



CounterACT[®] Advanced Tools Plugin

Configuration Guide

Version 2.2.3 and Above

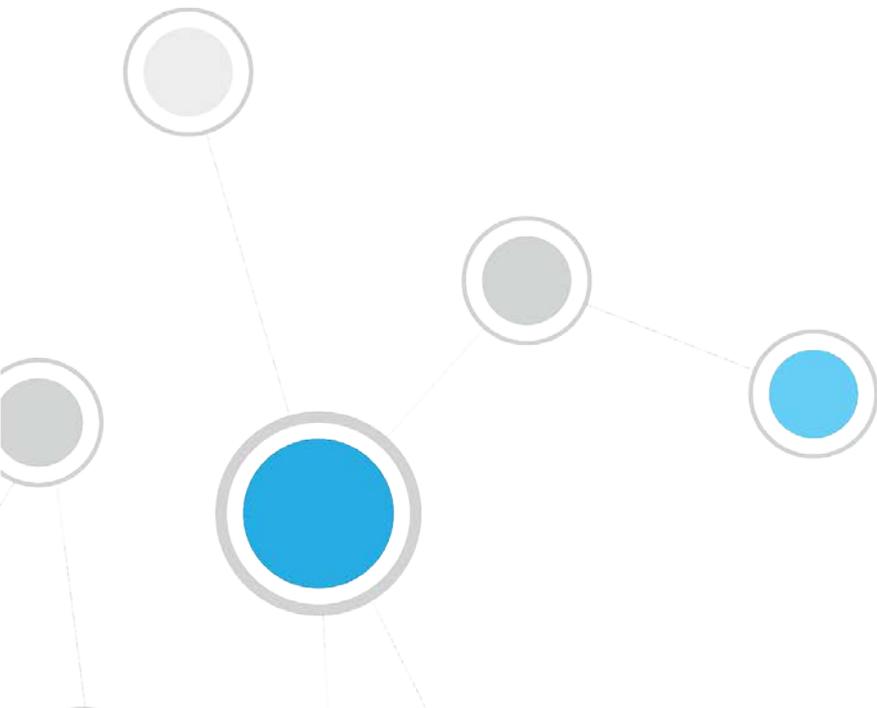


Table of Contents

About the CounterACT Advanced Tools Plugin	3
What to Do	4
Requirements	4
Install the Plugin	4
Configure the Plugin	5
Using Advanced Host Properties and Actions	5
Network Segments	6
Segment Name Property	6
Segment Path Property	6
Evaluate Commands and Scripts	7
CounterACT Script Result Property	7
Run Script on CounterACT Action	8
Apply Text Labels	8
Assigned Label Property.....	8
Add Label Action	9
Delete Label Action.....	9
Setting and Incrementing Counters	10
Using Counters in Policy Rules	10
Counter Property.....	11
Set Counter Action	12
Retrieve Endpoint Information	12
Retrieve URL Content.....	14
Retrieve snmpwalk Output	15
Retrieve Output using an SSH Command.....	16
Retrieve Output using an Interactive SSH Session	16
Resolve Dual-homed Endpoints as Managed or Unmanaged by SecureConnector	18
Sample Use Case	18
Windows Manageable SecureConnector (via any interface) Property	19
Create a Policy that Detects Dual Homed Managed Endpoints	20

About the CounterACT Advanced Tools Plugin

The Advanced Tools plugin provides host properties and actions in CounterACT that enhance and extend existing functionality. For example, the plugin provides:

- More detailed endpoint detection
- Enhanced use of commands and scripts to retrieve endpoint information
- Use of labels and counters to implement complex policy logic, and to retain endpoint status across policy rechecks

[Network Segments](#)

These properties let you create policies that examine the network segment to which the endpoint is assigned:

- Segment path
- Segment name

[Evaluate Commands and Scripts](#)

This property-action pair lets you create policies that run scripts and check script results:

- Run Script on CounterACT action
- CounterACT Script Result property

[Apply Text Labels](#)

These properties and actions let you define and apply labels, and use those labels to select endpoints for further action:

- Assigned Label property
- Add Label action
- Delete Label action

[Setting and Incrementing Counters](#)

This property-action pair lets you define and increment counters based on policy matches, and use counter values to trigger further action:

- Set Counter action
- Counter property

[Retrieve Endpoint Information](#)

These properties let you invoke commands or run scripts on endpoints, and use the results to select endpoints for further action.

- URL Content
- SNMPwalk Command Output
- SSH Command Output
- SSH Command Output (Interactive)

[Resolve Dual-homed Endpoints as Managed or Unmanaged by SecureConnector](#)

This property identifies dual-homed endpoints that are managed by SecureConnector on at least one interface:

- Windows Manageable SecureConnector (via any interface)

What to Do

Perform the following to work with these properties and actions:

1. Install the plugin.
2. (Optional) Configure the plugin. You only need to configure the plugin if you are using the **Windows Manageable SecureConnector (via any interface)** host property.
3. Create policies that use these properties and actions and/or invoke actions when you review endpoints at various Console views.

Requirements

The plugin requires the following CounterACT releases and other CounterACT components.

- CounterACT version 7.0.0 with Hotfix 1.5 and above. It is recommended to install the latest service pack to take advantage of the most current updates.
- HPS Inspection Engine 9.5.8 and above.

Install the Plugin

This section describes how to download and install the plugin.

To install the plugin:

1. Acquire a copy of the plugin in either one of the following ways:
 - If you are installing a Beta release of this plugin, acquire the plugin **.fpi** file from your ForeScout representative or contact beta@forescout.com.
 - Otherwise, navigate to the [Customer Support Plugins](#) page and download the plugin **.fpi** file
2. Save the file to the machine on which the CounterACT Console is installed.
3. Log in to the CounterACT Console and select **Options** from the **Tools** menu.
4. Navigate to and select **Plugins**. The Plugins pane opens.
5. Select **Install**. The Open dialog box opens.
6. Browse to and select the saved plugin **.fpi** file.
7. Select **Install**.

