

Configuring PowerAlert® SNMPWEBCARD for Use With Cisco EnergyWise®

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Summary

This document provides the required information to configure EnergyWise on Tripp Lite PDUs. It contains an overview of Cisco's EnergyWise initiative and the settings necessary to connect the PDU to an EnergyWise domain. *Refer to the User Guide accompanying your PDU for information on how to view or change the attributes discussed herein.*

Versions Affected

For SNMPWEBCARD version 12.06.0062 and later.

Solution

A Cisco EnergyWise network monitors and manages the power usage of EnergyWise-compatible devices connected to the network. An EnergyWise network as a whole is referred to as a *domain*, and includes:

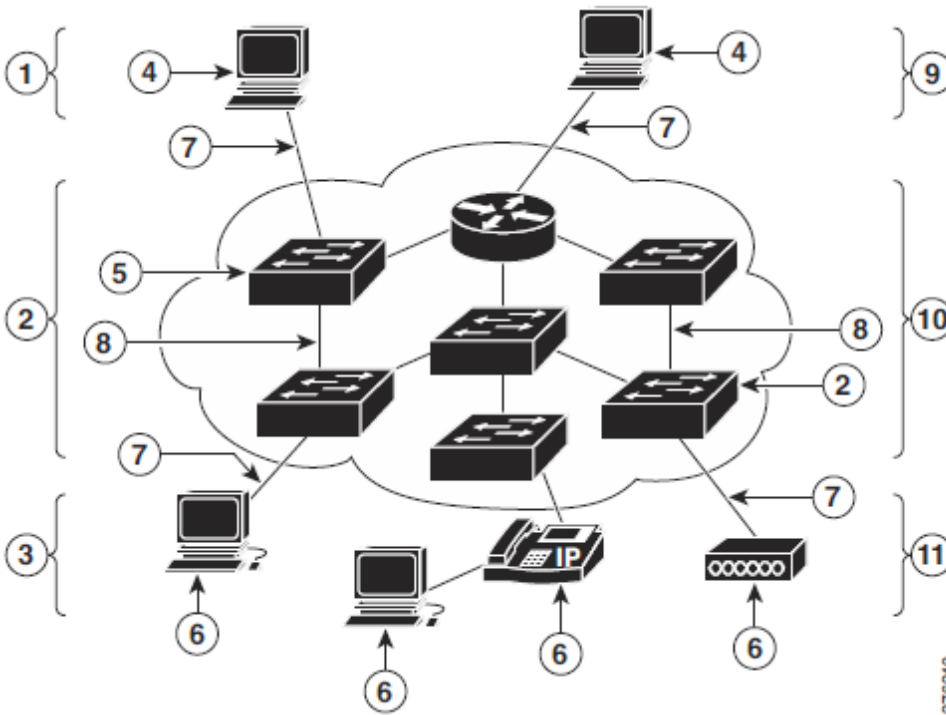
- **Management Station** is a console application used to control and manage the power usage of domain members and endpoints.
- **Domain Members** are Cisco switches and routers to which endpoint devices are connected and forwards queries between the endpoints and a Management Station.
- **Endpoints** are devices that use or control power, such as the Tripp Lite PDU.

A Tripp Lite PDU is an Endpoint in EnergyWise terminology. It connects to a domain member, such as a Cisco switch, and is controlled by that domain member or a management station. The PDU exposes certain *attributes* (e.g. name, role, power state) to the domain member. A management station and the domain member use the following *queries* to manipulate these attributes:

- **Collection Queries** are used to read attributes to obtain, for example, the PDUs name or power usage.
- **Set Queries** are used to changes these attributes to, for example, turn on or off PDU outlets.

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The following diagram was excerpted from Cisco’s EnergyWise Configuration Guide, which depicts a typical EnergyWise Network:



1	Network management stations	7	TCP
2	Domain members	8	UDP
3	End points	9	Runs queries and sets EnergyWise attributes
4	Management station	10	Runs, forwards, and responds to queries
5	Domain member	11	Responds to queries
6	End point		

Figure 1: Cisco EnergyWise Network

This section is intended to describe the EnergyWise initiative in a brief overview. Please refer to the Cisco web site and EnergyWise documentation for more information.

Tripp Lite PDU Endpoint

Entity Description

In EnergyWise terminology, a Tripp Lite PDU is an Endpoint in the EnergyWise Network. An Endpoint, however, can be composed of one or more entities. A Tripp Lite PDU is such an Endpoint composed of multiple entities: one entity for the device itself (*master*), and one entity per each outlet (*children*).

Power Levels

Devices in an EnergyWise network are managed using a predefined set of power levels, which are numerical from 0 – Off to 10 – Full Power. Each power level in between denotes power in increased usage.

