



# Statistics Collection Policy Configuration

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## Configuring Statistics Collection Policies

### Statistics Collection Policy

A statistics collection policy defines how frequently statistics are collected (collection interval) and how frequently the statistics are reported (reporting interval). Reporting intervals are longer than collection intervals so that multiple statistical data points can be collected during the reporting interval. This provides Cisco UCS Manager with sufficient data to calculate and report minimum, maximum, and average values.

For NIC statistics, Cisco UCS Manager displays the average, minimum, and maximum of the change since the last collection of statistics. If the values are 0, there has been no change since the last collection.

Statistics can be collected and reported for the following five functional areas of the Cisco UCS system:

- Adapter — Statistics related to the adapters
- Chassis — Statistics related to the chassis
- Host — This policy is a placeholder for future support
- Port — Statistics related to the ports, including server ports, uplink Ethernet ports, and uplink Fibre Channel ports
- Server — Statistics related to servers



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**Note** Cisco UCS Manager has one default statistics collection policy for each of the five functional areas. You cannot create additional statistics collection policies and you cannot delete the existing default policies. You can only modify the default policies.

The values that are displayed for delta counter in Cisco UCS Manager are calculated as the difference between the last two samples in a collection interval. In addition, Cisco UCS Manager displays the average, minimum, and maximum delta values of the samples in the collection interval.

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## Modifying a Statistics Collection Policy

### Procedure

- Step 1** In the **Navigation** pane, click **Admin**.
- Step 2** Expand **All > Stats Management > Collection Policies**.
- Step 3** In the work pane, right-click the policy that you want to modify and select **Modify Collection Policy**.
- Step 4** In the **Modify Collection Policy** dialog box, complete the following fields:

Name	Description
Name field	<p>The name of the collection policy.</p> <p>This name is assigned by Cisco UCS and cannot be changed.</p>
Collection Interval field	<p>The length of time the fabric interconnect should wait between data recordings. This can be one of the following:</p> <ul style="list-style-type: none"> <li>• <b>30 Seconds</b></li> <li>• <b>1 Minute</b></li> <li>• <b>2 Minutes</b></li> <li>• <b>5 Minutes</b></li> </ul>

Name	Description
<p><b>Reporting Interval</b> field</p>	<p>The length of time the fabric interconnect should wait before sending any data collected for the counter to Cisco UCS Manager. This can be one of the following:</p> <ul style="list-style-type: none"> <li>• <b>2 Minutes</b></li> <li>• <b>15 Minutes</b></li> <li>• <b>30 Minutes</b></li> <li>• <b>60 Minutes</b></li> <li>• <b>2 Hours</b></li> <li>• <b>4 Hours</b></li> <li>• <b>8 Hours</b></li> </ul> <p>When this time has elapsed, the fabric interconnect groups all data collected since the last time it sent information to Cisco UCS Manager, and it extracts four pieces of information from that group and sends them to Cisco UCS Manager:</p> <ul style="list-style-type: none"> <li>• The most recent statistic collected</li> <li>• The average of this group of statistics</li> <li>• The maximum value within this group</li> <li>• The minimum value within this group</li> </ul> <p>For example, if the collection interval is set to 1 minute and the reporting interval is 15 minutes, the fabric interconnect collects 15 samples in that 15 minute reporting interval. Instead of sending 15 statistics to Cisco UCS Manager, it sends only the most recent recording along with the average, minimum, and maximum values for the entire group.</p>
<p><b>States Section</b></p>	
<p><b>Current Task</b> field</p>	<p>The task that is executing on behalf of this component. For details, see the associated <b>FSM</b> tab.</p> <p><b>Note</b> If there is no current task, this field is not displayed.</p>

**Step 5** Click **OK**.

# Configuring Statistics Threshold Policies

## Statistics Threshold Policy

A statistics threshold policy monitors statistics about certain aspects of the system and generates an event if the threshold is crossed. You can set both minimum and maximum thresholds. For example, you can configure the policy to raise an alarm if the CPU temperature exceeds a certain value, or if a server is overutilized or underutilized.