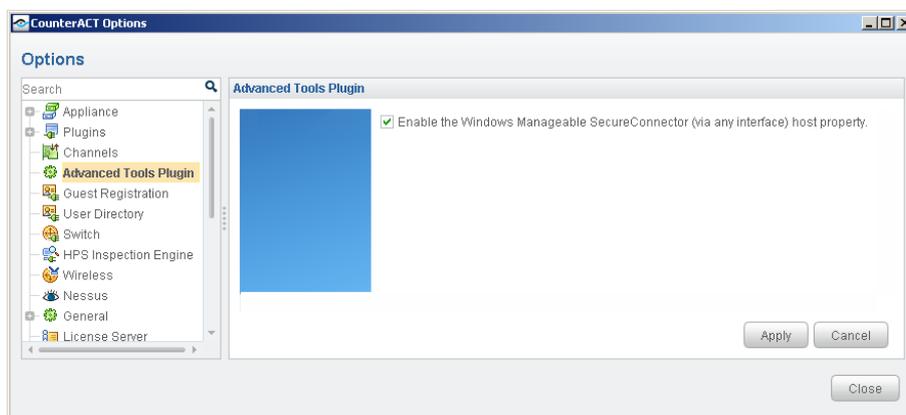
 *If your system is running CounterACT 7.0.0 Hotfix 1.7.1 or above, an installation or upgrade information dialog box and a license agreement dialog box will open. Accept the license agreement to proceed with the installation.*

Configure the Plugin

This section describes how to configure the plugin.

To configure the plugin:

1. In the CounterACT Console, select **Options** from the **Tools** menu.
2. Select **Plugins**.
3. Select **Advanced Tools** from the Options pane.
4. Select **Configure**.
5. (Optional) to use the Windows **Manageable SecureConnector (via any interface)** host property, select the Enable the Windows Manageable SecureConnector (via any interface) host property option. Only enable this option if the property is required in your environment. See [Resolve Dual-homed Endpoints as Managed or Unmanaged by SecureConnector](#).



6. Select **Apply** to save configuration changes.

Using Advanced Host Properties and Actions

CounterACT *policies* use a wide range of conditions to trigger various management and remediation actions. When the *conditions* of the policy are met by an endpoint, the *actions* are implemented on the endpoint. In addition, you can apply actions directly to hosts at various Console views by right-clicking the host.

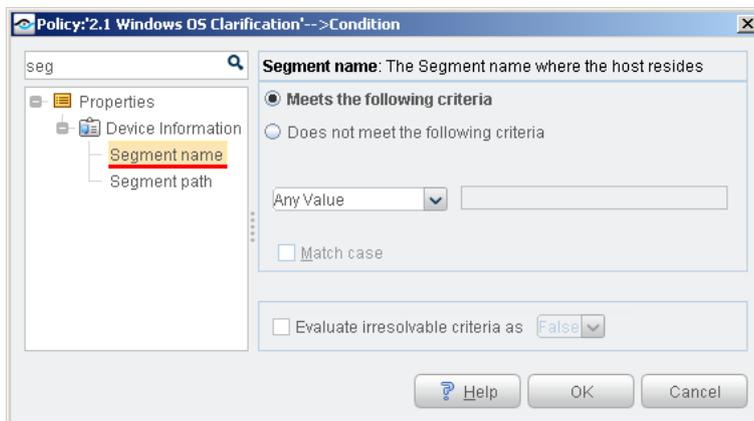
The following sections describe advanced properties and actions that are available when you install this plugin.

Network Segments

This section describes properties that examine the network segment in which an endpoint resides. Use these properties to create policies that apply actions to endpoints on a particular network segment. These properties are located in the Device Information group of the Properties tree.

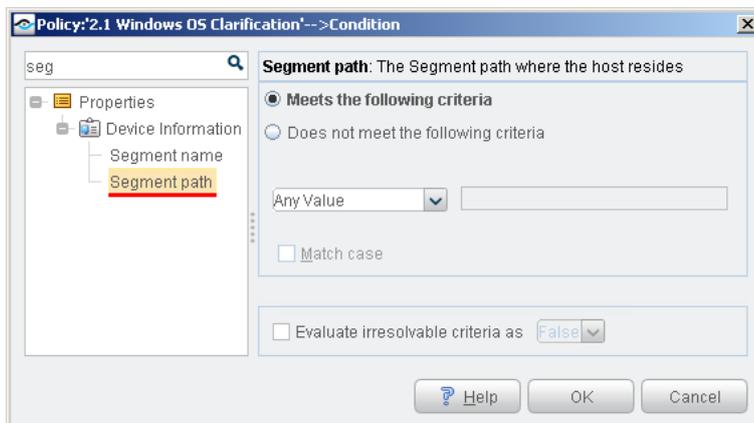
Segment Name Property

This property retrieves the *leaf node name* of the network segment on which the endpoint resides. Condition options let you apply string matching criteria to this value.



Segment Path Property

This property retrieves the *full pathname* of the network segment on which the endpoint resides. Condition options let you apply various string matching criteria to this value.



Evaluate Commands and Scripts

This section describes properties and actions that let you evaluate a script, command, or property value in a policy.

