



Power Auditor – Identified Savings

Product Training 2018



Power Auditor – How it Works

Systems are discovered on the network, and organized into groups. For each group of systems a range of hours is defined to specify the time those systems are expected to be powered on, and when they are normally shut down.

During the data collection phase, the Power Auditor is in Identified Savings mode. When we calculate Identified Savings, we compare the number of hours that a system is actually powered on with the number of hours we would like it to be running.

Once the baseline of data has been collected, we can move into Achieved Savings mode. Using Management Utilities along with SyAM System Client and SyAM System Area Manager, we apply Power Management settings to the systems so they will be powered off at a desired time for each day of the week.

Achieved Savings is calculated by comparing the actual powered on hours with the baseline of data that was collected during the Identified Savings period, before power management was implemented. The result is a report of what has actually been saved by enforcing power management policies.



3 Simple Steps to Perform Power Audit

- 1. Configure Power Auditor Administration Settings
 - Power Audit License / Cost for Electricity / Email Reports
- 2. Create a Power Audit Wizard
 - Using Active Directory OUs / IP Range
- 3. After 8 days Provide Identified Savings Report
 - Produce Identified Savings Summary Report



Step 1 - Configure Settings

- Under Functions choose Administration Settings
- Enter the cost per kw/h delivered
- Enter the Power Audit License – Confirm the time period
- Save Changes

The screenshot shows the 'Management Utilities' interface. On the left, the 'Functions' menu is open, with 'Administration Settings' highlighted. The main content area is titled 'Details' and contains several sections:

- Build Information:** Application Vendor: SyAM Software, Installed Version: V5.20, Build Number: 1368, Build Date: 20151020, Database Version: 179.
- Power Auditor Settings:** Currency Symbol (dropdown menu showing '\$'), Cost Per KWh (input field with '0.19'), and Polling Frequency (Hours) (radio buttons for '30 Minutes' and '1 Hour', with '1 Hour' selected). There is a 'Remove Blank Systems' button and a checkbox for 'Automatically Reorganize Power Audit Groups By Location'.
- Licensing Information:** A text block explaining PALs. Below it is an 'Insert New PAL' section with an 'Upload PAL' button and a table.

Installed Date	Quantity	Start Date	End Date
2/12/2016 8:47:10 AM	9000	2/1/2016 12:00:00 AM	4/1/2016 12:00:00 AM

At the bottom of the page are 'Save Changes' and 'Cancel' buttons.



Optional Settings Email / Reports

Configure the Email Settings to receive the Power Audits report via email
Check the box to use SSL and specify port 587.

Groups
Summary
IP SCAN
SYAM-Demo.local

Details
Settings Users **Email Settings** Report Settings Achieved Savings

Username: audit@syamsoftware.com
Password: *****
Server: secure.emailsrvr.com
Sender Email: audit@syamsoftware.com
Use SSL:
Port: 25

Email an identified savings report:
 Daily Weekly Monthly

Report Recipient Email:
Add
sales@syamsoftware.com Remove

Save Changes Clear Settings Send Test Email

Functions
Administration Settings
Configure Templates
Power Audit Wizard
My Settings
Reports
View History

SYAM software Management Utilities

Groups
Summary
IP SCAN
SYAM-Demo.local

Details
Settings Users Email Settings **Report Settings** Achieved Savings

Report Header: SyAM Demo
Report Logo: Choose File No file chosen
Page Size: LETTER

Save Changes Clear Settings

Functions
Administration Settings
Configure Templates
Power Audit Wizard
My Settings
Reports
View History

Once you have moved into Achieved Savings mode, weekly and monthly achieved savings reports will become available.

