



## Posture Types

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The following posture agents monitor and enforce Cisco ISE posture policies:

- **AnyConnect:** Deploys the AnyConnect agent to monitor and enforce Cisco ISE posture policies that require interaction with the client. The AnyConnect agent stays on the client. For more information about using AnyConnect in Cisco ISE, see [Cisco AnyConnect Secure Mobility](#).
- **AnyConnect Stealth:** Runs posture as a service, with no user interface. The agent stays on the client.

When you choose the AnyConnect Stealth posture type in the posture requirement, some of the conditions, remediations, or attributes in a condition are disabled (grayed out). For example, when you enable AnyConnect Stealth requirement, the Manual Remediation Type is disabled (grayed out) because this action requires client-side interaction.

When you map the posture profile to the AnyConnect configuration, and then map the AnyConnect configuration to the Client Provisioning window for AnyConnect Stealth mode deployment:

- AnyConnect can read the posture profile and set it to the intended mode.
- AnyConnect can send information related to the selected mode to Cisco ISE during the initial posture request.
- Cisco ISE can match the right policy, based on the mode and other factors, such as identity group, OS, and compliance module.



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**Note** AnyConnect Stealth mode requires AnyConnect version 4.4 and later.

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For more information about configuring AnyConnect Stealth in Cisco ISE, see [Configure AnyConnect Stealth Mode Workflow, on page 57](#).

- **Temporal Agent:** When a client attempts to access the trusted network, Cisco ISE opens the Client Provisioning portal. The portal instructs the user to download and install the agent, and run the agent. The temporal agent checks the compliance status, and sends the status to Cisco ISE. Cisco ISE acts based on the results. The temporal agent removes itself from the client after compliance processing completes. The temporal agent does not support custom remediation. The default remediation supports only message text.

The Temporal Agent does not support the following conditions:

- Service Condition MAC—System Daemon check

- Service Condition-MAC—Daemon or User Agent check
- PM—Up To Date check
- PM—Enabled check
- DE—Encryption check
- Configure posture policies using the **Posture Types Temporal Agent** and **Compliance Module 4.x or later**. Do not configure the compliance module as **3.x or earlier** or **Any Version**.
- For the Temporal Agent, you can only view Patch Management conditions containing the **Installation** check type in the **Requirements** window.
- Cisco ISE does not support VLAN-controlled posture with the Temporal Agent for macOS. When you change the network access from an existing VLAN to a new VLAN, the user's IP address is released before the VLAN change. The client gets a new IP address by DHCP when the user connects to the new VLAN. Recognizing the new IP address requires root privileges, but the Temporal Agent runs as a user process.
- Cisco ISE supports ACL-controlled posture environment, which does not require the refreshing of endpoint IP addresses.
- For more information about configuring the Temporal agent in Cisco ISE, see [Configure Cisco Temporal Agent Workflow, on page 61](#).
- **AMP Enabler**—The AMP Enabler pushes the AMP for Endpoints software to a subset of endpoints from a server hosted locally within the enterprise, and installs AMP services to its existing user base.

You can select the posture type in the **Client Provisioning** window (**Policy > Policy Elements > Results > Client Provisioning > Resources**) and the **Posture Requirements** window (**Policy > Policy Elements > Results > Posture > Requirements**). The best practice is to provision the posture profile in the Client Provisioning window.

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## Posture Administration Settings

You can globally configure the Admin portal for posture services. You can download updates automatically to the Cisco ISE server through the web from Cisco. You can also update Cisco ISE manually offline later. In addition, having an agent like AnyConnect, the NAC Agent, or the Web Agent installed on the clients provides posture assessment and remediation services to clients. The client agent periodically updates the compliance status of clients to Cisco ISE. After login and successful requirement assessment for posture, the client agent displays a dialog with a link that requires end users to comply with terms and conditions of network usage. You can use this link to define network usage information for your enterprise network that end users accept before they can gain access to your network.

## Client Posture Requirements

To create a posture requirement:

1. Choose **Policy > Policy Elements > Results > Posture > Requirements**.
2. From the **Edit** drop-down list at the end of any requirement row, choose **Insert New Requirement**.
3. Enter the required details and click **Done**.

The following table describes the fields in the **Client Posture Requirements** window.

**Table 1: Posture Requirement**

Field Name	Usage Guidelines
<b>Name</b>	Enter a name for the requirement.
<b>Operating Systems</b>	Choose an operating system. Click plus [+] to associate more than one operating system to the policy. Click minus [-] to remove the operating system from the policy.

Field Name	Usage Guidelines
<b>Compliance Module</b>	<p>From the <b>Compliance Module</b> drop-down list, choose the required compliance module:</p> <ul style="list-style-type: none"> <li>• 4.x or Later: Supports antimalware, disk encryption, patch management, and USB conditions.</li> <li>• 3.x or Earlier: Supports antivirus, antispymware, disk encryption, and patch management conditions.</li> <li>• Any Version: Supports file, service, registry, application, and compound conditions.</li> </ul> <p>For more information about compliance module, see <a href="#">Compliance Module, on page 18</a>.</p>
<b>Posture Type</b>	<p>From the <b>Posture Type</b> drop-down list, choose the required posture type.</p> <ul style="list-style-type: none"> <li>• AnyConnect: Deploys the AnyConnect agent to monitor and enforce Cisco ISE policies that require client interaction.</li> <li>• AnyConnect Stealth: Deploys the AnyConnect agent to monitor and enforce Cisco ISE posture policies without any client interaction.</li> <li>• Temporal Agent: A temporary executable file that is run on the client to check the compliance status.</li> </ul>
<b>Conditions</b>	<p>Choose a Condition from the list.</p> <p>You can also create any user defined condition by clicking the Action Icon and associate it with the requirement. You cannot edit the associated parent operating system while creating user defined conditions.</p> <p>The pr_WSUSRule is a dummy compound condition, which is used in a posture requirement with an associated Windows Server Update Services (WSUS) remediation. The associated WSUS remediation action must be configured to validate Windows updates by using the severity level option. When this requirement fails, the agent on the Windows client enforces the WSUS remediation action based on the severity level that you define in the WSUS remediation.</p> <p>The pr_WSUSRule cannot be viewed in the Compound conditions list page. You can only select the pr_WSUSRule from the Conditions widget.</p>
<b>Remediation Actions</b>	<p>Choose a Remediation from the list.</p> <p>You can also create a remediation action and associate it with the requirement.</p> <p>You have a text box for all the remediation types that can be used to communicate to the agent users. In addition to remediation actions, you can communicate to agent users about the non-compliance of clients with messages.</p> <p>The <b>Message Text Only</b> option informs agent users about the noncompliance. It also provides optional instructions to the user to contact the Help desk for more information, or to remediate the client manually. In this scenario, the agent does not trigger any remediation action.</p>

### Related Topics

- [Configure Acceptable Use Policies for Posture Assessment](#), on page 14
- [Create Client Posture Requirements](#), on page 53

## Timer Settings for Clients

You can set up timers for users to remediate, to transition from one state to another, and to control the login success screen.

However, when there are no agent profiles configured to match the client provisioning policies, you can use the settings in the **General Settings** configuration window ( **Administration** > **System** > **Settings** > **Posture** > **General Settings**).

### Set Remediation Timer for Clients to Remediate Within Specified Time

You can configure the timer for client remediation within a specified time. When clients fail to satisfy configured posture policies during an initial assessment, the agent waits for the clients to remediate within the time configured in the remediation timer. If the client fails to remediate within this specified time, then the client agent sends a report to the posture run-time services after which the clients are moved to the noncompliance state.

- 
- Step 1** Choose **Administration** > **System** > **Settings** > **Posture** > **General Settings**.
  - Step 2** In the **Remediation Timer** field, enter a time value in minutes.  
The default value is 4 minutes. The valid range is 1–300 minutes.
  - Step 3** Click **Save**.
- 

### Set Network Transition Delay Timer for Clients to Transition

You can configure the timer for clients to transition from one state to the other state within a specified time using the network transition delay timer, which is required for Change of Authorization (CoA) to complete. It may require a longer delay time when clients need time to get a new VLAN IP address during success and failure of posture. When successfully postured, Cisco ISE allows clients to transition from unknown to compliant mode within the time specified in the network transition delay timer. Upon failure of posture, Cisco ISE allows clients to transition from unknown to noncompliant mode within the time specified in the timer.

- 
- Step 1** Choose **Administration** > **System** > **Settings** > **Posture** > **General Settings**.
  - Step 2** Enter a time value in seconds, in the **Network Transition Delay** field.  
The default value is 3 seconds. The valid range is 2 to 30 seconds.
  - Step 3** Click **Save**.
-

## Set Login Success Window to Close Automatically

After successful posture assessment, the client agent displays a temporary network access screen. The user needs to click the **OK** button in the login window to close it. You can set up a timer to close this login screen automatically after specified time.

- 
- Step 1** Choose **Administration > System > Settings > Posture > General Settings**.
  - Step 2** Check the **Automatically Close Login Success Screen After** check box.
  - Step 3** Enter a time value in seconds, in the field next to **Automatically Close Login Success Screen After** check box.  
The valid range is 0 to 300 seconds. If the time is set to zero, then AnyConnect does not display the login success screen.
  - Step 4** Click **Save**.
- 

## Set Posture Status for Nonagent Devices

You can configure the posture status of endpoints that run on non-agent devices. When Android devices and Apple devices such as an iPod, iPhone, or iPad connect to a Cisco ISE enabled network, these devices assume the Default Posture Status settings.

These settings can also be applied to endpoints that run on Windows and MacOS operating systems when a matching client provisioning policy is not found during posture runtime while redirecting the endpoints to the client provisioning portal.

### Before you begin

In order to enforce policy on an endpoint, you must configure a corresponding Client Provisioning policy (Agent installation package). Otherwise, the posture status of the endpoint automatically reflects the default setting.

- 
- Step 1** Choose **Administration > System > Settings > Posture > General Settings**.
  - Step 2** From the **Default Posture Status** drop-down list, choose the option as **Compliant** or **Noncompliant**.
  - Step 3** Click **Save**.
- 

## Posture Lease

You can configure Cisco ISE to perform posture assessment every time a user logs into your network or perform posture assessment in specified intervals. The valid range is from 1 to 365 days.

This configuration applies only for those who use AnyConnect agent for posture assessment.

When the posture lease is active, Cisco ISE will use the last known posture state and will not reach out to the endpoint to check for compliance. But when the posture lease expires, Cisco ISE does not automatically trigger a re-authentication or a posture reassessment for the endpoint. The endpoint will stay in the same compliance state since the same session is being used. When the endpoint re-authenticates, posture will be run and the posture lease time will be reset.

Example Use Case Scenario:

- The user logs on to the endpoint and gets it posture compliant with the posture lease set to one day.
- Four hours later the user logs off from the endpoint (the posture lease now has 20 hours left).
- One hour later the user logs on again. Now the posture lease has 19 hours left. The last known posture state was compliant. Hence the user is provided access without posture being run on the endpoint.
- Four hours later the user logs off (the posture lease now has 15 hours left).
- 14 hours later, the user logs on. The posture lease has one hour left. The last known posture state was compliant. The user is provided access without posture being run on the endpoint.
- One hour later, the posture lease expires. The user is still connected to the network as the same user session is being used.
- One hour later, user logs off (the session is tied to the user but not to the machine, so the machine can stay on the network).
- One hour later the user logs on. Since the posture lease has expired and a new user session is launched, the machine performs a posture assessment, the results are sent to the Cisco ISE and the posture lease timer is reset to one day in case of this use case.

## Periodic Reassessments

Periodic reassessment (PRA) can be done only for clients that are already successfully postured for compliance. PRA cannot occur if clients are not compliant on your network.

A PRA is valid and applicable only if the endpoints are in a compliant state. The policy service node checks the relevant policies, and compiles the requirements depending on the client role that is defined in the configuration to enforce a PRA. If a PRA configuration match is found, the policy service node responds to the client agent with the PRA attributes that are defined in the PRA configuration for the client before issuing a CoA request. The client agent periodically sends the PRA requests based on the interval specified in the configuration. The client remains in the compliant state if the PRA succeeds, or the action configured in the PRA configuration is to continue. If the client fails to meet PRA, then the client is moved from the compliant state to the noncompliant state.

The PostureStatus attribute shows the current posture status as compliant in a PRA request instead of unknown even though it is a posture reassessment request. The PostureStatus is updated in the Monitoring reports as well.

When the posture lease has not expired, an endpoint becomes compliant based on the Access Control List (ACL), and PRA is initiated. If PRA fails, the endpoint is deemed noncompliant and the posture lease is reset.



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**Note** PRA is not supported during PSN failover. After PSN failover, you must either enable rescan on the client or enable posture lease.

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## Configure Periodic Reassessments

You can configure periodic reassessments only for clients that are already successfully postured for compliance. You can configure each PRA to a user identity group that is defined in the system.

**Before you begin**

- Ensure that each Periodic reassessment (PRA) configuration has a unique group or a unique combination of user identity groups assigned to the configuration.
- You can assign a `role_test_1` and a `role_test_2`, which are the two unique roles to a PRA configuration. You can combine these two roles with a logical operator and assign the PRA configuration as a unique combination of two roles. For example, `role_test_1 OR role_test_2`.
- Ensure that two PRA configurations do not have a user identity group in common.
- If a PRA configuration already exists with a user identity group *Any*, you cannot create other PRA configurations unless you perform one of the following:
  - Update the existing PRA configuration with the *Any* user identity group to reflect a user identity group other than *Any*.
  - Delete the existing PRA configuration with a user identity group “*Any*”.

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- Step 1** Choose **Administration > System > Settings > Posture > Reassessments**.
- Step 2** Click **Add**.
- Step 3** Modify the values in the **New Reassessment Configuration** window to create a new PRA.
- Step 4** Click **Submit** to create a PRA configuration.
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## Posture Troubleshooting Settings

The following table describes the fields on the Posture troubleshooting window, which you use to find and resolve posture problems on the network. The navigation path for this window is: **Operations > Troubleshoot > Diagnostic Tools > General Tools > Posture Troubleshooting**.

*Table 2: Posture Troubleshooting Settings*

Field Name	Usage Guidelines
<b>Search and Select a Posture event for troubleshooting</b>	
<b>Username</b>	Enter the username to filter on.
<b>MAC Address</b>	Enter the MAC address to filter on, using format: xx-xx-xx-xx-xx-xx
<b>Posture Status</b>	Select the authentication status to filter on:
<b>Failure Reason</b>	Enter the failure reason or click <b>Select</b> to choose a failure reason from a list. Click <b>Clear</b> to clear the failure reason.
<b>Time Range</b>	Select a time range. The RADIUS authentication records that are created during this time range are used.
<b>Start Date-Time:</b>	(Available only when you choose Custom Time Range) Enter the start date and time, or click the calendar icon to select the start date and time. The date should be in the <i>mm/dd/yyyy</i> format and time in the <i>hh.mm</i> format.