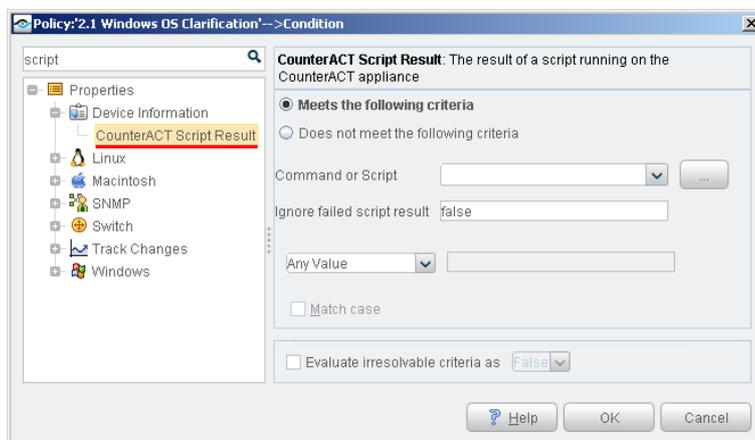
- 📖 *Unlike other script actions, these properties and actions run scripts and commands on the CounterACT appliance itself, and not on endpoints. In addition, you can use the script result as a policy condition.*

To specify a script or command for these properties and actions, do one of the following:

- Enter a script name or command directly in the **Command or Script** field. To include host properties in the command statement, select **Add Tags** to insert data tags that resolve to host property values.
- Select the **Command or Script** drop-down to view recently selected scripts and commands
- Select the ... button to build a library of scripts for this action. Scripts that you add appear in the command or script drop-down.

CounterACT Script Result Property

This condition runs a script or command on the CounterACT appliance, and examines the result. This property is located in the Device Information group of the Properties tree.



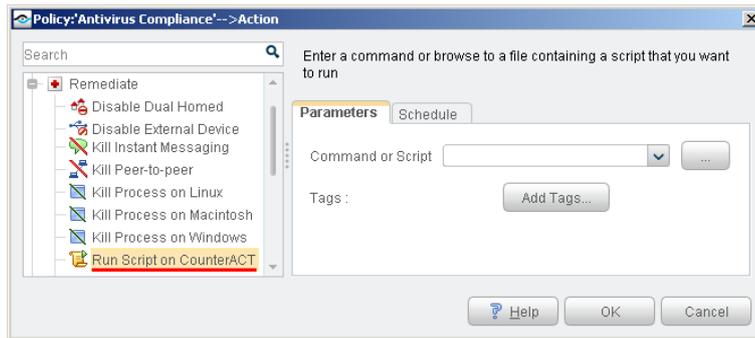
CounterACT evaluates the script or command for each endpoint that matches previous conditions of the policy. This result is compared to the specified values and matching logic of the condition.

- 📖 *If you are running a script to retrieve a value that includes the endpoint's IP address, the script should not include the {IP} tag, as CounterACT automatically appends the IP address to the list of arguments passed to the script.*

Ignore Failed Script Result	<p>Enter <i>true</i> to ignore any partial output received by CounterACT before the session failed. The property is evaluated as <i>Irresolvable</i>.</p> <p>Enter <i>false</i> to preserve output from the failed session in the property, and use that output to evaluate the condition.</p>
------------------------------------	--

Run Script on CounterACT Action

This action runs a script or command for endpoints that match the conditions of the policy. This action is located in the Remediate group of the Actions tree.



CounterACT evaluates the script or command for each endpoint that matches previous conditions of the policy.

- 📖 *If you are running a script in an action, the {IP} tag should be added to the script by the Administrator if it is required as an argument.*

Select the **Schedule** tab to apply scheduling options to this action.

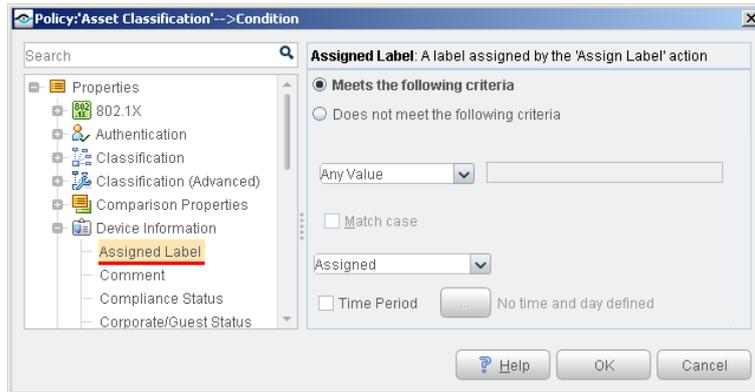
Apply Text Labels

This section describes properties and actions that let you work with labels in policies. Labels mark and group endpoints based on properties or other evaluated values. Policies can apply further management logic based on labels assigned by a previous policy. This allows you to construct complex policy behaviors that track endpoint history.

For example, you can use labels to identify mobile devices by the gateways they use to enter the network. You can then identify usage patterns, or cross-reference this information with other endpoint data to verify the user and limit access.

Assigned Label Property

This condition compares a text string to the labels assigned to the endpoint. This condition is located in the Device Information group of the Properties tree.



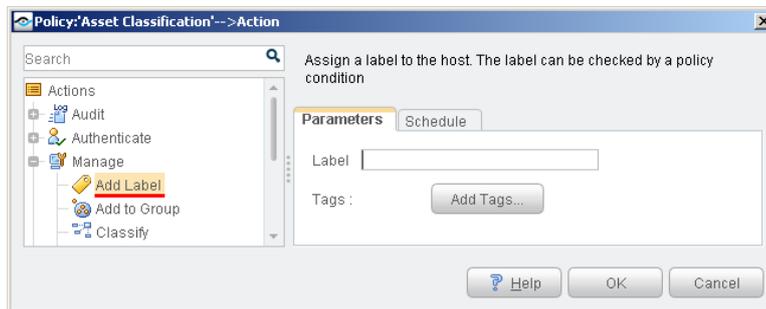
The text string you specify is compared to each of the labels assigned to the endpoint.

You can specify various matching logic options, such as partial string matching.

You can apply time constraints to the condition. CounterACT matches only endpoints that satisfy the matching condition during the specified time period.