These threshold policies do not control the hardware or device-level thresholds enforced by endpoints, such as the CIMC. Those thresholds are burned in to the hardware components at manufacture.

Cisco UCS enables you to configure statistics threshold policies for the following components:

- Servers and server components
- Uplink Ethernet ports
- Ethernet server ports, chassis, and fabric interconnects
- Fibre Channel port




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**Note** You cannot create or delete a statistics threshold policy for Ethernet server ports, uplink Ethernet ports, or uplink Fibre Channel ports. You can only configure the existing default policy.

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Cisco UCS enables you to configure statistics threshold policies for servers and server components.

## Creating a Server and Server Component Threshold Policy




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**Tip** This procedure documents how to create a server and server component threshold policy on the **Server** tab. You can also create and configure these threshold policies within the appropriate organization in the **Policies** node on the **LAN** tab, **SAN** tab, and under the **Stats Management** node of the **Admin** tab.

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### Procedure

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- Step 1** In the **Navigation** pane, click **Servers**.
- Step 2** Expand **Servers > Policies**.
- Step 3** Expand the node for the organization where you want to create the policy.  
If the system does not include multi tenancy, expand the **root** node.
- Step 4** Right-click **Threshold Policies** and choose **Create Threshold Policy**.
- Step 5** In the **Define Name and Description** page of the **Create Threshold Policy** wizard, do the following:
  - a) Complete the following fields:

Name	Description
<p><b>Name</b> field</p>	<p>The name of the policy.</p> <p>This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.</p>
<p><b>Description</b> field</p>	<p>A description of the policy. Cisco recommends including information about where and when to use the policy.</p> <p>Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), &gt; (greater than), &lt; (less than), or ' (single quote).</p>
<p><b>Owner</b> field</p>	<p>This can be one of the following:</p> <ul style="list-style-type: none"> <li>• <b>Local</b>—This policy is available only to service profiles and service profile templates in this Cisco UCS domain.</li> <li>• <b>Pending Global</b>—Control of this policy is being transferred to Cisco UCS Central. Once the transfer is complete, this policy will be available to all Cisco UCS domains registered with Cisco UCS Central.</li> <li>• <b>Global</b>—This policy is managed by Cisco UCS Central. Any changes to this policy must be made through Cisco UCS Central.</li> </ul>

b) Click **Next**.

**Step 6** In the **Threshold Classes** page of the **Create Threshold Policy** wizard, do the following:

- a) Click **Add**.
- b) In the **Choose Statistics Class** dialog box, choose the statistics class for which you want to configure a custom threshold from the **Stat Class** drop-down list.
- c) Click **Next**.

**Step 7** In the **Threshold Definitions** page, do the following:

- a) Click **Add**.  
The **Create Threshold Definition** dialog box opens.
- b) From the **Property Type** field, choose the threshold property that you want to define for the class.
- c) In the **Normal Value** field, enter the desired value for the property type.
- d) In the **Alarm Triggers (Above Normal Value)** fields, check one or more of the following check boxes:
  - **Critical**
  - **Major**
  - **Minor**
  - **Warning**
  - **Condition**
  - **Info**

- e) In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
- f) In the **Alarm Triggers (Below Normal Value)** fields, check one or more of the following check boxes:
  - **Info**
  - **Condition**
  - **Warning**
  - **Minor**
  - **Major**
  - **Critical**
- g) In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
- h) Click **Finish Stage**.
- i) Do one of the following:
  - To define another threshold property for the class, repeat Step 7.
  - If you have defined all required properties for the class, click **Finish Stage**.

**Step 8** In the **Threshold Classes** page of the **Create Threshold Policy** wizard, do one the following:

- To configure another threshold class for the policy, repeat Steps 6 and 7.
- If you have configured all required threshold classes for the policy, click **Finish**.