Field Name	Usage Guidelines
<b>End Date-Time:</b>	(Available only when you choose Custom Time Range) Enter the end date and time, or click the calendar icon to select the start date and time. The date should be in the <i>mm/dd/yyyy</i> format and time in the <i>hh:mm</i> format.
<b>Fetch Number of Records</b>	Select the number of records to display: 10, 20, 50, 100, 200, 500
<b>Search Result</b>	
<b>Time</b>	Time of the event
<b>Status</b>	Posture status
<b>Username</b>	User name associated with the event
<b>MAC Address</b>	MAC address of the system
<b>Failure Reason</b>	Failure reason for the event

**Related Topics**

[Posture Troubleshooting Tool](#), on page 63

## Posture General Settings

These settings are the default settings for posture, which can be overridden by a posture profile.

**General Posture Settings**

- **Remediation Timer:** Enter the time to wait before starting remediation. The default value is 4 minutes. The valid range is 1–300 minutes.
- **Network Transition Delay:** Enter a time value in seconds. The default value is 3 seconds. The valid range is from 2 to 30 seconds.
- **Default Posture Status:** Choose **Compliant** or **Noncompliant**. Non-agent devices assume this status while connecting to the network.
- **Automatically Close Login Success Screen After:** Check the check box to close the login success screen automatically after the specified time. You can configure the timer to close the login screen automatically. The valid range is from 0 to 300 seconds. If the time is set to zero, then the agents on the client do not display the login success screen.
- **Continuous Monitoring Interval:** Specify the time interval after which AnyConnect should start sending monitoring data. For application and hardware conditions, the default value is 5 minutes.
- **Acceptable Use Policy in Stealth Mode:** Choose **Block** in stealth mode to move a client to noncompliant posture status, if your company's network-usage terms and conditions are not met.

### Posture Lease

- **Perform posture assessment every time a user connects to the network:** Select this option to initiate posture assessment every time the user connects to network
- **Perform posture assessment every n days:** Select this option to initiate posture assessment after the specified number of days, even if the client is already postured Compliant.
- **Cache Last Known Posture Compliant Status:** Check this check box for Cisco ISE to cache the result of posture assessment. By default, this field is disabled.
- **Last Known Posture Compliant Status:** This setting only applies if you have checked **Cache Last Known Posture Compliant Status**. Cisco ISE caches the result of posture assessment for the amount of time specified in this field. Valid values are from 1 to 30 days, or from 1 to 720 hours, or from 1 to 43200 minutes.

### Related Topics

[Posture Administration Settings](#), on page 3

[Posture Lease](#), on page 6

[Set Remediation Timer for Clients to Remediate Within Specified Time](#), on page 5

[Set Network Transition Delay Timer for Clients to Transition](#), on page 5

[Set Login Success Window to Close Automatically](#), on page 6

[Set Posture Status for Nonagent Devices](#), on page 6

## Download Posture Updates to Cisco ISE

Posture updates include a set of predefined checks, rules, and support charts for antivirus and antispyware for both Windows and MacOS operating systems, and operating systems information that are supported by Cisco. You can also update Cisco ISE offline from a file on your local system, which contains the latest archives of updates.

When you deploy Cisco ISE on your network for the first time, you can download posture updates from the web. This process usually takes approximately 20 minutes. After the initial download, you can configure Cisco ISE to verify and download incremental updates to occur automatically.

Cisco ISE creates default posture policies, requirements, and remediations only once during an initial posture updates. If you delete them, Cisco ISE does not create them again during subsequent manual or scheduled updates.

### Before you begin

To ensure that you are able to access the appropriate remote location from which you can download posture resources to Cisco ISE, you may be required to verify that you have the correct proxy settings configured for your network as described in [Specifying Proxy Settings in Cisco ISE](#).

You can use the Posture Update window to download updates dynamically from the web.

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- Step 1** Choose **Administration > System > Settings > Posture > Updates**.
  - Step 2** Choose the **Web** option to download updates dynamically.
  - Step 3** Click **Set to Default** to set the Cisco default value for the **Update Feed URL** field.

If your network restricts URL-redirection functions (via a proxy server, for example) and you are experiencing difficulty accessing the above URL, try also pointing your Cisco ISE to the alternative URL in the related topics.

**Step 4** Modify the values in the **Posture Updates** window.

**Step 5** Click **Update Now** to download updates from Cisco.

After being updated, the Posture Updates window displays the current Cisco updates version information as a verification of an update under Update Information section in the Posture Updates window.

**Step 6** Click **Yes** to continue.

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## Cisco ISE Offline Updates

This offline update option allows you to download client provisioning and posture updates, when direct internet access to Cisco.com from a device using Cisco ISE is not available or is not permitted by a security policy.

To download offline client provisioning resources:

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**Step 1** Go to: <https://software.cisco.com/download/home/283801620/type/283802505/release/2.4.0>.

**Step 2** Provide your login credentials.

**Step 3** Navigate to the Cisco Identity Services Engine download window, and select the release.

The following Offline Installation Packages are available for download:

- **win\_spw-<version>-isebundle.zip**—Offline SPW Installation Package for Windows
- **mac\_spw-<version>.zip**—Offline SPW Installation Package for Mac OS X
- **compliancemodule-<version>-isebundle.zip**—Offline Compliance Module Installation Package
- **macagent-<version>-isebundle.zip**—Offline Mac Agent Installation Package
- **webagent-<version>-isebundle.zip**—Offline Web Agent Installation Package

**Step 4** Click either **Download** or **Add to Cart**.

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For more information on adding the downloaded installation packages to Cisco ISE, see the "Add Client Provisioning Resources from a Local Machine" section in the [Cisco Identity Services Engine Administrator Guide](#).

You can update the checks, operating system information, and antivirus and antispymware support charts for Windows and Mac operating systems offline from an archive in your local system, using posture updates.

For offline updates, ensure that the versions of the archive files match the versions in the configuration file. Use offline posture updates after you configure Cisco ISE and want to enable dynamic updates for the posture policy service.

To download offline posture updates:

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**Step 1** Go to <https://www.cisco.com/web/secure/spa/posture-offline.html>.

- Step 2** Save the **posture-offline.zip** file to your local system. This file is used to update the operating system information, checks, rules, and antivirus and antispyware support charts for Windows and Mac operating systems.
- Step 3** Launch the Cisco ISE administrator user interface and choose **Administration > System > Settings > Posture**.
- Step 4** Click the arrow to view the settings for posture.
- Step 5** Click **Updates**.  
The **Posture Updates** window is displayed.
- Step 6** Click the **Offline** option.
- Step 7** Click **Browse** to locate the archive file (posture-offline.zip) from the local folder in your system.
- Note** The **File to Update** field is a mandatory field. You can select only one archive file (.zip) containing the appropriate files. Archive files other than .zip, such as .tar, and .gz are not supported.
- Step 8** Click **Update Now**.

## Download Posture Updates Automatically

After an initial update, you can configure Cisco ISE to check for the updates and download them automatically.

### Before you begin

- You should have initially downloaded the posture updates to configure Cisco ISE to check for the updates and download them automatically.

- Step 1** Choose **Administration > System > Settings > Posture > Updates**.
- Step 2** In the **Posture Updates** window, check the **Automatically check for updates starting from initial delay** check box.
- Step 3** Enter the initial delay time in hh:mm:ss format.  
Cisco ISE starts checking for updates after the initial delay time is over.
- Step 4** Enter the time interval in hours.  
Cisco ISE downloads the updates to your deployment at specified intervals from the initial delay time.
- Step 5** Click **Save**.

## Posture Acceptable Use Policy Configuration Settings

*Table 3: Posture AUP Configurations Settings*

Field Name	Usage Guidelines
<b>Configuration Name</b>	Enter the name of the AUP configuration that you want to create.

Field Name	Usage Guidelines
<b>Configuration Description</b>	Enter the description of the AUP configuration that you want to create.
<b>Show AUP to Agent users (for Windows only)</b>	When selected, the link to network usage terms and conditions for your network is displayed to users upon successful authentication and posture assessment.
<b>Use URL for AUP message</b>	When selected, you must enter the URL to the AUP message in the AUP URL field.
<b>Use file for AUP message</b>	When selected, you must browse to the location and upload a file in a zipped format. The file must contain the index.html at the top level.  The .zip file can include other files and subdirectories in addition to the index.html file. These files can reference each other using HTML tags.
<b>AUP URL</b>	Enter the URL to the AUP, which users must access upon successful authentication and posture assessment.
<b>AUP File</b>	Browse to the file and upload it to the Cisco ISE server. It should be a zipped file and should contain the index.html file at the top level.
<b>Select User Identity Groups</b>	Choose a unique user identity group or a unique combination of user identity groups for your AUP configuration.  Note the following while creating an AUP configuration: <ul style="list-style-type: none"> <li>• Posture AUP is not applicable for a guest flow</li> <li>• No two configurations have any user identity group in common</li> <li>• If you want to create a AUP configuration with a user identity group “Any”, then delete all other AUP configurations first</li> <li>• If you create a AUP configuration with a user identity group “Any”, then you cannot create other AUP configurations with a unique user identity group or user identity groups. To create an AUP configuration with a user identity group other than Any, either delete an existing AUP configuration with a user identity group “Any” first, or update an existing AUP configuration with a user identity group “Any” with a unique user identity group or user identity groups.</li> </ul>
<b>Acceptable use policy configurations list</b>	Lists existing AUP configurations and end user identity groups associated with AUP configurations.

**Related Topics**

[Configure Acceptable Use Policies for Posture Assessment](#), on page 14

# Configure Acceptable Use Policies for Posture Assessment

After login and successful posture assessment of clients, the client agent displays a temporary network access screen. This screen contains a link to an acceptable use policy (AUP). When the user clicks the link, they are redirected to a page that displays the network-usage terms and conditions, which they must read and accept.

Each Acceptable Use Policy configuration must have a unique user identity group, or a unique combination of user identity groups. Cisco ISE finds the AUP for the first matched user identity group, and then it communicates to the client agent that displays the AUP.

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- Step 1** Choose **Administration > System > Settings > Posture > Acceptable Use Policy**.
- Step 2** Click **Add**.
- Step 3** Modify the values in the **New Acceptable Use Policy Configuration** window.
- Step 4** Click **Submit**.
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## Posture Conditions

A posture condition can be any one of the following simple conditions: a file, a registry, an application, a service, or a dictionary condition. One or more conditions from these simple conditions form a compound condition, which can be associated to a posture requirement.

When you deploy Cisco ISE on your network for the first time, you can download posture updates from the web. This process is called the initial posture update.

After an initial posture update, Cisco ISE also creates Cisco defined simple and compound conditions. Cisco defined simple conditions have pc\_ as their prefixes and compound conditions have pr\_ as their prefixes.

You can also configure Cisco ISE to download the Cisco-defined conditions periodically as a result of dynamic posture updates through the web. You cannot delete or edit Cisco defined posture conditions.

A user defined condition or a Cisco defined condition includes both simple conditions and compound conditions.

## Simple Posture Conditions

You can use the **Posture Navigation** pane to manage the following simple conditions:

- **File Conditions:** A condition that checks the existence of a file, the date of a file, and the versions of a file on the client.
- **Registry Conditions:** A condition that checks for the existence of a registry key or the value of the registry key on the client.
- **Application Conditions:** A condition that checks if an application or process is running or not running on the client.



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**Note** If a process is installed and running, user is compliant. However, the Application condition works in reverse logic; If an application is not installed and not running, the end user is complaint. If an application is installed and running, the end user is non-complaint.

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- Service Conditions: A condition that checks if a service is running or not running on the client.
- Dictionary Conditions: A condition that checks a dictionary attribute with a value.
- USB Conditions: A condition that checks for the presence of USB mass storage device.

## Create Simple Posture Conditions

You can create file, registry, application, service, and dictionary simple conditions that can be used in posture policies or in other compound conditions.

### Before you begin

To perform the following task, you must be a Super Admin or Policy Admin.

- 
- Step 1** Choose **Policy > Policy Elements > Conditions > Posture**.
  - Step 2** Choose any one of the following: **File, Registry, Application, Service, or Dictionary Simple Condition**.
  - Step 3** Click **Add**.
  - Step 4** Enter the appropriate values in the fields.
  - Step 5** Click **Submit**.
- 

## Compound Posture Conditions

Compound conditions are made up of one or more simple conditions, or compound conditions. You can make use of the following compound conditions while defining a Posture policy.

- Compound Conditions: Contains one or more simple conditions, or compound conditions of the type File, Registry, Application, or Service condition
- Antivirus Compound Conditions: Contains one or more AV conditions, or AV compound conditions
- Antispyware Compound Conditions: Contains one or more AS conditions, or AS compound conditions
- Dictionary Compound Conditions: Contains one or more dictionary simple conditions or dictionary compound conditions
- Antimalware Conditions: Contains one or more AM conditions.

## Create Compound Posture Conditions

You can create compound conditions that can be used in posture policies for posture assessment and validation.

**Before you begin**

To perform the following task, you must be a Super Admin or Policy Admin.

- 
- Step 1** Choose **Policy > Policy Elements > Conditions > Posture > Compound Conditions > Add**.
- Step 2** Enter appropriate values for the fields.
- Step 3** Click **Validate Expression** to validate the condition.
- Step 4** Click **Submit**.
- 

**Dictionary Compound Condition Settings**

The following table describes the fields in the **Dictionary Compound Conditions** window. The navigation path for this window is **Policy > Policy Elements > Conditions > Posture > Dictionary Compound Condition**.

*Table 4: Dictionary Compound Condition Settings*

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the dictionary compound condition that you want to create.
<b>Description</b>	Enter the description of the dictionary compound condition that you want to create.
<b>Select Existing Condition from Library</b>	Define an expression by selecting pre-defined conditions from the policy elements library or add ad-hoc attribute/value pairs to your expression in the subsequent steps.
<b>Condition Name</b>	Choose dictionary simple conditions that you have already created from the policy elements library.
<b>Expression</b>	The Expression is updated based on your selection from the Condition Name drop-down list.
<b>AND or OR operator</b>	Choose an AND, or an OR operator to logically combine dictionary simple conditions, which can be added from the library. Click the <b>Action</b> icon to do the following: <ul style="list-style-type: none"> <li>• Add Attribute/Value</li> <li>• Add Condition from Library</li> <li>• Delete</li> </ul>
<b>Create New Condition (Advance Option)</b>	Select attributes from various system or user-defined dictionaries. You can also add predefined conditions from the policy elements library in the subsequent steps.
<b>Condition Name</b>	Choose a dictionary simple condition that you have already created.
<b>Expression</b>	From the Expression drop-down list, you can create a dictionary simple condition.