Add Label Action

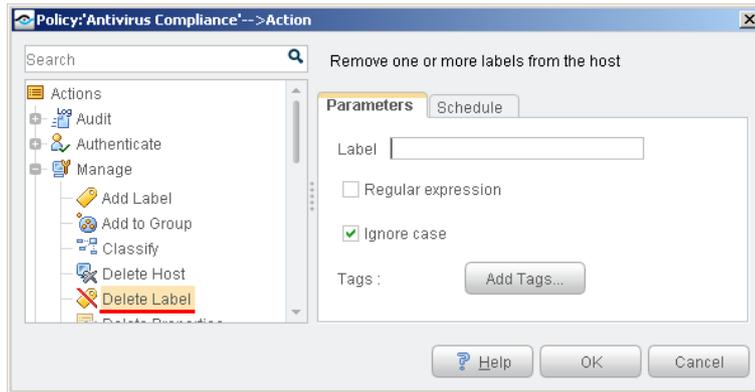
This action assigns a text label to endpoints that match the conditions of the policy. This action is located in the Manage group of the Actions tree.



In the Label field, define the label text. The label can combine static text strings and endpoint-specific information. Select **Add Tags** to insert data tags that resolve to host property values. Labels are listed with other endpoint details in NAC and Inventory views.

Delete Label Action

This action removes a text label from endpoints that match the conditions of the policy. This action is located in the Manage group of the Actions tree.



In the Label field, define the label text. The label can combine static text strings and endpoint-specific information. Select **Add Tags** to insert data tags that resolve to host property values.

To delete several labels, enter a string using wildcard characters and then select **Regular expression**. All partially matched labels are deleted.

Select **Ignore case** to match labels only by spelling.

Setting and Incrementing Counters

This section describes properties and actions that let you set and evaluate counters in policies. Policies can trigger actions based on counters assigned and incremented previously by other policies. This allows you to use endpoint history in policies.

For example, if an endpoint repeatedly installs pluggable memory devices, you can invoke actions on the endpoint after this behavior is repeated a number of times. The use of counters lets you accommodate occasional use of hot-swappable memory, and identify problematic repeat users.

When using counters in policies, note that:

- Counters are incremented each time an endpoint *returns* to the conditions of a policy, as follows:
 - The endpoint meets the conditions of the policy, and the counter is initialized.
 - Host properties change. The policy examines the endpoint, and finds that it no longer satisfies the policy.
 - Host properties change again. The policy examines the endpoint again, and finds that it satisfies the policy. The counter is incremented.

This is how CounterACT evaluates other policy conditions. However, counter values are *retained* even when the endpoint no longer satisfies the conditions of the policy.

- 📄 *Counters are maintained per endpoint – and like a host property, the same counter can have a different value for each endpoint.*

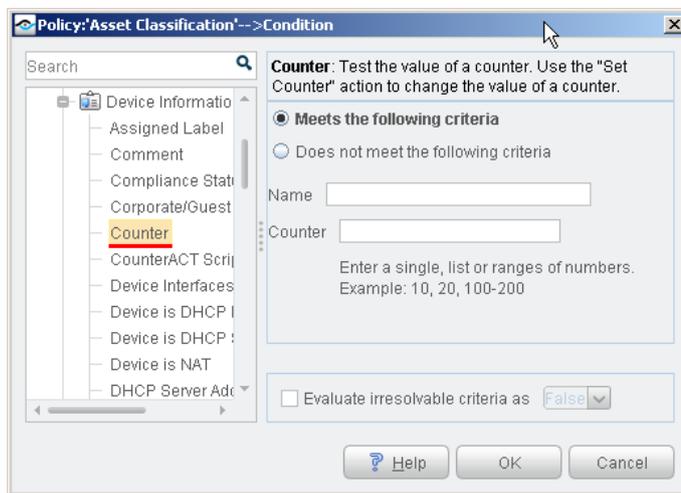
Using Counters in Policy Rules

Use properties and actions related to counters as follows:

- When you create a policy rule that defines a *new* counter, use only the Set Counter action.
- A policy rule that increments an *existing* counter must use both the Counter property and the Set Counter action:
 - a. The rule contains a condition that uses the Counter property to verify the presence of the counter for an endpoint. Enable the **Evaluate irresolvable criteria as True** option when the Counter property is used to verify the presence of a newly created counter.
 - b. Then the rule uses the Set Counter action to increment the counter on endpoints that match the condition.

Counter Property

This property compares the value of a counter to a numerical value. This condition is located in the Device Information group of the Properties tree.



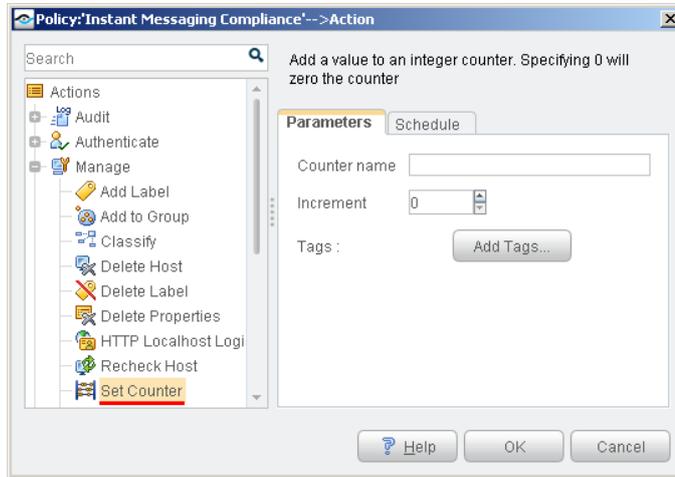
Enter the following values to create a condition based on a counter.

Name	The name of an existing counter.
Counter	Value(s) that the condition compares to the current value of the counter. You can specify a single value, a list of values, or a range of values.

- 📖 Enable the **Evaluate irresolvable criteria as True** option when the Counter property is used to verify the presence of a newly created counter. See [Using Counters in Policy Rules](#) for more information.

Set Counter Action

This action creates or increments a counter. This action is located in the Manage group of the Actions tree.



Use the following fields to define an action that creates a new counter, or increments an existing counter.

Counter name	A text label for the counter. Because counters are maintained for each endpoint, this label can combine static text strings and endpoint-specific information to yield an endpoint-specific label. Select Add Tags to insert data tags that resolve to host property values.
Increment	The numerical value added to the existing value of the counter. The counter is incremented for an endpoint each time that endpoint matches the conditions of the rule. To reset an existing counter to zero, specify 0 in this field.

