PCs is variable. Normalisation also provides a metric that can be used to compare the performance of sites/reporting groups of difference sizes. Normalisation may be performed on either the daily or weekly data.

Weekly normalisation may sometimes be useful to extend this process and remove daily fluctuations. In deployments with a variable number of active computers on different days or where there is a significant difference between weekdays and weekends this can help remove these effects from the data and provide a result for an average or 'typical' PC. The normalised result is always a fraction of 24 hours (daily) or 168 hours (weekly).

**Tip:** In some deployments the non-normalised and normalised charts may be almost identical. If this is the case it indicates there is little deviation between specific PCs and the nominal PC.

## Estimated costs and CO<sub>2</sub>

The data recorded by PowerMAN is based upon the amount of time in each activity state. This time based data is the most accurate way to measure the effectiveness of your power management policy.

The PowerMAN Server system also allows you to convert this to estimates of cost and equivalent carbon dioxide. This conversion can allow you to visualise and report on the effectiveness of your power management policy using these alternative measures.

PowerMAN can **only estimate** the cost and CO<sub>2</sub> figures because:

- Each PC has different power requirements. In practice a typical modern desktop PC uses 80-150W (0.08 to 0.15kW). Unfortunately most computers do not have the hardware necessary to measure this electronically. You can however measure this yourself using a watt-hour meter. The best way to do this is to use a meter that can record a cumulative (not instantaneous) figure and monitor different computers over the full working day cycle. This will produce a figure in KWh.
- The cost of electricity varies from site to site. This value is available from your electricity supplier.
- The nominal amount of CO<sub>2</sub> released per KWh of electricity generated from fossil fuels depends upon the generation method and efficiency. The UK Government currently uses a standard figure of 0.43kg/KWh. The exact amount depends upon the source of electrical generation. This value may be less (or even zero) if non-fossil fuels are used to generate the electricity. This value is also available from your electricity supplier.

You can replicate the calculations performed by PowerMAN as follows:

1. Measure the KWh figure for a PC / 24 hours
2. To calculate cost multiply this figure by the electricity cost per KWh
3. To calculate nominal CO<sub>2</sub> multiply this figure by 0.43kg/KWh (or the figure from your electricity supplier)

**Example:** A typical PC consumes 150W. This is equivalent to 0.15kWh. Therefore, for a medium sized site of 350 computers, where the total site wasted hours for a week is 47,040, and the cost of the electricity \$0.15 per kWh the calculation would be:

$$0.15 \text{ kWh} \times 47040 \text{ hours/week} \times \$ 0.15 / \text{kWh} = \$ 705.60 \text{ per week}$$

***This is equivalent to a yearly cost of over \$36,000.***

A useful **rule of thumb** is that office based computers are used 25% of the time (40 hours per week). If the computers are not shutdown at other times the waste period is up to 75%. With suitable configuration PowerMAN can virtually eliminate this waste.

Although the figures produced by PowerMAN are only estimates they will produce useful figures if you use accurate values for electricity consumption, cost and CO<sub>2</sub>.

The following example explains how a method to estimate the cost of PC inactivity.

- a. Estimate the 'inactive' hours per PC per week
- b. Determine the energy cost / kWh
- c. The approximate annual cost of inactive periods is the number of PCs x (a) x 52 x (b)

## Sub-Sites Overview

PowerMAN displays summary information about the current sub-sites. These are the sites that are nested within the current site. The format used is very similar to the main chart but the graph is displayed sideways for easy comparison. The sub-site chart includes a separate date range selector. Normally this shows recent activity:

### Sub-Sites

Site	Computers	Last Status	Inactive Hours	Active Hours	<input type="checkbox"/> No Logon	<input type="checkbox"/> Inactive User	<input type="checkbox"/> User	<input type="checkbox"/> Other
<a href="#">Sales</a>	115	16/03/2012	39301.25	15535.00				
<a href="#">Technical</a>	79	27/01/2012	18279.50	7980.50				
<a href="#">Production and Logistics</a>	77	03/01/2012	14239.75	10566.25				
<a href="#">Development</a>	3	04/05/2011	1688.00	729.50				
<a href="#">Sales Laptops</a>	13	30/01/2012	0.00	0.00				

[Export](#) Show   sub-sites from  until



The toolbar beneath the chart can be used to control how many records are shown and if they are shown in least (best) or greatest inactivity order.

You can navigate to the sub-site by clicking on the associated link.

## Computers Overview

Similarly PowerMAN displays the summary information about the current site's member computers in the final chart. The last status field indicates the last day that data was logged. You can navigate to the computer, and see more detailed information, by clicking on the computers name.

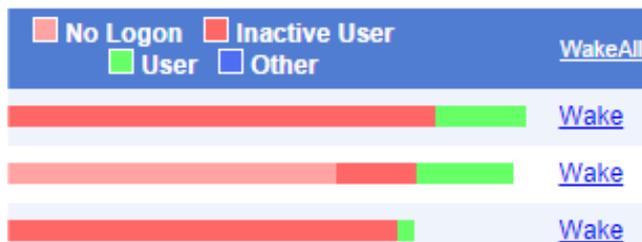
### Computers

Computer	ClientVer	Last Status	Inactive %	Inactive Hours	Active Hours	<input type="checkbox"/> No Logon	<input type="checkbox"/> Inactive User	<input type="checkbox"/> User	<input type="checkbox"/> Other
<a href="#">EDUCATION2-1</a>	5.1.1.3472	15/06/2009	85.27	1814.25	313.50				
<a href="#">PURCHASING1-3</a>	5.0.8.2844	24/11/2008	84.03	1752.50	333.00				
<a href="#">HEALTH1-4</a>	5.2.2.5557	03/06/2011	96.50	1689.25	61.25				
<a href="#">EDUCATION1-4</a>	5.1.1.3472	16/04/2010	88.18	1430.75	191.75				
<a href="#">EDUCATION4-4</a>	5.0.8.2844	13/01/2009	84.14	1345.00	253.50				

[Export](#) Show   computers from  until

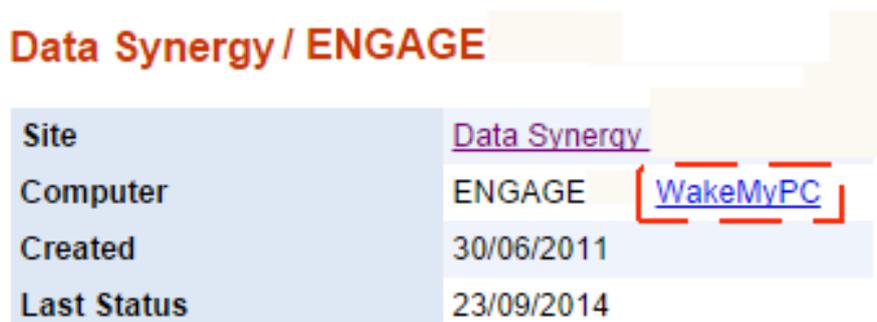
## WakeMyPC Integration (Remote Wake)

The system administrator may optionally install the companion **WakeMyPC** software. This can be used to remotely wake a specific computer using Wake-On-LAN (WoL) technology. If this feature is enabled a **Wake** link is displayed next to each computer name. An option to **Wake All** computers is also available. To wake a specific computer click the associated link. You can export multiple wake links using the Export feature. This may be useful if you wish to distribute the links to users:



The screenshot shows a legend for user status: 'No Logon' (light red), 'Inactive User' (red), 'User' (green), and 'Other' (blue). Below the legend is a 'WakeAll' link. Three rows of computers are shown, each with a colored bar representing its status and a 'Wake' link. The first row has a red bar and a green bar. The second row has a light red bar, a red bar, and a green bar. The third row has a red bar and a green bar.

The facility to wake a specific computer is also available on the individual computer summary pages (if available):



The screenshot shows the 'Data Synergy / ENGAGE' header. Below it is a table with the following data:

Site	Data Synergy
Computer	ENGAGE <a href="#">WakeMyPC</a>
Created	30/06/2011
Last Status	23/09/2014

The 'WakeMyPC' link is highlighted with a red dashed box.

## Computer Report

The computer report shows information about a specific computer. This report is similar to the site summary but contains much more detail.