Field Name	Usage Guidelines
Operator	Choose an operator to associate a value to an attribute.
Value	Enter a value that you want to associate to the dictionary attribute, or choose a value from the drop-down list.

#### Related Topics

[Compound Posture Conditions](#), on page 15

[Create Compound Posture Conditions](#), on page 15

## Predefined Condition for Enabling Automatic Updates in Windows Clients

The `pr_AutoUpdateCheck_Rule` is a Cisco predefined condition, which is downloaded to the Compound Conditions window. This condition allows you to check whether the automatic updates feature is enabled on Windows clients. If a Windows client fails to meet this requirement, then the Network Access Control (NAC) Agents enforce the Windows client to enable (remediate) the automatic updates feature. After this remediation is done, the Windows client becomes posture compliant. The Windows update remediation that you associate in the posture policy overrides the Windows administrator setting, if the automatic updates feature is not enabled on the Windows client.

## Preconfigured Antivirus and Antispyware Conditions

Cisco ISE loads preconfigured antivirus and antispyware compound conditions in the AV and AS Compound Condition windows, which are defined in the antivirus and antispyware support charts for Windows and MacOS operating systems. These compound conditions can check if the specified antivirus and antispyware products exist on all the clients. You can also create new antivirus and antispyware compound conditions in Cisco ISE.

### Antivirus and Antispyware Support Chart

Cisco ISE uses an antivirus and antispyware support chart, which provides the latest version and date in the definition files for each vendor product. Users must frequently poll antivirus and antispyware support charts for updates. The antivirus and antispyware vendors frequently update antivirus and antispyware definition files, look for the latest version and date in the definition files for each vendor product.

Each time the antivirus and antispyware support chart is updated to reflect support for new antivirus and antispyware vendors, products, and their releases, the agents receive a new antivirus and antispyware library. It helps the Agents to support newer additions. Once the agents retrieve this support information, they check the latest definition information from the periodically updated `se-checks.xml` file (which is published along with the `se-rules.xml` file in the `se-templates.tar.gz` archive), and determine whether clients are compliant with the posture policies. Depending upon what is supported by the antivirus and antispyware library for a particular antivirus, or antispyware product, the appropriate requirements will be sent to the agents for validating their existence, and the status of particular antivirus and antispyware products on the clients during posture validation.

For more information on the antivirus and anti-malware products supported by the ISE posture agent, see the Cisco AnyConnect ISE Posture Support Charts: [Cisco ISE Compatibility Guide](#).

You can verify the minimum compliance module version while creating an anti-malware posture condition. After the posture feed is updated, choose **Work Centers > Posture > Policy Elements > Anti-Malware Condition** and then choose the **Operating System** and **Vendor** to view the support chart.



**Note** Some of the Anti-Malware endpoint security solutions (such as FireEye, Cisco AMP, Sophos, and so on) require network access to their respective centralized service for functioning. For such products, AnyConnect ISE posture module (or OESIS library) expects the endpoints to have internet connectivity. It is recommended that internet access is allowed for such endpoints during pre-posture for these online agents (if offline detection is not enabled). Signature Definition condition might not be applicable in such cases.

## Compliance Module

The compliance module contains a list of fields, such as vendor name, product version, product name, and attributes provided by OPSWAT that supports Cisco ISE posture conditions.

Vendors frequently update the product version and date in the definition files, therefore, you must look for the latest version and date in the definition files for each vendor product by frequently polling the compliance module for updates. Each time the compliance module is updated to reflect the support for new vendors, products, and their releases, the AnyConnect agent receives a new library. It helps the AnyConnect agent to support newer additions. The AnyConnect agent retrieves this support information and checks the latest definition information from the periodically updated `se-checks.xml` file (which is published along with the `se-rules.xml` file in the `se-templates.tar.gz` archive), and determine whether clients are compliant with the posture policies. Depending upon what is supported by the library for a particular antivirus, antispyware, antimalware, disk encryption, or patch management product, the appropriate requirements will be sent to the AnyConnect agent for validating their existence, and the status of the particular products on the clients during posture validation.

The compliance module is available on [Cisco.com](https://www.cisco.com).

Table given below lists the OPSWAT API versions that support and do not support the ISE posture policy. There are different policy rules for agents that support versions 3 and 4.

**Table 5: OPSWAT API Versions**

Posture Condition	Compliance Module Version
OPSWAT	
Antivirus	3.x or earlier
Antispyware	3.x or earlier
Antimalware	4.x or later
Disk Encryption	3.x or earlier and 4.x or later
Patch Management	3.x or earlier and 4.x or later
USB	4.x or later
Non-OPSWAT	
File	Any version
Application	Any version

Posture Condition	Compliance Module Version
Compound	Any version
Registry	Any version
Service	Any version

**Note**

- Be sure to create separate posture policies for version 3.x or earlier and version 4.x or later, in anticipation of clients that may have installed any one of the above versions.
- OESIS version 4 support is provided for compliance module 4.x and Cisco AnyConnect 4.3 and higher. However, AnyConnect 4.3 supports both OESIS version 3 and version 4 policies.
- Version 4 compliance module is supported by ISE 2.1 and higher.

## Check Posture Compliance

**Step 1** Log in to Cisco ISE and access the dashboard.

**Step 2** In the **Posture Compliance** dashlet, hover your cursor over a stack bar or sparkline.

A tooltip provides detailed information.

**Step 3** Expand the data categories for more information.

**Step 4** Expand the **Posture Compliance** dashlet.

A detailed real-time report is displayed.

**Note** You can view the posture compliance report in the **Context Visibility** window. Navigate **Context Visibility > Endpoints > Compliance**. This window displays different charts based on **Compliance Status**, **Location**, **Endpoints**, and **Applications by Categories**.

You might see the posture status for endpoints that do not have any active sessions. For example, if the last known posture status for an endpoint is **Compliant**, the status remains **Compliant** in the **Context Visibility** window until the next update is received for the endpoint, even if the endpoint session is terminated. The posture status is retained in the **Context Visibility** window until that endpoint is deleted or purged.

## Create Patch Management Conditions

You can create a policy to check the status of a selected vendor's patch management product.

For example, you can create a condition to check if Microsoft System Center Configuration Manager (SCCM), Client Version 4.x software product is installed at an endpoint.



**Note** Supported versions of Cisco ISE and AnyConnect:

- Cisco ISE version 1.4 and later
- AnyConnect version 4.1 and later

### Before you begin

To perform the following task, you must be a Super Admin or Policy Admin.

- 
- Step 1** Choose **Policy** > **Policy Elements** > **Conditions** > **Posture** > **Patch Management Condition**.
  - Step 2** Click **Add**.
  - Step 3** Enter the condition name and description in the **Name** and **Description** fields.
  - Step 4** Choose the appropriate operating system from the **Operating System** drop-down field.
  - Step 5** Choose the **Compliance Module** from the drop-down list.
  - Step 6** Choose the **Vendor Name** from the drop-down list.
  - Step 7** Choose the **Check Type**.
  - Step 8** Choose the appropriate patch from the **Check patches installed** drop-down list.
  - Step 9** Click **Submit**.
- 

### Related Topics

- [Patch Management Condition Settings](#), on page 36
- [Add a Patch Management Remediation](#), on page 50

## Create Disk Encryption Conditions

You can create a policy to check if an end point is compliant with the specified data encryption software.

For example, you can create a condition to check if the C: drive is encrypted in an end point. If the C: drive is not encrypted then the end point receives a non-compliance notification and ISE logs a message.

### Before you begin

To perform the following task, you must be a Super Admin or Policy Admin. You can associate a Disk Encryption condition with a posture requirement only when you use the AnyConnect ISE posture agent.

- 
- Step 1** Choose **Policy** > **Policy Elements** > **Conditions** > **Posture** > **Disk Encryption Condition**.
  - Step 2** Click **Add**.
  - Step 3** In the **Disk Encryption Condition** window, enter the appropriate values in the fields.
  - Step 4** Click **Submit**.
-

# Posture Condition Settings

This section describes simple and compound conditions used for posture.

## File Condition Settings

The following table describes the fields in the **File Conditions** window. The navigation path for this window is **Policy > Policy Elements > Conditions > Posture > File Condition**.

*Table 6: File Condition Settings*

Field Name	Usage Guidelines for Windows OS	Usage Guidelines for macOS
<b>Name</b>	Enter the name of the file condition.	Enter the name of the file condition.
<b>Description</b>	Enter a description for the file condition.	Enter a description for the file condition.
<b>Operating System</b>	Select any Windows operating system to which the file condition should be applied.	Select any macOS to which the file condition should be applied.
<b>File Type</b>	<p>Choose one of the predefined settings:</p> <ul style="list-style-type: none"> <li>• <b>FileDate</b>: Checks whether a file with a particular file-created or file-modified date exists in the system.</li> <li>• <b>FileExistence</b>: Checks whether a file exists in the system.</li> <li>• <b>FileVersion</b>: Checks whether a particular version of a file exists in the system.</li> <li>• <b>CRC32</b>: Checks the data integrity of a file using the checksum function.</li> <li>• <b>SHA-256</b>: Checks the data integrity of a file using the hash function.</li> </ul>	<p>Choose one of the predefined settings:</p> <ul style="list-style-type: none"> <li>• <b>FileDate</b>: Checks whether a file with a particular file-created or file-modified date exists in the system.</li> <li>• <b>FileExistence</b>: Checks whether a file exists in the system.</li> <li>• <b>CRC32</b>: Checks the data integrity of a file using the checksum function.</li> <li>• <b>SHA-256</b>: Checks the data integrity of a file using the hash function.</li> <li>• <b>PropertyList</b>: Checks the property value in a plist file, such as loginwindow.plist.</li> </ul>

Field Name	Usage Guidelines for Windows OS	Usage Guidelines for macOS
<b>Data Type and Operator</b>	NA	<p>(Available only if you select <b>PropertyList</b> as the File Type) Choose the data type or value of the key to be searched in the plist files. Each data type contains a set of operators.</p> <ul style="list-style-type: none"> <li>• <b>Unspecified</b>: Checks the existence of the specified key. Enter an Operator (Exists, DoesNotExist).</li> <li>• <b>Number</b>: Checks for the specified key of number data type. Enter an Operator (equals, does not equal, greater than, less than, greater than or equal to, less than or equal to) and a Value.</li> <li>• <b>String</b>: Checks for the specified key of string data type. Enter an Operator (equals, does not equal, equals (ignore case), starts with, does not start with, contains, does not contain, ends with, does not end with) and a Value.</li> <li>• <b>Version</b>: Checks for the value of the specified key as a version string. Enter an Operator (earlier than, later than, same as) and a Value.</li> </ul>
<b>Property Name</b>	NA	<p>(Available only if you select <b>PropertyList</b> as the File Type) Enter a name of the key, for example, BuildVersionStampAsNumber</p>

Field Name	Usage Guidelines for Windows OS	Usage Guidelines for macOS
<b>File Path</b>	<p>Choose one of the predefined settings:</p> <ul style="list-style-type: none"> <li>• <b>ABSOLUTE_PATH:</b> Checks the file in the fully qualified path of the file. For example, C:\&lt;directory&gt;\file name. For other settings, enter only the file name.</li> <li>• <b>SYSTEM_32:</b> Checks the file in the C:\WINDOWS\system32 directory. Enter the file name.</li> <li>• <b>SYSTEM_DRIVE:</b> Checks the file in the C:\ drive. Enter the file name.</li> <li>• <b>SYSTEM_PROGRAMS:</b> Checks the file in the C:\Program Files. Enter the file name.</li> <li>• <b>SYSTEM_ROOT:</b> Checks the file in the root path for Windows system. Enter the file name.</li> <li>• <b>USER_DESKTOP:</b> Checks if the specified file is present on the Windows user's desktop. Enter the file name.</li> <li>• <b>USER_PROFILE:</b> Checks if the file is present in the Windows user's local profile directory. Enter the file path.</li> </ul>	<p>Choose one of the predefined settings:</p> <ul style="list-style-type: none"> <li>• <b>Root:</b> Checks the file in the root (/) directory. Enter the file path.</li> <li>• <b>Home:</b> Checks the file in the home (~) directory. Enter the file path.</li> </ul>
<b>File Date Type</b>	(Available only if you select <b>FileDate</b> as the File Type) Choose <b>Creation Date</b> or <b>Modification Date</b> .	(Available only if you select <b>FileDate</b> as the File Type) Choose <b>Creation Date</b> or <b>Modification Date</b> .

Field Name	Usage Guidelines for Windows OS	Usage Guidelines for macOS
<b>File Operator</b>	<p>The File Operator options change according to the settings you select in the File Type. Choose the settings appropriately:</p> <p>FileDate</p> <ul style="list-style-type: none"> <li>• EarlierThan</li> <li>• LaterThan</li> <li>• EqualTo</li> <li>• Within: The last <i>n</i> number of days. Valid values are between 1 and 300 days.</li> </ul> <p>FileExistence</p> <ul style="list-style-type: none"> <li>• Exists</li> <li>• DoesNotExist</li> </ul> <p>FileVersion</p> <ul style="list-style-type: none"> <li>• EarlierThan</li> <li>• LaterThan</li> <li>• EqualTo</li> </ul>	<p>The File Operator options change according to the settings you select in the File Type. Choose the settings appropriately:</p> <p>FileDate</p> <ul style="list-style-type: none"> <li>• EarlierThan</li> <li>• LaterThan</li> <li>• EqualTo</li> <li>• Within: The last <i>n</i> number of days. Valid values are between 1 and 300 days.</li> </ul> <p>FileExistence</p> <ul style="list-style-type: none"> <li>• Exists</li> <li>• DoesNotExist</li> </ul>
<b>File CRC Data</b>	(Available only if you select <b>CRC32</b> as the File Type) You can enter a checksum value, for example, 0x3c37fec3 to check file integrity. The checksum value should start with 0x, a hexadecimal integer.	(Available only if you select <b>CRC32</b> as the File Type) You can enter a checksum value, for example, 0x3c37fec3 to check file integrity. The checksum value should start with 0x, a hexadecimal integer.
<b>File SHA-256 Data</b>	(Available only if you select <b>SHA-256</b> as the File Type) You can enter a 64-byte hexadecimal hash value to check file integrity.	(Available only if you select <b>SHA-256</b> as the File Type) You can enter a 64-byte hexadecimal hash value to check file integrity.
<b>Date and Time</b>	(Available only if you select <b>FileDate</b> as the File Type) Enter the date and time of the client system in mm/dd/yyyy and hh:mm:ss format.	(Available only if you select <b>FileDate</b> as the File Type) Enter the date and time of the client system in mm/dd/yyyy and hh:mm:ss format.