When you create a policy that defines a *new* counter, use only the Set Counter action. A policy that increments an *existing* counter must use both the Counter property and the Set Counter action. See [Using Counters in Policy Rules](#) for more information.

Retrieve Endpoint Information

The plugin provides the following *Device Information* properties to retrieve information from endpoints:

- [Retrieve URL Content](#)
- [Retrieve snmpwalk Output](#)
- [Retrieve Output using SSH Commands](#)
- [Retrieve Output using an Interactive SSH Session](#)

These properties let you extend and refine CounterACT classification and compliance checking, supporting very fine grained handling of non-standard endpoints. Use these properties to help you fine-tune or customize classification of endpoints. For example:

- When CounterACT detects an endpoint with a web interface, use the **URL Content** property to retrieve a known page on its web server. Policy

conditions based on this property match web page content to further identify the endpoint.

- When CounterACT detects a VoIP endpoint, you may need to clarify the hardware model or firmware release of the device. Use the **SSH Command Output** properties to connect to the endpoint and run one or more commands on it. Policy conditions based on this property analyze the endpoint's responses to more accurately classify the device.

You can also extend and deepen policy-based management, creating policy conditions based on information not covered by other CounterACT host properties or discovery processes. For example: CounterACT detects networked manufacturing robots running a niche real time operating system which CounterACT cannot identify or query to check compliance. When these machines host an SSH server process, you can use the **SSH Command Output** properties to log in to the endpoints and verify correct configuration or other conditions for policy-based management.

Tracking Success and Failure of Retrieval Commands

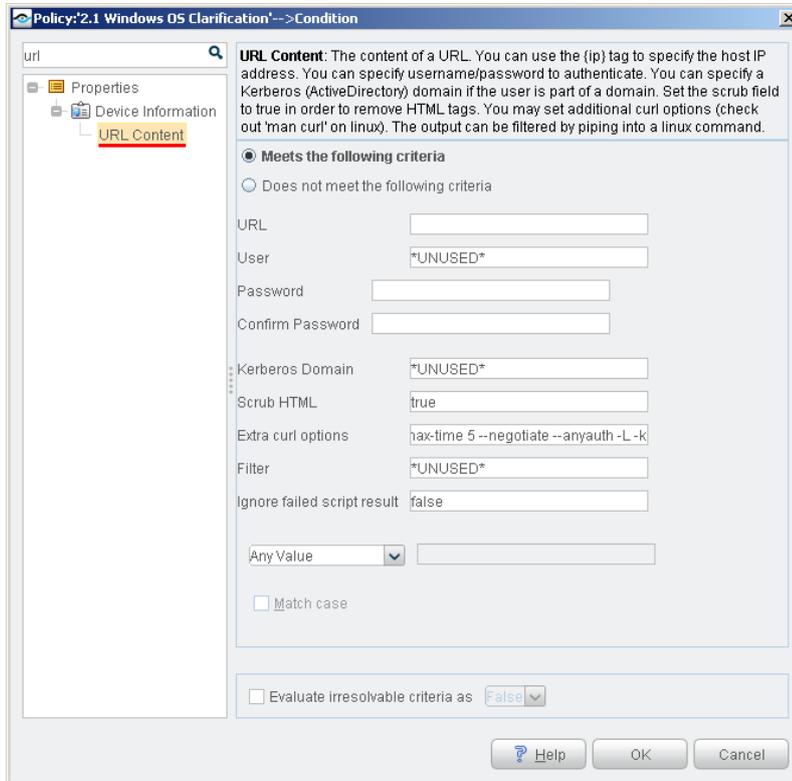
You can track the success and failure of command(s) on endpoints by inspecting the last line of text in the property resolution. If there was a failure, the line will include the text *Exit Status:* followed by the numerical exit code provided by the endpoint's operating system. This information is presented the Console, Detections Pane in the Profile tab, All Policies tab and other Console locations where property resolution details are available.

This option is available when you:

- [Retrieve URL Content](#)
- [Retrieve snmpwalk Output](#)
- [Retrieve Output using an SSH Command](#)
- [Retrieve Output using an Interactive SSH Session](#)

Retrieve URL Content

This property retrieves the content of a URL. You can create a condition that matches a regular expression or other text in the URL.



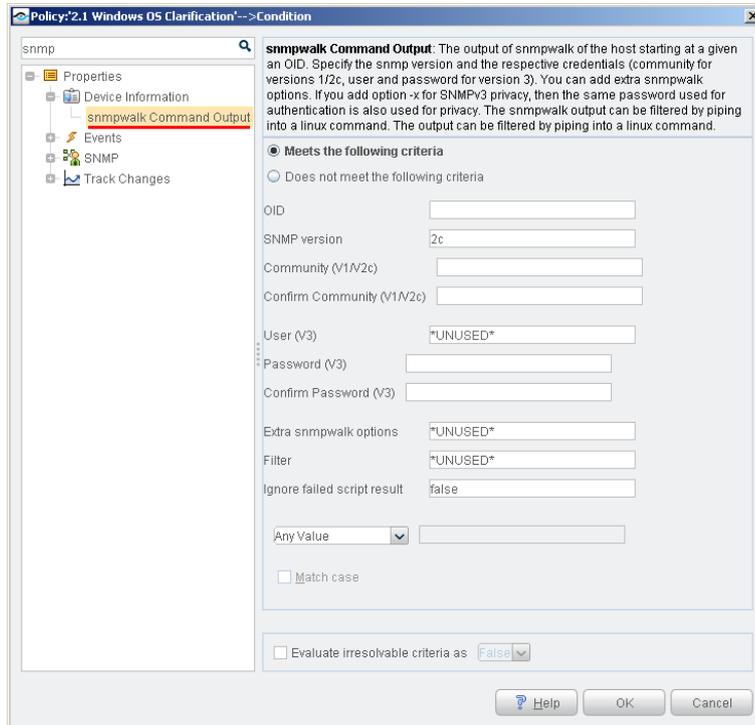
Use the following fields to define the URL target. Additional credentials can be added if required and additional customization options can be applied.