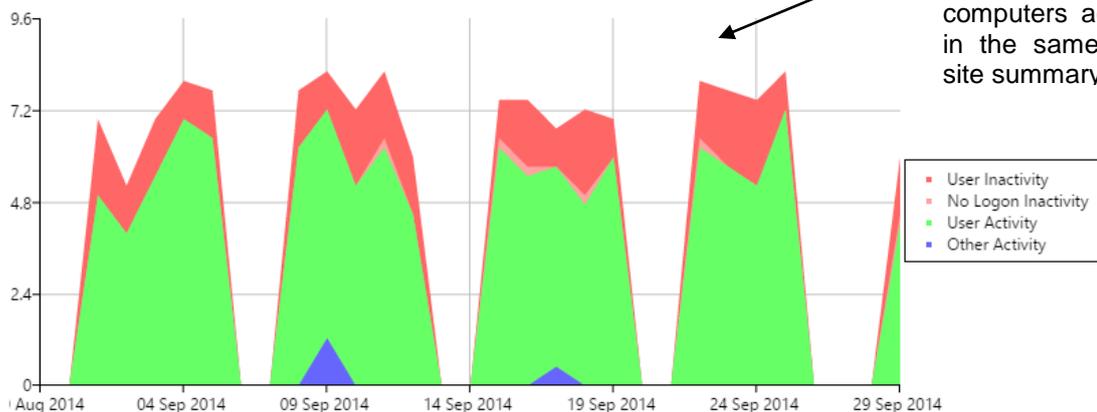
### Power managed / Managed39

Site	<a href="#">Power managed</a>	OU=PowerManaged,OU=Desktop,DC=corp,DC=local
Computer	Managed39	CN=Managed39,OU=PowerManaged,OU=Desktop,DC=corp,DC=local
Created	02/07/2014	MAC Address 24-BE-05-21-19-74
Last Status	29/09/2014	Client Version 5.2.9.5888
Last Live Status (Local)	22/08/2014 16:05:10	Live Status <b>Shutdown</b>
Supports States	S345	Windows® Version 6.1.7601 Service Pack 1
Supports Wake	S1234	Timezone 0.0 hour(s) UTC
Disk Standby	Supported	Hardware buttons Power
System HDD Free	60,683 MB	Hibernation File (\$4) Present
Battery	No Battery (Desktop)	Platform x64 (64-bit)
CPU Sockets/Cores/Logical	1 / 2 / 4 3292 MHz	CPU Model Intel(R) Core(TM) i3-2120 CPU @ 3.30GHz
System RAM	8080 MB	System Model / Vendor 1495 / Hewlett-Packard
Fixed / Optical Drives	2 / 1	BIOS Vendor Hewlett-Packard

**Computer Information**  
Technical information about the computer, when it was first registered and when it last reported data

**Hardware Info (if available)**  
Hardware specific information about the computer. This feature must be enabled by the system administrator.

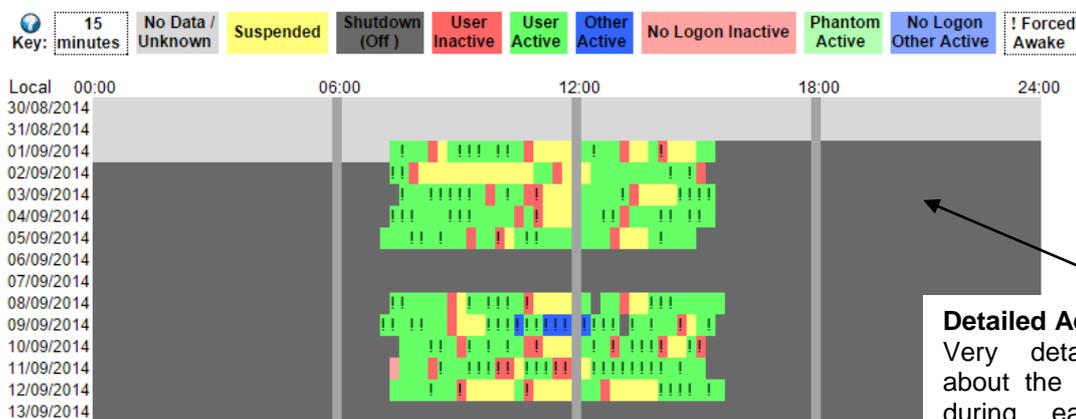
### Daily Activity Summary / Hours



**Computer History**  
Information about the computers activity displayed in the same format as the site summary

Export Show data from 30/08/2014 until 29/09/2014 Refresh

### Detailed Activity Report



**Detailed Activity Report**  
Very detailed information about the computers status during each 15 minute reporting interval

\*Report in local time. Includes 0.0 hour(s) time bias.

## Computer Information

The top of the page contains useful information about the currently selected computer:

### Power managed / Managed39

<b>Site</b>	Power managed	OU=PowerManaged,OU=Desktop,DC=corp,DC=local	
<b>Computer</b>	Managed39	CN=Managed39,OU=PowerManaged,OU=Desktop,DC=corp,DC=local	
<b>Created</b>	02/07/2014	<b>MAC Address</b>	24-BE-05-21-19-74
<b>Last Status</b>	29/09/2014	<b>Client Version</b>	5.2.9.5888
<b>Last Live Status (Local)</b>	22/08/2014 16:05:10	<b>Live Status</b>	Shutdown
<b>Supports States</b>	S345	<b>Windows® Version</b>	6.1.7601 Service Pack 1
<b>Supports Wake</b>	S1234	<b>Timezone</b>	0.0 hour(s) UTC
<b>Disk Standby</b>	Supported	<b>Hardware buttons</b>	Power
<b>System HDD Free</b>	60,683 MB	<b>Hibernation File (S4)</b>	Present
<b>Battery</b>	No Battery (Desktop)	<b>Platform</b>	x64 (64-bit)

The information fields have the following meaning:

Field	Meaning
<b>Site</b>	The name of the site containing the computer.  The distinguished Active Directory name of the site may also be displayed if this feature has been enabled by the System Administrator.
<b>Computer</b>	The network name of the computer (and optionally AD name)
<b>Created / Last Status</b>	The date the computer first registered with the PowerMAN server and the date that data was last reported.
<b>Last Live Status (Local)</b>	The current status of the workstation (if known) and the time it was last recorded. This feature must be enabled by the System Administrator.
<b>Supports States</b>	The power states supported by the computer. The power states are known as S0-S5 (S6 is also unofficially used by some vendors). Each power state requires decreasing levels of energy to maintain at the expense of increased time to become operational again.
<b>Supports Wake</b>	The power states that the computer can be woken from. Most systems support wake from S1-S3. Some systems support wake from S4 (hibernate). It is currently unusual to find hardware capable of remote wake from S5 (off).
<b>Windows Version</b>	The Microsoft Windows® version installed on the computer
<b>Disk Standby</b>	The power management standby support provided by the system hard disk and if a hibernation (S4) file is present
<b>Hibernate File (S4)</b>	
<b>Hardware Buttons</b>	The power related buttons available on the computer (as reported by the system BIOS)
<b>System HDD Free</b>	The amount of free space remaining on the system drive. This feature requires client version 5.2.0 or later
<b>Battery</b>	If a battery is present e.g. portable computer
<b>MAC Address</b>	The network hardware address of the PC. This is not the same as the IP

	address.
<b>Client Version</b>	The version of PowerMAN installed on the computer. This will be in the format 5.x.y.zzzz where x is the minor revision and y the release level. The zzzz field represents the PowerMAN software build number; this may be useful to technical support.
<b>Platform</b>	The current operating system platform (32-bit or 64-bit)
<b>Time zone</b>	The time zone relative to UTC (GMT) that the computer is located in. This is used to bias the detailed activity report so that it is displayed using the effective local time. This is helpful when analyzing the data for user activity patterns.

