



CHAPTER 7

Viewing Reports

Overview

Orchestrator includes reports and views of information about power states for all devices, PC user activity, and events. It provides summarized views of device data in the Operational State report and the Events Summary report.

For a summarized display of savings and energy use data shown in a dashboard, see the [“About the Sustainability Dashboard” section on page 9-1](#) and the [“Chart Types and Filters” section on page 9-21](#).

The device data in each report is determined by the filters that you set for the display and also by the *Max items per search result* value set on the Configure Server Settings page. The maximum value allowed is 20,000. Setting this value to a higher number can result in longer display times for search results.



Note

By default, the device list displays the first 2000 devices that meet the search and filter criteria. If you need to see a larger set of devices, on the Server menu, click **Configure Server Settings**, and increase the *Max items per search result* value.



Note

Move the cursor over different areas of the chart to see various data points.

For details on how to use event data for troubleshooting and optimization, see [Chapter 8, “Getting Diagnostic Information from Event Logs.”](#)

Data Summarization Process Overview

The data displayed in the Operational State report and the Sustainability Dashboard is aggregated, summarized data.

The summary process reads Orchestrator data from the *DeviceComponentStatePeriod* and *DeviceSample* tables, and writes the data into the *ComponentStateDaySum* and *ComponentStateHourSum* tables.

The first time that the process runs, it reads all the data from the *DeviceComponentStatePeriod* and *DeviceSample* tables. Because of the potential amount of data being processed, running the summary process for the first time can use significant system resources on the computer. If you are running the summarization process on the Orchestrator server computer (recommended), be sure to run the process when the Orchestrator server is not required to be active.

**Note**

When Orchestrator is installed, data must first be generated before it can be summarized. When the Orchestrator server sends data to the database, the summarization process waits until the data is fully committed before processing begins.

Factors affecting the time for the summarization process the first time it runs:

- Database I/O—The summarization process can request large amounts of data from the database. The speed of database I/O affects processing time.
- Defragmentation—Table indexes are defragmented during summarization. The amount of defragmentation required can affect how quickly the summarization process completes.
- Groups—Number of locations, business units, policies, and administrative groups.
- Memory—Available memory for SQL and the summarization can also affect the time required.

Each time that the process runs after the initial summarization, data is summarized on an incremental basis and takes less time to complete. Only data that has been added since the last summarization is processed.

Global Settings and Summarization

The default values defined in the Global Settings tab of the Sustainability Dashboard determine the default values for the data summarization process and the energy calculations. We recommend that you set these values before you run the summarization process for the first time get the most accurate and uniform report results over time.

If you change a setting, you need to run the summarization process again to show the updated values in your dashboard reports. However, because data is summarized on an incremental basis after the first time that you run the process, only data that is collected and reported on from the time of the change shows the new values. Historical data is still based on the old values.

If devices in Orchestrator are assigned to new groups or policies, the historical (already summarized) data reflects the old grouping and policy structure.

When you want to run the summarization process from the beginning to reset summarization data, see the [“Resetting Summarization Data” section on page 7-4](#).

To restate summarized data by using new policies and groupings, rerun summarization completely from the beginning. Be aware that the new Global Setting values in the Sustainability Dashboard are also applied to all historical data.

For example, if old data reflected a \$0.10 per kilowatt hours (kWh) cost, and the cost has been updated to \$0.11 kWh, all the data is summarized by using the \$0.11 cost.

Scheduling the Process

We recommend that you use the Windows Task Scheduler to run the data summarization and that you run this process when the Orchestrator server does not need to be active.

When deciding how often you want to run the summarization process or what schedule to follow, consider how timely you want the data to be.

Consider scheduling or manually running the process on a daily, monthly, or quarterly schedule. Allow up to a day for summarization to complete if it runs only monthly. Run summarization on a daily basis to keep the dashboard up to date without increasing the load on the Orchestrator server.

For details, see the “[Running the Data Summarization Process Manually](#)” section on page 7-3 and the “[Running the Data Summarization Process as a Scheduled Task](#)” section on page 7-3.