📄 Enter **UNUSED** in a field if you want CounterACT to ignore the parameter.

URL	Enter the path of the URL from which you want to retrieve information. You can use the {ip} tag to specify the endpoint IP address, for example <code>http://{ip}/info.html</code>
User/Password	Enter user credentials if access to the page requires authentication.
Kerberos Domain	Specify a Kerberos (ActiveDirectory) domain if the user is part of a domain.
Scrub HTML	Type <i>true</i> in order to remove HTML tags. Type <i>false</i> to display tags.
Extra curl options	Set additional curl options (check out 'man curl' on Linux)
Filter	Include only specific information in the output by piping into a Linux command. For example, to exclude the text XYZ use <code>" grep -v "XYZ""</code>
Ignore Failed Script Result	Enter <i>true</i> to ignore any partial output received by CounterACT before the session failed. The property is evaluated as <i>Irresolvable</i> . Enter <i>false</i> to preserve output from the failed session in the property, and use that output to evaluate the condition.

Retrieve snmpwalk Output

This property retrieves snmpwalk output from a given OID. You can create a condition that matches a regular expression or other text in the output.



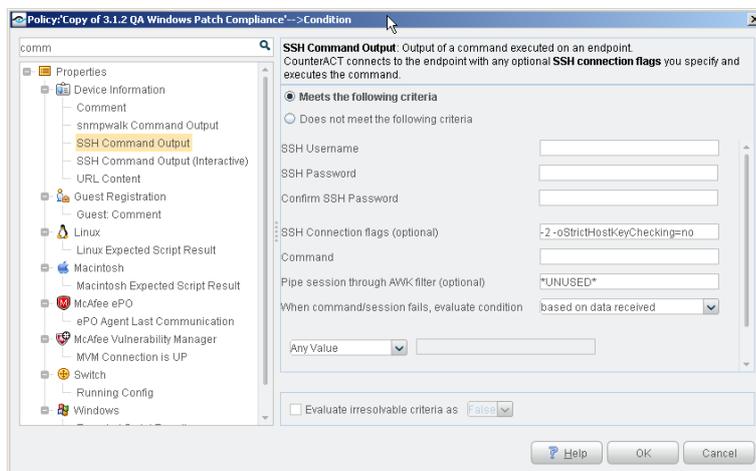
Use the following fields to define the snmpwalk to be retrieved. Filters and customization options can be applied.

 Enter **UNUSED** in a field if you want CounterACT to ignore the parameter.

OID	Enter the ID.
SNMP version	Enter the SNMP version.
Community	Enter the community for versions 1/2c.
User (V3)	Enter the user and password (version 3).
Password (V3)	Enter the user and password (version 3).
Extra snmpwalk options	Include additional snmpwalk options. If you include <i>-x</i> for SNMPv3 privacy, the same password used for authentication is used for privacy.
Filter	Include only specific information in the output by piping into a Linux command.
Ignore Failed Script Result	Enter <i>true</i> to ignore any partial output received by CounterACT before the session failed. The property is evaluated as <i>Irresolvable</i> . Enter <i>false</i> to preserve output from the failed session in the property, and use that output to evaluate the condition.

Retrieve Output using an SSH Command

Retrieve output of a command run on the endpoint using SSH. Filters and customization options can be applied.



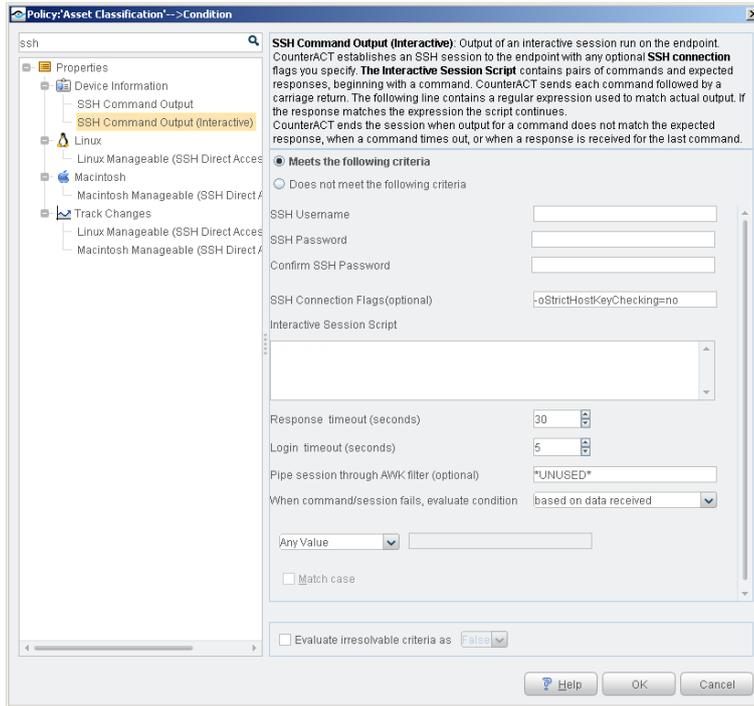
Use the following fields to specify SSH session details and the command to be submitted on the endpoint. Filters and customization options can be applied.

*Enter *UNUSED* in a field if you want CounterACT to ignore the parameter.*

SSH Username	Specify credentials used to log in and establish an SSH session on the endpoint. Note that these credentials are not encrypted.
SSH Password	
SSH Connection Flags (optional)	(Optional) Specify additional Open SSH option flags that are applied when the SSH session is established.
Command	Enter the command submitted on the endpoint.
Pipe session through AWK filter (optional)	(Optional) Specify a Linux filter command to filter output before evaluating the condition.
When command/session fails, evaluate condition	Select as Irresolvable to ignore any partial output when the session fails. The property is evaluated as Irresolvable. Select Based on data received to preserve output from the failed session in the property, and use that output to evaluate the condition.

