Managing health thresholds

Active IQ Unified Manager 9.7

NetApp
April 05, 2024

Table of Contents

Managing health thresholds

You can configure global health threshold values for all the aggregates, volumes, and qtrees to track any health threshold breaches.

What storage capacity health thresholds are

A storage capacity health threshold is the point at which the Unified Manager server generates events to report any capacity problem with storage objects. You can configure alerts to send notification whenever such events occurs.

The storage capacity health thresholds for all aggregates, volumes, and qtrees are set to default values. You can change the settings as required for an object or a group of objects.

Configuring global health threshold settings

You can configure global health threshold conditions for capacity, growth, Snapshot reserve, quotas, and inodes to monitor your aggregate, volume, and qtree size effectively. You can also edit the settings for generating events for exceeding lag thresholds.

About this task

Global health threshold settings apply to all objects with which they are associated, such as aggregates, volumes, and so forth. When thresholds are crossed, an event is generated and, if alerts are configured, an alert notification is sent. Threshold defaults are set to recommended values, but you can modify them to generate events at intervals to meet your specific needs. When thresholds are changed, events are generated or obsoleted in the next monitoring cycle.

Global health threshold settings are accessible from the Event Thresholds section of the left-navigation menu. You can also modify threshold settings for individual objects, from the inventory page or the details page for that object.

Choices

- Configuring global aggregate health threshold values

  You can configure the health threshold settings for capacity, growth, and Snapshot copies for all aggregates to track any threshold breach.

- Configuring global volume health threshold values

  You can edit the health threshold settings for capacity, Snapshot copies, qtree quotas, volume growth, overwrite reserve space, and inodes for all volumes to track any threshold breach.

- Configuring global qtree health threshold values

  You can edit the health threshold settings for capacity for all qtrees to track any threshold breach.

- Editing lag health threshold settings for unmanaged protection relationships

  You can increase or decrease the warning or error lag time percentage so that events are generated at

intervals that are more appropriate to your needs.

Configuring global aggregate health threshold values

You can configure global health threshold values for all aggregates to track any threshold breach. Appropriate events are generated for threshold breaches and you can take preventive measures based on these events. You can configure the global values based on the best practice settings for thresholds that apply to all monitored aggregates.

Before you begin

You must have the Application Administrator or Storage Administrator role.

About this task

When you configure the options globally, the default values of the objects are modified. However, if the default values have been changed at the object level, the global values are not modified.

The threshold options have default values for better monitoring, however, you can change the values to suit the requirements of your environment.

When Autogrow is enabled on volumes that reside on the aggregate, the aggregate capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.

Health threshold values are not applicable to the root aggregate of the node.

Steps

1. In the left navigation pane, click **Event Thresholds** > **Aggregate**.
2. Configure the appropriate threshold values for capacity, growth, and Snapshot copies.
3. Click **Save**.

Configuring global volume health threshold values

You can configure the global health threshold values for all volumes to track any threshold breach. Appropriate events are generated for health threshold breaches, and you can take preventive measures based on these events. You can configure the global values based on the best practice settings for thresholds that apply to all monitored volumes.

Before you begin

You must have the Application Administrator or Storage Administrator role.

About this task

Most of the threshold options have default values for better monitoring. However, you can change the values to suit the requirements of your environment.

Note that when Autogrow is enabled on a volume that capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.

Steps

1. In the left navigation pane, click **Event Thresholds** > **Volume**.
2. Configure the appropriate threshold values for capacity, Snapshot copies, qtree quotas, volume growth, and inodes.
3. Click **Save**.

Configuring global qtree health threshold values

You can configure the global health threshold values for all qtrees to track any threshold breach. Appropriate events are generated for health threshold breaches, and you can take preventive measures based on these events. You can configure the global values based on the best practice settings for thresholds that apply to all monitored qtrees.

Before you begin

You must have the Application Administrator or Storage Administrator role.

About this task

The threshold options have default values for better monitoring, however, you can change the values to suit the requirements of your environment.

Events are generated for a qtree only when a Qtree quota or a Default quota has been set on the qtree. Events are not generated if the space defined in a User quota or Group quota has exceeded the threshold.

Steps

1. In the left navigation pane, click **Event Thresholds** > **Qtree**.
2. Configure the appropriate capacity threshold values.
3. Click **Save**.