**Related Topics**

[Simple Posture Conditions](#), on page 14

[Compound Posture Conditions](#), on page 15

[Create a Posture Condition](#), on page 59

## Firewall Condition Settings

The Firewall condition checks if a specific Firewall product is running on an endpoint. The list of supported Firewall products is based on the OPSWAT support charts. You can enforce policies during initial posture and Periodic Reassessment (PRA).

Cisco ISE provides default Firewall conditions for Windows and macOS. These conditions are disabled by default.

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the Firewall condition.
<b>Description</b>	Enter a description for the Firewall condition.
<b>Compliance Module</b>	Choose the required compliance module. <ul style="list-style-type: none"> <li>• 4.x or later</li> <li>• 3.x or later</li> <li>• Any Version</li> </ul>
<b>Operating System</b>	Checks If the required Firewall product is installed on an endpoint. You can select the Windows OS or macOS.
<b>Vendor</b>	Choose a vendor name from the drop-down list. The Firewall products of a vendor and their check type are retrieved and displayed in the <b>Products for Selected Vendor</b> table. The list in the table changes according to the selected operating system.
<b>Check Type</b>	Enabled: To check if a specific Firewall is running on an endpoint. Verify if the vendor's product supports the chosen check type by referring to the <b>Products for Selected Vendor</b> list.

## Registry Condition Settings

The following table describes the fields in the Registry Conditions window. The navigation path for this window is **Policy > Policy Elements > Conditions > Posture > Registry Condition**.

*Table 7: Registry Condition Settings*

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the registry condition.
<b>Description</b>	Enter a description for the registry condition.
<b>Registry Type</b>	Choose one of the predefined settings as the registry type.

Field Name	Usage Guidelines
<b>Registry Root Key</b>	Choose one of the predefined settings as the registry root key.
<b>Sub Key</b>	Enter the sub key without the backslash (“\”) to check the registry key in the path specified in the Registry Root Key.  For example, SOFTWARE\Symantec\Norton AntiVirus\version will check the key in the following path:  HKLM\SOFTWARE\Symantec\NortonAntiVirus\version
<b>Value Name</b>	(Available only if you select <b>RegistryValue</b> or <b>RegistryValueDefault</b> as the Registry Type) Enter the name of the registry key value to be checked for <b>RegistryValue</b> .  This is the default field for <b>RegistryValueDefault</b> .
<b>Value Data Type</b>	(Available only if you select <b>RegistryValue</b> or <b>RegistryValueDefault</b> as the Registry Type) Choose one of the following settings: <ul style="list-style-type: none"> <li>• <b>Unspecified</b>: Checks whether the registry key value exists or not. This option is available only for <b>RegistryValue</b>.</li> <li>• <b>Number</b>: Checks the specified number in the registry key value</li> <li>• <b>String</b>: Checks the string in the registry key value</li> <li>• <b>Version</b>: Checks the version in the registry key value</li> </ul>
<b>Value Operator</b>	Choose the settings appropriately.
<b>Value Data</b>	(Available only if you select <b>RegistryValue</b> or <b>RegistryValueDefault</b> as the Registry Type) Enter the value of the registry key according to the data type you have selected in <b>Value Data Type</b> .
<b>Operating System</b>	Select the operating system to which the registry condition should be applied.

**Related Topics**

[Simple Posture Conditions](#), on page 14

[Compound Posture Conditions](#), on page 15

## Continuous Endpoint Attribute Monitoring

You can use the AnyConnect agent to continuously monitor different endpoint attributes to ensure that dynamic changes are observed during posture assessment. This improves the overall visibility of an endpoint and helps you create posture policies based on their behavior. The AnyConnect agent monitors applications that are installed and running on an endpoint. You can turn on and off the feature and configure how often the data should be monitored. By default, data is collected every 5 minutes and is stored in the database. During initial posture, AnyConnect reports a complete list of running and installed applications. After initial posture, the AnyConnect agent scans the applications every X minute and sends the differences from the last scan to the server. The server displays the complete list of running and installed applications.

## Application Condition Settings

The application condition queries for applications that are installed on an endpoint. This helps you to get an aggregate visibility of the software distributed on your endpoints.

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the application condition.
<b>Description</b>	Enter the description for the application condition.
<b>Operating System</b>	Select the Windows OS or MAC OSX to which the application condition should
<b>Compliance Module</b>	Choose one of the following options: <ul style="list-style-type: none"> <li>• <b>4.x or later</b></li> <li>• <b>3.x or earlier</b></li> <li>• <b>Any Version</b></li> </ul>
<b>Check By</b>	Choose one of the following options: <ul style="list-style-type: none"> <li>• <b>Process</b>: Choose this option to check if a process is running on an endpoint</li> <li>• <b>Application</b>: Choose this option to check if an application is running on an</li> </ul>
<b>Process Name</b>	(Available only when you select <b>Process</b> as the <b>Check By</b> option) Enter the required name.
<b>Application Operator</b>	(Available only when you select <b>Process</b> as the <b>Check By</b> option) Choose one of the following options: <ul style="list-style-type: none"> <li>• <b>Running</b>: Choose this option to check if an application is running on an endpoint</li> <li>• <b>Not Running</b>: Choose this option to check whether an application is not running on an endpoint.</li> </ul>
<b>Application State</b>	(Available only when you select <b>Application</b> as the <b>Check By</b> option) Choose one of the following options: <ul style="list-style-type: none"> <li>• <b>Installed</b>: Choose this option to check whether the clients have malicious applications installed. If a malicious application is found, the remediation action is triggered.</li> <li>• <b>Running</b>: Choose this option to check if an application is running on an endpoint.</li> </ul>

Field Name	Usage Guidelines
Provision By	<p>(Available only when you select <b>Application</b> as the <b>Check By</b> option) Choose one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Everything</b>: You can select all listed categories such as Browser, Patch Management, and so on.</li> <li>• <b>Name</b>: You should select at least one category. For example, if you choose the <b>Browser</b> category, it displays the corresponding vendors in the <b>Vendor</b> drop-down list.</li> <li>• <b>Category</b>: You can check one or more categories such as Anti-Malware, Backup, or Data Storage.</li> </ul> <p><b>Note</b> Categories are dynamically updated from the OPSWAT library.</p>

You can view the number of installed and running applications for each endpoint in the **Context Visibility > Endpoints > Compliance** window.

The **Home > Summary > Compliance** window displays the percentage of endpoints that are subject to posture assessment and are compliant.

## Service Condition Settings

The following table describes the fields in the **Service Conditions** window. The navigation path for this window is **Policy > Policy Elements > Conditions > Posture > Service Condition**.

*Table 8: Service Conditions Settings*

Field Name	Usage Guidelines
Name	Enter a name for the service condition.
Description	Enter a description of the service condition.
Operating Systems	Select the operating system to which the service condition should be applied. You can select different versions of the Windows OS or macOS.
Service Name	Enter the name of the Daemon or User Agent service, for example, com.apple.geod, running as root. The AnyConnect agent uses the command <b>sudo launchctl list</b> to validate the service condition.
Service Type	<p>Choose the type of service that AnyConnect should check for to ensure client compliance:</p> <ul style="list-style-type: none"> <li>• <b>Daemon</b>: Checks if a specified service, such as scanning a client device for malware, is present in the specified list of Daemon services in the client.</li> <li>• <b>User Agent</b>: Checks if a specified service, such as a service that runs when malware is detected, is present in the specified list of User services in the client.</li> <li>• <b>Daemon or User Agent</b>: Checks if the specified services are present either in the Daemon or User Agent services list.</li> </ul>

Field Name	Usage Guidelines
<b>Service Operator</b>	Choose the service status that you want to check in the client: <ul style="list-style-type: none"> <li>• <b>Windows OS:</b> To check if a service is <b>Running</b> or <b>Not Running</b>.</li> <li>• <b>Mac OSX:</b> To check if a service is <b>Loaded</b>, <b>Not Loaded</b>, <b>Loaded and Running</b>, <b>Loaded with Exit Code</b>, and <b>Loaded and running or with Exit code</b>.</li> </ul>

**Related Topics**

[Simple Posture Conditions](#), on page 14

[Compound Posture Conditions](#), on page 15

## Posture Compound Condition Settings

The following table describes the fields in the **Compound Conditions** window. The navigation path for this window is **Policy > Policy Elements > Conditions > Posture > Compound Condition**.

*Table 9: Posture Compound Condition Settings*

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the compound condition that you want to create.
<b>Description</b>	Enter the description of the compound condition that you want to create.
<b>Operating System</b>	Select one or more Windows operating systems. This allows you to associate Windows operating systems to which the condition is applied.
<b>Parentheses ( )</b>	Click the parentheses to combine two simple conditions from the following simple condition types: file, registry, application, and service conditions.
<b>( &amp; ): AND operator</b> (use “&” for an AND operator, without the quotes)	You can use the AND operator (ampersand [ & ]) in a compound condition. For example, enter <b>Condition1 &amp; Condition2</b> .
<b>(   ): OR operator</b> (use “ ” for an OR operator, without the quotes)	You can use the OR operator (horizontal bar [   ]) in a compound condition. For example, enter <b>Condition1   Condition2</b> .
<b>( ! ): NOT operator</b> (use “!” for a NOT operator, without the quotes)	You can use the NOT operator (exclamation point [ ! ]) in a compound conditions. For example, enter <b>Condition1 ! Condition2</b> .
<b>Simple Conditions</b>	Choose from a list of simple conditions of the following types: file, registry, application, and service conditions.  You can also create simple conditions of file, registry, application, and service conditions from the object selector.  Click the quick picker (down arrow) on the <b>Action</b> button to create simple conditions of file, registry, application, and service conditions.

**Related Topics**

[Posture Conditions](#), on page 14

[Create Compound Posture Conditions](#), on page 15

## AntiVirus Condition Settings

The following table describes the fields in the **Anti-Virus Condition** window. The navigation path for this window is **Policy > Policy Elements > Conditions > Posture > Anti-Virus Condition**.

*Table 10: AntiVirus Condition Settings*

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the antivirus condition that you want to create.
<b>Description</b>	Enter the description of the antivirus condition that you want to create.
<b>Operating System</b>	Select an operating system to check the installation of an antivirus programs on your client, or check the latest antivirus definition file updates to which the condition is applied.
<b>Vendor</b>	Choose a vendor from the drop-down list. The selection of Vendor retrieves their antivirus products and versions, which are displayed in the Products for Selected Vendor table.
<b>Check Type</b>	Choose whether to check an installation or check the latest definition file update on the client.
<b>Installation</b>	Choose to check only the installation of an antivirus program on the client.
<b>Definition</b>	Choose to check only the latest definition file update of an antivirus product on the client.
<b>Check against latest AV definition file version, if available</b>	(Available only when you choose Definition check type) Choose to check the antivirus definition file version on the client against the latest antivirus definition file version, if available as a result of posture updates in Cisco ISE. Otherwise, this option allows you to check the definition file date on the client against the latest definition file date in Cisco ISE.
<b>Allow virus definition file to be (Enabled)</b>	(Available only when you choose Definition check type) Choose to check the antivirus definition file version and the latest antivirus definition file date on the client. The latest definition file date cannot be older than that you define in the next field (days older than field) from the latest antivirus definition file date of the product or the current system date.  If unchecked, Cisco ISE allows you to check only the version of the antivirus definition file using the Check against latest AV definition file version, if available option.
<b>Days Older than</b>	Define the number of days that the latest antivirus definition file date on the client can be older from the latest antivirus definition file date of the product or the current system date. The default value is zero (0).

Field Name	Usage Guidelines
<b>Latest File Date</b>	Choose to check the antivirus definition file date on the client, which can be older by the number of days that you define in the days older than field.  If you set the number of days to the default value (0), then the antivirus definition file date on the client should not be older than the latest antivirus definition file date of the product.
<b>Current System Date</b>	Choose to check the antivirus definition file date on the client, which can be older by the number of days that you define in the days older than field.  If you set the number of days to the default value (0), then the antivirus definition file date on the client should not be older than the current system date.
<b>Products for Selected Vendor</b>	Choose an antivirus product from the table. Based on the vendor that you select in the New Anti-virus Condition page, the table retrieves information on their antivirus products and their version, remediation support that they provide, latest definition file date and its version.  The selection of a product from the table allows you to check for the installation of an antivirus program, or check for the latest antivirus definition file date, and its latest version.

**Related Topics**

[Compound Posture Conditions](#), on page 15

[Preconfigured Antivirus and Antispyware Conditions](#), on page 17

[Antivirus and Antispyware Support Chart](#), on page 17

## Antispyware Compound Condition Settings

The following table describes the fields in the **AS Compound Conditions** window. The navigation path for this window is **Policy > Policy Elements > Conditions > AS Compound Condition**.

**Table 11: Antispyware Compound Condition Settings**

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the antispyware compound condition that you want to create.
<b>Description</b>	Enter the description of the antispyware compound condition that you want to create.
<b>Operating System</b>	Selecting an operating system allows you to check the installation of an antispyware program on your client, or check the latest antispyware definition file updates to which the condition is applied.
<b>Vendor</b>	Choose a vendor from the drop-down list. The selection of Vendor retrieves their antispyware products and versions, which are displayed in the Products for Selected Vendor table.
<b>Check Type</b>	Choose if you want to choose a type whether to check an installation, or check the latest definition file update on the client.

Field Name	Usage Guidelines
<b>Installation</b>	Choose if you want to check only the installation of an antispymware program on the client.
<b>Definition</b>	Choose if you want to check only the latest definition file update of an antispymware product on the client.
<b>Allow Virus Definition File to be (Enabled)</b>	<p>Check this check box when you are creating antispymware definition check types, and disabled when creating antispymware installation check types.</p> <p>If checked, the selection allows you to check antispymware definition file version and the latest antispymware definition file date on the client. The latest definition file date cannot be older than that you define in the days older than field from the current system date.</p> <p>If unchecked, the selection allows you to check only the version of the antispymware definition file as the Allow virus definition file to be check box is not checked.</p>
<b>Days Older than</b>	Define the number of days that the latest antispymware definition file date on the client can be older from the current system date. The default value is zero (0).
<b>Current System Date</b>	<p>Choose to check the antispymware definition file date on the client, which can be older by the number of days that you define in the days older than field.</p> <p>If you set the number of days to the default value (0), then the antispymware definition file date on the client should not be older than the current system date.</p>
<b>Products for Selected Vendor</b>	<p>Choose an antispymware product from the table. Based on the vendor that you select in the New Anti-spyware Compound Condition page, the table retrieves information on their antispymware products and their version, remediation support that they provide, latest definition file date and its version.</p> <p>The selection of a product from the table allows you to check for the installation of an antispymware program, or check for the latest antispymware definition file date, and its latest version.</p>

**Related Topics**

[Compound Posture Conditions](#), on page 15

[Preconfigured Antivirus and Antispymware Conditions](#), on page 17

[Antivirus and Antispymware Support Chart](#), on page 17

## Antimalware Condition Settings

The antimalware condition is a combination of the antispymware and antivirus conditions and is supported by OESIS version 4.x or later compliance module.