**Step 9** Click **OK**.

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## Deleting a Server and Server Component Threshold Policy

### Procedure

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- Step 1** In the **Navigation** pane, click **Servers**.
  - Step 2** Expand **Servers > Policies > *Organization\_Name***.
  - Step 3** Expand the **Threshold Policies** node.
  - Step 4** Right-click the policy you want to delete and select **Delete**.
  - Step 5** If a confirmation dialog box displays, click **Yes**.
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# Adding a Threshold Class to an Existing Server and Server Component Threshold Policy



**Tip** This procedure documents how to add a threshold class to a server and server component threshold policy in the **Server** tab. You can also create and configure these threshold policies within the appropriate organization in the **Policies** node on the **LAN** tab, **SAN** tab, and under the **Stats Management** node of the **Admin** tab.

## Procedure

- Step 1** In the **Navigation** pane, click **Servers**.
- Step 2** Expand **Servers > Policies > Organization\_Name**.
- Step 3** Expand the **Threshold Policies** node.
- Step 4** Right-click the policy to which you want to add a threshold class and choose **Create Threshold Class**.
- Step 5** In the **Choose Statistics Class** page of the **Create Threshold Class** wizard, do the following:
  - a) From the **Stat Class** drop-down list, choose the statistics class for which you want to configure a custom threshold.
  - b) Click **Next**.
- Step 6** In the **Threshold Definitions** page, do the following:
  - a) Click **Add**.

The **Create Threshold Definition** dialog box opens.
  - b) From the **Property Type** field, choose the threshold property that you want to define for the class.
  - c) In the **Normal Value** field, enter the desired value for the property type.
  - d) In the **Alarm Triggers (Above Normal Value)** field, check one or more of the following check boxes:
    - **Critical**
    - **Major**
    - **Minor**
    - **Warning**
    - **Condition**
    - **Info**
  - e) In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
  - f) In the **Alarm Triggers (Below Normal Value)** field, check one or more of the following check boxes:
    - **Info**
    - **Condition**
    - **Warning**
    - **Minor**

- **Major**
- **Critical**

- g) In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
- h) Click **Finish Stage**.
- i) Do one of the following:
  - To define another threshold property for the class, repeat Step 6.
  - If you have defined all required properties for the class, click **Finish Stage**.

- Step 7** In the **Choose Statistics Class** page of the **Create Threshold Class** wizard, do one the following:
- To configure another threshold class for the policy, repeat Steps 5 and 6.
  - If you have configured all required threshold classes for the policy, click **Finish**.

- Step 8** Click **OK**.
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## Adding a Threshold Class to the Uplink Ethernet Port Threshold Policy



**Tip** You cannot create an uplink Ethernet port threshold policy. You can only modify or delete the default policy.

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### Procedure

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- Step 1** In the **Navigation** pane, click **LAN**.
- Step 2** Expand **LAN > LAN Cloud**.
- Step 3** Expand the **Threshold Policies** node.
- Step 4** Right-click **Thr-policy-default** and choose the **Create Threshold Class**.
- Step 5** In the **Choose Statistics Class** page of the **Create Threshold Class** wizard, do the following:
  - a) From the **Stat Class** drop-down list, choose the statistics class for which you want to configure a custom threshold.
  - b) Click **Next**.
- Step 6** In the **Threshold Definitions** page, do the following:
  - a) Click **Add**.
 

The **Create Threshold Definition** dialog box opens.
  - b) From the **Property Type** field, choose the threshold property that you want to define for the class.
  - c) In the **Normal Value** field, enter the desired value for the property type.
  - d) In the **Alarm Triggers (Above Normal Value)** field, check one or more of the following check boxes:
    - **Critical**
    - **Major**



- **Minor**
- **Warning**
- **Condition**
- **Info**

- e) In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
- f) In the **Alarm Triggers (Below Normal Value)** field, check one or more of the following check boxes:
- **Info**
  - **Condition**
  - **Warning**
  - **Minor**
  - **Major**
  - **Critical**
- g) In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
- h) Click **Finish Stage**.
- i) Do one of the following:
- To define another threshold property for the class, repeat Step 6.
  - If you have defined all required properties for the class, click **Finish Stage**.

