Standard Decryption Policies

The following topics provide details about standard decryption policies.

About standard decryption policies

We recommend the standard decryption policy type because it is simpler to set up and should result in fewer issues commonly experienced by customers. In particular, a standard decryption policy prevents you from decrypting too much traffic in your network. Traffic decryption requires significant processing and decrypting too much traffic can slow down your system.

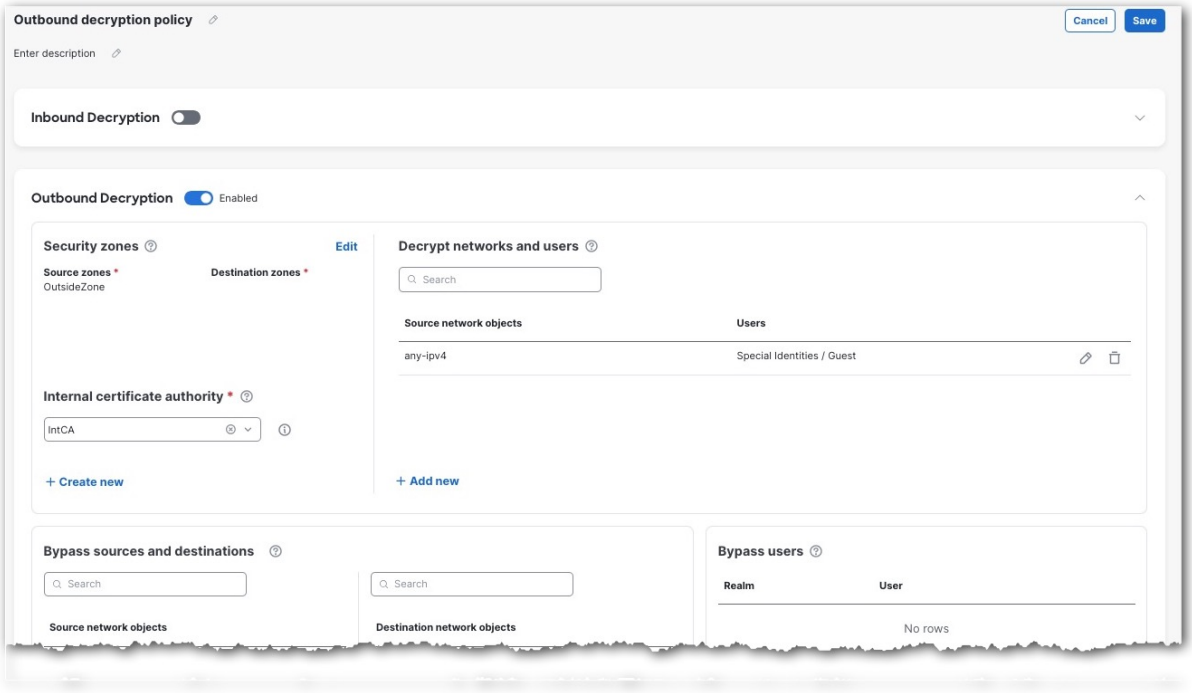
Which type of decryption policy is right for me?

This topic discusses standard decryption policies and rule-based decryption policies.

Standard decryption policies

We recommend the standard decryption policy type because it's easy to set up with a wizard-like appearance, enabling you to easily pick security zones, users and networks, and other objects to use in your policy. A standard decryption policy is particularly suited for anyone who is not proficient at understanding the ins and outs of decryption policies.

Following is an example of setting up a standard decryption policy.



The preceding policy decrypts outbound traffic only. All traffic from the OutsideZone security zone on any IPv4 network is decrypted using an internal CA named `IntCA`.

Note the following:

- The preceding rule is a partial example; more options are available.
- You can configure inbound criteria, outbound criteria, or both.
- In addition to objects, you can also optionally configure outbound decryption exclusions, such as:
  - Undecryptable applications (such as ones that use certificate pinning).
  - URL categories such as medical, trading, and finance.
- You can configure outbound block criteria for certificate status and TLS version.
- A standard policy has advanced policy options that are similar to rule-based policies.

Rule-based decryption policies

Decryption policy you create using a wizard that steps you through the available options for inbound decryption, outbound decryption, or both. After you create the rule-based decryption policy, you can add more rules to it, reorder rules, or make other changes to suit your needs.

A rule-based decryption policy is the most flexible but also the most potentially complicated. You can convert a standard decryption policy to a rule-based policy at any time.

Standard decryption policy deployment issues to versions earlier than 10.0.0

If you deploy a standard decryption policy to a device that runs a version earlier than 10.0.0, you can encounter the following issues:

- If you configured any inbound decryption rules, the rule action is changed to **Decrypt - Known Key** on those devices. For more information about the kinds of incoming decryption actions, see Incoming traffic decryption.
- The advanced policy option **Intelligent Decryption Bypass** requires the device to run version 7.7 or later. By default, this advanced option is disabled but if you enable it, policy deployment fails if the device runs a version earlier than 7.7.