The following table describes the fields in the **Antimalware Conditions** window. The navigation path is **Work Centers > Posture > Posture Elements > Conditions > Antimalware**. You can also access the option in the **Policy > Policy Elements > Conditions > Posture > Antimalware Condition** window.





**Note** It is recommended that you manually update the installed Antimalware products to have the latest definitions at least once. Otherwise, the posture checks using AnyConnect for Antimalware definitions might fail.

**Table 12: Antimalware Condition Settings**

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the antimalware condition.
<b>Description</b>	Enter a description of the antimalware condition.
<b>Compliance Module</b>	Support for OESIS version 4.x or later.
<b>Operating System</b>	Select an operating system to check the installation of antimalware programs on your client, or check the latest antimalware definition file updates to which the condition is applied. It supports both macOS and Windows OS.
<b>Vendor</b>	Choose a vendor from the drop-down list. The selected vendor's antimalware products, versions, latest definition dates, latest definition versions, and the minimum compliance module versions, are displayed in the <b>Products for Selected Vendor</b> table.
<b>Check Type</b>	Choose whether to check an installation or check the latest definition file update on the client.
<b>Installation</b>	Choose this option to check if an antimalware program is installed on the client.
<b>Definition</b>	Choose this option to check the latest definition file update of an antimalware product on the client.
<b>Check Against Latest AV Definition File Version, if Available</b>	<p>(Available only when you choose Definition check type) Choose to check the antimalware definition file version on the client against the latest antimalware definition file version, if available as a result of posture updates in Cisco ISE. Otherwise, this option allows you to check the definition file date on the client against the latest definition file date in Cisco ISE.</p> <p>This check will only work if there is a value listed in Cisco ISE for the Latest Definition Date or Latest Definition Version field for the selected product. Otherwise, the Current System Date field must be used.</p>
<b>Allow Virus Definition File to be (Enabled)</b>	<p>(Available only when you choose Definition check type) Choose to check the antimalware definition file version and the latest antimalware definition file date on the client. The latest definition file date cannot be older than that you define in the next field (days older than field) from the latest antimalware definition file date of the product or the current system date.</p> <p>If unchecked, Cisco ISE allows you to check only the version of the antimalware definition file using the Check against latest AV definition file version, if available option.</p>

Field Name	Usage Guidelines
<b>Days Older Than</b>	Define the number of days that the latest antimalware definition file date on the client can be older from the latest antimalware definition file date of the product or the current system date. The default value is zero (0).
<b>Latest File Date</b>	Choose to check the antimalware definition file date on the client, which can be older by the number of days that you define in the days older than field.  If you set the number of days to the default value (0), then the antimalware definition file date on the client should not be older than the latest antimalware definition file date of the product.  This check works only if there is a value listed in Cisco ISE for the Latest Definition Date field for the selected product. Otherwise, the Current System Date field must be used.
<b>Current System Date</b>	Choose to check the antimalware definition file date on the client, which can be older by the number of days that you define in the days older than field.  If you set the number of days to the default value (0), then the antimalware definition file date on the client should not be older than the current system date.
<b>Products for Selected Vendor</b>	Choose an antimalware product from the table. Based on the vendor that you select in the New Antimalware Condition page, the table retrieves information on their antimalware products and their version, remediation support that they provide, latest definition file date and its version.  The selection of a product from the table allows you to check for the installation of an antimalware program, or check for the latest antimalware definition file date, and its latest version.

For an antimalware condition for Carbon Black Cloud 3.x on Mac OS to be successful, the condition must meet the following requirements:

- The compliance module must be greater than 4.3.2741.
- The condition must be associated with the vendor VMware, Inc.

When you upgrade from one Cisco ISE release to another with a preconfigured Carbon Black Cloud 3.x condition, after a posture feed update, two Carbon Black Cloud 3.x conditions are listed in the **Advanced Conditions** area of the **Anti-Malware Condition** windows.

You must delete the Carbon Black Cloud 3.x condition associated with the vendor Carbon Black, Inc. You must reconfigure any existing antimalware conditions that use the Carbon Black Cloud 3.x from Carbon Black, Inc. to use the condition from the vendor VMware, Inc.

#### Related Topics

[Compound Posture Conditions](#), on page 15

## Dictionary Simple Condition Settings

The following table describes the fields in the **Dictionary Simple Conditions** window. The navigation path for this window is **Policy > Policy Elements > Conditions > Posture > Dictionary Simple Condition**.

Table 13: Dictionary Simple Condition Settings

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the dictionary simple condition that you want to create.
<b>Description</b>	Enter the description of the dictionary simple condition that you want to create.
<b>Attribute</b>	Choose an attribute from the dictionary.
<b>Operator</b>	Choose an operator to associate a value to the attribute that you have selected.
<b>Value</b>	Enter a value that you want to associate to the dictionary attribute, or choose a predefined value from the drop-down list.

**Related Topics**

[Simple Posture Conditions](#), on page 14

[Create Simple Posture Conditions](#), on page 15

## Dictionary Compound Condition Settings

The following table describes the fields in the **Dictionary Compound Conditions** window. The navigation path for this window is **Policy > Policy Elements > Conditions > Posture > Dictionary Compound Condition**.

Table 14: Dictionary Compound Condition Settings

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the dictionary compound condition that you want to create.
<b>Description</b>	Enter the description of the dictionary compound condition that you want to create.
<b>Select Existing Condition from Library</b>	Define an expression by selecting pre-defined conditions from the policy elements library or add ad-hoc attribute/value pairs to your expression in the subsequent steps.
<b>Condition Name</b>	Choose dictionary simple conditions that you have already created from the policy elements library.
<b>Expression</b>	The Expression is updated based on your selection from the Condition Name drop-down list.
<b>AND or OR operator</b>	Choose an AND, or an OR operator to logically combine dictionary simple conditions, which can be added from the library. Click the <b>Action</b> icon to do the following: <ul style="list-style-type: none"> <li>• Add Attribute/Value</li> <li>• Add Condition from Library</li> <li>• Delete</li> </ul>


Field Name	Usage Guidelines
<b>Create New Condition (Advance Option)</b>	Select attributes from various system or user-defined dictionaries. You can also add predefined conditions from the policy elements library in the subsequent steps.
<b>Condition Name</b>	Choose a dictionary simple condition that you have already created.
<b>Expression</b>	From the Expression drop-down list, you can create a dictionary simple condition.
<b>Operator</b>	Choose an operator to associate a value to an attribute.
<b>Value</b>	Enter a value that you want to associate to the dictionary attribute, or choose a value from the drop-down list.

**Related Topics**

[Compound Posture Conditions](#), on page 15

[Create Compound Posture Conditions](#), on page 15

## Patch Management Condition Settings

The following table describes the fields in the **Patch Management Conditions** window. The navigation path is To view this window, click the **Menu** icon () and choose **Policy > Policy Elements > Conditions > Posture > Patch Management Condition**.

*Table 15: Patch Management Condition*

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the patch management condition.
<b>Description</b>	Enter a description for the patch management condition.
<b>Operating System</b>	Choose an operating system to check the installation of a patch management software on the endpoint, or check the latest patch management definition file updates to which the condition is applied. You can select the Windows OS or macOS. You can also select more than one version of an operating system to create the patch management condition.
<b>Vendor Name</b>	Choose a vendor from the <b>Vendor Name</b> drop-down list. Based on your selection, the patch management products and their supported versions, check type, and minimum compliant module support details are displayed in the <b>Products for Selected Vendor</b> table. The list in the table changes according to the selected operating system.

Field Name	Usage Guidelines
<b>Check Type</b>	<p>Choose one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Installation:</b> To check if the selected product is installed on the endpoint. This check type is supported by all vendors. <ul style="list-style-type: none"> <li><b>Note</b> For the Cisco Temporal Agent, you can only view the Patch Management conditions containing the <b>Installation</b> check type in the <b>Requirements</b> window.</li> </ul> </li> <li>• <b>Enabled:</b> To check if the selected product is enabled on the endpoint. Verify if the vendor's product supports the chosen check type by referring to the <b>Products for Selected Vendor</b> list.</li> <li>• <b>Up to Date:</b> To check if the selected product does not have missing patches. Verify if the vendor's product supports the chosen check type by referring to the <b>Products for Selected Vendor</b> list.</li> </ul> <p>Click the <b>Products for Selected Vendor</b> drop-down list to view the list of products that the vendor you have specified in the <b>Vendor Name</b> field supports. For example, if you have selected Vendor A that has two products, namely Product 1 and Product 2. Product 1 may support the <b>Enabled</b> option, whereas Product 2 might not. Or, if Product 1 does not support any of the check types, it is grayed out.</p> <p><b>Note</b> (Applicable for Cisco ISE 2.3 and above, and AnyConnect 4.5 and above) If you select the <b>Up to Date</b> Check Type in the Patch Management condition with SCCM, then Cisco ISE:</p> <ol style="list-style-type: none"> <li>1. Uses the Microsoft API to check the current security patch for the specified severity level.</li> <li>2. Triggers the Patch Management remediation for that missing security patch.</li> </ol>
<b>Check Patches Installed</b>	<p>(Available only when you select the <b>Up To Date</b> check type) You can configure severity levels for missing patches, which are then deployed based on the severity. Choose one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Critical Only:</b> To check if critical software patches are installed on the endpoints in your deployment.</li> <li>• <b>Important and Critical:</b> To check if important and critical software patches are installed on the endpoints in your deployment.</li> <li>• <b>Moderate, Important, and Critical:</b> To check if moderate, important, and critical software patches are installed on the endpoints in your deployment.</li> <li>• <b>Low To Critical:</b> To check if low, moderate, important, and critical software patches are installed on the endpoints in your deployment.</li> <li>• <b>All:</b> To install the missing patches for all severity levels.</li> </ul>

#### Related Topics

[Create Patch Management Conditions](#), on page 19

## Disk Encryption Condition Settings

The following table describes the fields in the **Disk Encryption Condition** window. The navigation path is **Policy > Policy Elements > Conditions > Posture > Disk Encryption Condition**.

*Table 16: Disk Encryption Condition Settings*

Field Name	Usage Guidelines
<b>Name</b>	Enter the name of the disk encryption condition that you want to create.
<b>Description</b>	Enter a description for the disk encryption condition.
<b>Operating System</b>	Select an operating system of the end point, whose disk is to be checked for encryption. You can select the Windows OS or macOS. You can also select more than one version of an operating system to create the disk encryption condition.
<b>Vendor Name</b>	Choose a vendor name from the drop-down list. The data encryption products of a vendor, and their supported version, the encryption state check, and the minimum compliant module support are retrieved and displayed in the <b>Products for Selected Vendor</b> table. The list in the table changes according to the selected operating system.
<b>Location</b>	<p>Enabled only when an option is checked in the <b>Products for Selected Vendor</b> section. Select any one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Specific Location:</b> To check if the specified disk drive is encrypted in the end point, (for example, C: for Windows OS) or a specified volume label is encrypted, (for example, Mackintosh HD for macOS).</li> <li>• <b>System Location:</b> To check if the default Windows OS system drive or macOS hard drive is encrypted in the end point.</li> <li>• <b>All Internal Drives:</b> To check the internal drives. Includes all hard disks that are mounted and encrypted, and all internal partitions. Excludes read only drives, system recovery disk/partition, boot partition, network partitions, and the different physical disk drives that are external to the endpoint (including but not limited to disk drives connected via USB and Thunderbolt). Encryption software products that are validated include: <ul style="list-style-type: none"> <li>• Bit-locker-6.x/10.x</li> <li>• Checkpoint 80.x on Windows 7</li> </ul> </li> </ul>
<b>Encryption State</b>	<p>The Encryption State checkbox is disabled when the selected product does not support encryption state check. The repeater is displayed only when the checkbox is checked. You can select the Fully Encrypted option to check if the client's disk drive is wholly encrypted.</p> <p>If you create a condition, for example for TrendMicro, and select two vendors—one with the Encryption State "Yes" and another with the Encryption State "No", then the Encryption State will be disabled because one of the Vendor Encryption States is "No".</p> <p><b>Note</b> You can click the repeater to add more Locations and the relationship between each location is the logical AND operator.</p>

**Related Topics**

[Create Disk Encryption Conditions](#), on page 20

## USB Condition Settings

The following table describes the fields in the **USB Condition** window. The navigation path is **Work Centers > Posture > Policy Elements > USB**. You can also navigate to the **Policy > Policy Elements > Conditions > Posture > USB Condition** window.

The USB check is a predefined condition and supports only Windows OS.

*Table 17: USB Condition Settings*

Field Name	Usage Guidelines
<b>Name</b>	USB_Check
<b>Description</b>	Cisco predefined check
<b>Operating System</b>	Windows
<b>Compliance Module</b>	A display-only field for ISE posture compliance module support for version 4.x (and later).

**Related Topics**

[Simple Posture Conditions](#), on page 14

## Hardware Attributes Condition Settings

Choose **Policy > Policy Elements > Hardware Attributes Condition** to access the **Hardware Attributes Condition** window. The following table describes the fields in the **Hardware Attributes Condition** window.

Field Name	Usage Guidelines
<b>Name</b>	Hardware_Attributes_Check: The default name assigned to the condition.
<b>Description</b>	Cisco predefined check that collects hardware attributes from clients.
<b>Operating System</b>	Windows All or Mac OS
<b>Compliance Module</b>	4.x or later

## Configure Posture Policies

A posture policy is a collection of posture requirements that are associated with one or more identity groups and operating systems. The Dictionary Attributes are optional conditions that can be used along with the identity groups and the operating systems to define different policies for the devices.

Cisco ISE provides an option to configure the grace time for the devices that are noncompliant. If a device is found to be noncompliant, Cisco ISE looks for the previously known good state in the posture assessment

result cache and provides grace time for the device accordingly. The device is granted access to the network during the grace period. You can configure the grace time period in minutes, hours, or days (up to a maximum of 30 days).

See the section "Posture Policy" in [ISE Posture Prescriptive Deployment Guide](#) for more information.

### Before you begin

- You must understand the Acceptable Use Policy (AUP).
- You must understand periodic reassessments (PRA).

**Step 1** Choose **Policy > Posture or Work Centers > Posture > Posture Policy**.

**Step 2** Use the drop-down arrow to add a new policy.

**Step 3** To edit the profile, either double-click a policy or click Edit at the end of the row.

**Step 4** From the **Rule Status** drop-down list, choose **Enabled** or **Disabled**.

**Step 5** Choose the drop-down under **Policy Options**, and specify the **Grace Period Settings** in minutes, hours, or days.