Running the Summarization Process

Before running the summarization process, make sure that the summarization.exe.config has the correct database connection string.

To start the process, run DataSummarization.exe from the same folder as the summarization.exe.config file (typically C:\Program Files\Cisco Systems\Cisco EnergyWise Orchestrator\BackgroundProcessor\DataSummarization.exe).

The process begins to read data from the DeviceComponentStatePeriod and DeviceSample tables, and writes the summarized data into the ComponentStateDaySum and ComponentStateHourSum tables.

**Note**

You can run only one summarization process at one time.

To determine the status of the summarization process:

- Review the processes running in Windows Task Manager.
- Run Perfmon.exe.

To see the summarization process results, open the log file GeneralReport.log in C:\Program Files\Cisco Systems\Cisco EnergyWise Orchestrator\Logs.

Running the Data Summarization Process Manually

To start the summarization process manually, run DataSummarization.exe from the same folder as the DataSummarization.exe.config (typically C:\Program Files\Cisco Systems\Cisco EnergyWise Orchestrator\BackgroundProcessor\).

Running the Data Summarization Process as a Scheduled Task

- Step 1** To open Windows Task Scheduler, click **Start**, click **All Programs**, point to Accessories, point to System Tools, and click **Scheduled Tasks**.
- Step 2** Double-click **Add Scheduled Task** to start the Scheduled Task Wizard, and click **Next** in the first dialog box.
- Step 3** In the next dialog box, click **Browse**, browse to C:\Program Files\Cisco Systems\Cisco EnergyWise Orchestrator\BackgroundProcessor\ (default installed location), select DataSummarization.exe, and click **Open**.
- Step 4** Enter a name for the task, and choose an option:
 - Daily
 - Monthly
 - Weekly
 - One time only

- When my computer starts (before a user logs on)
- When I log on (only after the current user logs on)

Step 5 Click **Next**, specify the date and time and click **Next**.



Note The information about the date and time to run the task varies depending on the selection that you made in the previous wizard dialog box. For example, if you chose **Weekly**, you must enter the day of the week, the time, and if the task should run every week, every 2 weeks, every 3 weeks, and so on.

Step 6 Enter the name and password of the user who is associated with this task. Make sure that you choose a user with sufficient permissions to run the program. By default, the wizard selects the name of the user who is currently logged on.

Step 7 Click **Next**, and click **Finish** after you verify the choices that you have made.



Note Right-click the name of the task that you created in Windows Explorer, and click **Run** to run the summarization process at any time.

Resetting Summarization Data

If you change an important value in Global Settings (such as energy cost, wattage consumption, or emission equivalents) or change how you group clients, you might want to completely resummarize data.



Note Changes to Global Settings values that affect summarized data:

Energy Cost per kWh and Currency
 CO2 Kilogram Emissions per kWh
 CO2 Kilogram Equivalent of One Car Saved
 CO2 Kilogram Equivalent of One Tree Saved
 CO2 Kilogram Equivalent of 1 Litre of Gas Saved
 Watt Consumption values: CPU On, CPU Sleep, CPU Off, Display On, Display Not On

To completely (not just incrementally) resummarize all Orchestrator data with the current Global Settings values, run this script in SQL Server Management Studio for EnterprisePowerManagementDB.

```
update SumTableLastLoad
set lastupdatedate = '2000'
go
truncate table ComponentStateDaySum
go
truncate table ComponentStateHourSum
go
```



Note Do not run this script unless you are certain that you want to reset the dashboard summary data. Running this script starts the full summarization process, which reads all of the data from the DeviceComponentStatePeriod and DeviceSample tables.

Any new Global Setting values are applied to all historical data. For example, if old data reflected a \$0.10 per kWh cost, and the cost has been updated to \$0.11 kWh, all the data is summarized using the \$0.11 cost.