Configuring lag threshold settings for unmanaged protection relationships

You can edit the global default lag warning and error health threshold settings for unmanaged protection relationships so that events are generated at intervals that are appropriate to your needs.

Before you begin

You must have the Application Administrator or Storage Administrator role.

About this task

The lag time must be no more than the defined transfer schedule interval. For example, if the transfer schedule is hourly, then the lag time must not be more than one hour. The lag threshold specifies a percentage that the lag time must not exceed. Using the example of one hour, if the lag threshold is defined as 150%, then you will receive an event when the lag time is more than 1.5 hours.

The settings described in this task are applied globally to all unmanaged protection relationships. The settings cannot be specified and applied exclusively to one unmanaged protection relationship.

Steps

1. In the left navigation pane, click **Event Thresholds** > **Relationship**.
2. Increase or decrease the global default warning or error lag time percentage as required.
3. To disable a warning or error event from being triggered from any lag threshold amount, uncheck the box next to **Enabled**.
4. Click **Save**.

Editing individual aggregate health threshold settings

You can edit the health threshold settings for aggregate capacity, growth, and Snapshot copies of one or more aggregates. When a threshold is crossed, alerts are generated and you receive notifications. These notifications help you to take preventive measures based on the event generated.

Before you begin

You must have the Application Administrator or Storage Administrator role.

About this task

Based on changes to the threshold values, events are generated or obsoleted in the next monitoring cycle.

When Autogrow is enabled on volumes that reside on the aggregate, the aggregate capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.

Steps

1. In the left navigation pane, click **Storage** > **Aggregates**.
2. In the **Health: All Aggregates** view, select one or more aggregates and then click **Edit Thresholds**.
3. In the **Edit Aggregate Thresholds** dialog box, edit the threshold settings of one of the following: capacity, growth, or Snapshot copies by selecting the appropriate check box and then modifying the settings.
4. Click **Save**.

Editing individual volume health threshold settings

You can edit the health threshold settings for volume capacity, growth, quota, and space reserve of one or more volumes. When a threshold is crossed, alerts are generated and you receive notifications. These notifications help you to take preventive measures based on the event generated.

Before you begin

You must have the Application Administrator or Storage Administrator role.

About this task

Based on changes to the threshold values, events are generated or obsoleted in the next monitoring cycle.

Note that when Autogrow is enabled on a volume that capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.

Steps

1. In the left navigation pane, click **Storage** > **Volumes**.
2. In the **Health: All Volumes** view, select one or more volumes and then click **Edit Thresholds**.
3. In the **Edit Volume Thresholds** dialog box, edit the threshold settings of one of the following: capacity, Snapshot copies, qtree quota, growth, or inodes by selecting the appropriate check box and then modifying the settings.
4. Click **Save**.

Editing individual qtree health threshold settings

You can edit the health threshold settings for qtree capacity for one or more qtrees. When a threshold is crossed, alerts are generated and you receive notifications. These notifications help you to take preventive measures based on the event generated.

Before you begin

You must have the Application Administrator or Storage Administrator role.

About this task

Based on changes to the threshold values, events are generated or obsoleted in the next monitoring cycle.

Steps

1. In the left navigation pane, click **Storage** > **Qtrees**.
2. In the **Capacity: All Qtrees** view, select one or more qtrees and then click **Edit Thresholds**.
3. In the **Edit Qtree Thresholds** dialog box, change the capacity thresholds for the selected qtree or qtrees and click **Save**.

You can also set individual qtree thresholds from the Qtrees tab on the Storage VM / Health details page.

Description of health thresholds pages

You can use the appropriate Health Thresholds page to configure global health threshold values for aggregates and volumes, and configure global lag warning and error threshold

values for unmanaged protection relationships.

Aggregate Thresholds page

The Aggregate Thresholds page enables you to configure global health threshold values for monitored aggregates. When you configure the options globally, the default values of all objects are modified. However, if the default values have been changed at the object level, the global values are not modified.

You must have the Application Administrator or Storage Administrator role.

Events are generated when a threshold is breached. You can take corrective actions for such events.

The threshold values are not applicable to the root aggregate of the node.

You can set aggregate health thresholds for the following: capacity, aggregate growth, and aggregate Snapshot copies.