Administration Settings - Users

A screenshot of a web-based administration interface. At the top, there is a blue header bar with the word 'Details' in white. Below the header, there are four tabs: 'Settings', 'Users' (which is highlighted in yellow), 'Email Settings', and 'Achieved Savings'. The main content area is divided into two columns. The left column contains a 'Create User' button at the top, followed by a list box containing the text 'administrator'. Below the list box are two buttons: 'Edit User' and 'Remove User'. The right column contains three input fields: 'Domain Name', 'Windows User Name', and 'SQL Login Name'. Below these input fields is a 'Create SQL Login' button.

In Power Auditor the Users tab of Administration Settings duplicates the functions of the same tab in Management Utility.

When you take any action on this tab in the Power Auditor, such as:

- Creating a new user
- Editing user features and tasks
- Removing a user
- Creating a new SQL login

that action is duplicated in the Management Utility, and vice versa.



Step 2 – Create Power Audit Wizard

- Under Functions choose Power Audit Wizard
- Click on the Start Wizard button
- This will now allow you to choose a Discovery and Power On Hours template for performing the Power Audit

The screenshot displays the SYAM Management Utilities interface. The left sidebar contains a 'Functions' menu with 'Power Audit Wizard' highlighted. The main content area is titled 'Management Utilities' and 'Power Audit Wizard'. A red box highlights the 'Start Wizard' button and the 'Existing Wizards' section, which currently shows 'No wizards yet...'. Below this, there are two main configuration sections: 'Auditing Exclusion Rules' and 'Extended Holiday / Vacation Days'. The 'Auditing Exclusion Rules' section includes a 'New Exclusion Rule' input field with an 'Add' button, and a list of 'Exclusion Rules' with a 'Remove' button at the bottom. The 'Extended Holiday / Vacation Days' section includes 'Start Date', 'End Date', and 'Description' input fields with an 'Add' button.



Step 2 – Discovery Active Directory

- Give the Template a Name
- Click on Discover Domain button
- Check Replicate OU's
- Save Template

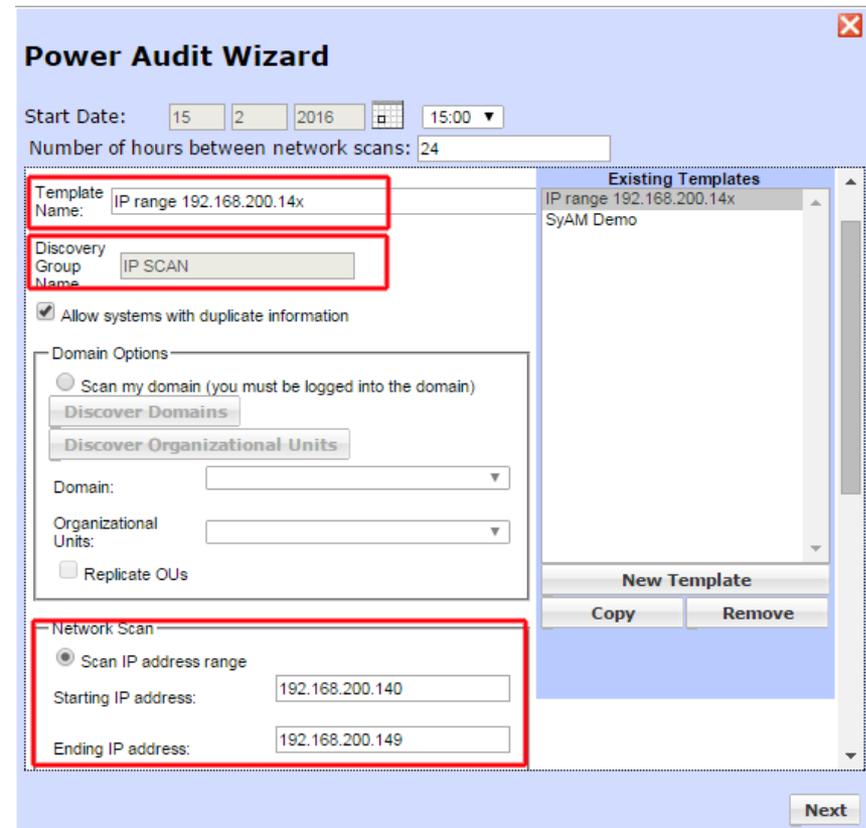
- This will replicate the entire AD OU structure for the computers.

