



Cisco TEO Adapter Guide for Microsoft System Center Operations Manager 2007

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Preface

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The Microsoft System Center Operations Manager (SCOM) 2007 is designed to monitor the entire data center environment. The Microsoft System Center Operations Manager 2007 adapter provides the ability to easily monitor and automate the management of SCOM alerts.

It has the ability to detect a wide variety of problems and to automatically take corrective actions or alert administrators when necessary. The data that is collected, stored and analyzed automatically, can help administrators determine which servers have additional capacity and which might soon suffer a stress-induced heart attack.

SCOM must be installed in your environment and the user must have the proper credentials to connect to the SCOM management server to use the SCOM activities in a process.

This guide provides instructions for viewing SCOM 2007 adapter properties, defining SCOM 2007 targets and activities, instructions for completing the property pages for each specific activity, and instructions on viewing the activity results.

Organization

This guide includes the following chapters:

Chapter 1	Understanding SCOM 2007 Adapter	Provides information on the SCOM 2007 adapter properties
Chapter 2	Managing Runtime Users	Provides information on creating and managing runtime user accounts
Chapter 3	Managing SCOM 2007 Targets	Provides information on viewing defined targets that are available for execution by a process

Chapter 4	Managing SCOM 2007 Triggers	Provides the specific criteria used to determine when processes or activities are triggered for execution
Chapter 5	Using SCOM 2007 Activities	Provides instructions for defining SCOM 2007 activities and instructions for completing the property pages for the activity

Conventions

This guide uses the following conventions:

Convention	Indication
bold font	Commands and keywords and user—entered text appear in bold font .
<i>italic font</i>	Document titles, new or emphasized terms, and arguments for which you supply values are in <i>italic font</i> .
[]	Elements in square brackets are optional.
{ x y z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
<code>courier font</code>	Terminal sessions and information the system displays appear in <code>courier font</code> .
< >	Nonprinting characters such as passwords are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.



Note

Means *reader take note*.



Tip

Means *the following information will help you solve a problem*.



Caution

Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.



Timesaver

Means *the described action saves time*. You can save time by performing the action described in the paragraph.

**Warning**

Means reader be warned. In this situation, you might perform an action that could result in bodily injury.

Product Documentation

Documentation Formats

Documentation is provided in the following electronic formats:

- Adobe® Acrobat® PDF files
- Online help


You must have Adobe® Reader® installed to read the PDF files. Adobe Reader installation programs for common operating systems are available for free download from the Adobe Web site at www.adobe.com.

Guides and Release Notes

You can download the TEO product documentation from Cisco.com. Release Notes can be found on Cisco.com and the product CD.

Online Help

Online help is available and can be accessed using the following methods:

- Click **Help** on any dialog box in the application to open the help topic in a pane to the right of the dialog box.
- In the Tidal Enterprise Orchestrator console:
 - Click the **Help Pane**  icon on the toolbar to open the help topic in a pane to the right of the Results pane.
 - Click **Help** on the menu bar.

Open Source License Acknowledgements

Licenses and notices for open source software used in Tidal Enterprise Orchestrator can be found in the [Open Source License Acknowledgements](#) on Cisco.com. If you have any questions about the open source contained in this product, please email external-opensource-requests@cisco.com.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a RSS feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.



CHAPTER 1

Understanding SCOM 2007 Adapter

Users can access the Microsoft System Center Operations Manager 2007 Adapter properties from the Administration—Adapters view in the Console. The SCOM 2007 Adapter properties dialog displays general information about the functionality provided by the adapter, version number, release date and install date, and the history of changes made to the adapter.

- [Accessing SCOM 2007 Adapter Properties, page 1-2](#)
- [Viewing SCOM 2007 Adapter-Supported Objects, page 1-3](#)
- [Viewing SCOM 2007 Adapter History, page 1-4](#)

Accessing SCOM 2007 Adapter Properties

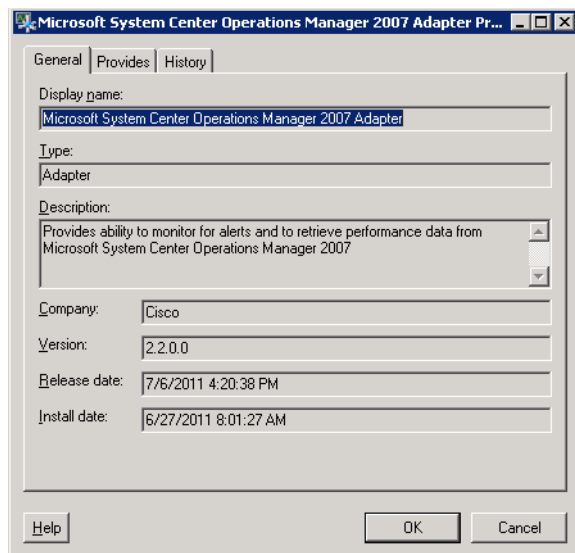
To view adapter properties:

Step 1 On the Administration—Adapters view, highlight **Microsoft System Center Operations Manager 2007 Adapter**, and use *one* of the following methods:

- Right-click and choose **Properties**.
- or-
- On the details pane, click the hyperlink name on any of the tabs.

The Microsoft System Center Operations Manager 2007 Adapter Properties dialog box displays.

Figure 1-1 *Microsoft System Center Operations Manager 2007 Adapter Properties Dialog Box—General Tab*



The General tab displays the following information about the adapter:

Field	Description
Name	Name of the adapter
Type	Object type
Description	Brief overview of the adapter
Company	Name of company that created or supplied the adapter
Version	Version number of the adapter
Release date	Date and time the adapter was available in the product
Install date	Date and time the adapter was installed

Step 2 Review the properties and click **OK** to close the dialog.

Viewing SCOM 2007 Adapter-Supported Objects

Use the Provides tab to view the name and type of component for each item the SCOM 2007 adapter supports.

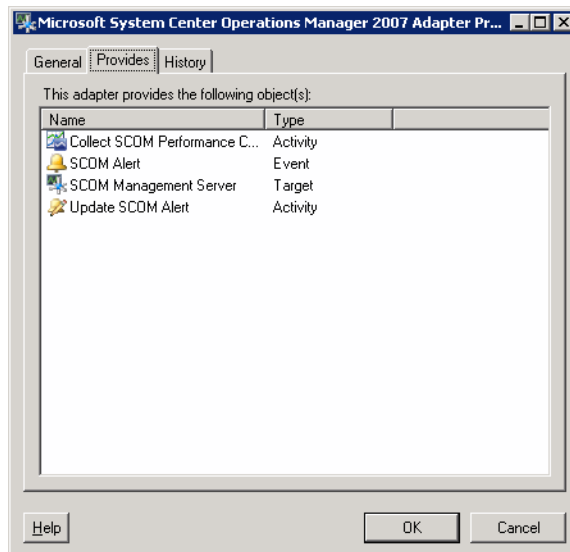
To view adapter-provided objects:

Step 1 On the Administration - Adapters view, highlight **Microsoft System Center Operations Manager 2007 Adapter**, right-click and choose **Properties**.

The Microsoft System Center Operations Manager 2007 Adapter Properties dialog box displays.

Step 2 Click the **Provides** tab to view the functionality that is provided by the adapter.

Figure 1-2 *Microsoft System Center Operations Manager 2007 Adapter Properties Dialog Box—Provides Tab*



Step 3 Review the list of objects and click **OK** to close the dialog.

Viewing SCOM 2007 Adapter History

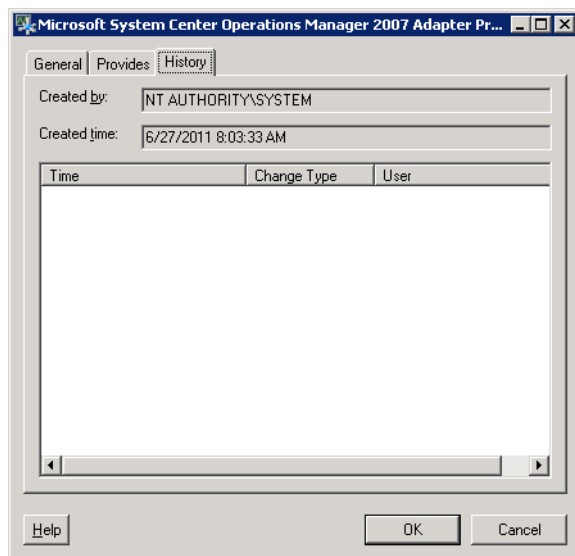
Use the History tab to view a history of changes that have been made to the adapter.

To view adapter history:

- Step 1** In the Administration—Adapters view, highlight **Microsoft System Center Operations Manager 2007 Adapter**, right-click and choose **Properties**.

The Microsoft System Center Operations Manager 2007 Adapter Properties dialog box displays.

Figure 1-3 *Microsoft System Center Operations Manager 2007 Adapter Properties Dialog Box—History Tab*



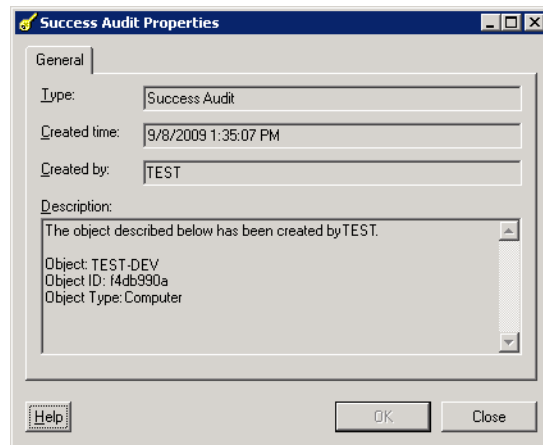
- Step 2** Click the **History** tab to view the changes made to the adapter.

Column	Description
Created by	The user name of the person who created the object
Created time	The date and time the object was created
Time	The date and time the action occurred
Change Type	The action that occurred
User	The user name or group that performed the action
Description	Information about the action that was performed

- Step 3** To view the audit history for a specific action, highlight the appropriate object, right-click and choose **Properties**.

The Audit Properties dialog box displays.

Figure 1-4 Success Audit Properties Dialog Box



- Step 4** Review the read-only properties dialog for information about system-related events that occurred and their status.

Field	Description
Type	Type of event logged by the system <ul style="list-style-type: none"> • Success Audit • Failure Audit
Created By	System-generated record, such as an error condition, or the user name of the person who initiated the process
Created Time	Date and time the event occurred
Description	Brief description of the event

- Step 5** Click **OK** to close the dialog.