Capacity area

The Capacity area enables you to set the following aggregate capacity threshold conditions. Note that when Autogrow is enabled on volumes that reside on the aggregate, the aggregate capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.

- **Space Nearly Full**

  Specifies the percentage at which an aggregate is considered to be nearly full:

  - Default value: 80 percent

    The value for this threshold must be lower than the value for the Aggregate Full threshold for the management server to generate an event.

  - Event generated: Aggregate Nearly Full
  - Event severity: Warning
- **Space Full**

  Specifies the percentage at which an aggregate is considered full:

  - Default value: 90 percent
  - Event generated: Aggregate Full
  - Event severity: Error
- **Nearly Overcommitted**

  Specifies the percentage at which an aggregate is considered to be nearly overcommitted:

  - Default value: 95 percent

    The value for this threshold must be lower than the value for the Aggregate Overcommitted Full threshold for the management server to generate an event.

- Event generated: Aggregate Nearly Overcommitted
- Event severity: Warning

- **Overcommitted**

  Specifies the percentage at which an aggregate is considered to be overcommitted:

  - Default value: 100 percent
  - Event generated: Aggregate Overcommitted
  - Event severity: Error

- **Days Until Full**

  Specifies the number of days remaining before the aggregate reaches full capacity:

  - Default value: 7
  - Event generated: Aggregate Days Until Full
  - Event severity: Error

Growth area

The Growth area enables you to set the following threshold conditions for aggregate growth:

- **Growth Rate**

  Specifies the percentage at which an aggregate's growth rate is considered to be normal before the system generates an Aggregate Growth Rate Abnormal event:

  - Default value: 1 percent
  - Event generated: Aggregate Growth Rate Abnormal
  - Event severity: Warning

- **Growth Rate Sensitivity**

  Specifies the factor that is applied to the standard deviation of an aggregate's growth rate. If the growth rate exceeds the factored standard deviation, an Aggregate Growth Rate Abnormal event is generated.

  A lower value for growth rate sensitivity indicates that the aggregate is highly sensitive to changes in the growth rate. The range for the growth rate sensitivity is 1 through 5.

  - Default value: 2

  

  If you modify the growth rate sensitivity for aggregates at the global threshold level, the change is also applied to the growth rate sensitivity for volumes at the global threshold level.

Snapshot copies area

The Snapshot copies area enables you to set the following Snapshot reserve threshold conditions:

- **Snapshot Reserve Full**

  Specifies the percentage at which an aggregate has consumed all the space reserved for Snapshot copies:

- Default value: 90 percent
- Event generated: Aggregate Snapshot Reserve Full
- Event severity: Warning

Volume Thresholds page

The Volume Thresholds page enables you to configure global health threshold values for monitored volumes. You can set thresholds for individual volumes or for all the volumes globally. When you configure the options globally, the default values of all objects are modified. However, if the default values have been changed at the object level, the global values are not modified.

You must have the Application Administrator or Storage Administrator role.

Events are generated when a threshold is breached. You can take corrective actions for such events.

You can set thresholds for the following: capacity, volume Snapshot copies, qtree quotas, volume growth, and inodes.

Capacity area

The Capacity area enables you to set the following volume capacity threshold conditions. Note that when Autogrow is enabled on a volume that capacity thresholds are considered breached based on the maximum volume size set by autogrow, not based on the original volume size.

- **Space Nearly Full**

  Specifies the percentage at which a volume is considered to be nearly full:

  - Default value: 80 percent

    The value for this threshold must be lower than the value for the Volume Full threshold in order for the management server to generate an event.

  - Event generated: Volume Nearly Full
  - Event severity: Warning
- **Space Full**

  Specifies the percentage at which a volume is considered full:

  - Default value: 90 percent
  - Event generated: Volume Full
  - Event Severity: Error
- **Days Until Full**

  Specifies the number of days remaining before the volume reaches full capacity:

  - Default value: 7
  - Event generated: Volume Days Until Full

- Event severity: Error

Snapshot copies area

The Snapshot copies area enables you to set the following threshold conditions for the Snapshot copies in the volume:

- **Snapshot Reserve Full**

  Specifies the percentage at which the space reserved for Snapshot copies is considered full:

  - Default value: 90 percent
  - Event generated: Volume Snapshot Reserve Full
  - Event severity: Error
- **Days Until Full**