## Hardware Information (Optional)

PowerMAN may optionally also record hardware information about the computer. If this feature has been enabled by the System Administrator the following additional information will also be shown:

<b>CPU Sockets/Cores/Logical</b>	1 / 2 / 4 3292 MHz	<b>CPU Model</b>	Intel(R) Core(TM) i3-2120 CPU @ 3.30GHz
<b>System RAM</b>	8080 MB	<b>System Model / Vendor</b>	1495 / Hewlett-Packard
<b>Fixed / Optical Drives</b>	2 / 1	<b>BIOS Vendor</b>	Hewlett-Packard

The hardware information fields have the following meaning:

Field	Meaning
<b>CPU/Sockets/Cores/Logical</b>	CPU information separated by a slash: <ol style="list-style-type: none"> <li>1. Number of sockets (typically 1)</li> <li>2. Number of physical cores</li> <li>3. Number of logical processors (e.g. hyper-threading)</li> <li>4. Nominal speed in MHz (if known)</li> </ol>
<b>CPU Model</b>	The make and model of the CPU
<b>System RAM</b>	The available system RAM (less any RAM reserved for video or similar). This is typically slightly less than the amount of physically installed RAM.
<b>System Model / Vendor</b>	The make / model number of the motherboard / workstation
<b>Fixed / Optical Drives</b>	The number of fixed drives / number of optical drives
<b>BIOS Vendor</b>	The BIOS make / vendor

## Detailed Computer Activity Report

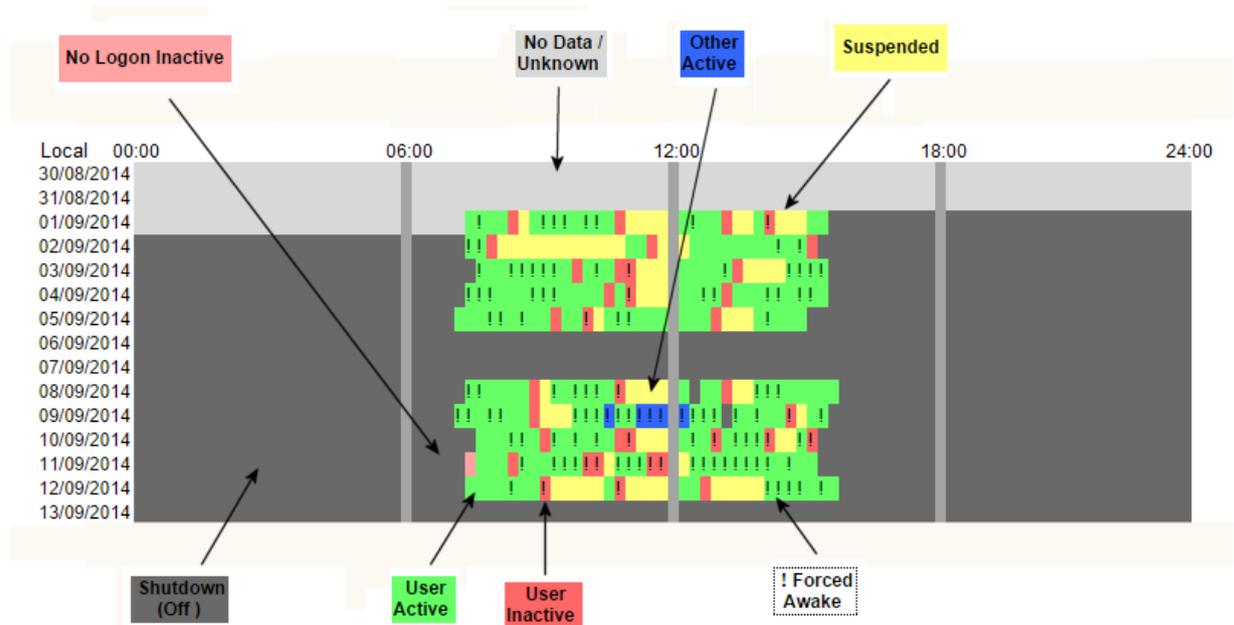
The detailed activity report contains information about the computer's status for each 15 minute reporting timeslot throughout the working day. It is an ideal way to understand in detail what was happening on a specific computer and analyse cyclical usage patterns.

The information is shown using a mixture of colours and symbols. The following table explains this:

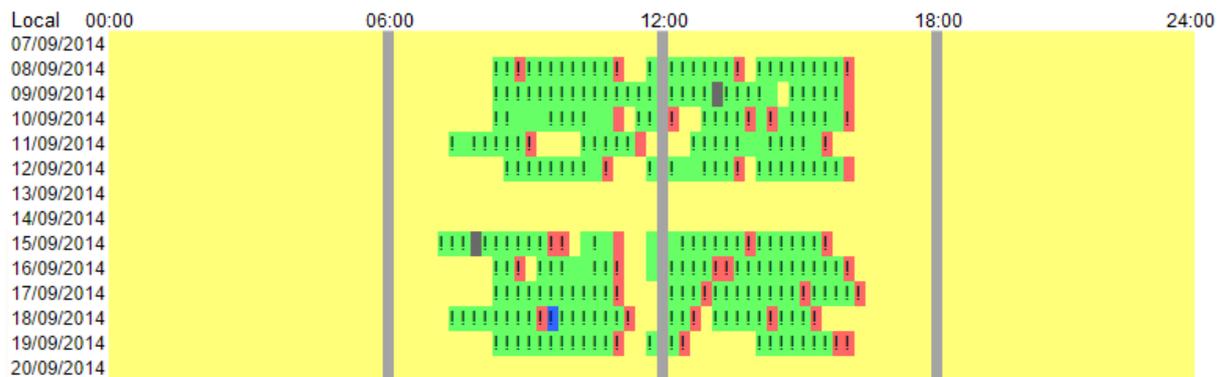
Symbol / Colour	Meaning
<div style="border: 1px dashed black; padding: 5px; display: inline-block;"> <b>15 minutes</b> </div>	Each block represents a 15 minute time slot
<div style="background-color: #cccccc; padding: 5px; display: inline-block;"> <b>No Data / Unknown</b> </div>	Indicates that the computer state was not recorded. This may be because PowerMAN was not installed or was unexpectedly shutdown (for instance power failure).
<div style="background-color: #ffff00; padding: 5px; display: inline-block;"> <b>Suspended</b> </div>	Indicates the computer was suspended (sleep or hibernate)
<div style="background-color: #666666; color: white; padding: 5px; display: inline-block;"> <b>Shutdown (Off)</b> </div>	Indicates the computer was shutdown (including shutdown and then restarted)
<div style="background-color: #ff0000; color: white; padding: 5px; display: inline-block;"> <b>User Inactive</b> </div>	<p>Indicates a user was logged on but inactive. An effective PowerMAN deployment will normally aim to minimize such time periods.</p> <p>NB: In typical deployments it should be possible to achieve an inactivity level of &lt; 20% without significantly disrupting user productivity.</p>
<div style="background-color: #ff6666; padding: 5px; display: inline-block;"> <b>No Logon Inactive</b> </div>	Indicates a no user was logged on and the system was inactive. An effective PowerMAN deployment will normally aim to almost eliminate such time periods.
<div style="background-color: #00ff00; padding: 5px; display: inline-block;"> <b>User Active</b> </div>	Indicates that user activity was detected. This is typically means any user input (keyboard or mouse) activity during the monitoring period.
<div style="background-color: #0000ff; color: white; padding: 5px; display: inline-block;"> <b>Other Active</b> </div> <div style="background-color: #6666ff; color: white; padding: 5px; display: inline-block;"> <b>No Logon Other Active</b> </div>	<p>Indicates that other (protected) activity was detected whilst a user was logged on / not logged on. The System Administrator can defined lists of protected programs, files etc. which trigger this state.</p> <p>The companion PowerSTART program can also be used in scripts or similar to notify PowerMAN that 'other' activity is occurring.</p>
<div style="background-color: #00ff00; padding: 5px; display: inline-block;"> <b>Phantom Active</b> </div>	Indicates nobody was logged on but apparent (phantom) mouse/keyboard activity was detected. This is most commonly due to faulty or poor quality optical mice. In many circumstances such "activity" can prevent power management from working consistently.
<div style="border: 1px dashed black; padding: 5px; display: inline-block;"> <b>! Forced Awake</b> </div>	<p>An exclamation mark symbol indicates the Windows idle timer was disabled by an application or service. In other words the computer was forced awake and was not capable of entering a suspended power state. This state will also be reported if power management is completely disabled.</p> <p>Most computers will be forced awake occasionally. If the computer is permanently in this state it will suffer from PC 'insomnia'. You can work around this by using the PowerMAN policy enforcement feature.</p>

## PowerMAN Server Management Reporting Platform Guide v5.4

The following example chart demonstrates typical computer that is in use during weekday office hours and turned off outside this period. During the day the user is active for much of the time with occasional periods of inactivity / PC suspended. The PC is sometimes forced awake indicating an application is busy and temporarily inhibiting power management.