CHAPTER 3

Managing SCOM 2007 Targets

The Targets feature defines specific environments or groups of environments that are appropriate for the processes, activities, or triggers that execute on the targets. You can define a target to run a process on a specific computer.

Using targets simplifies specifying where certain processes, activities, or triggers will run. The target can be defined once and reused in several processes. The targets created depend on the adapters that are installed. You can create a target for a specific Windows computer or Active Directory domain that has been created in Enterprise Orchestrator.

This chapter guides you through managing targets.

- [Accessing Definitions—Targets, page 3-2](#)
- [Defining a SCOM Management Server Target, page 3-5](#)
- [Managing Target Definitions, page 3-7](#)

Accessing Definitions—Targets

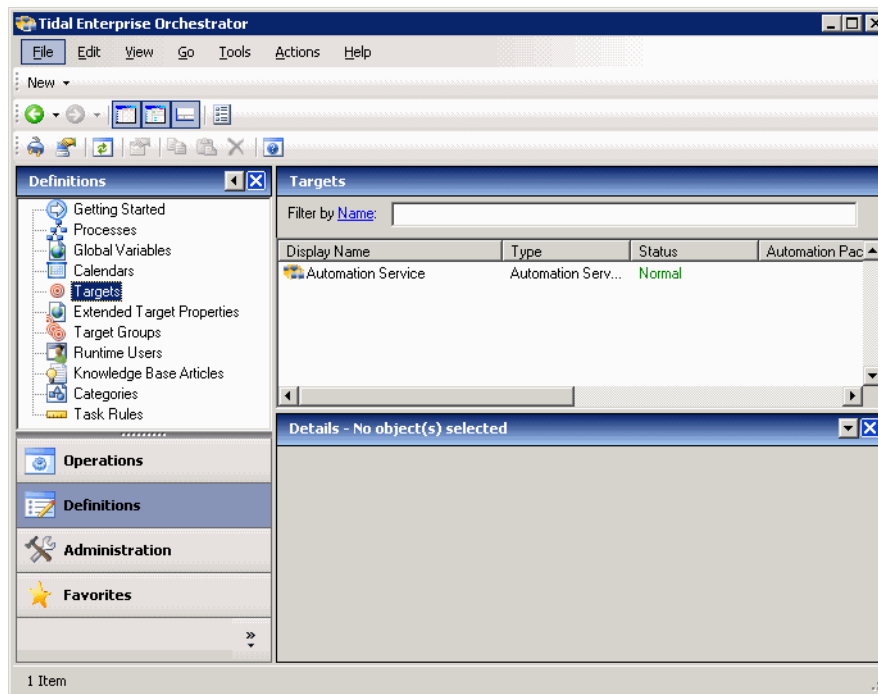
The Definitions—Targets displays all the existing defined targets. You also use this view to create new targets, modify the properties of a target, and delete targets.

To access the Targets view:

On the Definitions workspace, select **Targets**.

The Results pane displays.

Figure 3-1 Definitions—Targets



Information about the target can be displayed in the following columns:

Column	Description
Name	The name assigned to the target
Enabled	Indicates whether the target is enabled (<i>True</i>) or disabled (<i>False</i>). A disabled target is unavailable for execution.
Type	The type of target based on the associated adapter

Column	Description
Status	Indicates the status of the target. The status is used to determine whether the target is available or is not available for process or activity execution. <ul style="list-style-type: none"> Unknown—Status of the target unknown Normal—No known problems with this target Unreachable—TEO is experiencing problems connecting to the target and executing activities Disabled—Target is disabled and is not available for activity execution
Status Information	Detailed information regarding the target status and the reasons for target being unreachable
Automation Pack	Name of the automation pack associated with the target
Customizable	Indicates the customization setting for the object in the automation pack
Owner	The user name of the person who created the target
Last Modified Time	The time the target was last modified
Last Modified By	The user name of the person who last modified the target
Id	The unique identification number of the target definition
Description	A brief description of the target
Type Description	A brief overview of the target type
Created Time	The time at which the target was created
Created By	The user name of the person who created the target

**Note**

For information on adding, removing, or sorting column headings on the display, see the *Cisco Tidal Enterprise Orchestrator Reference Guide*.

Viewing Target Properties

To view target properties:

Step 1 On the Definitions—Targets view, highlight the appropriate target, and use *one* of the following methods:

- Right-click and choose **Properties**.
- or-
- On the Details pane, click the hyperlink name on any of the tabs.

The Properties dialog box displays.

Step 2 Click the appropriate tab to review the properties

Tab	Description
General	Displays general information about the target
Connection	Displays the connection properties for the defined target
Member Of	Displays the target groups associated with the defined targets
Extended Properties	Displays the list of all extended target properties defined for a specific target type. This tab will remain blank until an extended target property is defined for the target type.
Provides	Displays the objects used by the target
History	Displays when the target was created or modified. The column also displays audit log entries that are relevant to the target.

Step 3 Click **OK** to close the dialog box.

Target Algorithms

The following table displays the list of target algorithms that may display for an activity.

Algorithm	Description
Choose the target with the specified name	Select this radio button to run the process on the member of the group specified in the Name to match text field.
Choose all target that satisfies the specified criteria	Select this radio button to execute the process on all targets defined by the criteria specified in the Target Selection dialog box. See Defining Target Criteria, page 3-9 .

Common Regular Expressions

The following table describes are commonly used special characters that display according to the selected activity.

Character	Description
*	Zero or more
.	Any single character
+	One or more
^	Beginning of line
\$	End of line
<	Beginning of word
>	End of word

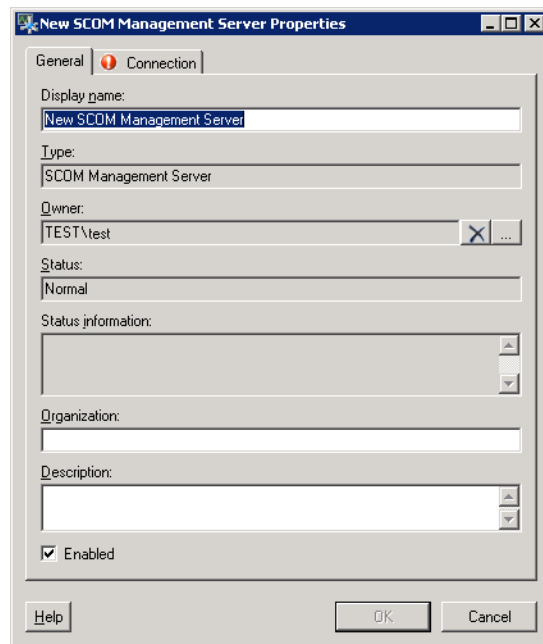
Character	Description
\n	Line break
[]	Any one character in the set
[^]	Any one character not in the set
	Or
\	Escape Special Character
{ }	Tag expression
:l	C/C++ identifier
:q	Quoted string
:z	Integer
:b	Space or tab

Defining a SCOM Management Server Target

Use the SCOM Management Server target to specify information about the SCOM management server. When a SCOM management server is configured as a target, you can run activities against it and subscribe to SCOM alerts.

- Step 1** On the Definitions—Targets workspace, right-click and choose **New > SCOM Management Server**. The New SCOM Management Server Properties dialog box displays.

Figure 3-2 New SCOM Management Server Properties Dialog Box—General Tab



Step 2 On the General tab, enter the appropriate general information:

Field	Description
Display Name	Name of the target
Type	<i>Display-only.</i> Type of target
Owner	User name of the owner of the category. This is typically the person who created the category. Click Browse to launch the Select User or Group dialog box to change the owner.
Status	Status of the target <ul style="list-style-type: none"> Unknown—Status of the target unknown Normal—No known problems with this target Unreachable—TEO is experiencing problems connecting to the target and executing activities Disabled—Target is disabled and is not available for activity execution
Status Information	Detailed information regarding the target status and the reasons for target being unreachable
Organization	Name of the company which supports the target
Description	Brief description of the target

Step 3 Click the **Connection** tab to continue.



Note


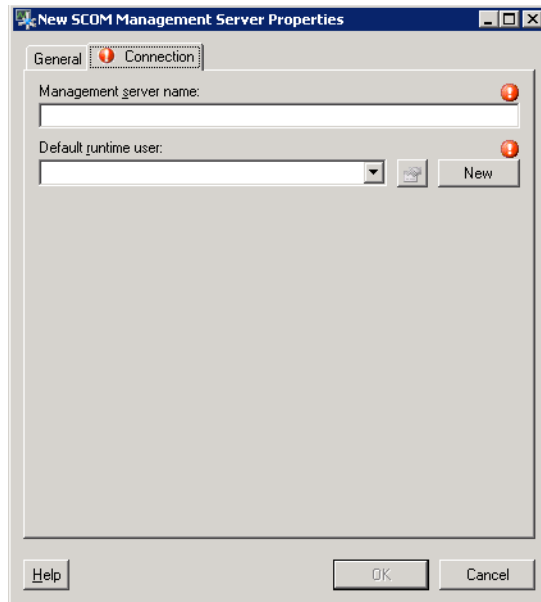

The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Figure 3-3 New SCOM Management Server Properties Dialog Box—Connection Tab

Step 4 On the Connection tab, enter the appropriate target information to specify the connection information for the appropriate SCOM server.

Field	Description
Management server name	The name of the SCOM management server. This is the host name of the machine on which SCOM resides.
Default runtime user	Select the default runtime user account that contains the credentials to connect to the target. Note To view the properties for the selected runtime user, click the Properties  tool. To create a new runtime user account, click New > Runtime User to create a new runtime user account. For additional information, see Chapter 4, “Managing Runtime Users.”

Step 5 Click **OK** to close the dialog box.

Managing Target Definitions

Use the Definitions—Targets view to modify and review target information. This view can be used to perform the following functions:

- Enable/Disable targets
- Modify target properties
- Review the objects in the product that use the target
- Review a history of changes made to the target

- Delete the target


Enabling a Target

A target is enabled by default. If a target is manually disabled, the target must be enabled before it is available for execution.

To enable a target:

On the Definitions—Target view, highlight the target, and then use *one* of the following methods:

- On the Results pane, right-click and select **Enable**.
- or-
- On the Details pane, select the **Click here to enable** option.