  Specifies the number of days remaining before the space reserved for Snapshot copies reaches full capacity:

  - Default value: 7
  - Event generated: Volume Snapshot Reserve Days Until Full
  - Event severity: Error
- **Count**

  Specifies the number of Snapshot copies on a volume that are considered to be too many:

  - Default value: 250
  - Event generated: Too Many Snapshot Copies
  - Event severity: Error

Qtree Quota area

The Qtree Quota area enables you to set the following volume quota threshold conditions:

- **Nearly Overcommitted**

  Specifies the percentage at which a volume is considered to be nearly overcommitted by qtree quotas:

  - Default value: 95 percent
  - Event generated: Volume Qtree Quota Nearly Overcommitted
  - Event severity: Warning
- **Overcommitted**

  Specifies the percentage at which a volume is considered to be overcommitted by qtree quotas:

  - Default value: 100 percent
  - Event generated: Volume Qtree Quota Overcommitted
  - Event severity: Error

Growth area

The Growth area enables you to set the following threshold conditions for volume growth:

- **Growth Rate**

  Specifies the percentage at which a volume's growth rate is considered to be normal before the system generates a Volume Growth Rate Abnormal event:

  - Default value: 1 percent
  - Event generated: Volume Growth Rate Abnormal
  - Event severity: Warning

- **Growth Rate Sensitivity**

  Specifies the factor that is applied to the standard deviation of a volume's growth rate. If the growth rate exceeds the factored standard deviation, a Volume Growth Rate Abnormal event is generated.

  A lower value for growth rate sensitivity indicates that the volume is highly sensitive to changes in the growth rate. The range for the growth rate sensitivity is 1 through 5.

  - Default value: 2

  If you modify the growth rate sensitivity for volumes at the global threshold level, the change is also applied to the growth rate sensitivity for aggregates at the global threshold level.

Inodes area

The Inodes area enables you to set the following threshold conditions for inodes:

- **Nearly Full**

  Specifies the percentage at which a volume is considered to have consumed most of its inodes:

  - Default value: 80 percent
  - Event generated: Inodes Nearly Full
  - Event severity: Warning

- **Full**

  Specifies the percentage at which a volume is considered to have consumed all of its inodes:

  - Default value: 90 percent
  - Event generated: Inodes Full
  - Event severity: Error

Relationship Thresholds page

The Relationship Thresholds page enables you to configure global lag warning and error threshold values for unmanaged protection relationships so that you are notified and can take action when lag or threshold errors occur. Changes to these settings are applied during the next scheduled update.

You must have the Application Administrator or Storage Administrator role.

Events are generated when a threshold is breached. You can take corrective actions for such events. Lag threshold settings for unmanaged relationships are enabled by default.

The lag threshold specifies a percentage that the lag time must not exceed. Using an example of one hour, if the lag threshold is defined as 150%, then you will receive an event when the lag time is more than 1.5 hours.

Lag Thresholds for Unmanaged Relationships area

The Lag area enables you set unmanaged relationship lag thresholds for the following conditions:

- **Warning**

  Specifies the percentage at which the lag duration equals or exceeds the lag warning threshold:

  - Default value: 150 percent
  - Events generated: SnapMirror Relationship Lag Warning or SnapVault Relationship Lag Warning
  - Event severity: Warning
- **Error**

  Specifies the percentage at which the lag duration equals or exceeds the lag error threshold:

  - Default value: 250 percent
  - Events generated: SnapMirror Relationship Lag Error or SnapVault Relationship Lag Error
  - Event severity: Error

Additionally, you can disable a warning or error event from being triggered from any lag threshold amount by unchecking the box next to Enabled.

Qtree Thresholds page

The Qtree Thresholds page enables you to configure global capacity threshold values for monitored qtrees. Events are generated for a qtree only when a Qtree quota or a Default quota has been set on the qtree. Events are not generated if the space defined in a User quota or Group quota has exceeded the threshold.

You must have the Application Administrator or Storage Administrator role.

Events are generated when a threshold is breached. You can take corrective actions for such events.

Capacity area

The Capacity area enables you to set the following qtree capacity threshold conditions.

- **Space Nearly Full**

  Specifies the percentage at which a qtree is considered to be nearly full:

  - Default value: 80 percent

    The value for this threshold must be lower than the value for the Qtree Full threshold.