Create a new standard decryption policy

You can create any of the following types of decryption policies:

- Policy to protect *inbound* traffic: Decrypt network traffic coming *into* your network. You typically do this to decrypt and inspect traffic directed to an internal server.
- Policy to protect *outbound* traffic: Decrypt network traffic going *outside* of your network to external servers.

See one of the following topics for more information.

Related Topics

Create a standard decryption policy with inbound protection, on page 3
Create a standard decryption policy with outbound protection, on page 7

Create a standard decryption policy with inbound protection

The following task discusses how to create a standard decryption policy to decrypt network traffic coming *into* your network. You typically do this to decrypt and inspect traffic directed to an internal server. All options on this page are required.

Before you begin

Review what an inbound protection decryption policy means in Incoming traffic decryption.

Procedure

Step 1 Log in to Secure Firewall Management Center if you haven't already done so.

Step 2 Click **Policies** > **Security policies** > **Decryption**.

Step 3 Click **Create New** > **Decryption Policy**.

Step 4 In the provided fields, enter a **Name** and optional **Description**.

The following characters are not supported in decryption policy names:

- `#,;,{,},=,$,<,>`

Step 5 Click **Create Policy**.

Step 6 Slide **Inbound Decryption** to **Enabled** as the following figure shows.

Step 7 Add the following to your decryption policy:

- Security zones, on page 4
- Internal server details (inbound decryption), on page 6

Security zones

Security zones segment your network to help you manage, classify, and decrypt traffic flow by grouping interfaces across multiple devices.

Security zones control or decrypt traffic by its source and destination security zones. If you add both source and destination zones to a zone condition, matching traffic must originate from an interface in one of the source zones and leave through an interface in one of the destination zones.

Just as all interfaces in a zone must be of the same type (all inline, passive, switched, or routed), all zones used in a zone condition must be of the same type. Because devices deployed passively do not transmit traffic, you cannot use a zone with passive interfaces as a destination zone.

Minimize the number of matching criteria whenever possible, especially those for security zones, network objects, and port objects. When you specify multiple criteria, the system must match against *every* combination of the contents of the criteria you specify.

Tip Constraining rules by zone is one of the best ways to improve system performance. If a rule does not apply to traffic through any of device's interfaces, that rule does not affect that device's performance.

For more information:

- Inbound decryption: Add security zones (inbound decryption), on page 4
- Outbound decryption: Add security zones (outbound decryption), on page 8

Add security zones (inbound decryption)

This task discusses how to add security zones to an inbound standard decryption policy. A security zone specifies a Firewall Threat Defense device interface that sends traffic to the internal server. Typically, for inbound protection, this will be an internal (or *DMZ*) interface.

You must choose both a source and destination security zone.

Before you begin

Complete the tasks discussed in Create a standard decryption policy with inbound protection, on page 3.

Procedure

Step 1 Click **Edit** next to Security Zones.

Step 2 In the Security Zones dialog box, do any of the following:

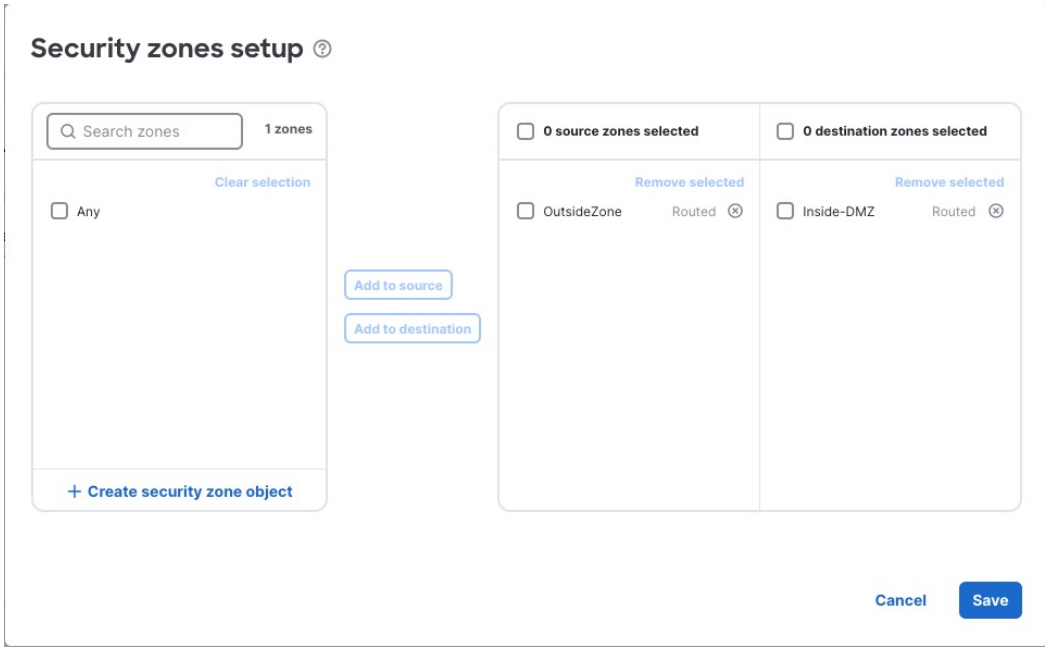
- Select the check box next to a security zone to add to either the source or destination.
- To create a new security zone, click **Create security zone object**.
- Search for a security zone by entering text in the Search Zones field and pressing Enter.