The Enabled column on the Results pane changes to *True*. If necessary, click the **Refresh**  tool to update the view.

Disabling a Target

Disabling a target prevents the object from being available for execution. The disabled target is not removed from the list of targets in the in the Definitions—Target Results pane.

To disable a target:

On the Definitions—Target view, highlight the target, and then use *one* of the following methods:

- On the Results pane, right-click and select **Disable**.
- or-
- On the Details pane, select the **Click here to disable** option.

The Enabled column on the Results pane changes to *False*. If necessary, click the **Refresh** tool to update the view.

Modifying Targets

Use the Definitions—Targets view to modify the configured targets. After the initial creation, not all fields are available for updating.

To modify a target:

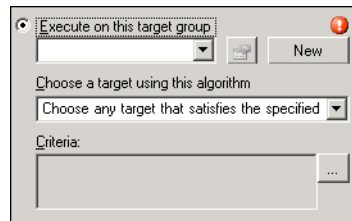
-
- | | |
|---------------|--|
| Step 1 | On the Definitions—Targets view, highlight the appropriate target, right-click and choose Properties . The [Target] Properties dialog box displays. |
| Step 2 | Modify the information on the target property tabs, as necessary. |
| Step 3 | Click OK to save the changes and close the dialog box. |
-

Defining Target Criteria

Use the Target Selection Criteria dialog box to specify the matching criteria for the selected target group. To define the target selection criteria:

- Step 1** On the Target tab, select the **Execute on this target group** radio button, and then select the appropriate target group from the drop-down list.

Figure 3-4 Target Tab—Execute on this target group Section

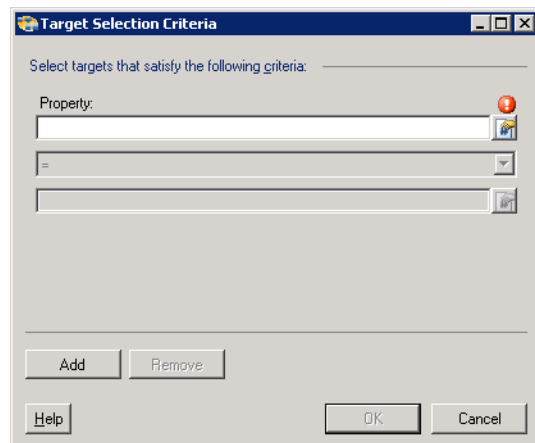


- Step 2** From the Choose a target using this algorithm drop-down list, select **Choose the target that satisfies the specified criteria**.

- Step 3** On the Criteria box, click **Browse**.

The Target Selection Criteria dialog box displays.

Figure 3-5 Target Selection Criteria Dialog Box



Step 4 On the Properties pane, specify the following information, as necessary:

Field	Description
Property	Choose the appropriate property to match within the target. Click the Reference tool to select the variable from the Insert Variable Reference dialog box. See Inserting a Target Variable Reference , page 3-12.
Operators	Select the appropriate operator to be used to evaluate the expression. The displayed operators depend on the selected property. Note For information on the displayed operators, see Comparison Operators , page 3-10.
Value	Enter the appropriate value for the target

Step 5 To modify the list of Properties pane containing target criteria, click one of the following buttons:

Button	Description
Add	Click this button to a new Properties pane to complete with criteria for the target.
Remove	Click this button to remove the selected Properties pane in the display

Step 6 Click **OK** to return to the Target tab.
The defined criteria displays in the display-only box.


Comparison Operators

The following table contains operators that may display throughout TEO.

Operator	Description
contains	Iterates through the contents of the collection and determines if the specified item exists (if this is a string collection, this is case-insensitive)
contains (case-sensitive)	Iterates through the contents of the collection and determines if the specified item exists (same as above, but a case-insensitive version)
contains only	Iterates through the contents of the collection and determines if the only item in the collection is the specified item (if this is a string collection, this is case-insensitive)
contains only (case-sensitive)	Iterates through the contents of the collection and determines if the only item in the collection is the specified item (same as above, but a case-insensitive version)
does not match wildcard	Determines if the item does not match all items in the wildcard example

Operator	Description
is empty	Determines if there are items in the collection or not
equals	Determines if the left side equals the right side (if this is a string comparison, this is case-insensitive)
not equals	Determines if the left side does not equal the right side
matches regular expression	Determines if the left side matches the regular expression specified on the right side
matches wildcard	Determines if the left side matches the wildcard specified on the right side
equals (case-sensitive)	Determines if the left side equals the right (this is the case-sensitive version of Equals for string)
less than [<]	Determines if a value is less than another value
more than [>]	Determines if a value is greater than another value
equal [=]	Determines if a value is equal to another value
not equal [>]	Determines if a value is not equal to another value
greater than or equal [>=]	Determines if a value is greater than or equal to another value
less than or equal [<=]	Determines if a value is less than or equal to another value

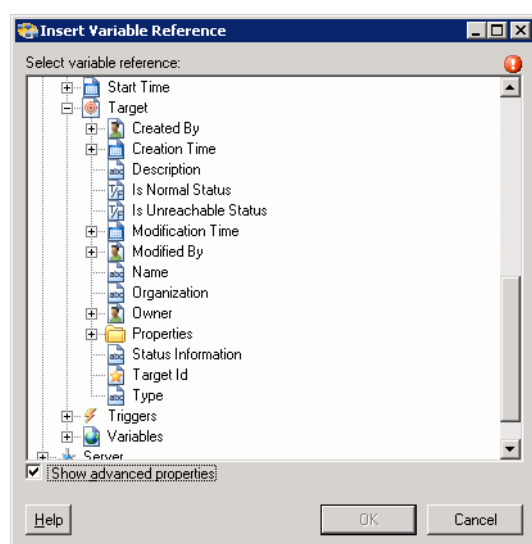
Inserting a Target Variable Reference

The Reference  icon to the right of a text field indicates that the field can be populated by referencing a defined variable or the property of another activity or process. Use the Insert Variable Reference dialog box to select a defined variable or reference an object to populate a field. The OK button does not activate until a valid property or variable is selected.

To insert a target variable reference:

- Step 1** To the right of a field on a property page, click the **Reference** tool.
- The Insert Variable Reference dialog box displays.


Figure 3-6 Insert Variable Reference Dialog Box



- Step 2** Check the **Show Advanced** check box to display all items that are available for referencing.
- If the check box is not checked, then only the most commonly-used items are displayed for activities, processes or events.



Note

The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

- Step 3** Click the **Target Expand (+)** to display the reference objects for the target.
- Step 4** From the list of displayed objects, select the appropriate property.

Reference Variable	Description
Name	Display name of the target
Created by	User name or the owner of the target
Creation Time	The date and time the target was created
Modified by	User name of the individual who modified the target
Modification Time	The date and time the target was modified
Description	Description of the target

Reference Variable	Description
Type	Type of target
Is Normal Status	Status is normal and indicates that there are no known problems with this target
Is Unreachable Status	Status is unreachable which indicates that no known problems with this target
Status Information	Detailed information regarding the target status and the reasons for target being unreachable
Target ID	ID number assigned to the target
Organization	Name of the company which supports the target
Owner	The user name of the person who created the target
Properties	Extended target properties for a specific target type

Step 5 Click **OK** to add the selected reference variable to the related text field.

Creating a Copy of a Target

The copy option is used when there is an existing target that contains properties that can be used for defining a new target without creating a completely new target. The following steps may not be available for all targets.

To create a copy a target:

-
- Step 1** On the Definitions—Targets view, highlight the appropriate target, right-click and choose **Copy**.
- Step 2** On the Results pane, right-click and choose **Paste**.
A copy of the defined target is pasted into the Results pane.
- Step 3** To rename the copied target or other properties, right-click and choose **Properties**.
Modify the target name, as appropriate, and click **OK** to close the dialog box.
-

Deleting a Target

Use the Definitions—Target view to delete targets that are no longer used. Before deleting a target, access the properties, and click the **Used By** tab to view where objects are being referenced by the target. This ensures that deleting the target does not affect any processes or activities. If there are any entries in the Used By tab, the deletion will fail.

To delete a target:

-
- Step 1** On the Definitions—Targets view, highlight the appropriate target, right-click and choose **Delete**. The Confirm Delete dialog box displays.
- Step 2** Click **Yes** to delete the target.
-

Viewing Member Of Properties

Use the Member of tab to view the target groups to which a target belongs. The name and type of target group displays in the list box.

To view the member of targets:

-
- Step 1** On the Definitions—Targets view, highlight the appropriate target, right-click and choose **Properties**. The [Target] Properties dialog box displays.
- Step 2** Click the **Member Of** tab to view the target groups.

Field	Description
Display Name	Name of the target group
Type	<i>Display-only.</i> Type of target group
Description	Brief description of the target

- Step 3** To view the properties for a specific object, highlight the object, right-click and choose **Properties**.
- Step 4** Click **OK** to close the dialog box.

Viewing Used By Properties

Use the Used By tab to display the objects that directly reference the selected target in their configuration. Because the Used By tab displays objects in a tree view, users can also display the objects which directly reference the top level objects for the selected object.

The objects at the top level are the objects that reference the selected object directly, but users can expand the listed objects and see their referenced objects.

Example:

If *object A* is used by *objects X* and *Y* and *object X* is used by *object Q*, then on the property pages of *object A*, the user will see *X* and *Y* listed. If a user expands (+) *object X*, then *object Q* will display.

To view used by objects:

Step 1 On the Definitions—Targets view, highlight the appropriate target, right-click and choose **Properties**. The [Target] Properties dialog box displays.

Step 2 Click the **Used By** tab to view the objects used by the target.

Object	Description
Display Name	Name of the object
Type	Type of object

Step 3 To view the properties for a specific object, highlight the object, right-click and choose **Properties**.

Step 4 Click **OK** to close the dialog box.

Viewing Extended Properties

Use the Extended Properties tab to view the list of all extended target properties defined for a specific target type. This tab will remain blank until an extended target property is defined for the target type.

For additional information on extended properties, refer to the *Cisco Tidal Enterprise Orchestrator Reference Guide*.

To view the target extended properties:

Step 1 On the Definitions—Targets view, highlight the appropriate target, right-click and choose **Properties**. The [Target] Properties dialog box displays.

Step 2 Click the **Extended Properties** tab to view the extended properties defined for the target.

Column	Description
Name	Name of the target property
Value	Displays value for the target property. If no value is defined, then the default property value will display.
Using Default	Indicates whether the default property value is displayed. <i>Yes</i> will display if no value is defined. <i>No</i> will display if a value is defined for the target property.