The following chart shows a similar situation with a PC that is in use during weekday/office hours and suspended outside these hours:



## Live Reporting

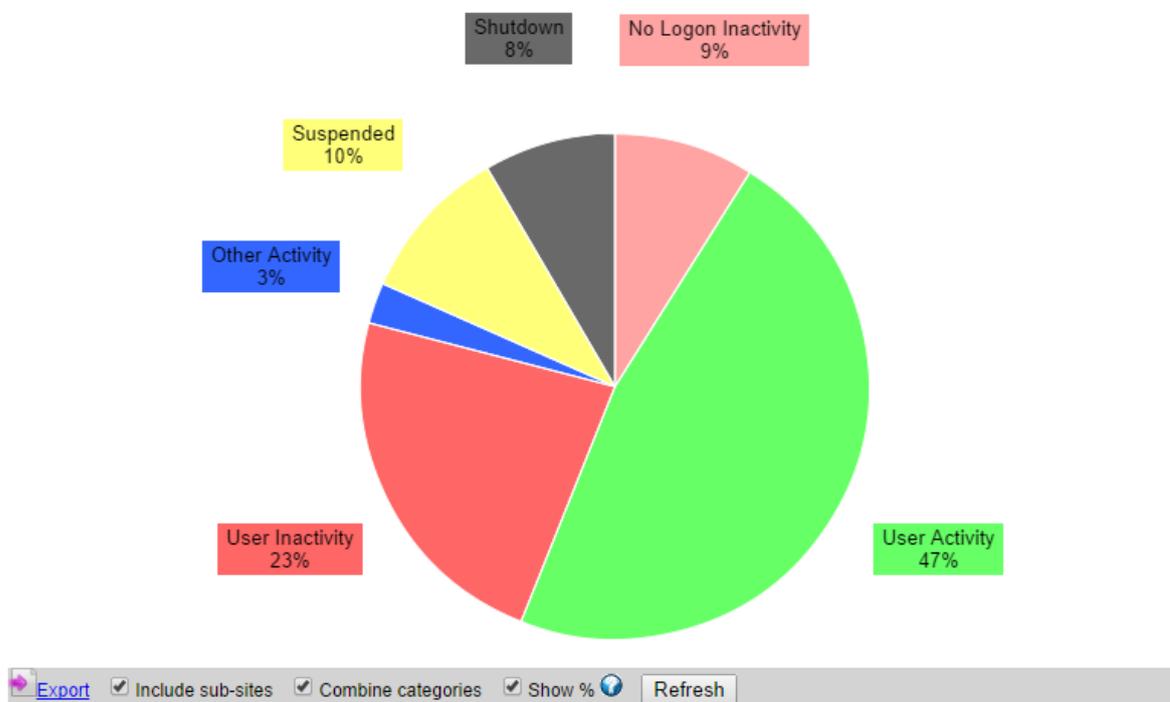
In addition to historic reporting PowerMAN can optionally provide instantaneous or live status information. This feature must be enabled by the System Administrator. To access this report open the Live tab.

### Site Live Status Report

The site live status pie chart reports the current (within the last couple of minutes) status of all workstations in the current site and optionally all sub-site.

#### University of New Town Live Statistics

##### Live Activity Breakdown



The report includes several configuration options. These have the following meanings:

- **Include sub-sites** – Include data from all child sites (enabled by default)
- **Combine Categories** – Simplify display by coalescing related reporting types. If this option is disabled then a detailed breakdown including all combinations of power status will be generated.
- **Show %** - Show the results as percentages or absolute computer numbers

## Workstation Availability Report

The collection of live data also allows PowerMAN to provide a workstation availability dashboard. This is intended for use in public access areas, intranets and service desks or similar

The availability report currently shows the number of workstations broken down as follows:

- **Available** – Known turned off, suspended (with no logon) or turned on and with no logged on user
- **Not available** – Current logged on user or no recent data (> 30 days)

### Sub-Site Computer Availability



## Workstation Live Status Report

The workstation live status report shows the current status of each workstation within the current reporting site. Click on the workstation name to link through to the detailed workstation report:

### Live Computer Status

Computer Name				
 <a href="#">PMManagedPC1</a>	 <a href="#">PMManagedPC18</a>	 <a href="#">PMManagedPC26</a>	 <a href="#">PMManagedPC34</a>	 <a href="#">PMManagedPC42</a>
 <a href="#">PMManagedPC10</a>	 <a href="#">PMManagedPC19</a>	 <a href="#">PMManagedPC27</a>	 <a href="#">PMManagedPC35</a>	 <a href="#">PMManagedPC43</a>
 <a href="#">PMManagedPC11</a>	 <a href="#">PMManagedPC2</a>	 <a href="#">PMManagedPC28</a>	 <a href="#">PMManagedPC36</a>	 <a href="#">PMManagedPC44</a>
 <a href="#">PMManagedPC12</a>	 <a href="#">PMManagedPC20</a>	 <a href="#">PMManagedPC29</a>	 <a href="#">PMManagedPC37</a>	 <a href="#">PMManagedPC45</a>
 <a href="#">PMManagedPC13</a>	 <a href="#">PMManagedPC21</a>	 <a href="#">PMManagedPC3</a>	 <a href="#">PMManagedPC38</a>	 <a href="#">PMManagedPC46</a>
 <a href="#">PMManagedPC14</a>	 <a href="#">PMManagedPC22</a>	 <a href="#">PMManagedPC30</a>	 <a href="#">PMManagedPC39</a>	 <a href="#">PMManagedPC47</a>
 <a href="#">PMManagedPC15</a>	 <a href="#">PMManagedPC23</a>	 <a href="#">PMManagedPC31</a>	 <a href="#">PMManagedPC4</a>	 <a href="#">PMManagedPC48</a>
 <a href="#">PMManagedPC16</a>	 <a href="#">PMManagedPC24</a>	 <a href="#">PMManagedPC32</a>	 <a href="#">PMManagedPC40</a>	 <a href="#">PMManagedPC49</a>
 <a href="#">PMManagedPC17</a>	 <a href="#">PMManagedPC25</a>	 <a href="#">PMManagedPC33</a>	 <a href="#">PMManagedPC41</a>	

**Tip:** It is anticipated that the **Availability Report** and **Workstation Live Status Report** will both evolve further in later product releases. If you have a specific requirement or product suggestion relating to the display of live data please contact your Account Manager.

## Device Reporting

In addition to power management reporting PowerMAN can also report on managed devices. The information collected includes installed hardware and hardware capability information. This feature can be used to quickly locate devices that meet specific search criteria. The feature can be accessed via the Devices tab. This feature requires client version 5.2.8 or later.

### Device Report

The devices report displays a list of devices that match filter criteria. The current filters include:

- PowerMAN client version
- Operating system version
- Battery present
- Hardware vendor and product
- BIOS vendor and version
- CPU model and core count
- Installed RAM
- Installed hard disks and optical drives
- Free system drive capacity

To locate devices selected the desired criteria and click refresh:

Summary | Live | **Devices**

#### Information Technology Services Devices

Client Version	All	CPU	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz
OS Version	All	Logical Cores	All
Battery	All	RAM	All to All GB
Vendor	Dell Inc.	Hard Disks	All
Product/Code	All	Optical Drives	All
BIOS	All	Free System Drive	All GB
BIOS Version	All		

[Export](#) Show 1000 Computers  Include sub-sites [Refresh](#) Showing 8 of 36 Records