- Event generated: Qtree Nearly Full
- Event severity: Warning

- **Space Full**

  Specifies the percentage at which a qtree is considered full:

  - Default value: 90 percent
  - Event generated: Qtree Full
  - Event severity: Error

Edit Aggregate Thresholds dialog box

You can configure alerts to send notifications when an event related to an aggregate's capacity is generated, and you can take corrective actions for the event. For example, for the Aggregate Full threshold, you can configure an alert to send notification when the condition persists over a specified period.

You must have the Application Administrator or Storage Administrator role.

The Edit Aggregate Thresholds dialog box enables you to configure aggregate-level thresholds that are applied to selected aggregates. If you configure aggregate-level thresholds, they take priority over the global-level threshold values. You can configure threshold settings for capacity, growth, and Snapshot copies at the aggregate level. If these settings are not configured, the global threshold values are applied.

The threshold values are not applicable to the root aggregate of the node.

Capacity area

The Capacity area enables you to set the following aggregate capacity threshold conditions:

- **Space Nearly Full**

  Specifies the percentage at which an aggregate is considered to be nearly full. It also displays the size of the aggregate corresponding to the specified threshold value.

  You can also use the slider to set the threshold value.

- **Space Full**

  Specifies the percentage at which an aggregate is considered full. It also displays the size of the aggregate corresponding to the specified threshold value.

  You can also use the slider to set the threshold value.

- **Nearly Overcommitted**

  Specifies the percentage at which an aggregate is considered to be nearly overcommitted.

- **Overcommitted**

  Specifies the percentage at which an aggregate is considered to be overcommitted.

- **Days Until Full**

  Specifies the number of days remaining before the aggregate reaches full capacity.

Growth area

The Growth area enables you to set the following threshold condition for aggregate growth:

- **Growth Rate**

  Specifies the percentage at which an aggregate's growth rate is considered to be normal before the system generates an Aggregate Growth Rate Abnormal event.

- **Growth Rate Sensitivity**

  Specifies the factor that is applied to the standard deviation of an aggregate's growth rate. If the growth rate exceeds the factored standard deviation, an Aggregate Growth Rate Abnormal event is generated.

  A lower value for growth rate sensitivity indicates that the aggregate is highly sensitive to changes in the growth rate.

  If you modify the growth rate sensitivity for aggregates at the global threshold level, the change is also applied to the growth rate sensitivity for volumes at the global threshold level.

Snapshot copies area

The Snapshot copies area enables you to set the following Snapshot reserve threshold conditions:

- **Snapshot Reserve Full**

  Specifies the percentage at which an aggregate has consumed all its space reserved for Snapshot copies.

  You can also use the slider to set the threshold value.

Command buttons

The command buttons enable you to perform the following tasks for a selected aggregate:

- **Restore to Defaults**

  Enables you to restore the aggregate-level threshold values to the global values.

- **Save**

  Saves all the threshold settings.

- **Save and Close**

  Saves all the threshold settings and then closes the dialog box.

- **Cancel**

  Ignores the changes (if any) to the threshold settings and closes the dialog box.

Edit Volume Thresholds dialog box

You can configure alerts to send notifications when an event related to a volume's capacity is generated, and you can take corrective actions for the event. For example, for the Volume Full threshold, you can configure an alert to send notification when the condition persists over a specified period.

You must have the Application Administrator or Storage Administrator role.

The Edit Volume Thresholds dialog box enables you to configure volume-level thresholds that are applied to the selected volumes. When thresholds are configured at the volume level, they take priority over the group-level thresholds or the global-level threshold values.

You can configure threshold settings for capacity, Snapshot copies, qtree quota, growth, and inodes at the volume level. When a group action of volume threshold type is configured, the group action threshold values are used for settings that are not configured at the volume level. When no group action of volume threshold type is configured, areas in Edit Volume Thresholds dialog box that are not configured, use global threshold values.

Capacity area

The Capacity area enables you to set the following volume capacity threshold conditions:

- **Space Nearly Full**

  Specifies the percentage at which a volume is considered to be nearly full. It also displays the size of the volume corresponding to the specified threshold value.

  You can also use the slider to set the threshold value.

- **Space Full**

  Specifies the percentage at which a volume is considered full. It also displays the size of the volume corresponding to the specified threshold value.

  You can also use the slider to set the threshold value.