Retrieve Output using an Interactive SSH Session

This property captures the output of an interactive script run on the endpoint during an SSH session. The SSH session is established using OpenSSH.



Use the following fields to specify SSH session details and the commands to be submitted on the endpoint. Filters and customization options can be applied.

 Enter **UNUSED** in a field if you want CounterACT to ignore the parameter.

SSH Username	Specify credentials used to log in and establish an SSH session on the endpoint. Note that these credentials are not encrypted.
SSH Password	
SSH Connection Flags (optional)	(Optional) Specify additional Open SSH option flags that are applied when the SSH session is established.
Interactive Session Script	Enter an alternating series of commands and expected responses, beginning with a command. Each command is on an odd numbered line, each expected response is on an even line. Expected response lines contain regular expressions used to match actual output.
Response timeout	The maximum interval, in seconds, that CounterACT waits after submission of each command for an output response.
Login timeout	The maximum interval, in seconds, that CounterACT waits when it logs in to establish the SSH session.
Pipe session through AWK filter (optional)	(Optional) Specify a Linux filter command to filter session output before evaluating the condition.
When command/session fails, evaluate condition	Select as Irresolvable to ignore any partial output when the session fails. The property is evaluated as Irresolvable. Select Based on data received to preserve output from the failed session in the property, and use that output to evaluate the condition.

After CounterACT establishes an SSH session on the endpoint, it submits the first command listed in the **Interactive Session Script** field. CounterACT waits for a response, and tests the response output against the expected response in the next line of the script.

- If the actual response output does not match the expected response, or if the session times out without a response, CounterACT ends the interactive session.
- If the output matches the expected response, CounterACT submits the next command in the session script.

CounterACT ends the session after a response is received for the last command, or after the session times out.

The property contains a log of all submitted commands and complete actual responses.

Resolve Dual-homed Endpoints as Managed or Unmanaged by SecureConnector

The plugin provides an optional host property that lets you correctly resolve dual-homed endpoints as managed or unmanaged by SecureConnector.

When an endpoint with multiple interfaces connects to CounterACT through one NIC, only that host (NIC) is resolved as *Managed by SecureConnector*.

When CounterACT policies apply actions to dual-homed endpoints that are not managed by SecureConnector, actions are applied to all interfaces of the endpoint, even if another host (NIC) on the same endpoint is managed by SecureConnector. As a result, the endpoint may lose access to network services it uses.

Use the **Windows Manageable SecureConnector (via any interface)** property to resolve a secondary (unmanaged) interface on the endpoint as managed if another host (NIC) on the endpoint is already managed by SecureConnector.

This property can be used in environments where Windows endpoints are *solely* managed by SecureConnector.

Sample Use Case

- Network Windows laptops utilize both wired and wireless connections (simultaneously and separately).
- Applications on the laptops require use of both network connections.
- Policies are deployed that remediate/restrict/block endpoints not managed by Secure Connector.
- SecureConnector is installed on endpoints and connects to CounterACT via the wired interface.
- When the wired endpoint is detected the Windows Manageable SecureConnector host property is evaluated as *True*. When the wireless endpoint is detected the Windows Manageable SecureConnector property is evaluated as *False* – and block/remediation actions will be performed on the wireless endpoint. This will also impact the endpoint.
- Applications accessed from the wireless connection are blocked if the policy performs a block action.

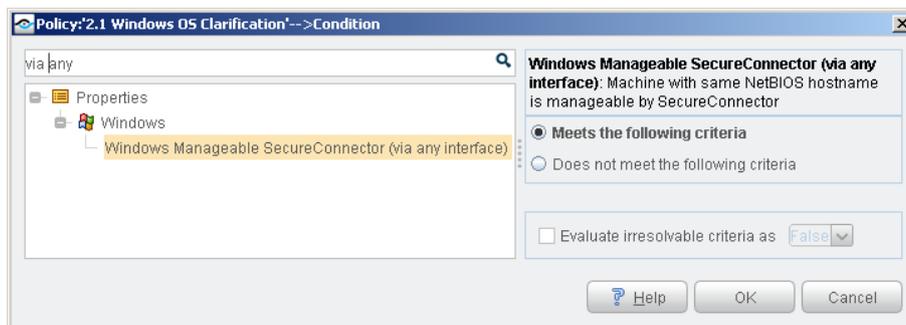
Windows Manageable SecureConnector (via any interface) Property

When CounterACT manages endpoints with SecureConnector, one host/interface may be managed by SecureConnector and another may not be managed. Use the optional **Windows Manageable SecureConnector (via any interface)** property to resolve a secondary (unmanaged) host on the endpoint as managed if another host (NIC) on the endpoint is already managed by SecureConnector.

This property can be used in environments where Windows endpoints are *solely* managed by SecureConnector.

To use this property, select the **Enable the Windows Manageable SecureConnector (via any interface) host property** option when you configure the plugin.

-  *When this property is active, it requires significant processor and memory resources on CounterACT devices. Only enable and use this property if compliance policies in your environment require identification of managed and unmanaged interfaces on dual-homed devices.*



To resolve this property, CounterACT synchronizes endpoint identity information by resolving the NetBIOS name on each endpoint host. CounterACT then examines the Windows Manageable SecureConnector host property to determine if any hosts on the endpoint are managed by SecureConnector.

- If NetBIOS names match, and *one* of the hosts is managed by SecureConnector (Windows Manageable SecureConnector = True) the Windows Manageable SecureConnector (via another interface) property is resolved as True, and the endpoint complies with policies that detect endpoints that have SecureConnector installed.
- If the NetBIOS names match and *neither* host on an endpoint is managed by SecureConnector (Windows Manageable SecureConnector = False), the Windows Manageable SecureConnector (via another interface) property is resolved as False, and the endpoint does not comply with policies that detect endpoints that have SecureConnector installed.