Step 3 Click **OK** to close the dialog box.

Modifying Extended Property Values

To modify the extended properties:

On the Extended Properties tab, highlight the appropriate target property and click the appropriate button to define or modify the value.

Button	Description
Edit	Click this button to defined or modify the value of a specific target property. The Edit button is disabled by default. The button will be enabled only when a target property is selected in the list.
Reset Value	Click this button to reset the value of the target property to its default value. The Reset Value is enabled only if a value is specified for a selected target property.

Viewing Targets History

Use the History tab to view a history of changes that have been made to the target.

- Step 1** On the Definitions—Targets view, highlight the appropriate target, right-click and choose **Properties**. The [Target] Properties dialog box displays.
- Step 2** Click the **History** tab to view the changes made to the target.

Column	Description
Created by	The user name of the person who created the object
Created time	The date and time the object was created
Time	The date and time the action occurred
Change Type	The action that occurred
User	The user name of the person that performed the action
Description	Information about the action that was performed

- Step 3** To view the details for a specific action, highlight the appropriate time, right-click and choose **Properties**.
- Step 4** Click **OK** to close the dialog box.



CHAPTER 4

Managing Runtime Users

Many operating system and application activities require credentials for proper execution. The Runtime Users feature is used to create a runtime user record to store the information about the user security context and to pass this information to the adapters for activity execution, event monitoring and some target operations (such as availability monitoring and discovery). When defining a process or certain activities, you can use the runtime user records that are defined in the product to assign credentials for the process or activity.

The following sections in this chapter provide instructions on managing runtime user accounts:

- [Accessing Definitions—Runtime users, page 4-2](#)
- [Defining a Windows User, page 4-4](#)
- [Managing Runtime User Definitions, page 4-6](#)

Accessing Definitions—Runtime users

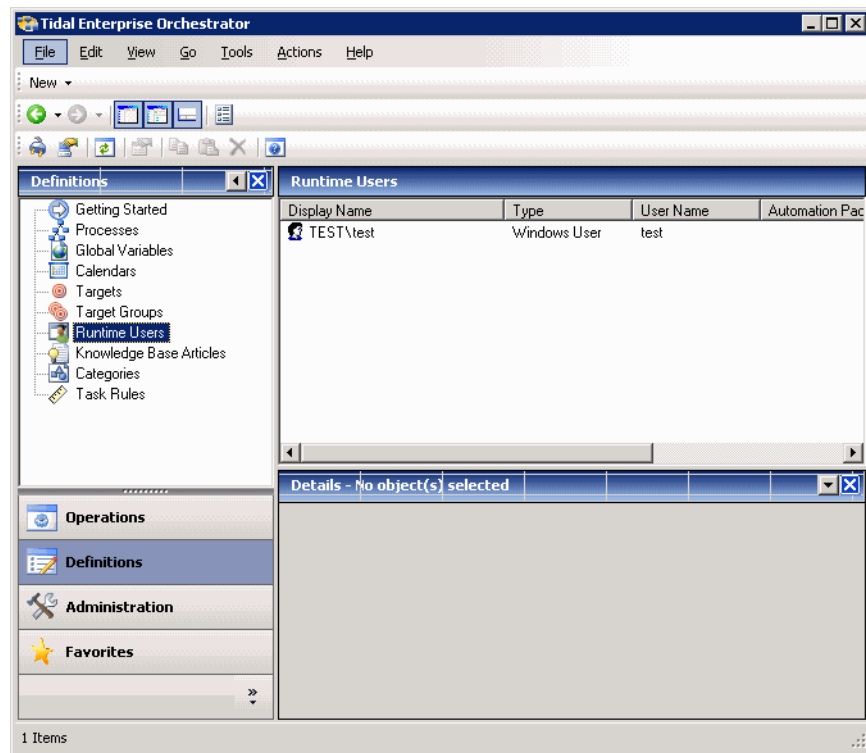
Use the Definitions—Runtime Users view to display the credentials of the runtime users and to specify new runtime user credentials, update the credentials of users, or delete users.

To access the Runtime Users properties:

On the Definitions workspace, choose **Runtime Users**.

The Results pane displays.

Figure 4-1 Definitions—Runtime Users



Information about the runtime user accounts can be displayed in the following columns:

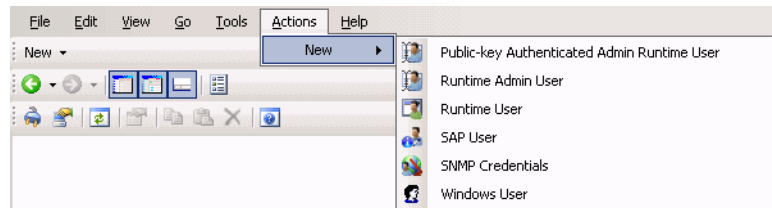
Column	Description
Display Name	The display name assigned to the runtime user account
Type	The type of user account
User Name	The user name assigned to the account
Owner	The user name of the person who created the account
Last Modified Time	The time the credentials were last modified
Last Modified By	The user name of the person who last modified the credentials
Id	The unique identification number of the runtime user definition
Description	A brief overview of the runtime user definition

Column	Description
Type Description	A brief description of the information in the Type column
Created Time	time the runtime user account was created
Created By	The user name of the person who created the runtime user definition
Automation Pack	Name of the automation pack from which the runtime user record was imported

Actions Menu and Toolbar

The Runtime Actions menu and toolbar provide the option to create new runtime users to hold the security credentials that are assigned to processes and activities. The New option is also available by right-clicking **Runtime Users** on the Definitions pane.

Figure 4-2 Runtime Actions Menu



Runtime User Details Pane

The Details pane in the lower portion of the page displays detailed information about the chosen runtime user. Clicking a link on a tab page opens the Properties dialog box for the runtime user.

Tab	Description
General	Displays general information about the object including the name, type, value, a brief description of the runtime user
Attributes	Displays the dates, times and owner associated with the creation and modification of the runtime user

Defining a Windows User

The credentials specified for a runtime user stores the information about the user security context and to pass this information to the adapters. Use the credentials specified for the Windows user to assign run options for processes or activities.

To create a Windows User:

Step 1 On the Definitions—Runtime Users view, right-click and choose **New > Windows User**.

The New Windows User Properties dialog box displays.



Note


The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Figure 4-3 New Windows User Properties Dialog Box—General Tab

Step 2 On the General tab, specify the following information, as appropriate:

Field	Description
Display Name	Name of the Windows user account. This field is populated with the information specified in the Domain and User name text fields.
Type	<i>Display only.</i> Type of object
Owner	User name of the owner of the object. This is typically the person who created the object. Click Browse to launch the Select User or Group dialog box to change the owner.
User name	The user name assigned to the user account

Field	Description
Password	<p>The password assigned to the user account</p> <p>Note For existing runtime user records, check the check box to enter the new password assigned to the user account. If the password entered is incorrect, then a confirmation dialog box displays stating:</p> <p><i>"Logon failure: unknown user name or bad password."</i></p>
Domain	The Windows domain in which the user account resides
Description	Brief description of the Windows user account

Step 3 Review the information on the following tabs, as necessary, and then click **OK** to close the dialog box.

- **Used By** tab—Displays the objects which reference the target. This tab will remain blank until the target is used by an object. See [Viewing Used By Properties, page 4-6](#).
- **History** tab—Displays the history of actions taken against the target. This tab remains blank until after the initial target creation. See [Viewing Runtime User History, page 4-7](#).

The new runtime user displays in the list of runtime user accounts on the Definitions—Runtime User view.

Managing Runtime User Definitions

Use the following procedures to view and modify runtime user definitions.

Modifying a Runtime User Record

Use the Definitions—Runtime Users view to display the runtime user properties and modify the runtime user records.

To modify a runtime user credentials:

-
- | | |
|---------------|--|
| Step 1 | On the Definitions—Runtime Users view, highlight the appropriate runtime user record, right-click and choose Properties .
The [Runtime User] Properties dialog box displays. |
| Step 2 | On the General tab, modify the appropriate information, as necessary. |
| Step 3 | Confirm the changes, and then click OK to close the dialog box. |
-

Deleting a Runtime User

Use the Definitions—Runtime Users view to delete a runtime user record.

-
- | | |
|---------------|--|
| Step 1 | On the Definitions—Runtime Users view, highlight the appropriate runtime user, right-click and choose Delete .
The Confirm Delete dialog box displays. |
| Step 2 | Click Yes to confirm the deletion. |
-

Viewing Used By Properties

Use the Used By tab to display the objects that directly reference the chosen runtime user in their configuration. Because the Used By tab displays objects in a tree view, users can also display the objects which directly reference the top level objects for the chiseled object.

The objects at the top level are the objects that reference the chiseled object directly, but users can expand the listed objects and see their referenced objects.

Example:

If *object A* is used by *objects X* and *Y* and *object X* is used by *object Q*, then on the property pages of *object A*, the user will see *X* and *Y* listed. If a user expands (+) *object X*, then *object Q* will display.

To view used by objects:

- Step 1** On the Definitions—Runtime Users view, highlight the appropriate runtime user, right-click and choose **Properties**.

The [Runtime User] Properties dialog box displays.

- Step 2** Click the **Used By** tab to view the objects which reference the runtime user.

Object	Description
Display Name	Name of the object
Type	Type of object

- Step 3** To view information about an object, highlight the object, right-click and choose **Properties**.

The display-only dialog box displays the properties of the object.

- Step 4** Click **OK** to close the dialog box.

Viewing Runtime User History

Use the History tab to view a history of changes that have been made to the runtime user.

- Step 1** On the Definitions—Runtime Users view, highlight the appropriate runtime user, right-click and choose **Properties**.

The [Runtime User] Properties dialog box displays.

- Step 2** Click the **History** tab to view the changes made to the runtime user.

The following information about the history of the runtime is displayed:

Column	Description
Created by	The user name of the person who created the object
Created time	The date and time the object was created
Time	The date and time the action occurred
User	The user name of the person that performed the action
Type	The action that occurred
Description	Information about the action that was performed

- Step 3** To view the audit history for a specific action, highlight the appropriate time, right-click and choose **Properties**.

- Step 4** Click **OK** to close the dialog box.