A Tripp Lite PDU only supports two levels:

- 0: Off
- 10: On

PDU Configuration

The PDU is configured for use in an EnergyWise network via a Telnet session. The steps required to configure the PDU are as follows:

Log in via **Telnet** <ip-address> to obtain the Main Menu. The default user name and password is “localadmin” and “localadmin”:

```
PowerAlert TelNet Console: 12.06.0062
login: localadmin
Password: *****
```

```
----- Main Menu -----
```

```
1- Devices
2- System Configuration
3- Network Configuration
4- Alarms and Logging
5- About
Q- Logout
<ENTER> Refresh Menu
```

```
>>
```

Select the menu option “2 – System Configuration”:

```
----- System Configuration -----
```

```
1- Address Book
2- Global Actions
3- Security
4- Date/Time
5- EnergyWise Settings
6- Local Device Discovery
7- Restart PowerAlert
X/M- Return to Main Menu
<ENTER> Refresh Menu
```

```
>>
```

Select the menu option “5 – EnergyWise Settings”:

```
----- EnergyWise Settings -----  
  
Domain Name      : TrippLite  
Secret           : *****  
Remote Port      : 43440  
Listen Port      : 0  
Enabled          : Yes  
  
1- Domain Name  
2- Secret  
3- Remote Port  
4- Listen Port  
5- Enabled  
A- Apply Changes  
X- System Configuration  
M- Return to Main Menu  
<ENTER> Refresh Menu
```

>>

The current EnergyWise settings are displayed. Enter the appropriate data elements, as follows:

1. **Domain Name:** The name of your EnergyWise network.
2. **Secret:** The password used to connect to your EnergyWise network. *The field must be left blank if your network does not use a secret.*
3. **Remote Port:** The remote port used by domain members to communicate with Endpoints. *The default remote port is 43440.*
4. **Listen Port:** A local port on the Endpoint to communicate with domain members. *The default listening port is 0.*
5. **Enabled:** The current state of EnergyWise, enabled or disabled, on the PDU. *The default is NO (disabled).*

Select the menu option “A – Apply Changes” to save your EnergyWise configuration changes.

Attributes

An attribute is synonymous to a singular setting, such as the device’s name. The following sections detail the attributes supported per each entity type.

Master Attributes

The Master Attributes refer to the settings for the entire device, as opposed to an individual outlet.

Name

Definition: This is the name by which the Endpoint appears in the EnergyWise domain, and the identity by which query results are filtered. This is a string attribute with a maximum length of 32 characters.

Default Value: The label assigned to the device.

Set: Enable.

Role

Definition: This describes the function of the device. This is a string attribute with a maximum length of 32 characters.

Default Value: "PDU"

Set: Enable.

Keyword

Definition: This is a description for the device, in addition to its name and role, for which queries are filtered. This is a string attribute with a maximum length of 32 characters.

Default Value: "pdu"

Set: Enable.

Level

Definition: The current power level of the PDU. This is an integer attribute, either 0 or 10.

Default Value: 10

Set: Enable. 0 – turn all outlets off, 10 – turn all outlets on.

DeviceType

Definition: This is the type of Endpoint. This is a string attribute with a maximum length of 32 characters.

Default Value: The model name of the device.

Set: Not Enabled.

Importance

Definition: This is the importance of this Endpoint in the customer's environment. This is an integer value from 1 to 100.

Default Value: 1

Set: Enable.

Category

Definition: This represents the type of equipment, and is defined by EnergyWise as: -1 = Producer, 0 = Meter, 1 = Consumer. This is an integer value.

Default Value: 1 (Consumer)

Set: Not Enabled.

Unit

Definition: This represents the unit of measurement used by the Endpoint when reporting its power usage. This is an integer value.

Default Value: 0 (Watts)

Set: Not Enabled.

Usage

Definition:	This is the actual power consumption of the Endpoint, if supported by the device. If not supported, the value will always be 0.
Default Value:	The actual value of the outlet will be returned if supported, or 0 if not supported.
Set:	Not Enabled.

Outlet Attributes

The Outlet Attributes refer to the settings for each outlet, as opposed to the entire device as a unit.

Name

Definition	This is the name by which the Endpoint appears in the EnergyWise domain, and the identity by which query results are filtered. This is a string attribute with a maximum length of 32 characters.
Default Value	The label assigned to the outlet.
Set	Enable.

Role

Definition	This describes the function of the outlet. This is a string attribute with a maximum length of 32 characters.
Default Value	“Load”
Set	Enable.

Keyword

Definition	This is a description for the outlet, in addition to its name and role, for which queries are filtered. This is a string attribute with a maximum length of 32 characters.
Default Value	“load”
Set	Enable.

Level

Definition	The current power level of the outlet. This is an integer attribute, either 0 or 10.
Default Value	None. The power level will be 0 if the outlet is off, or 10 if the outlet is on.
Set	Enable. 0 – turn the outlet off, 10 – turn the outlet on.

DeviceType

Definition	This is the type of Endpoint. This is a string attribute with a maximum length of 32 characters.
Default Value	<The device type of the master entity> “Outlet”
Set	Not Enabled.

Importance

Definition	This is the importance of this Endpoint in the customer’s environment. This is an integer value from 1 to 100.
Default Value	1
Set	Enable.

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Category

Definition	The represents the type of equipment, and is defined by EnergyWise as: -1 = Producer, 0 = Meter, 1 = Consumer. This is an integer value.
Default Value	0 (Meter)
Set	Not Enabled.

Unit

Definition	This represents the unit of measurement used by the Endpoint when reporting its power usage. This is an integer value.
Default Value	0 (Watts)
Set	Not Enabled.

Usage

Definition	This is the actual power consumption of the Endpoint, if supported by the outlet. If not supported, the value will always be 0.
Default Value	The actual value of the outlet will be returned if supported, or 0 if not supported.
Set	Not Enabled.

Status

Effective until further notice.