The screenshot shows the 'Power Audit Wizard' window, specifically the 'Discovery Template' configuration step. The window title is 'Power Audit Wizard' and it has a close button in the top right corner. Below the title bar, there are fields for 'Start Date' (15/2/2016) and 'Number of hours between network scans' (24). The main section is titled 'Discovery Template' and contains the following elements:

- A text box for 'Template Name' containing 'SyAM Demo', which is highlighted with a red box.
- A text box for 'Discovery Group Name' containing 'SYAM-Demo.local'.
- A checked checkbox for 'Allow systems with duplicate information'.
- A 'Domain Options' section with a radio button selected for 'Scan my domain (you must be logged into the domain)'. Below this are two buttons: 'Discover Domains' (highlighted with a red box) and 'Discover Organizational Units'.
- A 'Domain' dropdown menu set to 'SYAM-Demo.local'.
- An 'Organizational Units' dropdown menu.
- A checked checkbox for 'Replicate OUs', which is also highlighted with a red box.
- A 'Network Scan' section with a radio button for 'Scan IP address range' and a 'Starting IP address' text box.
- An 'Existing Templates' list on the right side containing 'IP range 192.168.200.14x' and 'SyAM Demo'.
- A 'New Template' section at the bottom right with 'Copy' and 'Remove' buttons.
- A 'Next' button at the bottom right of the window.

Step 2 – IP Range Directory

- Give the Template a Name
- Give the Discovery Group a Name
- Enter the Start and end IP Range
- Save Template
- This scan the range of IP Addresses
- Do not scan above 2,000 addresses per template



Power Audit Wizard

Start Date: 15 / 2 / 2016 15:00

Number of hours between network scans: 24

Template Name: IP range 192.168.200.14x

Discovery Group Name: IP SCAN

Allow systems with duplicate information

Domain Options

Scan my domain (you must be logged into the domain)

Discover Domains

Discover Organizational Units

Domain: [Dropdown]

Organizational Units: [Dropdown]

Replicate OUs

Network Scan

Scan IP address range

Starting IP address: 192.168.200.140

Ending IP address: 192.168.200.149

Existing Templates

- IP range 192.168.200.14x
- SyAM Demo

New Template

Copy Remove

Next



Power Audit Wizard – Discovery Template

Discovery templates define a group of machines. This can be done by specifying a range of IP addresses, with options to filter on the machine name. In an Active Directory environment, a discovery template can also use Windows domains and Organizational Units to define the group.

Enter the name of the discovery group. The group will be created in the Groups sections of Power Auditor and Management Utility, and the machines discovered using this template will be placed in the group. Note that multiple discovery templates can use the same group name.

Set your discovery range either by Domain and Organizational Unit or as an IP address range. Click on Allow Systems with duplicate information if there is a router between your Management Utilities server and the target IP range, as the router may not allow the target systems' MAC addresses to be passed, but instead represents the MAC address as the same for all systems. If you have selected a domain, you can check the Replicate OUs box to create subgroups for all Organizational Units in the domain.

Set filter options if desired. You may configure the filter so that only machine names which meet the filter are selected, or you may enter a list to exclude machine names. Wildcards can be used (an asterisk for any number of characters, a question mark for a single character to filter based on the position of a character.)