The valid values are:

- 1 to 30 days
- 1 to 720 hours
- 1 to 43,200 minutes

By default, this setting is disabled.

**Step 6** (Optional) Drag the slider named **Delayed Notification** to delay the grace period prompt from being displayed to the user until a specific percentage of grace period has elapsed. For example, if the notification delay period is set to 50% and the configured grace period is 10 minutes, Cisco ISE checks the posture status after 5 minutes and displays the grace period notification if the endpoint is found to be noncompliant. Grace period notification is not displayed if the endpoint status is compliant. If the notification delay period is set to 0%, the user is prompted immediately at the beginning of the grace period to remediate the problem. However, the endpoint is granted access until the grace period expires. The default value for this field is 0%. The valid range is from 0 to 95%.

**Step 7** In the **Rule Name** field, enter the name of the policy.

**Note** It is a best practice to configure a posture policy with each requirement as a separate rule in order to avoid unexpected results.

**Step 8** From the **Identity Groups** column, select the desired identity group.

You can create posture policies based on user or end-point identity groups.

**Step 9** From the **Operating Systems** column, select the operating system.

**Step 10** From the **Compliance Module** column, select the required compliance module:

- **4.x or Later:** Supports antimalware, disk encryption, patch management, and USB conditions.
- **3.x or Earlier:** Supports antivirus, antispysware, disk encryption, and patch management conditions
- **Any Version—** supports file, service, registry, application, and compound conditions.



- Step 11** From the **Posture Type** column, select the Posture Type.
- **AnyConnect**—Deploys the AnyConnect agent to monitor and enforce Cisco ISE policies that require client interaction.
  - **AnyConnect Stealth**—Deploys the AnyConnect agent to monitor and enforce Cisco ISE posture policies without any client interaction.
  - **Temporal Agent**—A temporary executable file that is run on the client to check the compliance status.
- Step 12** In **Other Conditions**, you can add one or more dictionary attributes and save them as simple or compound conditions to a dictionary.
- Note** The dictionary simple conditions and compound conditions that you create in the **Posture Policy** window are not displayed while configuring an authorization policy.
- Step 13** Specify the requirements in the **Requirements** field.
- Step 14** Click **Save**.
- 

## Configure AnyConnect Workflow

To configure the AnyConnect agent, perform the following steps in Cisco ISE:

### Before you begin

In the following Cisco ISE releases, the bug [CSCvs39880](#) results in garbage collection processes that impacted memory space and file replication from a primary PSN to secondary PSNs. Because of this bug, in the following Cisco ISE releases, uploading an agent package in a large Cisco ISE deployment can take about 7 hours and about 40 minutes in a small deployment.

The following are the affected Cisco ISE releases:

In the later Cisco ISE releases, this bug has been fixed resulting in an agent package upload time of about 5 minutes.

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- Step 1** Create an AnyConnect agent profile.
- Step 2** Create an AnyConnect configuration for AnyConnect packages.
- Step 3** Create a client provisioning policy.
- Step 4** (Optional) Create custom posture condition.
- Step 5** (Optional) Create custom remediation action.
- Step 6** (Optional) Create custom posture requirements.
- Step 7** Create a posture policy.
- Step 8** Configure the client provisioning policy.
- Step 9** Create an authorization profile.
- Step 10** Configure the authorization policies.
- Step 11** Download and launch AnyConnect.
- a) Connect to the SSID.

- b) Launch a Browser and you will be redirected to the Client Provisioning Portal.
- c) Click **Start**. This checks if the AnyConnect agent is installed and running.
- d) Click **This Is My First Time Here**.
- e) Choose **Click Here to Download and Launch AnyConnect**.
- f) Save the Cisco Anyconnect .exe or .dmg file for Windows or macOS respectively. For Windows, run the .exe file and for macOS, double-click the .dmg file and run the app.



**Note** Cisco ISE does not support ARM64 version of AnyConnect for AnyConnect posture flow. Ensure that you do not use the ARM64 version of AnyConnect in the client provisioning policy, otherwise it might cause failure on the client side. Restart the client if AnyConnect is not working properly because of this issue.

## Prerequisite for Certificate-Based Conditions

Client Provisioning and Posture Policy rules may include conditions based on certificate attributes. A prerequisite for certificate-based conditions in either the Client Provisioning or Posture Policy is to ensure that there is a matching Authorization Policy rule based on the same certificate attribute.

For example, you should use the same attribute as shown in the figures, the Issuer – Common Name attribute is used in both Client Provisioning or posture and authorization policies.

**Figure 1: Cisco Provisioning Policy**

### Client Provisioning Policy

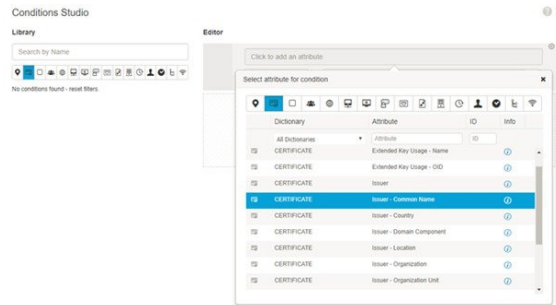
Define the Client Provisioning Policy to determine what users will receive upon login and user session initiation.  
For Agent Configuration: version of agent, agent profile, agent compliance module, and/or agent customization package.  
For Native Supplicant Configuration: wizard profile and/or wizard. Drag and drop rules to change the order.

Rule Name	Identity Groups	Operating Systems	Other Conditions	Results
IOS	If Any	and Apple iOS All	and Condition(s)	then Cisco-ISE-NSP
Android	If Any	and Android	and Condition(s)	then Cisco-ISE-NSP
Windows	If Any	and Windows All	and Condition(s)	then CiscoTempor...
MAC OS	If Any	and Mac OSX	and	
Chromebook	If Any	and Chrome OS All	and	

The 'Other Conditions' dialog box shows the following certificate attributes:

- Binary Encoded
- Days to Expiry
- Extended Key Usage - Name
- Extended Key Usage - OID
- Is Expired
- Issuer
- Issuer - Common Name**
- Issuer - Country
- Issuer - Domain Component

Figure 2: Conditions Studio



- Note** ISE server certificate must be trusted in the System Certificate store for AnyConnect 4.6 MR2 and above. Any posture check or remediation that requires elevated privileges will not work if the server is untrusted.
- Windows OS: The server certificate must be added to the System Certificate store.
  - MAC OS: The server certificate must be added to the System Keychain. It is recommended that you use the command-line utility to trust the certificate. Adding the certificate to the System Keychain using the Keychain Access app might not work if it is already present in the Login Keychain.

## Default Posture Policies

Rule Name	Description	Requirements
Default_Antimalware_Policy_Mac	Checks if endpoints have any of the supported vendor's antimalware software (that is recognized by AnyConnect) installed and running in their devices.	Any_AM_Installation
Default_Antimalware_Policy_Win	Checks if endpoints have any of the supported vendor's antimalware software (that is recognized by AnyConnect) installed and running in their devices.	Any_AM_Installation_Win
Default_AppVis_Policy_Mac	Gathers information and reports all the applications that are installed on a given endpoint.	Default_AppVis_Requirement_Mac
Default_AppVis_Policy_Win	Gathers information and reports all the applications that are installed on a given endpoint.	Default_AppVis_Requirement_Win

Rule Name	Description	Requirements
Default_Firewall_Policy_Mac	Checks if endpoints have any of the supported vendor's Firewall program (that is recognized by AnyConnect) installed.	Default_Firewall_Requirement_Mac
Default_Firewall_Policy_Win	Checks if endpoints have any of the supported vendor's Firewall program (that is recognized by AnyConnect) installed.	Default_Firewall_Requirement_Win
Default_USB_Block_Win	Ensures that the endpoint device does not have any USB storage devices connected.	USB_Block

## Client Posture Assessment

To ensure that the imposed network security measures remain relevant and effective, Cisco ISE enables you to validate and maintain security capabilities on any client machine that accesses the protected network. By employing posture policies that are designed to ensure that up-to-date security settings or applications are available on client machines, the Cisco ISE administrator can ensure that any client machine that accesses the network meets, and continues to meet, the defined security standards for enterprise network access. Posture compliance reports provide Cisco ISE with a snapshot of the compliance level of the client machine at the time of user login, as well as any time a periodic reassessment occurs.

Posture assessment and compliance occurs using one of the following agent types available in Cisco ISE:

- AnyConnect ISE Agent: A persistent agent that can be installed on Windows or Mac OS X client to perform posture compliance functions.
- Cisco Temporal Agent: A temporary executable file that is run on the client to check the compliance status. The agent is removed from the client machine after the login session is terminated. By default, the agent resides in the Cisco ISE ISO image, and is uploaded to Cisco ISE during installation.

## Posture Assessment Options

The following table provides a list of posture assessment (posture conditions) options that are supported by the Cisco ISE Posture Agents for Windows and MacOS, and the Web Agent for Windows.

*Table 18: Posture Assessment Options*

ISE Posture Agent for Windows	Cisco Temporal Agent for Windows	ISE Posture Agent for MacOS	Cisco Temporal Agent for MacOS
Operating System/Service Packs/Hotfixes	—	—	—

ISE Posture Agent for Windows	Cisco Temporal Agent for Windows	ISE Posture Agent for MacOS	Cisco Temporal Agent for MacOS
Service Check	Service Check (Temporal agent 4.5)	Service Check	Daemon checks are not supported
Registry Check	Registry Check (Temporal agent 4.5)	—	—
File Check	File Check (Temporal agent 4.5)	File Check	File Check (Temporal agent 4.5)
Application Check	Application Check (Temporal agent 4.5)	Application Check	Application Check (Temporal agent 4.5)
Antivirus Installation	Antimalware Installation	Antivirus Installation	Antimalware Installation
Antivirus Version/ Antivirus Definition Date	OPSWAT version 4 is used, hence no Antivirus/Antispyware support; only Antimalware is supported	Antivirus Version/ Antivirus Definition Date	OPSWAT version 4 is used, hence no Antivirus/Antispyware support; only Antimalware is supported
Antispyware Installation	OPSWAT version 4 is used, hence no Antivirus/Antispyware support; only Antimalware is supported	Antispyware Installation	OPSWAT version 4 is used, hence no Antivirus/Antispyware support; only Antimalware is supported
Antispyware Version/ Antispyware Definition Date	OPSWAT version 4 is used, hence no Antivirus/Antispyware support; only Antimalware is supported	Antispyware Version/ Antispyware Definition Date	OPSWAT version 4 is used, hence no Antivirus/Antispyware support; only Antimalware is supported
Patch Management Check	Only Patch Management installation check	Patch Management Check	—
Windows Update Running	—	—	—
Windows Update Configuration	—	—	—
WSUS Compliance Settings	—	—	—

## Posture Remediation Options

The following table provides a list of posture remediation options that are supported by the Cisco ISE Posture Agents for Windows and MacOS, and the Web Agent for Windows.

Table 19: Posture Remediation Options

ISE Posture Agent for Windows	ISE Posture Agent for MacOS
Message Text (Local Check)	Message Text (Local Check)
URL Link (Link Distribution)	URL Link (Link Distribution)
File Distribution	—
Launch Program	—
Antivirus Definition Update	Antivirus Live Update
Antispyware Definition Update	Antispyware Live Update
Patch Management Remediation	—
Windows Update	—
WSUS	—

#### ISE Community Resource

[Cisco ISE and SCCM Integration Workflow](#)

## Custom Conditions for Posture

A posture condition can be any one of the following simple conditions: a file, a registry, an application, a service, or a dictionary condition. One or more conditions from these simple conditions form a compound condition, which can be associated with a posture requirement.

After an initial posture update, Cisco ISE also creates Cisco-defined simple and compound conditions. Cisco-defined simple conditions use the `pc_as` and compound conditions use `pr_as`.

A user-defined condition or a Cisco-defined condition includes both simple and compound conditions.

Posture service makes use of internal checks based on antivirus and antispyware (AV/AS) compound conditions. Hence, posture reports do not reflect the exact AV/AS compound-condition names that you have created. The reports display only the internal check names of AV/AS compound conditions.

For example, if you have created an AV compound condition named "MyCondition\_AV\_Check" to check any Vendor and any Product, the posture reports will display the internal check, that is "av\_def\_ANY", as the condition name, instead of "MyCondition\_AV\_Check".

# Posture Endpoint Custom Attributes

You can use the posture endpoint custom attributes to create client provisioning and posture policies. You can create a maximum of 100 endpoint custom attributes. The following types of endpoint custom attributes are supported: Int, String, Long, Boolean, Float, IP, and Date.

Endpoint custom attributes can be used to allow or block devices based on certain attributes or to assign certain privileges based on the posture or client provisioning policies.

## Create Posture Policy Using Endpoint Custom Attributes

To create a posture policy using endpoint custom attributes:

- 
- Step 1** Create the endpoint custom attributes.
- Choose **Administration > Identity Management > Settings > Endpoint Custom Attributes**.
  - Enter the **Attribute Name** (for example, deviceType) and Data Type (for example, String) in the **Endpoint Custom Attributes** area.
  - Click **Save**.
- Step 2** Assign values to the custom attributes.
- Choose **Context Visibility > Endpoints**.
  - Assign the custom attribute values.
    - Check the required MAC address check box, and then click **Edit**.
    - Or, click the required MAC address, and then click **Edit** in the **Endpoints** page.
  - Ensure that the custom attribute that you created is displayed in the **Custom Attributes** area in the **Edit Endpoint** dialog box.
  - Click **Edit** and enter the required attribute value (for example, deviceType = Apple-iPhone).
  - Click **Save**.
- Step 3** Create a posture policy using the custom attributes and values.
- Choose **Work Centers > Posture > Posture Policy**.
  - Create the required policy. Choose the custom attributes by clicking **Other Conditions** and select the required dictionary (for example, choose Endpoints > deviceType, the custom attribute that you created in Step 1). For more information, see the [Configure Cisco Temporal Agent Workflow, on page 61](#).
  - Click **Save**.

---

To create a client provisioning policy using endpoint custom attributes:

- Choose **Work Centers > Posture > Client Provisioning > Client Provisioning Policy**.
- Create the required policy.
  - Create the required rule (for example, Rule Name=WindowsAll, if Identity Groups=Any and Operating Systems=Windows All and Other Conditions=Conditions, then Results=AC\_Win\_44117).

- Choose the custom attributes by clicking **Other Conditions** and selecting the required dictionary.

## Custom Posture Remediation Actions

A custom posture remediation action is a file, a link, an antivirus or antispysware definition updates, launching programs, Windows updates, or Windows Server Update Services (WSUS) remediation types.