Note
Click **Help** (?) on any dialog box for more information.

Step 3 Click **Add to Source** to decrypt traffic that matches the source security zone or click **Add to Destination** to decrypt traffic that matches the destination security zone. If you select both source and destination zones, to be decrypted, traffic must match both zones.

Typically, your internal server should be the *destination* of an inbound decryption rule.

The following figure shows an example.



Step 4 Click **Save**.

Step 5 See Internal server details (inbound decryption), on page 6.

Internal server details (inbound decryption)

Add internal servers you wish to protect by decrypting and optionally inspecting traffic directed to them. You specify these servers using network objects and optionally ports.

Networks control or decrypt traffic by its source and destination IP address, using inner headers. Tunnel rules, which use outer headers, have tunnel endpoint conditions instead of network conditions.

You can use predefined objects to build network conditions.

Minimize the number of matching criteria whenever possible, especially those for security zones, network objects, and port objects. When you specify multiple criteria, the system must match against *every* combination of the contents of the criteria you specify.

For more information, see Add internal servers, on page 6.

Add internal servers

This task discusses how to choose certificates to use to decrypt traffic coming to internal servers you want to protect. In addition to choosing a certificate, you can also specify the network and port on which the internal server is located, saving processing time.

Before you begin

Complete the tasks discussed in Create a standard decryption policy with inbound protection, on page 3.

Procedure

Step 1 Click **Add new** under Internal Server Details.

Step 2 In the Internal Servers dialog box, do any of the following:

- Search for an internal certificate by entering text in the search field and pressing Enter.
- From the **Internal certificate object** list, choose an existing certificate or click **Add New** to create a new one.

  Note
  The Secure Firewall Threat Defense device servicing the traffic must trust the certificate you upload to the rule. If you upload a self-signed certificate or a certificate not trusted by a certificate authority, and you want to replace the certificate later, you must update the policy's advanced settings in any of these ways:

  - Add the certificate to the **Trusted CA certificates** list.
  - Select the **Require exact certificate match for inbound decryption** check box.

  For more information about advanced policy options, see Standard decryption policy advanced options, on page 19.

  For more information about replacing a certificate, see the discussion of Replace Cert in Incoming traffic decryption.

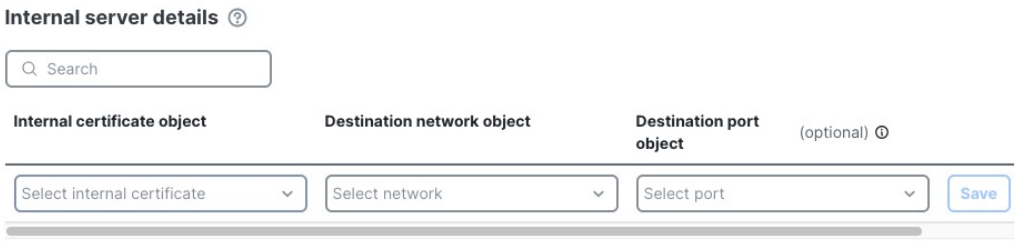
- From the **Destination network object** list, click the network on which the internal server is located or click **Add New** to create a new one.

- (Optional.) From the **Destination port** list, click the port on which to apply the decryption rule or click **Add New** to create a new one.

Note
Click **Help** (?) on any dialog box for more information.

Step 3 Click **Save**.

The following figure shows an example.



Step 4 Save the decryption policy by clicking **Save** at the top of the page.

Step 5 If you're finished configuring your policy, see Decryption policy actions, on page 22.

Create a standard decryption policy with outbound protection

Note For information about potential issues when deploying a standard decryption policy to a device that runs a version earlier than 10.0.0, see Standard decryption policy deployment issues to versions earlier than 10.0.0, on page 3.

The following task discusses how to create a standard decryption policy to protect servers outside your internal network. To decrypt outbound connections, all options on this page are required except where noted. To bypass or block certain outbound connections, only security zones and bypass or block options are required.

Before you begin

Review what an outbound protection decryption policy means in Decrypt and re-sign (outgoing traffic).

Procedure

Step 1 Log in to Secure Firewall Management Center if you haven't already done so.

Step 2 Click **Policies** > **Security policies** > **Decryption**.

Step 3 Click **Create New** > **Decryption Policy**.

Step 4 In the provided fields, enter a **Name** and optional **Description**.

The following characters are not supported in decryption policy names:

- #,;,{,},=,$,<,>

Step 5 Click **Create Policy**.

Step 6 Slide **Outbound Decryption** to **Enabled** as the following figure shows.

Security zones

Security zones segment your network to help you manage, classify, and decrypt traffic flow by grouping interfaces across multiple devices.

Security zones control or decrypt traffic by its source and destination security zones. If you add both source and destination zones to a zone condition, matching traffic must originate from an interface in one of the source zones and leave through an interface in one of the destination zones.

Just as all interfaces in a zone must be of the same type (all inline, passive, switched, or routed), all zones used in a zone condition must be of the same type. Because devices deployed passively do not transmit traffic, you cannot use a zone with passive interfaces as a destination zone.