The screenshot shows the 'Power Audit Wizard' window with the 'Discovery Template' dialog box open. The dialog box is titled 'Discovery Template' and contains the following sections:

- Start Date:** 8 / 2 / 2012 04:30
- Number of hours between network scans:** 24
- Define a group or range of systems to be discovered.**
- Template Name:** [Text input field]
- Discovery Group Name:** [Text input field]
- Allow systems with duplicate information
- Domain Options:**
 - Scan my domain (you must be logged into the domain)
 - Discover Domains
 - Discover Organisational Units
- Domain:** [Dropdown menu]
- Organisational Units:** [Dropdown menu]
- Replicate OUs
- Network Scan:** [Text input field]
- Starting IP address:** [Text input field]
- Ending IP address:** [Text input field]
- Resolve IP address to host name
- Other Options:**
 - Only discover systems that meet the following filter: [Text input field]
 - Exclude systems that meet the following filters:** [Text input field]
 - [Text input field]
-
-

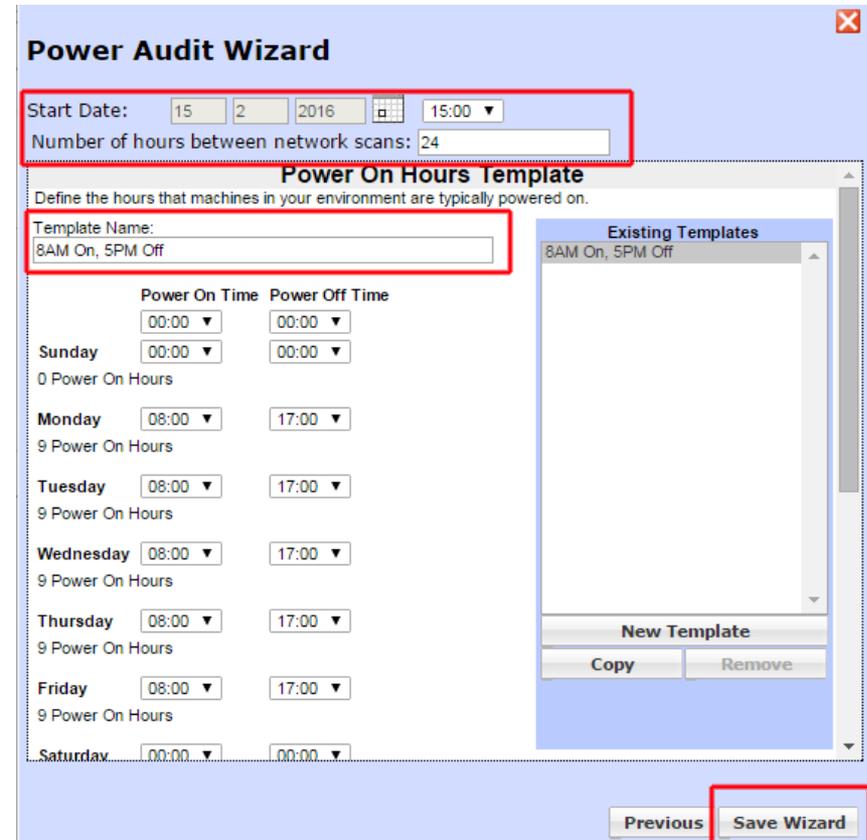
Step 2 – Power on Hours

- Choose the date and time to start the Power Audit and the frequency to check to find new systems added to your network
- You can select the default Power On Hours Template
 - 8-5pm = Systems powered on 45 hours a week

• Click Save Wizard

Or

- Create your own template – give it a name
- Select time on and off for each day
- Save template
- The Identified savings is based on this template – if systems are on for 60 hours a week and your power on hour template totals 40 hours a week we would show identified savings of 20 hours a week
- Choose your new template
- Click Save Wizard



Power Audit Wizard

Start Date: 15 / 2 / 2016 15:00
 Number of hours between network scans: 24

Power On Hours Template
 Define the hours that machines in your environment are typically powered on.

Template Name: 8AM On, 5PM Off

	Power On Time	Power Off Time
Sunday	00:00	00:00
Monday	08:00	17:00
Tuesday	08:00	17:00
Wednesday	08:00	17:00
Thursday	08:00	17:00
Friday	08:00	17:00
Saturday	00:00	00:00

Existing Templates: 8AM On, 5PM Off

New Template: Copy Remove

Previous Save Wizard



Power Audit Wizard – Power On Hours Template

The Power On Hours Template specifies the hours that a group of machines should be powered on. Use the default template or create your own. The easiest way may be to copy the default template and then make any desired changes.