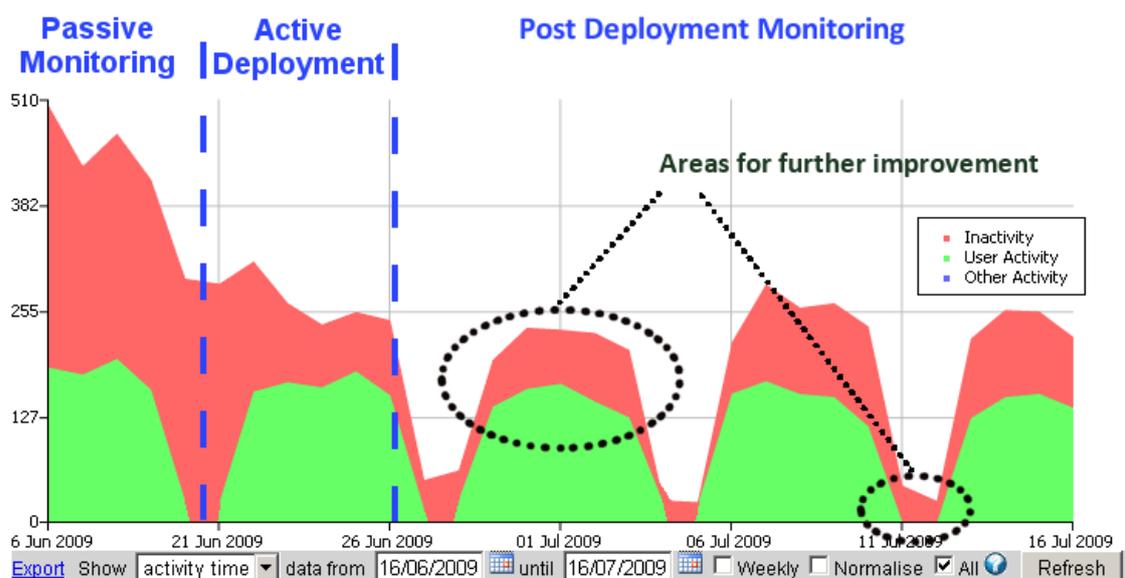
Computer	Version	OS	Battery	Vendor	Product/Code	BIOS	Version	CPU	Logical Cores	RAM MB	Hard Disks	Optical Drives	Free System Drive MB	Last Status
<a href="#">TTSD-DOR</a>	5.3.0.5890	6.1.7801 Service Pack 1	False	Dell Inc.	0C27VV	Dell Inc.	A04	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz	2	3931	5	1	245928	16/03/2016
<a href="#">TTSD-GAR</a>	5.3.0.5890	6.1.7801 Service Pack 1	False	Dell Inc.	0C27VV	Dell Inc.	A04	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz	2	3035	5	1	200450	16/03/2016
<a href="#">TTSD-HEL</a>	5.3.0.5890	6.1.7801 Service Pack 1	False	Dell Inc.	0C27VV	Dell Inc.	A10	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz	2	3581	5	1	238235	16/03/2016
<a href="#">TTSD-HEL</a>	5.3.0.5890	6.1.7801 Service Pack 1	False	Dell Inc.	0C27VV	Dell Inc.	A04	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz	2	3965	5	1	246768	10/03/2016
<a href="#">TTSD-INFC</a>	5.3.0.5890	6.1.7801 Service Pack 1	False	Dell Inc.	0C27VV	Dell Inc.	A03	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz	2	3931	5	1	14827	10/03/2016
<a href="#">TTSD-INTE</a>	5.3.0.5890	6.3.9200	False	Dell Inc.	0Y956C	Dell Inc.	A04	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz	2	4989	1	1	237700	16/03/2016
<a href="#">TTSD-LOA</a>	5.3.0.5890	6.1.7801 Service Pack 1	False	Dell Inc.	0C27VV	Dell Inc.	A04	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz	2	3291	5	1	105507	16/03/2016
<a href="#">TTSD-WILL</a>	5.3.0.5890	6.1.7801 Service Pack 1	False	Dell Inc.	0C27VV	Dell Inc.	A04	Intel(R) Core(TM)2 Duo CPU E8500 @ 3.16GHz	2	3965	5	1	191838	16/03/2016

## Measuring Progress

A typical deployment is divided into three distinct phases:

- An initial period of **passive monitoring**. This allows a baseline usage profile to be established
- Deployment of an **active power policy**. This is designed to reduce energy from the established baseline. Often the specific settings used are chosen based upon both the results of the monitoring phase and existing knowledge about the usage pattern and user requirements
- A **post deployment monitoring** phase. In this phase the power policy is monitored and areas for possible further improvement may be identified.

The most effective PowerMAN deployments use the initial passive monitoring phase to fully understand the existing usage profile. This passive process is transparent to users and allows you to collect information that can then be used to better the specific strategy you use to reduce PC energy waste. After you have implemented an energy reduction initiative it can be very useful to refer back to the data previously logged to measure progress and identify areas for possible further improvement.

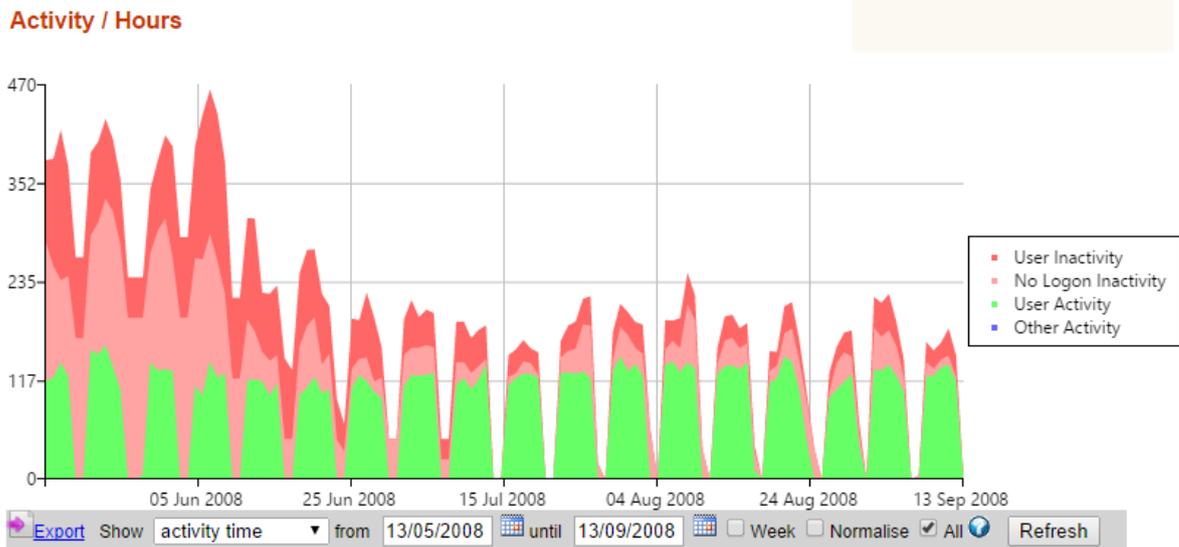


The purpose of most deployments is to reduce recorded inactivity levels to as small as practical without disrupting productivity. The chart shows a fairly typical deployment. It has the following key features:

- Initial levels of PC inactivity (red) are predominant
- There is significant waste at weekends (red between green areas)
- Following activation of PowerMAN (around 10<sup>th</sup> of June) inactivity rapidly decreases
- Inactivity is removed at weekends
- Ultimately weekday inactivity is one quarter or less of total activity

## PowerMAN Server Management Reporting Platform Guide v5.4

For computers in an office setting this creates a very distinctive pattern where each week is represented by a green area, bounded by clear white areas for the weekend, and a relatively small red 'top' as shown below:



## Reducing energy waste (inactivity)

The PowerMAN client software offers a variety of features that can be used to reduce waste (inactivity) levels. These features can be used in combinations to achieve the best results for your organisation. The exact settings you use will depend upon your organisation, user and maintenance requirements:

- Idle (timeout) policies work best because they allow each computer independently reduce waste according to their own usage profile irrespective of general operating times.
- Schedule based policies can make a significant difference (shutdown at night time and weekends) but will still result in uncontrollable inactivity levels during 'operating' hours. We recommend that wherever possible you use such policies in a secondary role rather than as your primary power management strategy.
- The scheduled wake feature can be used to ensure computers are ready for use at the start of the day or to create a regular maintenance window for virus scans or patches. Please remember that most workstations supports wake from the hibernate and sleep states (not power off). This is due to hardware design.
- A combination of Default/Specific User and No User policies allow you to be less aggressive when a user is logged on but maximize savings when no user is present.