CHAPTER 5

Managing SCOM 2007 Triggers

Triggers determine how or when the process will be executed. Multiple triggers can be added that can be initiated when certain conditions are met. Process triggers are available for viewing within the process editor. The process trigger tab displays all triggers associated with the process. On this tab, users are able to create new triggers, modify the properties of a trigger, and delete triggers.

This chapter guides you through managing triggers.

- [Accessing Trigger Properties, page 5-2](#)
- [Defining a SCOM 2007 Alert Trigger, page 5-4](#)
- [Managing Trigger Definitions, page 5-9](#)

Accessing Trigger Properties

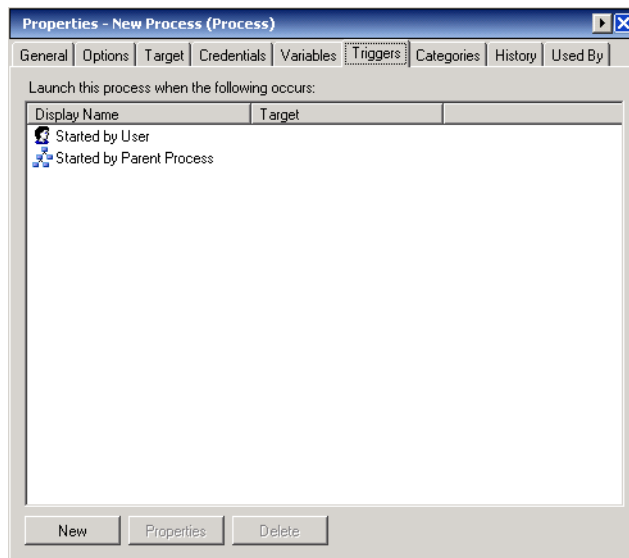
Process triggers are available for viewing within the process editor. The trigger tab displays all triggers associated with the process. The Triggers displays all the existing defined targets. You also use this view to create new targets, modify the properties of a target, and delete targets.

If a process contains a trigger, a user will be able to view display-only, trigger properties in the process instance views as well as in the process editor.

Use the following steps to view trigger properties in the process editor:

- Step 1** On the Definitions—Processes view, use *one* of the following methods:
- Highlight the appropriate process, right-click and choose **Edit**.
 - or-
 - On the Navigation pane, select Processes, right-click and choose **New**.
- Step 2** After the Process Editor dialog box displays, click the **Triggers** tab.

Figure 5-1 Process Editor – Triggers Tab



Information about the trigger is displayed in the following columns:

Column	Description
Display Name	Name assigned to the trigger
Target	Target which is executed by the trigger

- Step 3** On the Triggers tab, highlight the appropriate trigger, and click **Properties**.
The Trigger Properties dialog box displays.

Step 4 Click the appropriate tab to review the properties.

Tab	Description
General	Displays general information about the trigger
SCOM Alert	SCOM alert source and severity used to trigger a process
Target	Target on which to monitor for events that will trigger the process.
Credentials	Runtime user whose credentials should be used to monitored for events that will trigger the process.
Knowledge Base	Knowledge base article to be associated with the trigger
Conditions	Specifies when an action is to be taken based on an evaluation of conditions that have been defined

Step 5 Click **OK** to close the dialog box.

Common Wildcard Expressions

The following table describes are commonly used wildcard special characters that display according to the selected activity.

Character	Description
*	Match Any Character
#	Match Any Single Digit
?	Match Any Single Character

Defining a SCOM 2007 Alert Trigger

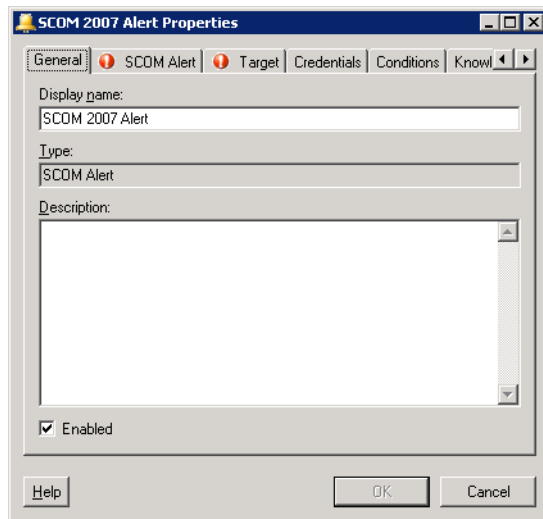
Use the SCOM 2007 Alert trigger to specify the SCOM alert source and severity to trigger a process.

To create a SCOM 2007 alert trigger:

- Step 1** On the Process—Triggers tab, click **New > SCOM 2007 Alert**.

The SCOM 2007 Alert Properties dialog box displays.

Figure 5-2 SCOM 2007 Alert Properties Dialog Box—General Tab



- Step 2** On the General tab, enter the following information:

Field	Description
Display Name	Name of the trigger
Type	<i>Display-only.</i> Type of trigger
Description	Brief description of the trigger
Enabled	The check box is checked by default. The checked box indicates the target group is available for execution. Uncheck the check box to disable the object. If the check box is unchecked, the object is disabled and will be unavailable for execution.

Step 3 Click the **SCOM Alert** tab to continue.



Note



The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Figure 5-3 *SCOM 2007 Alert Properties Dialog Box—SCOM Alert Tab*



Note


Click the **Reference**  tool to choose a defined variable or reference an object within the process from the Insert Variable Reference dialog box. For additional information, see [Inserting Activity Variable References](#), page 6-12.

Step 4 On the SCOM Alert tab, specify the following information:



Field	Description
Alert source class	Name of the monitor class in SCOM to which the monitor object belongs
Alert source name	The fully-qualified name of the monitor object
Browse	To search for the appropriate alert source, click this button to launch the Select Monitor Class and Object dialog box to connect to the SCOM management server and search for an alert source class and name. Note For additional information on using the Select Monitor Class and Object dialog box, see Searching for an Alert Source , page 5-10.

Field	Description
Alert severity level	Severity level of the alert in SCOM that must be matched before the process executes. Check one or more of the following check boxes to indicate the severity level of alerts that are to be matched: <ul style="list-style-type: none"> • Information • Critical • Warning
Alert name	Name of the alert in SCOM that must be matched before the process executes
Description	Brief description of the alert in SCOM that must be matched before the process executes.

**Note**

The Expression  arrow displayed to the right of the Reference icon indicates that a Wildcard expression is available. For additional information, see [Common Wildcard Expressions, page 5-3](#).


Step 5 On the Target tab, specify the target on which to monitor for events that will trigger the process:

Field	Description
Monitor on this target	Select this radio button and then click Browse to launch the Select Targets dialog box to select a specific target to monitor other than the target specified in the process properties. Note To view the properties for the target, click the Properties  tool.
Choose a target reference	Select this radio button and then click the Reference tool launch the Insert Variable Reference dialog box. On the Insert Variable Reference dialog box, expand Process > Target > Properties , select the appropriate target reference property, and click OK . The selected target reference property displays in the text field.
Monitor using this target group	Select this radio button and then click Browse to launch the Select Target Group dialog box to select a specific target group on which to monitor. Note To view the properties for the target group, click the Properties  tool. To create a new target group, click New > [Target Group] Name .

Monitor for events on

Field	Description
Select <i>one</i> of the following radio buttons to determine which members of the target group the process will run against.	
All targets in this group	Select this radio button to execute the trigger on all members of the target group.
Choose a target using this algorithm	<p>Select this radio button to execute the trigger on a specific member of the target group or a random target in the target group. Select the appropriate option from the drop-down list to determine the target member parameters.</p> <p>For algorithm descriptions, see Target Algorithms, page 3-4.</p>

Step 6 On the Credentials tab, select *one* of the following radio buttons to specify the runtime user whose credentials should be used to monitor for changes that will trigger the process:



Field	Description
Process runtime user	Select this radio button to use the credentials for the runtime user that was specified for the process
Target's default runtime user	Select this radio button to use the default runtime user for the target that is specified in the activity
Specific runtime user	<p>Select this radio button to specify different credentials than what are used for the process. The selected runtime user overrides the runtime user that was specified for the process.</p> <p>Note To view the properties for the selected user, click the Properties  tool. To create a new runtime user, click New > [Runtime user]. For additional information, see Chapter 4, “Managing Runtime Users.”</p>

Step 7 Click the **Conditions** tab, and then the appropriate panel, to specify when an action is to be taken based on an evaluation of defined conditions.

Panel	Description
Basic	<p>Creates simple conditions using variables to match to operator criteria.</p> <p>See Adding Basic Conditions to an Object, page 5-11.</p>

Panel	Description
Advanced	<p>Creates a more complex condition.</p> <ul style="list-style-type: none"> Compound Condition—Compiles other conditions (time condition, prior process instance condition, variable condition, or another compound condition) into a single condition. The Compound Condition is created by the addition of another True/False option in the Advanced Panel. Prior Process Instance Condition—Determines that when a process has occurred within a specific time interval, the condition will evaluate to false. If no process instance is selected, then the trigger will search for all process instances. Time Condition—Specify a condition based on a defined calendar. Variable Condition—Specify a variable to be used as the condition under which the variable should evaluate as true. <p>See Adding Advanced Conditions to an Object, page 5-12.</p>

Step 8 Click the **Knowledge Base** tab to assign a knowledge base article to the object.

Knowledge Base Field Options	Description
Knowledge Base	<i>Display-only.</i> Display name for the selected knowledge base article(s)
Delete	Highlight the appropriate knowledge base article and click the Delete  tool to remove the knowledge base article from the list.
Browse	<p>Click Browse to launch the Select Knowledge Base dialog box for a list of existing knowledge base articles.</p> <p>Press Ctrl or Shift-Click to choose more than one knowledge base article.</p> <p>For additional information on knowledge base articles, refer to the <i>Cisco Tidal Enterprise Orchestrator Reference Guide</i>.</p>
Properties	Highlight the appropriate knowledge base article and click the Properties  tool to view and/or modify the properties of the defined knowledge base article.

The following information is displayed on the Knowledge Base tab.

Field	Description
Summary	Brief description of the issue
Possible cause	Explanation of the condition that may be causing the issue
Possible resolution	List of actions that can be performed to attempt to resolve the issue
Related information	Additional information related to the issue

- Step 9** On the Trigger tab, click **OK** to complete the trigger definition.
The new trigger displays on the Trigger property page.
-

Managing Trigger Definitions

The information in this section provide instructions on modifying trigger properties. Use the Process—Triggers property page to perform the following functions:

- Enable/Disable triggers
- Modify triggers properties
- Delete the trigger
- Adding incident properties to the trigger
- Defining target selection criteria

Enabling a Trigger

A trigger is enabled by default. If a trigger is manually disabled, the trigger must be enabled before it is available for monitoring.