Windows Manageable SecureConnector	Windows Manageable SecureConnector (via another interface)	Evaluated as Managed by SecureConnector
True	True	Yes
False	True	Yes
False	False	No

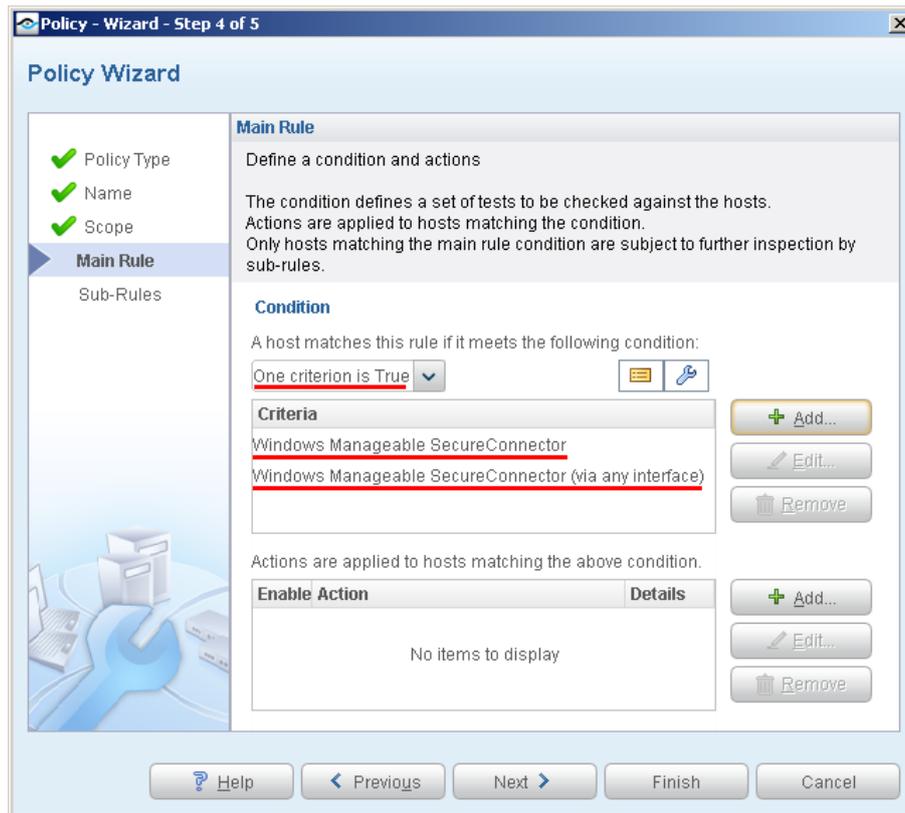
Create a Policy that Detects Dual Homed Managed Endpoints

Use the procedure below to modify policies to detect dual-homed endpoints managed by SecureConnector through one host and not managed on the other. Endpoints that meet this criterion can be defined as compliant in policies that verify SecureConnector management. This means that the non-SecureConnector managed host will still be accessible to the network services it uses.

If you create new policies that verify SecureConnector manageability, use the rule definitions described below to detect dual-homed endpoints managed by SecureConnector through one host and not managed on the other.

To detect dual homed endpoints managed by SecureConnector:

1. Edit a policy that evaluates the *Windows Manageable SecureConnector* property.
2. Navigate to the rule that references the *Windows Manageable SecureConnector* property and select **Edit**.
3. In the Conditions section of the Policy dialog box select **Add**.
4. In the Properties tree, select the *Windows Manageable SecureConnector (via any interface)*. Select **Meets the following criteria**.
5. Select **OK**. The property appears as a criterion of the condition.
6. In the Condition section of the Policy dialog box, select **One criterion is true**.
7. Verify that the condition is defined as follows:
One of the following criteria is True:
 - *Windows Manageable SecureConnector* property
 - *Windows Manageable SecureConnector (via any interface)* property



8. Save changes to the policy.
9. Repeat this procedure for all relevant policies that evaluate the *Windows Manageable SecureConnector* property.

Legal Notice

Copyright © ForeScout Technologies, Inc. 2000-2017. All rights reserved. The copyright and proprietary rights in this document belong to ForeScout Technologies, Inc. ("ForeScout"). It is strictly forbidden to copy, duplicate, sell, lend or otherwise use this document in any way, shape or form without the prior written consent of ForeScout. All other trademarks used in this document are the property of their respective owners.

These products are based on software developed by ForeScout. The products described in this document may be protected by one or more of the following U.S. patents: #6,363,489, #8,254,286, #8,590,004, #8,639,800 and #9,027,079 and may be protected by other U.S. patents and foreign patents.

Redistribution and use in source and binary forms are permitted, provided that the above copyright notice and this paragraph are duplicated in all such forms and that any documentation, advertising materials and other materials related to such distribution and use acknowledge that the software was developed by ForeScout.

Unless there is another valid written agreement executed by you and ForeScout that governs the ForeScout products and services:

- If you have purchased any ForeScout products or services, your use of such products or services is subject to your acceptance of the terms set forth at <http://www.forescout.com/eula/>;
- If you have purchased any ForeScout support service ("ActiveCare"), your use of ActiveCare is subject to your acceptance of the terms set forth at <http://www.forescout.com/activecare-maintenance-and-support-policy/>;
- If you are evaluating ForeScout's products, your evaluation is subject to your acceptance of the applicable terms set forth below:
 - If you have requested a General Availability Product, the terms applicable to your use of such product are set forth at: <http://www.forescout.com/evaluation-license/>.
 - If you have requested a Beta Product, the terms applicable to your use of such product are set forth at: <http://www.forescout.com/beta-test-agreement/>.
 - If you have purchased any ForeScout Not For Resale licenses, such license is subject to your acceptance of the terms set forth at <http://www.forescout.com/nfr-license/>.

Send comments and questions about this document to: documentation@forescout.com

2017-10-09 14:48