NB: The "No User" policy may be especially useful if the amount of inactivity occurring when no user is logged on is significant

- The logout feature can be used to transition abandoned user sessions to the No User policy
- The policy enforcement feature can be used to remove PC 'insomnia' where applications or Windows services prevent the PC from entering a low power state for a prolonged period of time. Please remember to allow some time for legitimate

## PowerMAN Server Management Reporting Platform Guide v5.4

system activity when the user is not present. A timeout of 30 minutes is typically appropriate.

- It can often work best to initially activate only some modest power settings. This allows users to get used to the change and allows you to measure the effect. Typically these may include turning off PC's that are not logged on and turning off monitors after a few minutes.
- Consider supplying the user 'override' tool **PowerCONFIG** to specific users. This tool may be used to disable power management in situations where the PC is required to remain active for prolonged periods.
- Remember that it can be very productive to communicate the energy strategy and on-going progress to users. Some sites have reported that user participation may itself contribute significantly to real energy savings. It is even possible to create league table of the most wasteful users or departments!
- Above all, please remember that you can continue to use the PowerMAN Server reporting system to monitor progress and resolve any problems that may emerge.

The following table provides some common scenarios:

Scenario	Common features	Possible solution
<b>Workplace</b> User dedicated PC	Majority of users leave systems on to avoid start-up delay and preserve work or allow remote access	Sleep / hibernate systems when not in use. This preserves system state ready for later access. Consider using scheduled wake for the start of working day. Configure system for remote wake if remote access required
<b>Hot desk office</b> Non-dedicated PC	Users frequently change and therefore data preservation for extended periods is not required. No requirement for remote access	Log out / shutdown systems not in use. Use log out / hibernate to minimize delay at start-up. If appropriate use scheduled wake / shutdown to match user usage pattern
<b>Public access area</b>	Users frequently change and may not have unique logons. Therefore data preservation is not required. It is not desirable for users to shutdown system. Majority of systems left permanently powered on.	Configure default power settings to sleep system after a few minutes of inactivity. User pressing any key (or even moving mouse) will wake system within a second. If appropriate use scheduled wake to ensure system available during opening hours

## Choosing between Shutdown, Hibernate and Sleep

PowerMAN offers three levels of power saving. The following guidelines may be useful when determining which policy to enable:

- **Shutdown (Power Off)** – The most efficient (and extreme!) method of power saving. This is generally only appropriate for situations where no user is logged on although some sites, such as public access areas, may invoke this policy after sufficient warning to deter users from leaving computers on and unattended
- **Hibernate (S4)** – This consumes the same amount of power as shutdown but allows the user session to be restored with a short delay (usually about 30 seconds). This is appropriate for computers which are used long term by the same user and where it

would be inconvenient to shutdown the PC. Typically this policy would be used in an office environment.

- **Sleep (S1-S3)** – This consumes more power than hibernate but allows the user to become active again after only few seconds delay. Typically a PC in this state consumes only 2% of the energy used when running normally. However, this depends upon the exact configuration of the hardware (usually in the system BIOS).

Hibernate and sleep do not logout the current user. This can result in the next user being unable to logon as the workstation is locked by the previous user. Therefore these approaches are not appropriate for systems in public access (walk-in) areas unless combined with a logout policy.

In order of decreasing energy consumption the available states are as follows:

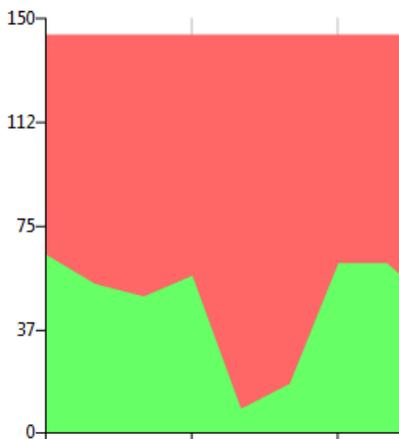
<b>S1 Sleep</b> Smallest saving	System appears off. The CPU is stopped; RAM is refreshed; the system is running in a low power mode
<b>S2 Sleep</b>	System appears off. The CPU has no power; RAM is refreshed; the system is in a lower power mode than S1
<b>S3 Suspend</b> Biggest saving	System appears off. The CPU has no power; RAM is in slow refresh; the power supply is in a reduced power mode. This mode is also referred to as 'Save To RAM'

Please remember that not all states are available on all hardware. The PowerMAN reporting system can be used to find which states are available on each PC. As a general rule PowerMAN will use the most energy efficient state supported by the hardware. S3 is considerably more efficient than S1

	DMCMS32.EXE Application	Data Synergy also supplies an enterprise tool for deploying BIOS settings. If you require this utility to quickly deploy hardware settings to multiple computers please contact your Sales Representative.
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## PowerMAN Server Management Reporting Platform Guide v5.4

The following screenshots illustrate the key features reported by PowerMAN for different scenarios of PC power management:



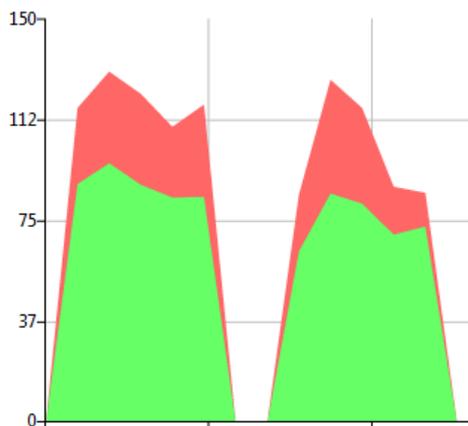
This chart is very typical of a site (or computer) that is never power managed. The combined level of activity (user activity and inactivity) is constant – in other words the computer(s) are never powered off or suspended.

This scenario is, fortunately, quite rare.



This chart demonstrates the effect of passive power management. During periods of activity (usually weekly) the total level of activity increases. At weekends (the middle of the chart) a base load of inactivity is present. This indicates that some computers are powered off / suspended when not in use but a significant proportion of computers are left powered on.

This is the scenario is the most common in unmanaged environments.



This last chart demonstrates the benefits of an effective power management strategy. During operating hours (weekdays) there is predominantly user activity. There are some periods of inactivity such as break times, but these are the minority. There is little or no inactivity outside operating hours (weekends) indicating the management system is effective.

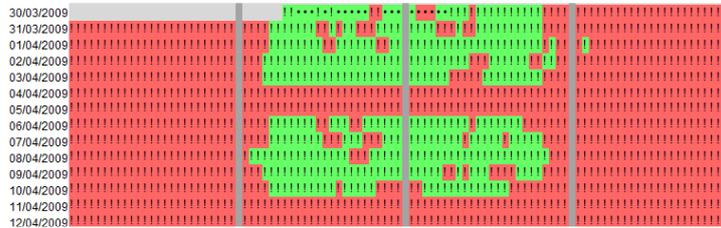
This scenario is what an effective PowerMAN deployment should aim for.

An ideal configuration will have no inactive (red) periods. This is actually quite difficult to achieve in practice without disrupting productivity.

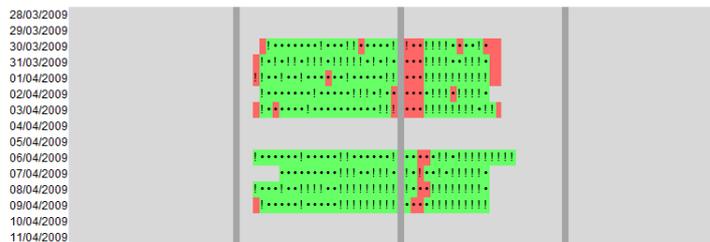
## PowerMAN Server Management Reporting Platform Guide v5.4

The following diagrams demonstrate two examples from the computer activity report.

These are the possible two extremes. An effective deployment should aim for the second scenario:



This computer is used on weekdays but is not turned off or suspended outside these hours. The computer is permanently forced awake indicating that a program is preventing the computer from entering a reduced power state OR that power management is disabled. This computer is not power managed.



Similarly this computer is used on weekdays but is turned off or suspended outside of these operating hours. This is an effectively power managed computer.

## Site Administration

The following sections describe the site administration features provided by PowerMAN. These features are only available to users permitted by the system administrator. Your administrator can easily grant this access level if required.