To enable a trigger:

On the Process—Trigger view, highlight the trigger, and then right-click and choose **Enable**.

The trigger becomes enabled in the trigger list.

Disabling a Trigger

Disabling a target prevents the object from being monitored. The disabled trigger is not removed from the list of triggers in the Triggers tab.

To disable a trigger:

On the Process—Trigger view, highlight the trigger, and then right-click and choose **Disable**.

The trigger becomes disabled in the trigger list.

Modifying Triggers

Use the Triggers tab to modify the configured triggers. After the initial creation, not all fields are available for updating.

To modify a trigger:

-
- Step 1** On the Triggers tab, highlight the appropriate the trigger, and click **Properties**.
The selected trigger dialog displays.
- Step 2** Modify the information on the trigger tabs, as necessary, and click **OK**.

The modified trigger displays in the Trigger tab.

Searching for an Alert Source

Use the following steps to search for the appropriate alert source details for the SCOM alert.

To select the monitor class and object:

- Step 1** On the SCOM Alert 2007 Properties dialog, click **Browse** to launch the Select Monitor Class and Object dialog box to enter the credentials for connecting to the SCOM management server.



Note


The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Figure 5-4 Select Monitor Class and Object Dialog Box

- Step 2** Under SCOM Connection, specify the following information to connect to the SCOM Management Server:

Field	Description
Management server name	Host name of the SCOM management server
Domain name	Name of the domain of the SCOM user account
User name	User name assigned to the SCOM account
Password	Password assigned to the SCOM account

- Step 3** Click **Connect** to connect to the server.

The Alert source class and Alert source name drop-down lists populate with options after the connection to the SCOM Management server is validated.

- Step 4** Select the appropriate options in the drop-down lists and click **OK**.

Field	Description
Alert source class	Name of the source class to which the monitoring object belongs
Alert source name	Name of the monitoring object

The fields on the SCOM Alert property page populate with the selected information.

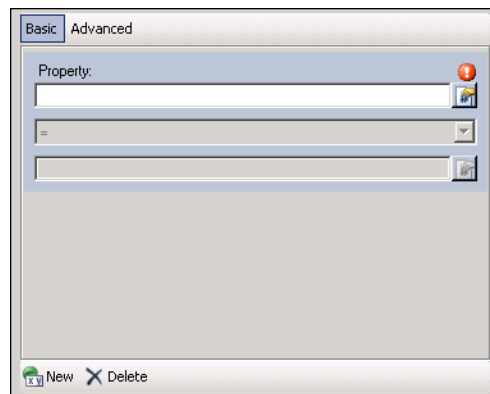
Adding Basic Conditions to an Object

Use the Basic panel to create simple conditions using variables to match to operator criteria.

To add a new condition to an object:

- Step 1** On the [Object] property page or dialog box, click the **Conditions** tab.
The Conditions tab displays.

Figure 5-5 Conditions Tab—Basic Panel



- Step 2** Under Conditions, click the **True/False** link to determine when the object should execute against the specified conditions.

Option	Description
TRUE	Default link option indicates the process is always executed when the event matching criteria in the "trigger-specific" page happens A single condition is listed by default and is set to <i>True</i> . If no other conditions are specified, this condition will remain and cannot be deleted by the user.
FALSE	Click this link to indicate the process is NEVER executed when the event happens.

Step 3 Click the appropriate button to modify the condition properties used to execute the object.

Button	Description
New	Click New to add a Properties pane to the condition.
Delete	Click this button to remove the last Properties section in the list of properties.

Step 4 Each time the New button is clicked, a Properties section is displayed for the condition. The following table displays the fields for the Properties section.

Button	Description
Property	Data for this field cannot be manually entered. Click the Reference tool to select a property variable to use as a condition.
Operators	Select the operator to be used to evaluate the variable expression. The displayed operators depend on the selected property. Note For information on the displayed operators, see Comparison Operators, page 3-10 .
Value	Enter value for the property

Step 5 Click **OK** to save the object.

Adding Advanced Conditions to an Object

Use the Advanced panel to create a more complex condition. Users have the ability to define the properties of the conditions within the Advanced panel, as well as within the Properties dialog box.

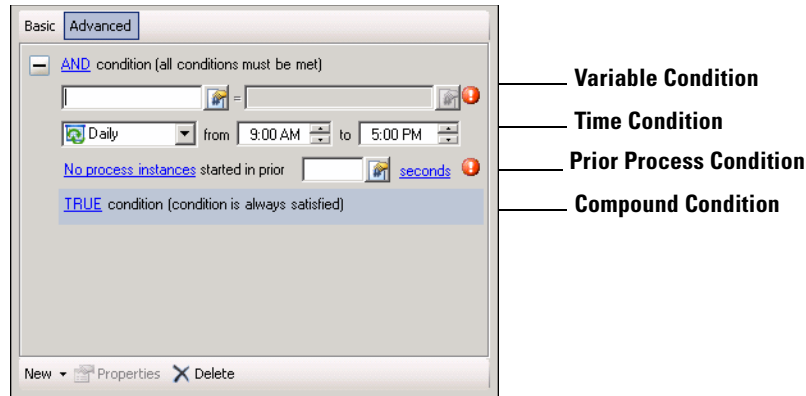
The conditions specified on the Basic panel can also be configured on the Advanced pane, because they transition to simple TEO-level variable conditions. All other TEO conditions on the Advanced panel cannot transition to the Basic panel and will not display.

To add an advanced condition to an object:

Step 1 On the [Object] property page or dialog box, click the **Conditions** tab.

The Conditions tab displays.

Step 2 Click the **Advanced** panel to continue.

Figure 5-6 Conditions Tab—Advanced Panel

Step 3 Under Conditions, click the **True/False** link to determine when the object should execute against the specified conditions.

Option	Description
TRUE	Default link option indicates the process is always executed when the event matching criteria in the "trigger-specific" page happens A single condition is listed by default and is set to <i>True</i> . If no other conditions are specified, this condition will remain and cannot be deleted by the user.
FALSE	Click this link to indicate the process is NEVER executed when the event happens.

Step 4 Click the appropriate button to modify the condition properties used to execute the object.

Button	Description
New	Click New > [Condition] to add a single condition to Advanced panel. Repeat this step to add additional condition properties to the Conditions tab. <ul style="list-style-type: none"> Compound Condition—Compiles other conditions (time condition, prior process instance condition, variable condition, or another compound condition) into a single condition. The Compound Condition is created by the addition of another True/False option in the Advanced Panel. Prior Process Instance Condition—Determines that when a process has occurred within a specific time interval, the condition will evaluate to false. If no process instance is selected, then the trigger will search for all process instances. Time Condition—Specify a condition based on a defined calendar. Variable Condition—Specify a variable to be used as the condition under which the variable should evaluate as true.

Button	Description
Properties	Click anywhere around the appropriate condition. After the area around the condition is shaded blue, click Properties to launch the condition properties dialog box. Note Condition properties can be modified on the tab or within the conditions properties dialog box.
Delete	Highlight the appropriate condition and then click Delete to remove the condition from the object.

**Note**

For additional information on creating a condition, refer to the *Cisco Tidal Enterprise Orchestrator Reference Guide*.

After the first condition is added, the following operators are displayed. The operator is set to *AND* by default.

Operator	Description
AND condition (All conditions must be met)	Click this option if an action is to be taken only when all conditions in the list are <i>true</i> .
OR condition (One condition must be met)	Click this option if an action is to be taken when one condition in the list is <i>true</i> .

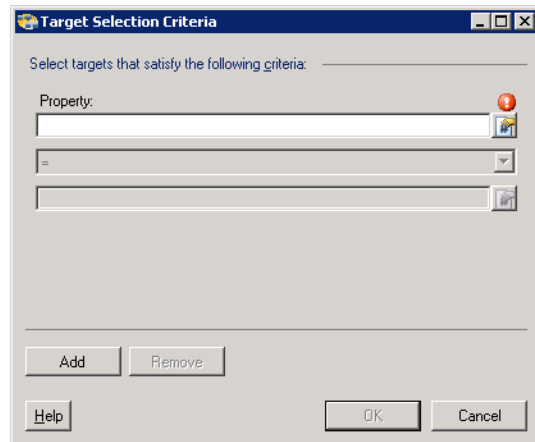
Step 5 Click **OK** to save the object.

Defining Target Criteria for Trigger

The Target Selection Criteria dialog box is launched from the **Browse** button on the Target property page on the selected trigger. Use the Target Selection Criteria dialog to specify the matching criteria for the selected target group.

To define the target selection criteria:

- Step 1** On the Trigger Target property page, select the **Monitor on this target group** radio button, and the appropriate target group from the drop-down list.
- Step 2** Under Monitor for Events on, from the Choose a target using this algorithm drop-down list, and then select **Choose the target that satisfies the specified criteria**.
- Step 3** Click **Browse** to launch the Target Selection Criteria dialog box.

Figure 5-7 Target Selection Criteria Dialog Box

Step 4 On the Properties pane, specify the following information, as necessary:

Field	Description
Property	Choose the appropriate property in the to match within the target. Click the Reference tool to select the variable from the Insert Variable Reference dialog box. See Inserting a Target Variable Reference, page 3-12 .
Operators	Select the appropriate operator to be used to evaluate the expression. The displayed operators depend on the selected property. Note For information on the displayed operators, see Comparison Operators, page 3-10 .
Value	Enter the appropriate value for the target.

Step 5 To modify the list of Properties pane containing target criteria, click one of the following buttons:

Button	Description
Add	Click this button to a new Properties pane to complete with criteria for the target.
Remove	Click this button to remove the selected last Properties pane in the display

Step 6 Click **OK** to return to the Trigger—Target property page.
The defined criteria displays in the display-only box.

Deleting Triggers

To delete a trigger:

On the Triggers tab, highlight the appropriate the trigger, and click **Delete**.

The selected trigger is removed from the Trigger tab.



CHAPTER 6

Using SCOM 2007 Activities

SCOM must be installed in your environment and the user must have the proper credentials to connect to the SCOM management server to use the SCOM activities in a process.