### Add an Antispysware Remediation

You can create an antispysware remediation, which updates clients with up-to-date file definitions for compliance after remediation.

The AS Remediations window displays all the antivirus remediations along with their name and description and their modes of remediation.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Posture**.
  - Step 2** Click **Remediation Actions**.
  - Step 3** Click **AS Remediation**.
  - Step 4** Click **Add**.
  - Step 5** Modify the values in the **New AS Remediations** window.
  - Step 6** Click **Submit**.
- 

### Add an Antivirus Remediation

You can create an antivirus remediation, which updates clients with up-to-date file definitions for compliance after remediation.

The AV Remediations window displays all the antivirus remediations along with their name and description and their modes of remediation.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Posture**.
  - Step 2** Click **Remediation Actions**.
  - Step 3** Click **AV Remediation**.
  - Step 4** Click **Add**.
  - Step 5** Modify the values in the **New AV Remediation** window.
  - Step 6** Click **Submit**.
-



## Add a File Remediation

A file remediation allows clients to download the required file version for compliance. The client agent remediates an endpoint with a file that is required by the client for compliance.

You can filter, view, add, or delete file remediations in the File Remediations window, but you cannot edit file remediations. The File Remediations window displays all the file remediations along with their name and description and the files that are required for remediation.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Posture** .
  - Step 2** Click **Remediation Actions**.
  - Step 3** Click **File Remediation**.
  - Step 4** Click **Add**.
  - Step 5** Enter the name and description of the file remediation in the **Name** and **Description** fields.
  - Step 6** Modify the values in the **New File Remediation** window.
  - Step 7** Click **Submit**.
- 

## Add a Launch Program Remediation

You can create a launch program remediation, where the client agent remediates clients by launching one or more applications for compliance.

The Launch Program Remediations page displays all the launch program remediations along with their name and description and their modes of remediation.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Posture**.
  - Step 2** Click **Remediation Actions**.
  - Step 3** Click **Launch Program Remediation**.
  - Step 4** Click **Add**.
  - Step 5** Modify the values in the **New Launch Program Remediation** page.
  - Step 6** Click **Submit**.
- 

## Troubleshoot Launch Program Remediation

### Problem

When an application is launched as a remediation using Launch Program Remediation, the application is successfully launched (observed in the Windows Task Manager), however, the application UI is not visible.

### Solution

The Launch program UI application runs with system privileges, and is visible in the Interactive Service Detection (ISD) window. To view the Launch program UI application, ISD should be enabled for the following OS:

- Windows Vista: ISD is in stop state by default. Enable ISD by starting ISD service in services.msc.
- Windows 7: ISD service is enabled by default.
- Windows 8/8.1: Enable ISD by changing "NoInteractiveServices" from 1 to 0 in the registry:  
`\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Windows.`

## Add a Link Remediation

A link remediation allows clients to click a URL to access a remediation window or resource. The client agent opens a browser with the link and allow the clients to remediate themselves for compliance.

The Link Remediation window displays all the link remediations along with their name and description and their modes of remediation.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Posture.**
  - Step 2** Click **Remediation Actions.**
  - Step 3** Click **Link Remediation.**
  - Step 4** Click **Add.**
  - Step 5** Modify the values in the **New Link Remediation** window.
  - Step 6** Click **Submit.**
- 

## Add a Patch Management Remediation

You can create a patch management remediation, which updates clients with up-to-date file definitions for compliance after remediation.

The Patch Management Remediation window displays the remediation type, patch management vendor names, and various remediation options.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Posture.**
  - Step 2** Click **Remediation Actions.**
  - Step 3** Click **Patch Mangement Remediation.**
  - Step 4** Click **Add.**
  - Step 5** Modify the values in the **Patch Management Remediation** window.
  - Step 6** Click **Submit** to add the remediation action to the **Patch Management Remediations** window.
- 

## Add a Windows Server Update Services Remediation

You can configure Windows clients to receive the latest WSUS updates from a locally administered or a Microsoft-managed WSUS server for compliance. A Windows Server Update Services (WSUS) remediation installs latest Windows service packs, hotfixes, and patches from a locally managed WSUS server or a Microsoft-managed WSUS server.

You can create a WSUS remediation where the client agent integrates with the local WSUS Agent to check whether the endpoint is up-to-date for WSUS updates.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Posture**.
  - Step 2** Click **Remediation Actions**.
  - Step 3** Click **Windows Server Update Services Remediation**.
  - Step 4** Click **Add**.
  - Step 5** Modify the values in the **New Windows Server Update Services Remediation** window.
  - Step 6** Click **Submit**.
- 

## Add a Windows Update Remediation

The Windows Update Remediations page displays all the Windows update remediations along with their name and description and their modes of remediation.

- 
- Step 1** Choose **Policy > Policy Elements > Results > > Posture**.
  - Step 2** Click **Remediation Actions**.
  - Step 3** Click **Windows Update Remediation**.
  - Step 4** Click **Add**.
  - Step 5** Modify the values in the **New Windows Update Remediation** window.
  - Step 6** Click **Submit**.
- 

## Posture Assessment Requirements

A posture requirement is a set of compound conditions with an associated remediation action that can be linked with a role and an operating system. All the clients connecting to your network must meet mandatory requirements during posture evaluation to become compliant on the network.

Posture-policy requirements can be set to mandatory, optional, or audit types in posture policies. If requirements are optional and clients fail these requirements, then the clients have an option to continue during posture evaluation of endpoints.

Posture checks are evaluated in the order of mandatory, optional, and audit. If a mandatory check fails, the related audit checks will not be carried out.

Figure 3: Posture Policy Requirement Types

Status	Rule Name	Identity Groups	Operating Systems	Other Conditions	Requirements
✓	Altris Registry	If Any	and Windows All		then Altris_Registry
✓	Connected Backup Application	If Any	and Windows...	(Optional) Dictionar...	then Connecte...
✓	HotFixes_Dummy_Win	If Any	and Windows All		then my_...
✓	HotFixes_Win7_64bit	If Any	and Windows 7 (A		then 7_64I
✓	HotFixes_Win_XP	If Any	and Windows XP (		then XP
✓	McAfeeAV_Definition_Win	If Any	and Windows 7 (All) or Windows Vista or Windows XP (All)		then mcafeeav_definiti

### Mandatory Requirements

During policy evaluation, the agent provides remediation options to clients who fail to meet the mandatory requirements defined in the posture policy. End users must remediate to meet the requirements within the time specified in the remediation timer settings.

For example, you have specified a mandatory requirement with a user-defined condition to check the existence of C:\temp\text.file in the absolute path. If the file does not exist, the mandatory requirement fails and the user will be moved to Non-Compliant state.

### Optional Requirements

During policy evaluation, the agent provides an option to clients to continue, when they fail to meet the optional requirements specified in the posture policy. End users are allowed to skip the specified optional requirements.

For example, you have specified an optional requirement with a user-defined condition to check for an application running on the client machine, such as Calc.exe. Although, the client fails to meet the condition, the agent prompts an option to continue further so that the optional requirement is skipped and the end user is moved to Compliant state.

### Audit Requirements

Audit requirements are specified for internal purposes and the agent does not prompt any message or input from end users, regardless of the pass or fail status during policy evaluation.

For example, you are in the process of creating a mandatory policy condition to check if end users have the latest version of the antivirus program. If you want to find out the non-compliant end users before actually enforcing it as a policy condition, you can specify it as an audit requirement.

### Visibility Requirements

During policy evaluation, the agent reports compliance data for visibility requirements, every five to ten minutes.

## Client System Stuck in Noncompliant State

If a client machine is unable to remediate a mandatory requirement, the posture status changes to “noncompliant” and the agent session is quarantined. To get the client machine past this “noncompliant” state, you need to restart the posture session so that the agent starts posture assessment on the client machine again. You can restart the posture session as follows:

- In wired and wireless Change of Authorization (CoA) in an 802.1X environment:

- You can configure the Reauthentication timer for a specific authorization policy when you create a new authorization profile in the New Authorization Profiles window.
- Wired users can get out of the quarantine state once they disconnect and reconnect to the network. In a wireless environment, the user must disconnect from the wireless lan controller (WLC) and wait until the user idle timeout period has expired before attempting to reconnect to the network.
- In a VPN environment—Disconnect and reconnect the VPN tunnel.

## Create Client Posture Requirements

You can create a requirement in the Requirements window where you can associate user-defined conditions and Cisco defined conditions, and remediation actions. Once created and saved in the Requirements window, user-defined conditions and remediation actions can be viewed from their respective list windows.



### Note

To create a Posture Requirement to validate all Windows 10 hotfixes in the environment, you must configure the Conditions area of your Requirement to include both `pr_Win10_32_Hotfixes` and `pr_Win10_64_Hotfixes`. At the top of the conditions, ensure **All selected conditions succeed** is selected. If the configuration is successful, **pr\_Win10\_32\_Hotfixes & pr\_Win10\_64\_Hotfixes** will be displayed. To view the details of the validated conditions for an endpoint, from the main menu, choose **Operations > Reports > Reports > Endpoints and Users > Posture Assessment by Endpoints**. Click the endpoint to view the corresponding posture details.

Figure 4: Validating Posture Requirements in Windows 10

Name	Operating System	Compliance Module	Posture Type	Conditions	Remediations Actions
Any_AV_Installation_Win	for Windows All	using 3.x or earlier	using AnyConnect	met if ANY_av_win_inst then Message Text Only	Edit
hotfix test	for Windows ...	using 4.x or later	using AnyConnect	met if Select C... X then Select Re... +	
Any_AV_Definition_Win	for Windows All	using 3.x or earlier	using AnyConnect	met if ANY_av_... All selected conditions succeed	
Any_AS_Installation_Win	for Windows All	using 3.x or earlier	using AnyConnect	met if ANY_as_... pr_Win10_32_Hotfixes	
Any_AS_Definition_Win	for Windows All	using 3.x or earlier	using AnyConnect	met if ANY_as_... pr_Win10_64_Hotfixes	
Any_AV_Installation_Mac	for Mac OSX	using 3.x or earlier	using AnyConnect	met if ANY_av_... AnyAVDefRemediationMac	Edit
Any_AV_Definition_Mac	for Mac OSX	using 3.x or earlier	using AnyConnect	met if ANY_av_mac_def then AnyAVDefRemediationMac	Edit
Any_AS_Installation_Mac	for Mac OSX	using 3.x or earlier	using AnyConnect	met if ANY_as_mac_inst then Message Text Only	Edit
Any_AS_Definition_Mac	for Mac OSX	using 3.x or earlier	using AnyConnect	met if ANY_as_mac_def then AnyASDefRemediationMac	Edit
Any_AM_Installation_Win	for Windows All	using 4.x or later	using AnyConnect	met if ANY_am_win_inst then Message Text Only	Edit
Any_AM_Definition_Win	for Windows All	using 4.x or later	using AnyConnect	met if ANY_am_win_def then AnyAMDefRemediationWin	Edit
Any_AM_Installation_Mac	for Mac OSX	using 4.x or later	using AnyConnect	met if ANY_am_mac_inst then Message Text Only	Edit

### Before you begin

- You must have an understanding of acceptable use policies (AUPs) for a posture.

**Step 1** Choose **Policy > Policy Elements > Results > Posture > Requirements**.

- Step 2** Enter the values in the **Requirements** window.
- Step 3** Click **Done** to save the posture requirement in read-only mode.
- Step 4** Click **Save**.

## Posture Reassessment Configuration Settings

*Table 20: Posture Reassessment Configuration Settings*

Field Name	Usage Guidelines
<b>Configuration Name</b>	Enter the name of PRA configuration.
<b>Configuration Description</b>	Enter a description for PRA configuration.
<b>Use Reassessment Enforcement?</b>	Check the check box to apply the PRA configurations for the user identity groups.
<b>Enforcement Type</b>	<p>Choose the action to be enforced:</p> <ul style="list-style-type: none"> <li>• <b>Continue:</b> The user continues to have the privileged access without any user intervention to remediate the client irrespective of the posture requirement.</li> <li>• <b>Logoff:</b> If the client is not compliant, the user is forced to logoff from the network. When the client logs in again, the compliance status is unknown.</li> <li>• <b>Remediate:</b> If the client is not compliant, the agent waits for a specified time for the remediation to happen. Once the client has remediated, the agent sends the PRA report to the policy service node. If the remediation is ignored on the client, then the agent sends a logoff request to the policy service node to force the client to logoff from the network.</li> </ul> <p>If the posture requirement is set to mandatory, then the RADIUS session will be cleared as a result of the PRA failure action and a new RADIUS session has to start for the client to be postured again.</p> <p>If the posture requirement is set to optional, then the agent on the client allows the user to click the continue option from the agent. The user can continue to stay in the current network without any restriction.</p>
<b>Interval</b>	<p>Enter a time interval in minutes to initiate PRA on the clients after the first successful login.</p> <p>The default value is 240 minutes. Minimum value is 60 minutes and maximum is 1440 minutes.</p>

Field Name	Usage Guidelines
<b>Grace time</b>	<p>Enter a time interval in minutes to allow the client to complete remediation. The grace time cannot be zero, and should be greater than the PRA interval. It can range between the default minimum interval (5 minutes) and the minimum PRA interval.</p> <p>The minimum value is 5 minutes and the maximum value is 60 minutes.</p> <p><b>Note</b> The grace time is enabled only when the enforcement type is set to remediate action after the client fails the posture reassessment.</p>
<b>Select User Identity Groups</b>	Choose a unique group or a unique combination of groups for your PRA configuration.
<b>PRA configurations</b>	Displays existing PRA configurations and user identity groups associated to PRA configurations.

#### Related Topics

[Posture Lease](#), on page 6

[Periodic Reassessments](#), on page 7

[Posture Assessment Options](#), on page 44

[Posture Remediation Options](#), on page 45

[Custom Conditions for Posture](#), on page 46

[Custom Posture Remediation Actions](#), on page 48

[Configure Periodic Reassessments](#), on page 7

## Custom Permissions for Posture

A custom permission is a standard authorization profile that you define in Cisco ISE. Standard authorization profiles set access privileges based on the matching compliance status of the endpoints. The posture service broadly classifies the posture into unknown, compliant, and noncompliant profiles. The posture policies and the posture requirements determine the compliance status of the endpoint.

You must create three different authorization profiles for an unknown, compliant, and noncompliant posture status of endpoints that can have different set of VLANs, DACLS, and other attribute value pairs. These profiles can be associated with three different authorization policies. To differentiate these authorization policies, you can use the Session:PostureStatus attribute along with other conditions.