Minimize the number of matching criteria whenever possible, especially those for security zones, network objects, and port objects. When you specify multiple criteria, the system must match against *every* combination of the contents of the criteria you specify.

Tip Constraining rules by zone is one of the best ways to improve system performance. If a rule does not apply to traffic through any of device's interfaces, that rule does not affect that device's performance.

For more information:

- Inbound decryption: Add security zones (inbound decryption), on page 4
- Outbound decryption: Add security zones (outbound decryption), on page 8

Add security zones (outbound decryption)

This task discusses how to add security zones to an outbound standard decryption policy. A security zone specifies aFirewall Threat Defense device interface that sends traffic to the external server.

Before you begin

Complete the tasks discussed in Create a rule-based decryption policy with outbound connection protection.

Procedure

Step 1 Click **Edit** next to Security Zones.

Step 2 In the Security Zones dialog box, do any of the following:

- Select the check box next to a security zone to add to either the source or destination.
- To create a new security zone, click **Create security zone object**.

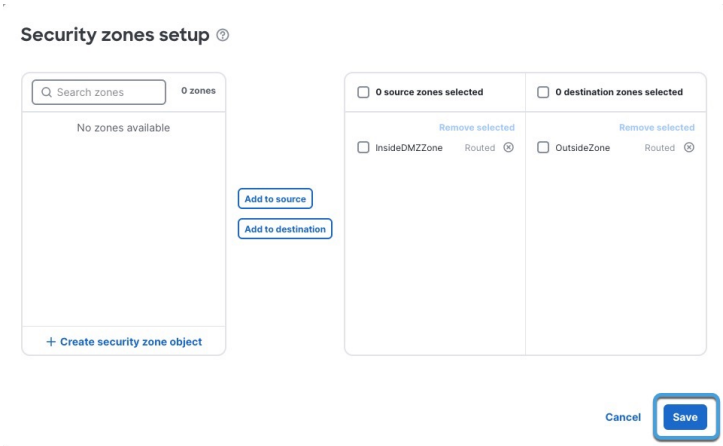
- Search for a security zone by entering text in the Search Zones field and pressing Enter.

Note
Click **Help** (?) on any dialog box for more information.

Step 3 Click **Add to Source** to decrypt traffic that matches the source network or click **Add to Destination** to decrypt traffic that matches the destination network. If you select both source and destination networks, to be decrypted, traffic must match both security zones.

Typically, the server for which you're decrypting traffic should be in the *destination* zone.

The following figure shows an example.



Step 4 Click **Save**.

Step 5 If you're finished configuring your policy, see Decryption policy actions, on page 22.

Decrypt networks and users

This option enables you to enforce decryption and deep inspection for specific network objects and from specific users and groups in Microsoft AD, LDAP, or Local realms.

Network objects

Networks control or decrypt traffic by its source and destination IP address, using inner headers. Tunnel rules, which use outer headers, have tunnel endpoint conditions instead of network conditions.

You can use predefined objects to build network conditions.

Users and groups

You can choose to decrypt traffic from a subset of users and groups in your identity realms and you can also choose to decrypt traffic from the following special identities:

- Failed Authentication: User that failed authentication with the captive portal.
- Guest: Users configured as guest users in the captive portal.
- No Authentication Required: Users that match an identity **No Authentication Required** rule action.

- Unknown: Users that cannot be identified; for example, users that are not downloaded by a configured realm.

For more information

For more information, see Add networks and users, on page 10.

Add networks and users

This task discusses how to enforce decryption of outbound traffic from specific networks; and from users and groups in Microsoft AD, LDAP, or Local realms.

Only traffic that matches all of the networks and users you select is decrypted.

Before you begin

Complete the tasks discussed in Create a standard decryption policy with outbound protection, on page 7.

Procedure

Step 1 Complete the tasks discussed in Create a standard decryption policy with outbound protection, on page 7.

Step 2 Click **Add new** next to Decrypt Networks and Users.

Step 3 From the **Source Network Objects** list, do any of the following:

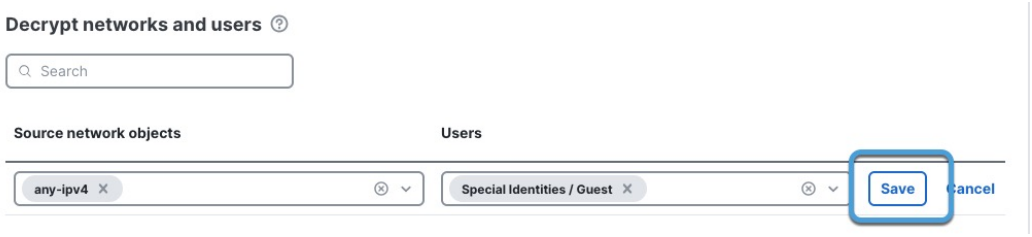
- In the provided field, enter all or part of an existing network object to filter for that object.
- Select the check box next to a network to decrypt. To decrypt traffic from all networks, click **Add New** and **Save** the row without selecting any networks.
- Click **Add new** to add another network to the list.

  For more information, see Creating Network Objects.