This chapter provides instructions for defining a SCOM 2007 activities, instructions for completing the property pages for each specific activity, and instructions on viewing the activity results.

- [SCOM 2007 Adapter Activities, page 6-2](#)
- [Defining the Collect SCOM Performance Counter Activity, page 6-2](#)
- [Defining the Update SCOM Alert Activity, page 6-7](#)
- [Managing Activity Definitions, page 6-9](#)
- [Viewing Activity Instance Information, page 6-14](#)

SCOM 2007 Adapter Activities

When defining an activity in the process workflow, the properties pane contains property pages that are specific to the selected activity. The following table displays the activities that are provided by the SCOM 2007 adapter.

Activity	Description
Collect SCOM Performance Counter	Specify information about your SCOM environment to obtain performance data. See Defining the Collect SCOM Performance Counter Activity, page 6-2 .
Update SCOM Alert	Specify the alert properties in SCOM that is to be updated or resolved. See Defining the Update SCOM Alert Activity, page 6-7 .

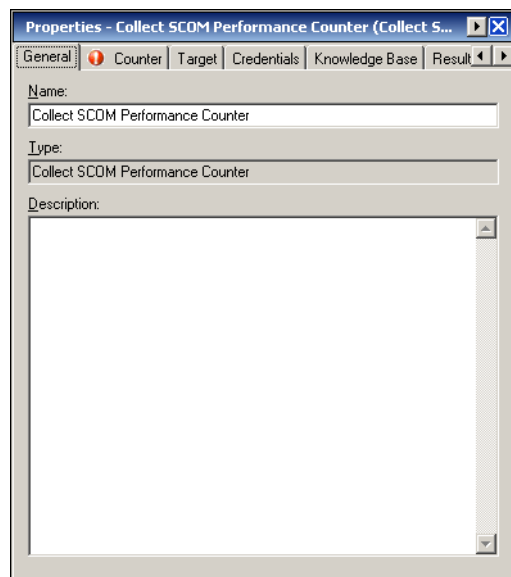
Defining the Collect SCOM Performance Counter Activity

SCOM creates a performance database that can track resource usage statistics for all of the systems in the environment. Use the Collect SCOM Performance Counter activity to specify information about your SCOM environment to obtain performance data.

To define the Collect SCOM Performance Counter Activity:

- Step 1** On the Toolbox pane, under SCOM 2007, select **Collect SCOM Performance Counter** and drag and drop the activity onto the Workflow pane.
- The Collect SCOM Performance Counter property page displays.

Figure 6-1 Collect SCOM Performance Counter Properties Page—General Tab



Step 2 On the General tab, enter the following information:

Field	Description
Display Name	Name of the activity
Type	<i>Display-only</i> . Type of activity
Description	Brief description of the activity

Step 3 Click the **Counter** tab to continue.



Note



The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Figure 6-2 Collect SCOM Performance Counter Properties Page—Counter Tab



Note


Click the **Reference**  tool to choose a defined variable or reference an object within the process from the Insert Variable Reference dialog box. For additional information, see [Inserting Activity Variable References, page 6-12](#).


Step 4 On the Counter tab, specify the following information about your SCOM environment to obtain performance data:

Field	Description
Monitor class name	Name of the monitor class in SCOM to which the monitor object belongs
Monitor object full name	Full name of the monitor object in SCOM. This typically contains the computer name of the machine being monitored.
Object name	Name of the object in SCOM used to obtain performance data


Field	Description
Counter name	Name of the performance counter in SCOM
Instance name	Name of the instance in SCOM used to obtain data Note Click Browse to launch the Select SCOM Performance Counter dialog box and search for performance counter options. For additional information searching for performance counter options, see Searching for SCOM Performance Monitoring Options, page 6-10 .
Performance values generated within the last	Time frame (in seconds, minutes, or hours) of collected performance data to be gathered by TEO. Enter a numeric value in the text box or select the value using the scroll buttons. To change the time unit that corresponds to the value entered, click the time unit link and select the appropriate time unit.
Only return the latest performance counter	Check this check box to collect only the latest performance counter.
Fail if no values are found	Check this check box to fail the activity if no values match.

Step 5 Click the **Target** tab to specify whether the process target should be used or overridden with a different target:



Field	Description
Execute on process target	Select this radio button to use the same target that was specified in the process definition.
Execute on activity target	Select this radio button to execute this activity on the same target as one of the earlier activities in the process. The selected target overrides the target specified in the process definition.
Executed on this target	Select this radio button and then click Browse to launch the Select Targets dialog box to select a specific target on which to execute the activity. The targets that display in the Select Targets dialog box are targets already defined in TEO. Note To view the properties for the selected target, click the Properties  tool. For additional information, see Chapter 4, “Managing Runtime Users.”
Execute on the target selected this algorithm	Select this radio button to execute the target selected by one of the target algorithm displayed in the drop-down list. Note The available algorithms that display depend on the selected activity. See Target Algorithms, page 3-4 for target algorithm descriptions.

Field	Description
Execute on this target reference	<p>Select this radio button and then click the Reference tool launch the Insert Variable Reference dialog box.</p> <p>On the Insert Variable Reference dialog box, expand Process > Target > Properties, select the appropriate target reference property, and click OK.</p> <p>The selected target reference property displays in the text field.</p>
Execute on this target group	<p>Select this radio button and then click Browse to launch the Select Target Group dialog box to select a specific target on which to execute the activity.</p> <p>The target groups that display in the Select Target Group dialog box are target groups already defined in TEO.</p> <p>Note To view the properties for the selected target group, click the Properties  tool. For additional information, see the <i>Cisco Tidal Enterprise Orchestrator Reference Guide</i>.</p>
Choose a target using this algorithm	<p>Select this radio button to execute the process using <i>one</i> of the options from the drop-down list.</p> <p>Note For algorithm descriptions, see Target Algorithms, page 3-4.</p>

Step 6 Click the **Credentials** tab to specify the runtime user whose credentials should be used for process execution:

Field	Description
Use target's default runtime user	Select this radio button to use the default runtime user for the target that is specified in the activity
Use process runtime user	Select this radio button to use the credentials for the runtime user that was specified in the process properties
Override process runtime user	<p>Select this radio button to specify a runtime user whose credentials are different than what was specified in the process properties. The selected runtime user overrides the runtime user that was specified for the process.</p> <p>Note To view the properties for the selected runtime user, click the Properties  tool. To create a runtime user record for the process, click New > [Runtime User]. For additional information on creating a runtime user, see Chapter 4, "Managing Runtime Users."</p>

Step 7 Click the Knowledge Base tab to assign a knowledge base article to the object.

Knowledge Base Field Options	Description
Knowledge Base	<i>Display-only.</i> Display name for the selected knowledge base article(s)
Delete	Highlight the appropriate knowledge base article and click the Delete  tool to remove the knowledge base article from the list.
Browse	Click Browse to launch the Select Knowledge Base dialog box for a list of existing knowledge base articles. For additional information on knowledge base articles, refer to the <i>Cisco Tidal Enterprise Orchestrator Reference Guide</i> .
Properties	Highlight the appropriate knowledge base article and click the Properties  tool to view and/or modify the properties of the defined knowledge base article.

The following information is displayed on the Knowledge Base tab.

Field	Description
Summary	Brief description of the issue
Possible cause	Explanation of the condition that may be causing the issue
Possible resolution	List of actions that can be performed to attempt to resolve the issue
Related information	Additional information related to the issue

Step 8 On the Result Handlers tab, click *one* of the following buttons to manage the condition branches on the workflow, as necessary:

Button	Description
Add	Adds a condition branch
Remove	Removes the condition branch from the activity
Move Up	Moves the condition up one position in the list of conditions
Move Down	Moves the condition down one position in the list of conditions



Note

To view the performance counter values, see [Viewing SCOM Performance Counter Values, page 6-15](#).

Defining the Update SCOM Alert Activity

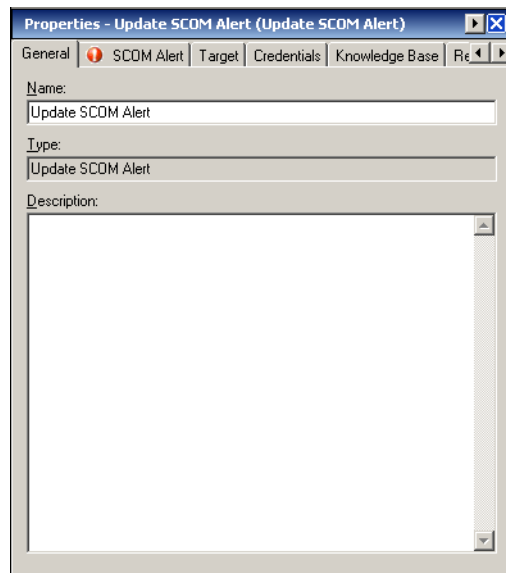
Use the Update SCOM Alert activity to specify the alert ID in SCOM that is to be used to update/resolve and any comments to add to the alert history.

To define the Update SCOM Alert Activity:

- Step 1** On the Toolbox pane, under SCOM 2007, select the **Update SCOM Alert** activity, then drag and drop the activity onto the Workflow pane.

The Update SCOM Alert property pages display.

Figure 6-3 Update SCOM Alert Properties Page—General Tab



- Step 2** On the General tab, enter the following information:

Field	Description
Display Name	Name of the activity
Type	<i>Display-only.</i> Type of activity
Description	Brief description of the activity

Step 3 Click the **SCOM Alert** tab to continue.



Note


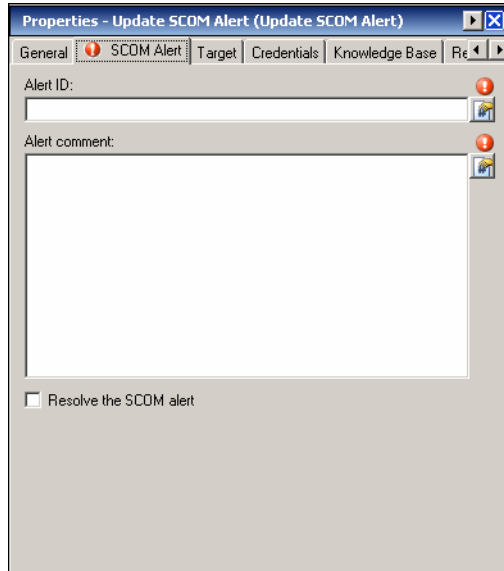

The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Figure 6-4 Update SCOM Alert Properties Page—SCOM Alert Tab





Note

Click the **Reference**  tool to choose a defined variable or reference an object within the process from the Insert Variable Reference dialog box. For additional information, see [Inserting Activity Variable References](#), page 6-12.