- **Days Until Full**

  Specifies the number of days remaining before the volume reaches full capacity.

Snapshot Copies

The Snapshot Copies area enables you to set the following threshold conditions for the Snapshot copies in the volume.

- **Snapshot Reserve Full**

  Specifies the percentage at which the space reserved for Snapshot copies is considered full.

- **Days Until Full**

  Specifies the number of days remaining before the space reserved for Snapshot copies reaches full capacity.

- **Count**

  Specifies the number of Snapshot copies on a volume that are considered to be too many.

Qtree Quota area

The Qtree Quota area enables you to set the following qtree quota threshold conditions for the selected volumes:

- **Nearly Overcommitted**

  Specifies the percentage at which a volume is considered to be nearly overcommitted by qtree quotas.

- **Overcommitted**

  Specifies the percentage at which a volume is considered to be overcommitted by qtree quotas.

Growth area

The Growth area enables you to set the following threshold condition for volume growth:

- **Growth Rate**

  Specifies the percentage at which a volume's growth rate is considered to be normal before the system generates a Volume Growth Rate Abnormal event.

- **Growth Rate Sensitivity**

  Specifies the factor that is applied to the standard deviation of a volume's growth rate. If the growth rate exceeds the factored standard deviation, a Volume Growth Rate Abnormal event is generated.

  A lower value for growth rate sensitivity indicates that the volume is highly sensitive to changes in the growth rate.

  If you modify the growth rate sensitivity for volumes at the global threshold level, the change is also applied to the growth rate sensitivity for aggregates at the global threshold level.

Inodes area

The Inodes area enables you to set the following threshold conditions for inodes:

- **Nearly Full**

  Specifies the percentage at which a volume is considered to have consumed most of its inodes.

  You can also use the sliders to set the threshold value.

- **Full**

  Specifies the percentage at which a volume is considered to have consumed all of its inodes.

  You can also use the sliders to set the threshold value.

Command buttons

The command buttons enable you to perform the following tasks for a selected volume:

- **Restore to Defaults**

  Enables you to restore the threshold values to one of the following:

  - Group values, if the volume belongs to a group and that group has a volume threshold action type.
  - Global values, if the volume does not belong to any group or if it belongs to a group that does not have a volume threshold action type.
- **Save**

  Saves all the threshold settings.
- **Save and Close**

  Saves all the threshold settings and then closes the dialog box.
- **Cancel**

  Ignores the changes (if any) to the threshold settings and closes the dialog box.

Edit Qtree Thresholds dialog box

You can configure alerts to send notifications when an event related to a qtree's capacity is generated, and you can take corrective actions for the event. For example, for the Qtree Full threshold, you can configure an alert to send notification when the condition persists over a specified period.

You must have the Application Administrator or Storage Administrator role.

The Edit Qtree Thresholds dialog box enables you to configure qtree-level thresholds that are applied to the selected qtrees. When thresholds are configured at the qtree level, they take priority over the group-level thresholds or the global-level threshold values.

You can configure threshold settings for capacity at the qtree level. When a group action of qtree threshold type is configured, the group action threshold values are used for settings that are not configured at the qtree level. When no group action of qtree threshold type is configured, areas in Edit Qtree Thresholds dialog box that are not configured, use global threshold values.

Capacity area

The Capacity area enables you to set the following qtree capacity threshold conditions:

- **Space Nearly Full**

  Specifies the percentage at which a qtree is considered to be nearly full. It also displays the size of the qtree corresponding to the specified threshold value.

  You can also use the slider to set the threshold value.
- **Space Full**

Specifies the percentage at which a qtree is considered full. It also displays the size of the qtree corresponding to the specified threshold value.

You can also use the slider to set the threshold value.

Command buttons

The command buttons enable you to perform the following tasks for a selected qtree:

- **Restore to Defaults**

  Enables you to restore the threshold values to one of the following:

  - Group values, if the qtree belongs to a group and that group has a qtree threshold action type.
  - Global values, if the qtree does not belong to any group or if it belongs to a group that does not have a qtree threshold action type.

- **Save**

  Saves all the threshold settings.

- **Save and Close**

  Saves all the threshold settings and then closes the dialog box.

- **Cancel**

  Ignores the changes (if any) to the threshold settings and closes the dialog box.

Copyright information

Trademark information