Step 4 From the **Users** list, select the check box next to each user or group name to decrypt.

To decrypt traffic from all users, click **Add New** and **Save** the row without selecting any users.

The following figure shows an example of selecting a network and users to decrypt.



Step 5 Click **Save**.

Step 6 If you're finished configuring your policy, see Decryption policy actions, on page 22 .

Internal certificate authority

This topic discusses how to add an internal certificate authority (CA) to an outbound section of a standard decryption policy. The internal certificate authority is used to resign the traffic after it has been decrypted. The internal CA must be trusted by users on your network to avoid seeing untrusted certificate errors in their web browser.

For more information, see Add an internal CA for outbound protection, on page 11.

Add an internal CA for outbound protection

This task discusses how to add an internal CA to resign outgoing traffic.

Before you begin

Complete the tasks discussed in Create a standard decryption policy with outbound protection, on page 7.

Procedure

In the **Internal Certificate Authority** list, do any of the following:

- Click the name of an internal CA.
- Click **Create New** to create a new internal CA.

  Click **Help** for more information.

  If you do not already have an internal CA, see:

  - Generate an internal CA for outbound protection, on page 11
  - Upload an internal CA for outbound protection, on page 12

Generate an internal CA for outbound protection

This task discusses how you can optionally generate an internal certificate authority when you create a decryption rule that protects outbound connections. You can also perform these tasks using **Objects** as discussed in Uploading a Signed Certificate Issued in Response to a CSR.

Before you begin

Make sure you understand the requirements for generating an internal certificate authority object as discussed in Internal Certificate Authority Objects.

Procedure

Step 1 Log in to Secure Firewall Management Center if you haven't already done so.

Step 2 Click **Policies** > **Security policies** > **Decryption**.

Step 3 Click **Create Decryption Policy (Rule-Based)**.

Step 4 Enter a name for the policy in the **Name** field and an optional description in the **Description** field.

Step 5 Click the **Outbound Connections** tab.

Step 6 From the **Internal CA** list, click **Create New** > **Generate CA**.

Step 7 Give the internal CA a **Name** and provide a two-letter **Country Name**.

Step 8 Click **Self-Signed** or **CSR**.

For more information about these options, see Internal Certificate Authority Objects.

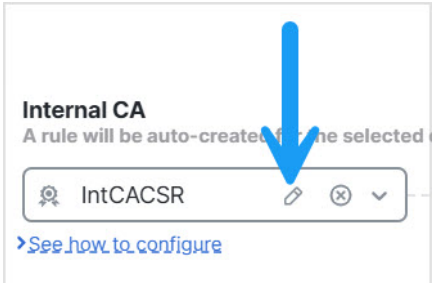
Step 9 Enter the requested information in the provided fields.

Step 10 Click **Save**.

Step 11 If you chose **CSR**, after the signing request has been completed, click **Install Certificate** as follows:

a) Repeat the preceding steps in this procedure.

b) Edit the CA from the **Internal CA** list as follows.



c) Click **Install Certificate**.

d) Follow the prompts on your screen to complete the task.

Step 12 Continue creating the policy as discussed in Create a rule-based decryption policy with outbound connection protection.

Upload an internal CA for outbound protection

This task discusses how you can optionally upload an internal certificate authority when you create a decryption rule that protects outbound connections. You can also perform these tasks using **Objects** as discussed in Uploading a Signed Certificate Issued in Response to a CSR.

Before you begin

Make sure you understand the requirements for generating an internal certificate authority object as discussed in Internal Certificate Authority Objects.

Procedure

Step 1 Log in to Secure Firewall Management Center if you haven't already done so.

Step 2 Click **Policies** > **Security policies** > **Decryption**.

Step 3 Enter a name for the policy in the **Name** field and an optional description in the **Description** field.

Step 4 Click the **Outbound Connections** tab.

Step 5 From the **Internal CA** list, click **Create New** > **Upload CA**.

Step 6 Give the internal CA a **Name**.

Step 7 Paste or browse to locate the certificate and its private key in the provided fields.

Step 8 If the CA has a password, select the **Encrypted** check box and enter the password in the adjacent field.

Step 9 Continue creating the policy as discussed in Create a rule-based decryption policy with outbound connection protection.

Bypass traffic when decrypting

This topic discusses ways you can optionally bypass traffic from being decrypted (meaning, the traffic is passed through the device encrypted). You can review some reasons to leave traffic encrypted here: When to decrypt traffic, when not to decrypt. Bypassing certain traffic has the additional advantage that system resources are not consumed by decrypting it.

We provide the following ways to bypass traffic when decrypting:

- Bypass source and destination networks: For example, traffic from internal servers located on an internal/DMZ network that you can trust doesn't need to be decrypted.
- Bypass users: You can bypass decryption for users and groups you trust.
- Bypass undecryptable applications: (Recommended.) The typical reason to bypass outgoing traffic to applications is this traffic might use certificate pinning, which is not decryptable.