Step 4 On the SCOM Alert tab, specify the alert ID to update in SCOM and comments to add to the alert history:

Field	Description
Alert ID	The ID in SCOM that is assigned to the alert to resolve or update
Alert comment	Enter the comments about the alert that should display on the Alert History property page in SCOM.
Resolve the SCOM alert	Check this check box to set the SCOM alert status to <i>Resolved</i> .

Step 5 Complete the appropriate information in the following tabs, as necessary, and then click the **Save**  tool to complete the activity definition.

- **Target**—Specify whether the defined process target should be used or overridden. See [Step 5 in Defining the Collect SCOM Performance Counter Activity](#).
- **Credentials**—Specify the runtime user whose credentials should be used to monitor for changes that will trigger the process. See [Step 6 in Defining the Collect SCOM Performance Counter Activity](#).

- Knowledge Base—Choose the appropriate knowledge base article to associate with the process. See [Step 7 in Defining the Collect SCOM Performance Counter Activity](#).
 - Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow. See [Step 8 in Defining the Collect SCOM Performance Counter Activity](#).
-

Managing Activity Definitions

The information in this section provide instructions on modifying the activity properties. Use the activity property page to modify activity properties.

Modifying a SCOM 2007 Activity

Modifying a process does not automatically modify an activity. Activity definitions are included in a process definition and the activity properties must be modified separately from the process properties.

Activities can only be modified in the Process Editor. With the appropriate rights from the Operations view, the Process Editor is launched when accessing the process properties.

When user rights are restricted, the Process Workflow Viewer is launched with the properties displaying a display-only. view after determining that the user cannot edit the activity.

-
- Step 1** To modify an activity, use *one* of the following methods:
- On the Definitions—Process view, highlight the appropriate process, right-click and choose **Edit**.
 - or-
 - On the Operations workspace, select a process from any of the four process views, right-click and choose **Edit**.
- The Process Editor dialog box displays.
- Step 2** On the Workflow pane, select the appropriate activity, and modify activity properties, as necessary, and click **Save**.
- Step 3** Make any additional changes, as necessary, and click **Exit** to close the Process Editor.
-

Searching for SCOM Performance Monitoring Options

On the Collect SCOM Performance Counter activity, if the user does not have the appropriate information to define the activity, click **Browse**. This option launches the Select SCOM Performance Counter dialog box which allows the user to search for the appropriate information to populate the fields on the activity property page.

To search for the monitoring information, enter the credentials for connecting to the SCOM management server to display the performance counter options.

To search for the performance counter options:

Step 1 On the Collect SCOM Performance Counter property page, click **Browse**.

The Select SCOM Performance Counter dialog box displays.



Note


The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Figure 6-5 Select SCOM Performance Counter Dialog Box

Step 2 Under SCOM Connection, specify the following information to connect to the SCOM Management Server:

Field	Description
Management server name	Host name of the SCOM management server
Domain name	Name of the domain of the user account that is used to connect to the SCOM management server

Field	Description
User name	User name assigned to the account for connecting to the SCOM management server
Password	Password assigned to the account for connecting to the SCOM management server

Step 3 Click **Connect** to connect to the server.

The following drop-down lists populate with options. These drop-down lists remain empty until connected to the SCOM management server.

Step 4 Select the appropriate options from the drop-down lists and click **OK**.

Field	Description
Monitor class name	Name of the monitor class to which the monitor object belongs
Monitor object full name	Name of the monitor object
Object	Name of the object
Counter	Name of the performance counter
Instance	Name of the instance from which to collect data

The fields on the Collect SCOM Performance Counter property page populates with the selected information.

Inserting Activity Variable References

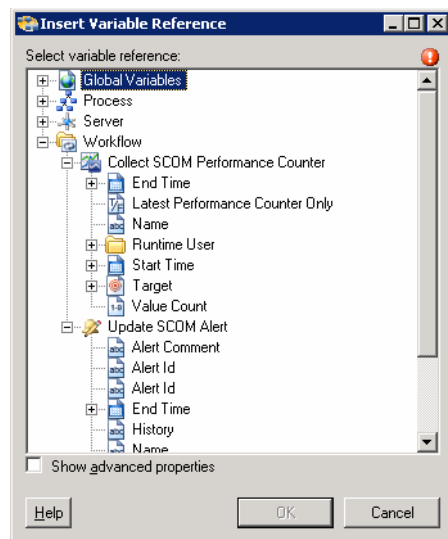
The Reference icon to the right of a text field indicates that the field can be populated by referencing a defined variable or the property of another activity or process. Use the Insert Variable Reference dialog box to select a defined variable or object to populate a field.

Only variables valid for the selected field can be selected in this dialog box. The OK button does not activate until a valid property or variable is selected.


To insert a variable reference:

- Step 1** To the right of a field on a property page, click the **Reference** tool.
The Insert Variable Reference dialog box displays.

Figure 6-6 Insert Variable Reference Dialog Box



Note

The Required Value  icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

- Step 2** Check the **Show Advanced** check box to display all items that are available for referencing.
If the check box is not checked, then only the most commonly-used items are displayed for activities, processes or events.
- Step 3** Click the **Workflow Activity Expand (+)** to display the reference objects for the activities in the Workflow pane. The properties in the Insert Reference Variable dialog box depend on the activities.
- Step 4** From the list of available of items, select the appropriate property or variable and click **OK**.

Reference Variable	Description
Notes	Description for the virtual machine
Name	Display name of the activity
Created by	User name or the owner of the activity
Modified by	User name of the individual who modified the activity

Reference Variable	Description
Type	Type of activity
Description	Description of the activity
Audit Starts	Date and time the process audit starts
Audit Successes	Indicates the number of successful audits
End Time	Date and time the activity stopped
Error Information	Description of the error that has occurred
Group Name	Name of toolbox activity group
Instance Cancelled	Indicates the process was cancelled manually
Instance Failed	Indicates the process has failed
Instance Failed (Completed)	Indicates the process has failed but the process execution was completed
Instance Failed (Not Completed)	Indicates the process has failed and did not complete the process execution
Start Time	Date and time the activity was started
Process Id	ID number of the TEO process
Process Instance Id	ID number of the TEO process instance
Latest Performance Counter Only	Indicates only the latest performance counter data is retrieved
Value Count	Value for the performance counter
Alert ID	The ID in SCOM that is assigned to the alert to resolve or update
Alert comment	Displays comments about the alert
History	History of the performance counter
Resolve Alert	Indicates status of the SCOM alert

The related text field populates with the selected value.

Viewing Activity Instance Information

This section describes what the user should expect to see after a process with an SCOM 2007 activity is launched. Certain activities generate and display additional activity instance information for review by users.

For example, there will be certain activities that generate information based on the defined properties of the activities. In those situations, the activity instance properties will display the display-only configuration properties as well as the generated results of the configuration properties.

Viewing Activity Status

After a process is launched, status and color indicators display on the console to indicate the current status for each process and activity instance.

Status Indicators

The State column displays the status of the individual process and activity. The following indicators definitions display On the Results pane.

State	Description
Succeeded	Process has completed successfully
Running	Process is in progress
Failed (Not Completed)	Displays when the process has failed and did not complete the process execution
Failed (Cancelled)	Displays when the process is cancelled manually

Color Indicators

The colors associated with the individual activities indicate the status of the process instances. The following default colors display:

Color Indicator	Description
Blue	Process is in progress
Green	Process has completed successfully
Red	Process has failed and did not complete the process execution
Orange	Process has stopped.

**Note**

To modify the fonts and colors on the Activity View status display, see the *Cisco Tidal Enterprise Orchestrator Reference Guide*.

Viewing Activity Instance Properties

The activity instance properties displayed from the Activity View are display-only..

To view activity instance properties:

- Step 1** On the Operations workspace, select any of the four activity views to display the activity instances On the Results pane.

Activity View	Description
View Triggered	Displays all process or activity instances that were executed (manually or automatically) and are in progress, have successfully completed, or failed during the selected time period
View Adhoc	Displays all process or activity instances that were executed manually and are in progress, have successfully completed, or failed during the selected time period
View All	Displays all process, activity, and scheduled process and activity instances that are in progress, have successfully completed, or failed during the selected display time period
View Scheduled	Displays all process or activity instances that are in progress, have successfully completed, or failed and are also scheduled to execute during the selected time period

- Step 2** On the Results pane, expand the appropriate activity instance to display the related activities.

- Step 3** Highlight the appropriate activity, and use *one* of the following methods:

- Double-click the appropriate activity instance.
- Right-click and choose **Observe**.
- On the Details pane, click the hyperlink of any item on tabs.

The [Activity Name] Properties dialog box displays.

Viewing SCOM Performance Counter Values

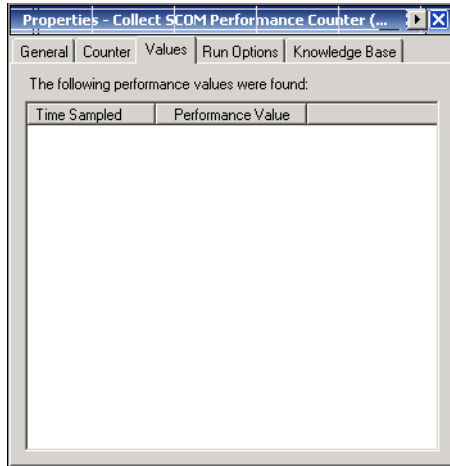
When the Collect SCOM Performance Counter activity is launched, the results of the activity is displayed in the Collect SCOM Performance Counter activity instance property page. The Values display-only. page displays the performance counter data collected based on the defined properties.

To view the Collect SCOM Performance Counter values:

- Step 1** On the Operations workspace, click the Activity Views folder, highlight the **Collect SCOM Performance Counter** activity instance, right-click and choose **Properties**.

The Collect SCOM Performance Counter Properties dialog box displays.

- Step 2** Click the **Values** tab to display the results of the Collect SCOM Performance Counter activity.

Figure 6-7 *Collect SCOM Performance Counter Instance Properties Page—Values Tab*

The following information is displayed:

Column	Description
Time Sampled	Data and time the performance data was collected
Performance Values	Performance data collected on the SCOM Management server during the time frame selected



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