Power consumption calculations are based on wattage settings in this template. Defaults are supplied, to be changed as desired.

The Copy Into Power Template button creates a Power Management Template with the same name and settings in Management Utility. The Power Management Template can then be used to enforce power settings on managed systems.

Power Audit Wizard

Start Date: 8 / 2 / 2012 04:30
Number of hours between network scans: 24

Power On Hours Template
Define the hours that machines in your environment are typically powered on.

Template Name: Sales

	Power On Time	Power Off Time
Sunday	00:00	00:00
Monday	08:00	17:00
Tuesday	08:00	17:00
Wednesday	08:00	17:00
Thursday	08:00	17:00
Friday	08:00	17:00
Saturday	00:00	00:00

0 Power On Hours (Sunday)
9 Power On Hours (Monday-Friday)
0 Power On Hours (Saturday)

Existing Templates

- 8AM On, 5PM Off
- Marketing
- Sales
- Servers 168 hours

New Template

Copy Remove

Copy Into Power Template

Idle Desktop Wattage	80
Idle Server Wattage	120
Idle Notebook Wattage	26
Idle Monitor Wattage	25

Previous Save Wizard



Power Audit Groups

Once an audit has been created and machines in the group have been polled, the group name will appear in the Groups section. Click the group name to see all machines in the group. Identified savings will be calculated when the audit has been running during the entire preceding day, and updated automatically.

In an Active Directory environment, using discovery templates based on your domains and Organizational Units, the audit groups will reflect the way your machines are organized in Active Directory.





Power Audit Exclusions

Auditing Exclusion Rules allow you to exclude systems from power auditing based on machine name or IP address. Wildcards are allowed (a question mark for a single character, an asterisk for an unspecified number of characters). Systems are added to the list when they are selected and then removed from an audit in Power Audit Groups. Removing a group or subgroup does not add the systems to the Exclusion Rules list. The list is also not affected by removing systems from Groups in Management Utility.

For holidays and vacation periods you can set a range of dates in Extended Holiday / Vacation Days. On any day specified here, a system that is powered off all day will not be included in savings calculations. A system that is powered on for any part of the day will be included.

Auditing Exclusion Rules
Auditing exclusion rules allow you to configure a set of rules that define patterns for device names not to be added to your power audit.

New Exclusion Rule:

Exclusion Rules:

Extended Holiday / Vacation Days
Vacation days allow you to define a range of dates during which your systems are expected to be powered off for an extended period.

Start Date

End Date

Description



Power Auditor - Dashboard

SyAM Software
Logout Power Auditor ?
Logged in As: administrator

Groups

Summary

- Administration
- Development - East
- Development - Springfield
- Factory - Central
- Factory - East
- Finance
- IT Testing
- Lab - Franklin
- Lab - Springfield
- Operations
- Public
- QA
- Shipping/Receiving
- Training
- Warehouse

Functions

Administration Settings

- Configure Templates
- Power Audit Wizard
- My Settings
- Reports
- View History

Details

Show/Hide Chart

Devices Powered On Start Date: 3/21/2012 End Date: 3/21/2012 [Generate Dashboard](#)