  For more information, see About TLS/SSL pinning.
- Bypass categories: (Recommended.) Bypass decrypting URL categories of sites for the following reasons:
  - The categories represent applications (like personal finance or health) that might be illegal to decrypt and inspect.
  - Categories of websites Cisco has determined are low-risk.
- Intelligent decryption bypass: Bypass servers based on the threat confidence levels of clients which is determined by the Encrypted Visibility Engine (EVE) and the URL category reputation.

  All devices to which a standard decryption policy with this option enabled are deployed must run version 7.7 or later; otherwise, policy deployment fails.

Bypass sources and destinations

(Optional.) Bypass traffic from source or destination network objects. For example, if traffic originates from an internal network that has trusted devices, you can opt not to decrypt that traffic. Networks control or decrypt traffic by its source and destination IP address, using inner headers.

For more information, see Add bypass sources and destinations, on page 13.

Add bypass sources and destinations

The following task discusses how to optionally bypass outbound traffic originating from source networks or going to destination networks. You should generally do this only if you trust the traffic from these networks.

Before you begin

Complete the tasks discussed in Create a standard decryption policy with outbound protection, on page 7.

Procedure

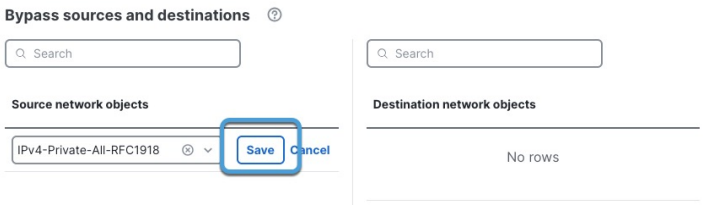
Step 1 Click **Add new** under Bypass sources and destinations for either source network objects or destination network objects.

Step 2 In the dialog box that is displayed, do any of the following:

- Search for a network object by entering text in the search field and pressing Enter.
- From the **Source network object** or **Destination network object** list, choose an existing network object or click **Add New** to create a new one.

Note
Click **Help** (?) on any dialog box for more information.

The following figure shows an example.



Step 3 Click **Save**.

Step 4 If you're finished configuring your policy, see Decryption policy actions, on page 22.

Bypass users

(Optional.) You can bypass decryption for users and in Microsoft Active Directory, LDAP, and Local realms; typically, users whom you trust.

You can choose to bypass a subset of users and groups in your identity realms and you can also choose to bypass from the following special identities:

- Failed Authentication: User that failed authentication with the captive portal.
- Guest: Users configured as guest users in the captive portal.
- No Authentication Required: Users that match an identity **No Authentication Required** rule action.
- Unknown: Users that cannot be identified; for example, users that are not downloaded by a configured realm.

For more information, see Add bypass users, on page 14.

Add bypass users

Bypass decryption for users and groups in selected Microsoft AD, LDAP, and Local realms.

Before you begin

Complete the tasks discussed in Create a standard decryption policy with outbound protection, on page 7.

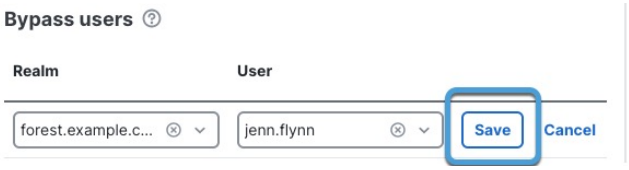
Procedure

Step 1 Click **Add new** under Bypass users.

Step 2 In the dialog box that is displayed:

- From the **Realm** list, click the name of a realm.
- From the **User** list, select the check box next to one or more users or groups for which to bypass decryption.

The following figure shows an example.



Step 3 Click **Save**.

Step 4 Repeat the preceding steps as many times as necessary to bypass more users and groups.

Bypass applications

(Optional.) Check the box to not decrypt traffic when re-signing the certificate is likely to cause the connection to fail.

Typically, this behavior is associated with *certificate pinning*, which is discussed in TLS/SSL certificate pinning guidelines.

Undecryptable applications are updated automatically in the Vulnerability Database (VDB). You can find a list of all applications on the Secure Firewall Application Detectors page; the **undecryptable** tag identifies applications Cisco determines are undecryptable.

The list of undecryptable applications is maintained by Cisco.

For more information, see Add bypass applications, on page 15.

Add bypass applications

This task discusses how to bypass decryption for applications (typically because those applications are undecryptable due to their using certificate pinning as discussed in About TLS/SSL pinning).

Before you begin

Complete the tasks discussed in Create a standard decryption policy with outbound protection, on page 7.

Procedure

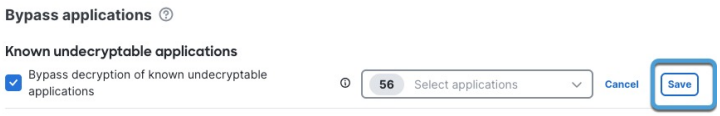
Step 1 Select the **Bypass decryption of known undecryptable applications** check box.

Step 2 Click **Edit applications**.

Step 3 From the list, do any of the following:

- Click **Select All** to select all applications that Cisco has determined are undecryptable.
- Select the check box next to the name of an application for which to bypass decryption.
- Clear the check box next to the name of an application to decrypt connections to anyway.

The following figure shows an example.