**Tip:** To setup a logon or reset a password for the PowerMAN hosted (cloud) service please contact Technical Support.

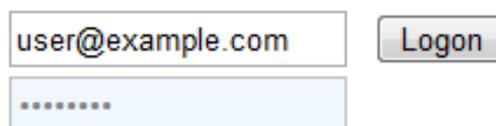
Some configuration features are global (e.g. apply to all reporting sites) whilst others may only apply to the current site and optionally sub-sites. The following section describes the features available.

### Site Administration Logon

To perform administration tasks you must logon to the reporting system with an identity previously configured with the **Site Administration** access level.

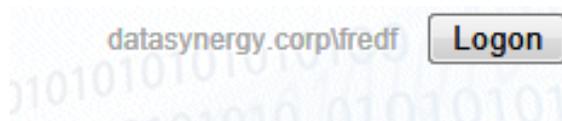
To login using an email address proceed as follows:

1. Enter your email address and password into the login fields (top right)
2. Press the **Logon** button



A screenshot of a login form. It features two input fields: the top one contains the text 'user@example.com' and the bottom one contains seven dots representing a password. To the right of these fields is a button labeled 'Logon'.

Alternatively, if Windows Integrated Authentication is enabled just press the **Logon** button. No password is necessary:



A screenshot of a login form. The text 'datasynergy.corp/fredf' is displayed in the input area. To the right is a button labeled 'Logon'. The background features a faint pattern of binary code (0s and 1s).

## Site Configuration Tab

Upon logon you will be redirected to your organisation root (top-level) site. This is the site that contains all other sub-sites. To view the current site / sub-site properties proceed as follows:

1. Navigate to the appropriate sub-site (or the root site for global configuration)
2. Select the **Configuration** tab:



The current PowerMAN configuration will be displayed:

### Example Corporation Limited Configuration

#### Identity

Unique Identity	{a4f95eb4-d156-4fbf-a6a2-38a0938a093}	
Site/Group Name	Example Corporation Limited	<input type="button" value="Save"/>

#### Configuration

Auto Computer Move	<input checked="" type="checkbox"/> Enable workstation auto-move	<input checked="" type="checkbox"/> Update sub-sites		<input type="button" value="Save"/>
Auto Site Creation	<input type="checkbox"/> Enable auto site creation (OU Based)			<input type="button" value="Save"/>
Anonymous Viewing	<input checked="" type="checkbox"/> Permitted			<input type="button" value="Save"/>

#### Costs

Nominal Site Costs	Estimated kWh / PC	<input type="text" value="0.15"/>		<input checked="" type="checkbox"/> Update sub-sites	<input type="button" value="Save"/>
	Cost / kWh \$	<input type="text" value="0.12"/>			<input type="button" value="Use Defaults"/>
	kg CO <sub>2</sub> / kWh	<input type="text" value="0.43"/>			
Baseline Inactive Hours	Normalised Inactive Hours	<input type="text" value="8.00"/>			<input type="button" value="Save"/>
	Reference Date	<input type="text"/>			<input type="button" value="Clear"/>

#### Miscellaneous

WakeMyPC (WoL) Service	http://	<input type="text" value="www.yoursite.com:8888/wakeproxy.aspx"/>		<input type="button" value="Save"/>	<input type="button" value="Clear"/>
	<input checked="" type="checkbox"/> Update sub-sites			<input type="button" value="Default"/>	
Timezone	Bias:	<input type="text" value="0"/>	hours UTC		<input checked="" type="checkbox"/> Update sub-sites
					<input type="button" value="Save"/>

## Rename Current Site

To change the name of the current PowerMAN site proceed as follows:

1. Open the **Configuration Tab**
2. Enter a new site name



The screenshot shows a configuration interface with a tab labeled "Site/Group Name". To the right of the tab is a text input field containing the text "Example Corporation Limited". To the right of the input field is a "Save" button.

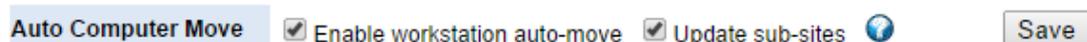
3. Click **Save**

## Computer/Site Auto Move (Site Lock)

The site (e.g. SiteGUID) associated with a workstation may be changed at any time. This is typically achieved by changing the PowerMAN client-side configuration (e.g. GPO).

In a typical configuration the PowerMAN server will automatically move a computer if a change in site is detected. This feature greatly simplifies the administration of PowerMAN reporting. However, in some circumstances it may be advantageous to “lock” a computer to the current reporting sub-site regardless of current client settings or AD membership. This may be useful during a transition in reporting arrangement or following manual assignment of site membership. To enable/disable the computer auto-move feature proceed as follows:

1. Open the **Configuration Tab**
2. Select the appropriate auto-move setting (and optionally update sub-sites):



The screenshot shows a configuration interface with a tab labeled "Auto Computer Move". To the right of the tab are two checked checkboxes: "Enable workstation auto-move" and "Update sub-sites". To the right of the checkboxes is a "Save" button.

3. Click **Save**

## Anonymous Report Viewing

PowerMAN may be configured to permit anonymous report viewing. This allows reports to be viewed (but not configured) without a specific logon. To configure this feature proceed as follows:

1. Open the **Configuration Tab**
2. Select the appropriate viewing setting (and optionally update sub-sites):



The screenshot shows a configuration interface with a tab labeled "Anonymous Viewing". To the right of the tab is a checked checkbox labeled "Permitted". To the right of the checkbox is a "Save" button.

3. Click **Save**

## Changing Nominal Site Energy Costs

PowerMAN allows you to estimate the cost of energy used / wasted by a sub-site. PowerMAN uses the nominal energy cost figures you configure to perform this calculation. The process is only an estimate but can, with correct configuration, be very useful.

<b>Nominal Site Costs</b>	Estimated kWh / PC	<input type="text" value="0.15"/>	
	Cost / kWh \$	<input type="text" value="0.12"/>	
	kg CO <sub>2</sub> / kWh	<input type="text" value="0.43"/>	
			<input checked="" type="checkbox"/> Update sub-sites
			<input type="button" value="Save"/>
			<input type="button" value="Use Defaults"/>

To configure nominal energy costs proceed as follows:

1. Open the **Configuration Tab**
2. Enter an average consumption figure in kWh. This is the electricity requirement of a typical computer. You can measure this using a watt meter or crudely estimate it from the power supply specification plate present on most computers (this figure is always bigger than actual). A typical desktop computer is 80-150Wh (0.08-0.15kWh).
3. Enter your electricity cost per kWh.
4. Enter the amount of CO<sub>2</sub> produced for each kWh of energy generated. This figure will depend upon the source of your electricity. If you use a 'green' tariff it will be lower or zero. The UK Government uses a nominal figure of 0.43 kg/kWh
5. Select if you want to update the figures for all sub-sites of the current site
6. Click **Save**

## Configuring baseline inactivity (estimated savings reports)

PowerMAN can calculate the estimated savings achieved (in either hours, cost or CO<sub>2</sub>) measured against a baseline period. The baseline is usually established during the audit phase of deployment before enabling power management. To configure a baseline figure for a site proceed as follows:

1. Audit the workstations for a period of time. Ideally this should be for at least 2 business cycles (weeks).
 

NB: You should satisfy yourself that the workstations and audit period is representative of normal use.
2. Use the normalisation feature to establish the average level of inactivity in hours during the audit period. To do this:
  - i. Filter the site summary chart to show only the audit period
  - ii. Select the **Site Activity** chart
  - iii. Unselect the show **All** option
  - iv. Tick the **Normalise** option
  - v. Click **Refresh**
  - vi. Read-off the normalised amount of inactive hours from the top of the chart. This is located top-right

For instance: **8.0 inactive Hours/PC/Day**

3. Open the **Configuration Tab**
4. Locate the **Baseline Inactivity** feature

<b>Baseline Inactive Hours</b>	Normalised Inactive Hours	<input type="text" value="8.00"/>		<input type="button" value="Save"/>
	Reference Date	<input type="text" value="16/10/2012"/>		<input type="button" value="Clear"/>

5. Enter the figure calculated above and the date the estimate was calculated for. If the estimate covered several weeks enter the mid-date for the estimate period.
6. Click **Save**

### Configuring Integrated WakeMyPC (WoL) Service

PowerMAN can optionally integrate with Data Synergy's companion WakeMyPC product. This server tool can be used by users to remotely wake-up (or power-on) a workstation on demand. It can also be used by the system administrator to wake groups of workstations on demand or on schedule. WakeMyPC integration permits these features to be accessed directly from the PowerMAN reporting interface.