Currently Displaying: 3/21/2012 - 3/21/2012

Identified Savings
3/21/2012 - 3/21/2012

Name	Total Hours On	Hours To Be Saved	kWh To Be Saved	Amount To Be Saved	Device Count	Active Count	Contributing Count	Average Device Watts	Average Monitor Watts
Administration	88.0	7.0	0.74	0.14	15	15	1	80.00	25.00
Development - East	98.0	15.0	1.58	0.30	15	14	2	80.00	25.00
Development - Springfield	109.0	80.0	6.30	1.20	15	15	6	80.00	25.00
Factory - Central	113.0	8.0	0.84	0.16	15	15	1	80.00	25.00
Factory - East	92.0	7.0	0.74	0.14	15	14	1	80.00	25.00
Finance	84.0	0.0	0.00	0.00	15	14	0	80.00	25.00
IT Testing	117.0	20.0	2.10	0.40	15	15	3	80.00	25.00
Lab - Franklin	83.0	0.0	0.00	0.00	15	15	0	80.00	25.00
Lab - Springfield	118.0	30.0	3.15	0.60	15	15	2	80.00	25.00
Operations	107.0	22.0	2.31	0.44	15	12	2	80.00	25.00
Public	100.0	13.0	1.37	0.26	15	15	2	80.00	25.00

At A Glance...

Identified Savings
3/15/2012 - 3/21/2012

Average Wattage / System
Desktops: 105.00
Servers: 0.00
Notebooks: 0.00

Average Hours On / Day
Desktops: 7.06
Servers: 0.00
Notebooks: 0.00

Total # Addresses
Desktops: 225
Servers: 0
Notebooks: 0

Total # Active Systems
Desktops: 225
Servers: 0
Notebooks: 0

Enterprise Overview of Real-time Power Savings data with reporting at location, department and system levels



Power Auditor – User Interface Panels

Groups

Power Chart

Menu

The screenshot displays the SyAM Software Management Utilities interface. The top navigation bar includes 'Logout', 'Power Auditor', and 'Logged In As: administrator'. The left sidebar contains a 'Groups' tree and 'Administration Settings' functions. The main area features a 'Power Chart' titled 'Devices On By Hour' showing a line graph of devices powered on over a 24-hour period. Below the chart is an 'Identified Savings' table for the period 3/21/2012 - 3/21/2012. The right sidebar shows an 'At A Glance...' summary panel.

Name	Total Hours On	Hours To Be Saved	kWh To Be Saved	Amount To Be Saved	Device Count	Active Count	Contributing Count	Average Device Watts	Average Monitor Watts
Administration	68.0	7.0	0.74	0.14	15	15	1	80.00	25.00
Development - East	98.0	15.0	1.58	0.30	15	14	2	80.00	25.00
Development - Springfield	109.0	60.0	6.30	1.20	15	15	6	80.00	25.00
Factory - Central	113.0	8.0	0.84	0.16	15	15	1	80.00	25.00
Factory - East	92.0	7.0	0.74	0.14	15	14	1	80.00	25.00
Finance	84.0	0.0	0.00	0.00	15	14	0	80.00	25.00
IT Testing	117.0	20.0	2.10	0.40	15	15	3	80.00	25.00
Lab - Franklin	83.0	0.0	0.00	0.00	15	15	0	80.00	25.00
Lab - Springfield	118.0	30.0	3.15	0.60	15	15	2	80.00	25.00
Operations	107.0	22.0	2.31	0.44	15	12	2	80.00	25.00
Public	100.0	13.0	1.37	0.26	15	15	2	80.00	25.00

Functions

At A Glance

Savings Detail



Step 3 – Identified Savings Report

- After 8 days you will have a full 168 hour working week
- Under Functions choose Reports
- Choose Identified Savings Summary Report
- Enter the date for the last 7 days
- Generate Report to pdf or html

The screenshot shows the SYAM software interface. On the left, the 'Functions' menu is open, with 'Reports' highlighted. The main area displays the 'OnDemand Reports' section. The 'Report Type' is set to 'Identified Savings Summary Report'. The 'Start Date' is '8 Feb 2016' and the 'End Date' is '14 Feb 2016'. The 'Report Format' is set to 'PDF'. The 'Generate Report' button is highlighted. Below the 'OnDemand Reports' section, there is an 'Archive' section with the text 'No records found.'



Step 3 – Produce Identified Savings Report

- The Power Audit Dashboard will present the rolling 7 days of the Power Audit