Step 4 Under Selected applications and filters, click **Add New** to add applications or application filters to bypass. Click **Help** for more information.

Step 5 Click **Save**.

Step 6 If you're finished configuring your policy, see Decryption policy actions, on page 22.

Bypass URL categories and reputations

(Optional.) Select categories and reputations to *not* decrypt, such as personal finance or health information. Depending on the laws in your area, decryption of such traffic might be prohibited. Consult an authority in your area for more information.

URL categories and reputations are maintained by Cisco Talos.

For more information about categories, see Intelligence Categories.

For more information about reputations, see Web reputation levels.

To add URL categories and reputations to your decryption policy, see Add bypass URL categories and reputations, on page 16.

Add bypass URL categories and reputations

(Optional.) This task discusses how to bypass decryption of categories and reputations, based on ratings provided by Cisco Talos.

The following figure shows the list of categories and reputations we recommend.

Before you begin

Complete the tasks discussed in Create a standard decryption policy with outbound protection, on page 7.

Procedure

Step 1 In the Bypass URL categories section, do any of the following:

- To edit an existing category/reputation, click **Edit** ( ).
- To delete an existing category/reputation, click **Delete** ( ).
- To add a new category/reputation, click **Add new**.
- To return the list of categories and reputations to the ones Cisco recommends, click **Apply recommended settings**.

Step 2 To add or edit a category/reputation, from the first list, click the name of a category.

For more information about categories, see Intelligence Categories.

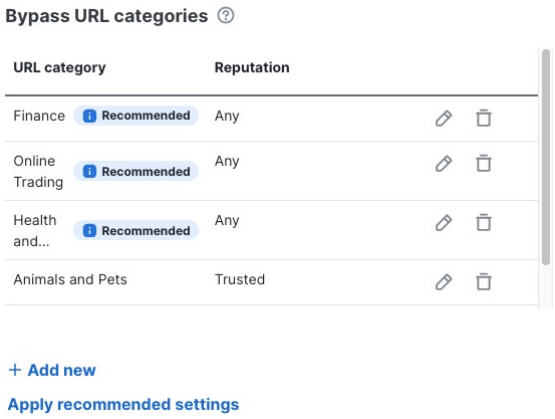
Step 3 From the second list, click the name of a reputation.

For more information about reputations, see Web reputation levels.

The following figure shows an example of using Cisco's defaults and adding the Animals and Pets category with the Trusted reputation.

Step 4 Click **Save**.

The following figure shows an example.



Step 5 If you're finished configuring your policy, see Decryption policy actions, on page 22.

Intelligent decryption bypass

You can set up EVE to bypass decryption for traffic going to trusted connections. The bypass behavior applies broadly and covers many general browsing activities. For example, connections to www.cnn.com are not decrypted, but other connections that fetch assets from CNN's Content Delivery Networks (CDNs) may be decrypted if those URLs are not classified as Trusted.

Client classification is based on EVE's risk assessment which uses machine learning to identify traffic risk levels. URL classification is based on Talos URL reputation. Any connections to trusted URLs from very-low risk clients are bypassed and not decrypted. All other connections, including connections to URLs that are not trusted or connections from clients classified at a higher risk level, are subject to decryption policies.

Bypassing trusted connections reduces unnecessary decryption processing and conserves system resources. This also respects user privacy by not decrypting traffic that is classified as low risk and trusted.

To set up Intelligent Decryption Bypass for an outbound decryption rule, locate **Intelligent Decryption Bypass** and set it to **Slider enabled** () to *not* decrypt traffic for very low-risk clients connecting to trusted servers, based on the threat confidence levels of clients which are determined by the Encrypted Visibility Engine (EVE) and the URL category reputation.

To see our current list of clients classified by trust level, go to Secure Firewall Application Detectors. For example, cnn.com is classified as Very Low. Make sure you understand what traffic you are choosing to *not* decrypt.

Block connections

(Optional.) This topic provides details about how to block connections to servers with unsecure TLS versions and server certificate statuses while creating a decryption policy.

You can choose to block any of the following:

- SSL and TLS versions because some are considered unsecure.
- Certificate status; for example, you can block outbound traffic to a server with an expired certificate because that server might not be trustworthy.

For more information, see Add block connections, on page 19.

Add block connections

This task discusses how to block connections based on either old SSL or TLS versions; or based on the server certificate status.

Note Blocking affects *all outbound connections* and takes precedence over all other bypass and decryption conditions you choose.

Before you begin

Complete the tasks discussed in Create a standard decryption policy with outbound protection, on page 7.

Procedure

Step 1 Locate the Block connections section.

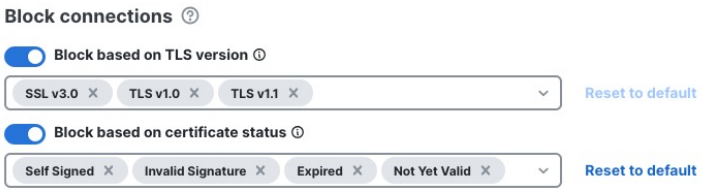
Step 2 To block outbound traffic based on its SSL or TLS protcol version, slide **Block based on TLS versions** to **Slider enabled** ( ).