To configure this feature proceed as follows:

1. Open the **Configuration Tab**
2. Select the appropriate WakeMyPC server address (and optionally update sub-sites):

<b>WakeMyPC (WoL) Service</b>	http:// <input type="text" value="www.yoursite.com:8888/wakeproxy.aspx"/>		<input type="button" value="Save"/>	<input type="button" value="Clear"/>
	<input checked="" type="checkbox"/> Update sub-sites		<input type="button" value="Default"/>	

3. Click **Save**

### Configuring Reporting Site Time Zone

PowerMAN supports operation across multiple time zones. This feature permits per-workstation reports to be viewed in local (rather than server) time. To configure this feature proceed as follows:

1. Open the **Configuration Tab**
2. Select an appropriate timezone (e.g. 0 for GMT, -6 for CTD etc):

<b>Timezone</b>	Bias: <input type="text" value="0"/>	hours UTC 	<input checked="" type="checkbox"/> Update sub-sites	<input type="button" value="Save"/>
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3. Click **Save**

## Manually creating and moving sub-sites

Sub-sites provide a convenient way to sub-divide your organisation into manageable groups of computers. There is no limit on the number of sub-sites you may configure or how they may be arranged. Each site has its own name and nominal energy costs. You configure the client software to report to a specific sub-site by using the **SiteGUID** setting.

Most organisations will benefit from using the sub-site feature. Whilst it is possible to configure computers to report to the root site this is not recommended as it will make sub-dividing the organisation in future more complicated.

An **ideal site** is a group of similar computers within a defined environment such as an office, department or computer room. A typical site can have from 20 to several hundred computers and will be **suitable for managing as a single entity**. After deployment you should try not to change the size or scope of the site (it is easy to create another one) as this may reduce the quality of the report data gathered.

The PowerMAN Installation Guide provides a full procedure to configure the SiteGUID setting for the PowerMAN client software. The server procedure is as follows:

1. **Logon** to the PowerMAN server
2. **Navigate to the appropriate sub-site** (or root site)
3. **Create SiteGUID on the server** - This is a unique identity used to track the site and report data. To do this:
  - i. Click **Add/Move** site
  - ii. Click **Make GUID** and copy the GUID to the clipboard or similar
  - iii. Enter an appropriate site name
  - iv. Click **Add/Create Site**

### Example Corporation Limited

Organisation	Example Corporation Limited	OU=Desktop,DC=corp,DC=local
Created	01/01/2009	First Data 25/02/2008
Expires	Never	Last Data 25/04/2009
Min. Data Retention 	Unlimited	Total Computers 104 <a href="#">Export</a>
		Total Sub-Sites 2 <a href="#">Export</a> <a href="#">Add/Move Site</a>

- v. Paste the generated **SiteGUID** (including the enclosing brace characters) into the client configuration policy making sure there are no trailing spaces.
4. **Alternatively, generate a SiteGUID using the MAKEGUID command build into the PowerMAN client software.** To do this:
    - i. Enter the command:
 

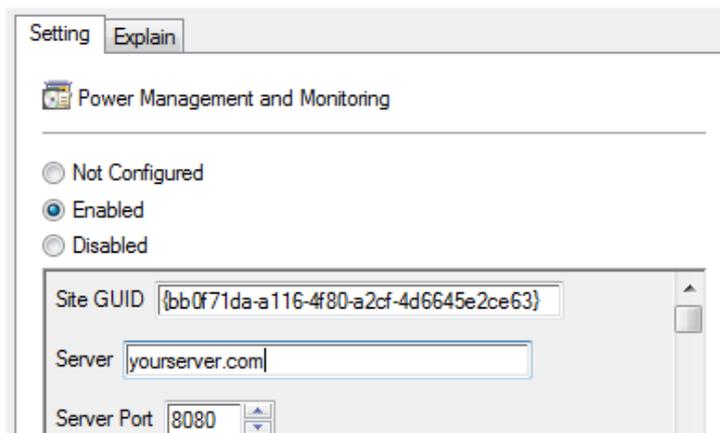
```
POWERMAN MAKEGUID
e.g. {bb0f71da-a116-4f80-a2cf-4d6645e2ce63}
```
    - ii. Click **Add/Move** site on the server

- iii. Paste the generated **SiteGUID** (including the enclosing brace characters) into the dialog
- iv. Enter an appropriate site name
- v. Click **Add/Create Site**

### Configuring the client software with a SiteGUID (Group Policy Example)

Following either of the above techniques to generate a SiteGUID it may be deployed to the client software using Group Policy by the following procedure (similar procedures exist for non-Group Policy based deployments):

1. Open the Group Policy Management Console (or your own chosen configuration tool)
2. Navigate to the PowerMAN policy configuration section
3. Select **Power Management and Monitoring**, right click and select **Properties**
4. Select **Enabled** and configure your chosen SiteGUID and reporting server  
NB: The SiteGUID setting is **always** enclosed with **{braces}**.
5. Click **OK**



To configure the sub-site on the reporting server proceed as follows:

1. Navigate to the appropriate parent site (this may itself be a sub-site)
2. Click **Add Site**
3. Enter the SiteGUID (or press the Make GUID button) and required site name
4. Click **Add/Create**



**Tip:** You can also use the same procedure to move an existing sub-site to a new location in your organisation hierarchy. To do this, follow the procedure above with an existing SiteGUID.

## Automatic reporting site creation based upon Active Directory

PowerMAN Enterprise Server v5.3 also allows reporting sites to be automatically created based upon the workstation Active Directory (AD) hierarchy. This feature requires client software v5.2.6 or later. To enable this feature on the server proceed as follows:

1. Create a single sub-site on the PowerMAN server using the procedure above
2. Give this sub-site a name such as **AD Root**
3. Deploy the SiteGUID for this site to *all client computers*
4. Navigate into the newly created sub-site
5. Open the **Configuration Tab**
6. Locate the **Auto Site Create** feature



7. Select **Enable auto site creation**
8. Click **Save**

As computers report data the PMES sever will use the workstation 'distinguished name (DN)' to automatically create a reporting hierarchy. This will be based upon the AD tree. For instance the computer PC2723 could have the DN:

*CN=PC2723,OU=Workstations,OU=Management,OU=Head Office Staff,OU=Departments,DC=Customer,DC=local*

This would place the workstation in the following reporting location:

*AD Root -> Departments -> Head Office Staff -> Management -> Workstations*

PMES will automatically generate any necessary reporting sub-sites and arrange them accordingly. If a workstation moves to a different AD location it will automatically move on the PMES reporting server the next time it connects.

**Tip:** This feature is disabled if the workstation is configured with a SiteGUID that has auto move disabled. The automatic and manual creation sub-site modes may be combined in the same deployment. Automatic deployment will happen when:

- i. The client computer is configured with a SiteGUID configured for site auto creation ('AD Root' in the example above)
- ii. Client software is v5.2.6 or above

## Deleting a sub-site

To delete a sub-site (and all computers within it) proceed as follows:

1. Locate the sub-site in the list and select the checkbox
2. Click Delete and confirm you wish to delete the site

	Inactive Hours	Active Hours	 Inactive	 User Active	 Other Active	Delete
<a href="#">Sales Area</a>	0.00	0.00				<input checked="" type="checkbox"/>

**Remember:** Deleting a sub-site is a **permanent** operation. Once deleted all computers within that site and all data for that site are erased.

## Moving and Deleting Computers

Sometimes it is necessary to move a computer between sub-sites or delete a computer altogether. To perform one of these actions proceed as follows:

1. Locate the appropriate computer(s) and select the checkbox
2. Click either **Delete** or **Move** and follow the on-screen instructions

	Version	Last Status	Inactive Hours	Active Hours	 Inactive	 User Active	 Other Active	Delete Move
<a href="#">DISPATCH3</a>	5.0.9.3144	06/02/2009	21.25	114.75				Wake <input checked="" type="checkbox"/>
<a href="#">GOODSINWARD1</a>	5.0.9.3144	20/03/2009	11.25	174.25				Wake <input type="checkbox"/>

**Remember:** Deleting a computer is a **permanent** operation. Once deleted that computers contribution to the site statistics will be removed.