- Step 7** In the **Create Threshold Class** page of the **Create Threshold Policy** wizard, do one the following:
- To configure another threshold class for the policy, repeat Steps 5 and 6.
  - If you have configured all required threshold classes for the policy, click **Finish**.

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## Adding a Threshold Class to the Ethernet Server Port, Chassis, and Fabric Interconnect Threshold Policy



**Tip** You cannot create an ethernet server port, chassis, and fabric interconnect threshold policy. You can only modify or delete the default policy.

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### Procedure

- Step 1** In the **Navigation** pane, click **LAN**.
- Step 2** Expand **LAN > Internal LAN**.
- Step 3** Expand the **Threshold Policies** node.

- Step 4** Right-click **Thr-policy-default** and choose the **Create Threshold Class**.
- Step 5** In the **Choose Statistics Class** page of the **Create Threshold Class** wizard, do the following:
- From the **Stat Class** drop-down list, choose the statistics class for which you want to configure a custom threshold.
  - Click **Next**.
- Step 6** In the **Threshold Definitions** page, do the following:
- Click **Add**.  
The **Create Threshold Definition** dialog box opens.
  - From the **Property Type** field, choose the threshold property that you want to define for the class.
  - In the **Normal Value** field, enter the desired value for the property type.
  - In the **Alarm Triggers (Above Normal Value)** field, check one or more of the following check boxes:
    - **Critical**
    - **Major**
    - **Minor**
    - **Warning**
    - **Condition**
    - **Info**
  - In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
  - In the **Alarm Triggers (Below Normal Value)** field, check one or more of the following check boxes:
    - **Info**
    - **Condition**
    - **Warning**
    - **Minor**
    - **Major**
    - **Critical**
  - In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
  - Click **Finish Stage**.
  - Do one of the following:
    - To define another threshold property for the class, repeat Step 6.
    - If you have defined all required properties for the class, click **Finish Stage**.
- Step 7** In the **Create Threshold Class** page of the **Create Threshold Policy** wizard, do one the following:
- To configure another threshold class for the policy, repeat Steps 5 and 6.
  - If you have configured all required threshold classes for the policy, click **Finish**.
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## Adding a Threshold Class to the Fibre Channel Port Threshold Policy

You cannot create a Fibre Channel port threshold policy. You can only modify or delete the default policy.

### Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** Expand **SAN > SAN Cloud**.
- Step 3** Expand the **Threshold Policies** node.
- Step 4** Right-click **Thr-policy-default** and choose the **Create Threshold Class**.
- Step 5** In the **Choose Statistics Class** page of the **Create Threshold Class** wizard, do the following:
- From the **Stat Class** drop-down list, choose the statistics class for which you want to configure a custom threshold.
  - Click **Next**.
- Step 6** In the **Threshold Definitions** page, do the following:
- Click **Add**.  
The **Create Threshold Definition** dialog box opens.
  - From the **Property Type** field, choose the threshold property that you want to define for the class.
  - In the **Normal Value** field, enter the desired value for the property type.
  - In the **Alarm Triggers (Above Normal Value)** field, check one or more of the following check boxes:
    - **Critical**
    - **Major**
    - **Minor**
    - **Warning**
    - **Condition**
    - **Info**
  - In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
  - In the **Alarm Triggers (Below Normal Value)** field, check one or more of the following check boxes:
    - **Info**
    - **Condition**
    - **Warning**
    - **Minor**
    - **Major**
    - **Critical**
  - In the **Up** and **Down** fields, enter the range of values that should trigger the alarm.
  - Click **Finish Stage**.

- i) Do one of the following:
- To define another threshold property for the class, repeat Step 6.
  - If you have defined all required properties for the class, click **Finish Stage**.

**Step 7** In the **Create Threshold Class** page of the **Create Threshold Policy** wizard, do one the following:

- To configure another threshold class for the policy, repeat Steps 5 and 6.
  - If you have configured all required threshold classes for the policy, click **Finish**.
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