Because of the potential amount of data being processed, running the complete summary process can use significant system resources on the computer running the summarization process and might take some time to complete. If you are running the summarization process on the Orchestrator server computer (recommended), be sure to run the process when Orchestrator server is not required to be active.

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- Step 1** Connect to the Orchestrator database server.
- Step 2** Click **New Query**.
- Step 3** In the SQL Editor toolbar, select **EnterprisePowerManagementDB** from the drop-down list of available databases.
- Step 4** Enter the following SQL statement in the query window:
- ```
update SumTableLastLoad
set lastupdatedate = '2000'
go
truncate table ComponentStateDaySum
go
truncate table ComponentStateHourSum
go
```
- Step 5** Click **Execute**.
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## Viewing the Operational State Report

The data displayed in the Operational State report is aggregated, summarized data. For details, see the [“Data Summarization Process Overview”](#) section on page 7-1.

The Operational State report is most useful for looking at trends in PC states and user activity, such as viewing data for the past week. It is not a real-time display of system status. Because the Operational State data is summarized, data for some devices can be incomplete in the most recent reporting period (days/hours) until summarization runs again.



### Note

The device count that shows on the Manage Devices page does not always match the device count on the Operational State report at a given time. The device list is a real-time display of the devices currently connected to Orchestrator. The Operational State report shows the device count and data based on the last time the summarization process ran.

If a subset of devices in the Manage Devices page is not v checking in and reporting data to the Orchestrator server, data for these devices is not included in summarization. The devices are not represented in the Operational State report for that time.

The Operational State report calculates the device count as the total number of hours. For hourly reporting, as an example: If ten devices report in to Orchestrator for half an hour, this information is reported as five devices for that hour. If, in the following hour, all ten devices report in to Orchestrator

for the entire hour, this information is reported as ten device hours, and the report shows ten devices. The same concept applies to daily reporting, where the device count equals the total number of device hours/24.

The device data in each report is determined by the filters that you set for the view and also by the *Max items per search* result value set on the Configure Server Settings page.

**Note**

By default, the device list displays the first 2000 devices that meet the search and filter criteria. If you need to see a larger set of devices, on the Server menu, click **Configure Server Settings**, and increase the *Max items per search* result value. The maximum value allowed is 20,000. Setting this value to a higher number can result in longer display times for search results.

You can print the list or save it as a PDF file.

Move the cursor over different areas of the chart to see various data points.

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- Step 1** On the Reports menu, click **Operational State Report** (PC or EnergyWise).
  - Step 2** Select a date range and the view (day or hour).
  - Step 3** Specify the filter parameters to define the set of devices that you want to see in the report, and click the **Search** button.
  - Step 4** In the report, select different viewing options as needed (include users, include PCs, include monitors, show all states, show On states only).

**Note**

Move the cursor over different areas of the chart to see details.

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- Step 5** Click **Print** to print the view, or click **Save** to save it as a PDF file.
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## Viewing the Events Summary Report

Move the cursor over different areas of the chart to see details on various data points.

For details on how to use event data for troubleshooting and optimization, see [Chapter 8, “Getting Diagnostic Information from Event Logs.”](#)

The device data in each report is determined by the filters that you set for the view and also by the Max items per search result value set on the Configure Server Settings page.

**Note**

By default, the device list displays the first 2000 devices that meet the search and filter criteria. If you need to see a larger set of devices, on the Server menu, click Configure Server Settings, and increase the *Max items per search* result value. The maximum value allowed is 20,000. Setting this value to a higher number can result in longer display times for search results.

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- Step 1** On the Reports menu, click **Events Summary Report**.
  - Step 2** Select a date range and the view (day or hour).
  - Step 3** Select an Event Category.

**Step 4** Specify the filter parameters to define the set of devices that you want to see in the report results, and click the **Search** button.

**Step 5** In the report, double-click an area of the pie chart to see details on that category.



**Note** Move the cursor over areas of the chart to see details. Click the Devices tab to see results by device. Click the Events tab to see results by event.

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**Step 6** Click **Print** to print the current display. You cannot save the display.

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