#### Unknown Profile

If no matching posture policy is defined for an endpoint, then the posture compliance status of the endpoint may be set to unknown. A posture compliance status of unknown can also apply to an endpoint where a matching posture policy is enabled but posture assessment has not yet occurred for that endpoint and, therefore no compliance report has been provided by the client agent.



**Note** We recommend you to use posture with redirection for all Cisco network access devices.

### Compliant Profile

If a matching posture policy is defined for an endpoint, then the posture compliance status of the endpoint is set to compliant. When the posture assessment occurs, the endpoint meets all the mandatory requirements that are defined in the matching posture policy. For an endpoint that is postured compliant, it can be granted privileged network access on your network.

### Noncompliant Profile

The posture compliance status of an endpoint is set to noncompliant when a matching posture policy is defined for that endpoint but it fails to meet all the mandatory requirements during posture assessment. An endpoint that is postured noncompliant matches a posture requirement with a remediation action, and it should be granted limited network access to remediation resources in order to remediate itself.

## Configure Standard Authorization Policies

You can define two types of authorization policies on the Authorization Policy window, standard exceptions authorization policies. The standard authorization policies that are specific to posture are used to make policy decisions based on the compliance status of endpoints.

- 
- Step 1** Choose **Policy > Policy Sets**.
  - Step 2** In the **View** column, click the arrow icon adjacent the corresponding Default Policy.
  - Step 3** In the **Actions** column, click the cog icon, and then from the dropdown list, choose a new authorization policy. A new row appears in the **Policy Sets** table.
  - Step 4** Enter a rule name.
  - Step 5** From the **Conditions** column, click the (+) symbol.
  - Step 6** Create the required conditions on the **Conditions Studio Page**. In the **Editor** section, click the **Click To Add an Attribute** text box, and select the required Dictionary and Attribute.  
  
You can drag and drop a Library condition to the **Click To Add An Attribute** text box.
  - Step 7** Click **Use** to create a new standard authorization policy in read-only mode.
  - Step 8** Click **Save**.
- 

## Best Practices for Network Drive Mapping with Posture

During posture assessment of a Windows endpoint, the endpoint user may encounter a delay in accessing the desktop. This may be due to Windows trying to restore the file server drive letter mappings before providing the user access to the desktop. The best practices to avoid the delay during posture are:

- Endpoints should be able to reach the Active Directory server because the file server drive letter cannot be mapped without reaching the AD. When posture (with AnyConnect ISE posture agent) triggers, it blocks access to AD, causing delay in login. Use Posture Remediation ACLs to provide access to AD servers before posture is completed.



- You should set a delay for the login script until posture completes and then you have to set the Persistence attribute to NO. Windows tries to reconnect all the network drives during login and this cannot be done until AnyConnect ISE posture agent gains full network access.

## Configure AnyConnect Stealth Mode Workflow

The process of configuring AnyConnect in the stealth mode involves a series of steps. You should perform the following steps in Cisco ISE.

- 
- Step 1** Create an AnyConnect agent profile, see [Create an AnyConnect Agent Profile](#).
  - Step 2** Create an AnyConnect configuration for AnyConnect packages, see [Create an AnyConnect Configuration for AnyConnect Packages](#).
  - Step 3** Upload a Open DNS Profile in Cisco ISE, see [Upload an Open DNS Profile in Cisco ISE](#).
  - Step 4** Create a Client Provisioning Policy, see [Create a Client Provisioning Policy](#).
  - Step 5** Create a Posture Condition, see [Create a Posture Condition](#).
  - Step 6** Create Posture Remediation, see [Create Posture Remediation](#)
  - Step 7** Create Posture Requirement in Clientless Mode, see [Create Posture Requirement in Stealth Mode](#).
  - Step 8** Create Posture Policy, see [Create Posture Policy](#).
  - Step 9** Configure authorization profile.
    - a) Choose **Policy > Policy Elements > Results > Authorization > Authorization Profiles**.
    - b) Click **Add** and enter the **Name** of the profile.
    - c) In Common Tasks, enable **Web Redirection (CWA, MDM, NSP, CPP)** and choose **Client provisioning (Posture)** from the drop-down list, enter the redirect **ACL** name and choose the Client Provisioning Portal **Value**. You can edit or create a new Client Provisioning Portal in **Work Centers > Posture > Client Provisioning > Client Provisioning Portal**.
  - Step 10** Configure authorization policies.
    - a) Choose **Policy > Policy Sets**.
    - b) Click **>** and choose **Authorization Policy** and click on **+** icon to create a new authorization rule that features **Session:Posture Status EQUALS Unknown** condition and the authorization profile configured previously.
    - c) Above the previous rule, create a new authorization rule that features **Session:Posture Status EQUALS NonCompliant** condition and another one that features **Session:Posture Status EQUALS Compliant** condition.
- 

## Create an AnyConnect Agent Profile

### Before you begin

You must upload the AnyConnect packages for MAC and Windows OS and the AnyConnect compliance modules.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Client Provisioning > Resources** page.
  - Step 2** From the **Add** drop-down list, choose **Nac Agent or AnyConnect Posture Profile**.

- Step 3** From the **Posture Agent Profile Settings** drop-down list, choose **AnyConnect**.
- Step 4** In the **Name** field, type the required name (for example, AC\_Agent\_Profile).
- Step 5** In the **Agent Behavior** section, select the **Stealth Mode** parameter as **Enabled**.
- Step 6** Click **Save**.

---

#### What to do next

You should create the AnyConnect configuration for the AnyConnect packages.

---

## Create an AnyConnect Configuration for AnyConnect Packages

- Step 1** Choose **Policy > Policy Elements > Results > Client Provisioning > Resources** page.
- Step 2** From the **Add** drop-down list, choose **AnyConnect Configuration**.
- Step 3** From the **Select AnyConnect Package** drop-down list, choose the required AnyConnect package.
- Step 4** In the **Configuration Name** text box, type the required Name.
- Step 5** In the **Compliance Module** drop-down list, choose the required compliance module.
- Step 6** In the **AnyConnect Module Selection** section, check the **ISE Posture** and **Network Access Manager** check boxes.
- Step 7** In the **Profile Selection** section, from the **ISE Posture** drop-down list, choose the AnyConnect agent profile.
- Step 8** From the **Network Access Manager** drop-down list, choose the required AnyConnect agent profile.

---

#### What to do next

You should upload the Open DNS profile to be pushed to the client.

---

## Upload an Open DNS Profile in Cisco ISE

The Open DNS profile is pushed to the client.

- Step 1** Navigate to the **Policy > Policy Elements > Results > Client Provisioning > Resources** page.
- Step 2** From the **Add** drop-down list, choose **Agent Resources From Local Disk**.
- Step 3** From the **Category** drop-down list, choose **Customer Created Packages**.
- Step 4** From the **Type** drop-down list, choose **AnyConnect Profile**.
- Step 5** In the **Name** text box, type the required name (for example, OpenDNS).
- Step 6** Click **Browse** and locate the JSON file from the local disk.
- Step 7** Click **Submit**.

---

#### What to do next

You should create the client provisioning policy.

## Create a Client Provisioning Policy

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- Step 1** Navigate to the **Policy > Client Provisioning** page.
  - Step 2** Create the required rule (for example, Rule Name=WindowsAll, if Identity Groups=Any and Operating Systems=Windows All and Other Conditions=Conditions, then Results=AC\_Win\_44117).
- 

### What to do next

You should create the posture condition.

## Create a Posture Condition

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- Step 1** Navigate to the **Policy > Policy Elements > Conditions > Posture > File Condition**.
  - Step 2** Enter the required name (for example, filechk).
  - Step 3** From the **Operating Systems** drop-down list, choose Windows 7 (All).
  - Step 4** From the **File Type** drop-down list, choose FileExistence.
  - Step 5** From the **File Path** drop-down list, choose ABSOLUTE\_PATH C:\test.txt.
  - Step 6** From the **File Operator** drop-down list, choose DoesNotExist.
- 

### What to do next

You should create the posture remediation.

## Create Posture Remediation

The file condition checks if test.txt file exists on the endpoint. If it does not exist, the remediation is to block the USB port and prevent the installation of the file using a USB device.

---

- Step 1** Navigate to the **Policy > Policy Elements > Results > Remediation Actions > USB Remediations** page.
  - Step 2** Enter the required name (for example, clientless\_mode\_block).
  - Step 3** Click **Submit**.
- 

### What to do next

You should create the posture requirement.

## Create Posture Requirement in Stealth Mode

When you create a Remediation action from the Requirements page, only the remediations that are applicable to stealth mode are displayed: Anti-Malware, Launch Program, Patch Management, USB, Windows Server Update Services, and Windows Update.

- 
- Step 1** Navigate to the **Policy > Policy Elements > Results > Client Provisioning > Resources** page.
- Step 2** Create the required posture requirement (for example, Name=win7Req for Operating Systems=Windows7(All) using Compliance Module=4.x or later using Posture Type=AnyConnect Stealth met if Condition=filechk then Remediation Actions=clientless\_mode\_block).
- 

### What to do next

You should create the posture policy.

## Create Posture Policy

### Before you begin

Ensure that the posture policy requirement and the policy are created in the clientless mode.

- 
- Step 1** Choose **Policy > Posture**.
- Step 2** Create the required rule. For example, if Identity Groups=Any and Operating Systems=Windows 7(All) and Compliance Module=4.x or later and Posture Type=AnyConnect Stealth then Requirements=win7Req.

**Note** For Client Provisioning without URL redirection, configuring the conditions with attributes specific to Network Access or Radius will not work and matching of the client provisioning policy might fail due to the non-availability of session information for the specific user in the Cisco ISE server. However, Cisco ISE allows configuring conditions for the externally added identity groups.

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## Enable AnyConnect Stealth Mode Notifications

Cisco ISE provides several new failure notifications for AnyConnect stealth mode deployments. Enabling failure notifications in stealth mode helps you to identify issues with wired, wireless, or VPN connections. To enable notifications in stealth mode:




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**Note** AnyConnect version 4.5.0.3040 and higher supports stealth mode notifications.

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### Before you begin

Configure AnyConnect in stealth mode.

- 
- Step 1** Choose **Policy > Policy Elements > Results > Client Provisioning > Resources**.
  - Step 2** Choose **Add > NAC Agent or AnyConnect ISE Posture Profile**.
  - Step 3** From the **Select a Category** drop-down list, choose .
  - Step 4** From the **Agent Behavior** section, choose **Enabled** for the **Enable notifications in stealth mode** option.
- 

## Configure Cisco Temporal Agent Workflow

The process of configuring the Cisco temporal agent involves a series of steps. You should perform the following steps in Cisco ISE.

- 
- Step 1** [Create Posture Condition](#)
  - Step 2** [Create Posture Requirements](#)
  - Step 3** [Create the Posture Policy](#)
  - Step 4** [Configure the Client Provisioning Policy](#)
  - Step 5** Configure authorization profile.
    - a) Choose **Policy > Policy Elements > Results > Authorization > Authorization Profiles**.
    - b) Click **Add** and enter the **Name** of the profile.
    - c) In Common Tasks, enable **Web Redirection (CWA, MDM, NSP, CPP)** and choose **Client provisioning (Posture)** from the drop-down list, enter the redirect **ACL** name and choose the Client Provisioning Portal **Value**. You can edit or create a new Client Provisioning Portal in **Work Centers > Posture > Client Provisioning > Client Provisioning Portal**.
  - Step 6** Configure authorization policies.
    - a) Choose **Policy > Policy Sets**.
    - b) Click **>** and choose **Authorization Policy** and click on **+** icon to create a new authorization rule that features **Session:Posture Status EQUALS Unknown** condition and the authorization profile configured previously.
    - c) Above the previous rule, create a new authorization rule that features **Session:Posture Status EQUALS NonCompliant** condition and another one that features **Session:Posture Status EQUALS Compliant** condition.
  - Step 7** [Download and Launch Cisco Temporal Agent](#)
- 

## Create Posture Condition

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- Step 1** Navigate to the **Policy > Policy Elements > Conditions > Posture > File Condition**.
  - Step 2** Enter the required name (for example, filecondwin).
  - Step 3** From the **Operating Systems** drop-down list, choose Windows 7 (All).
  - Step 4** From the **File Type** drop-down list, choose FileExistence.
  - Step 5** From the **File Path** drop-down list, choose ABSOLUTE\_PATH C:\test.txt.

**Step 6** From the **File Operator** drop-down list, choose DoesNotExist.

---

## Create Posture Requirements

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**Step 1** Choose **Policy > Policy Elements > Results > Posture > Requirements**

**Step 2** From the **Edit** drop-down list, choose **Insert New Requirement**.

**Step 3** Enter the **Name**, **Operating Systems**, and **Compliance Module** (for example, Name filereqwin, Operating Systems Windows All, Compliance Module 4.x or later).

**Step 4** In the **Posture Type** drop-down, choose **Temporal Agent**.

**Step 5** Select the required condition (for example, filecondwin).

**Note** For the Cisco Temporal Agent, you can only view Patch Management conditions containing the **Installation** check type in the **Requirements** page.

**Step 6** Select the **Message Text Only** remediation action.

**Note** The temporal agent is supported by AnyConnect 4.x or later.

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## Create the Posture Policy

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**Step 1** Choose **Policy > Posture**.

**Step 2** Create the required rule (for example, Name=filepolicywin, Identity Groups=Any, Operating Systems=Windows All, Compliance Module=4.x or later, Posture Type=Temporal Agent, and Requirements=filereqwin).

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## Configure the Client Provisioning Policy

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**Step 1** Choose **Policy > Client Provisioning**.

**Step 2** Create the required rule (for example, Rule Name=Win, Identity Groups=Any, Operating Systems=Windows All, Other Conditions=Conditions, Results=CiscoTemporalAgentWindows4.5).

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## Download and Launch Cisco Temporal Agent

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**Step 1** Connect to the SSID.

**Step 2** Launch a Browser and you will be redirected to the Client Provisioning Portal.

**Step 3** Click **Start**. This checks if the Cisco Temporal agent is installed and running.

- Step 4** Click **This Is My First Time Here**.
- Step 5** Choose **Click Here to Download and Launch Cisco Temporal Agent**.
- Step 6** Save the Cisco Temporal Agent .exe or .dmg file for Windows or macOS respectively. For Windows, run the .exe file and for macOS, double-click the .dmg file and run the acisetempagent app.  
The Cisco Temporal Agent scans the client and displays the results, such as Red cross marks for non-compliant checks.
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## Posture Troubleshooting Tool

The Posture Troubleshooting tool helps you find the cause of a posture-check failure to identify the following:

- Which endpoints were successful in posture and which were not.
- If an endpoint failed in posture, what steps failed in the posture process.
- Which mandatory and optional checks passed and failed.

You determine this information by filtering requests based on parameters, such as username, MAC address, and posture status.