Step 3 To block outbound traffic based on server certificate status, slide **Block based on certificate status** to **Slider enabled** ( ).

Step 4 You have the following options:

- From the list, select the check box next to an option to add that protocol or status to the policy.
- Click **x** next to an item to remove it from the list.
- Click **Reset to default** to return the list entries to their original values.

The following figure shows an example of blocking traffic with both TLS versions and server certificate status. Self-signed was added to the list of server certificates to block.



Step 5 If you're finished configuring your policy, see Decryption policy actions, on page 22.

Standard decryption policy advanced options

(Optional.) To set advanced decryption policy options, create or edit a standard decryption policy and expand **Advanced Options**. Advanced options are discussed in the following paragraphs.

We recommend setting all advanced options to their default values.

Bypass legacy Cisco undecryptable sites

Enable this option to bypass decryption for websites with Distinguished Names (DNs) that Cisco has determined are undecryptable. To view the list of DNs, go to **Objects** > **Distinguished Name** > **Object Groups**.

Require exact certificate match for inbound decryption

Enable this option to require the use of the internal server's certificate in the decryption policy (this option is referred to as *known key decryption*). The default is to use a different certificate, which is more convenient for replacing the policy's certificate when needed. For more information, see Incoming traffic decryption actions.

Enable adaptive TLS server identity probe

Automatically enabled when TLS 1.3 decryption is enabled. A *probe* is a partial TLS connection with the server, the purpose of which is to obtain the server certificate and cache it. (If the certificate is already cached, the probe is never established.)

If TLS 1.3 Server Identity Discovery is disabled on the access control policy with which the decryption policy is associated, we attempt to use the Server Name Indication (SNI), which is not as reliable.

The adaptive TLS server identity probe occurs on any of the following conditions as opposed to on every connection as in earlier releases:

- Certificate Issuer—Matched when the value of **Issuer DNs** in a decryption rule's DN rule condition is matched.

  For more information, see Distinguished Name (DN) rule conditions.

- Certificate Status—Matched when any of the **Cert Status** conditions are matched in a decryption rule.

  For more information, see Certificate Status Decryption Rule Conditions.

- Internal/External Certificate—Internal certificates can be matched by the certificate used in **Decrypt - Known Key** rule actions; external certificates can be matched in **Certificates** rule conditions.

  For more information, see Known Key Decryption (Incoming Traffic) and Certificate rule conditions.

- Application ID—Can be matched by **Applications** rule conditions in either an access control policy or a decryption policy.

  For more information, see Application rule conditions.

- URL Category—Can be matched by **URLs** rule conditions in an access control policy.

  For more information, see URL Rule Conditions.

Note **Enable adaptive TLS server discovery mode** is not supported on any Secure Firewall Threat Defense Virtual deployed to AWS. If you have any such managed devices managed by the Secure Firewall Management Center, the connection event **PROBE_FLOW_DROP_BYPASS_PROXY** increments every time the device attempts to extract the server certificate.

Logging options

To expedite troubleshooting and to inform yourself about how your decryption policies are working, we recommend you enable all logging options: bypassed traffic, decrypted traffic, and blocked traffic.

Enable QUIC Decryption

Whether to apply decryption rules to connections that use the HTTP/3 over the QUIC protocol. When you decrypt QUIC connections, the system can inspect the contents of the sessions for intrusions, malware, or other issues. You can also apply granular control and filtering of decrypted QUIC connections based on specific criteria in the access control policy. QUIC support is in line with RFC 9000, 9001, 9002, 9114, 9204.

Consider the following when implementing QUIC decryption:

- On high availability or clustered devices, QUIC decryption works only if the connection remains on the same node. If the connection fails over, or is forwarded to another node, the connection drops and must be re-established. Multi-instance is supported without restrictions.
- Rules that apply to QUIC traffic would include the UDP protocol with destination port 443.
- Access control rules that apply to QUIC traffic would include the HTTP/3 or QUIC protocols, either explicitly or by implication.

The following limitations apply to QUIC decryption:

- QUIC decryption applies to Firewall Threat Defense 7.6+ only. Devices running a lower release cannot decrypt QUIC connections.
- Connections from browsers using the Chromium stack (Google Chrome, Opera, Edge) cannot be decrypted for outbound traffic. But inbound traffic from the same browsers can be decrypted.
- Connection Migration as described in RFC 9000 is not supported. The concept of Connection ID in QUIC allows endpoints to retain the same connection in the event of address change.
- Key update, session resumption, and QUIC version 2 are not supported.
- Interactive Block and Interactive Block with Reset (in access control rules) is not supported. These actions will work as Block and Block with Reset.
- The active connection-ID per connection is limited to 5. If necessary, you can modify these limits using the **system support quic-tuning** and **system support quic-tuning-reset** commands in the device CLI.

Enable TLS 1.3 Decryption

Whether to apply decryption rules to TLS 1.3 connections. If you do not enable this option, the decryption rules apply to TLS 1.2 or lower traffic only. See TLS 1.3 decryption best practices.

Save the policy

After you have configured advanced policy options, see Decryption policy actions, on page 22.

Add trusted CA certificates

(Optional.) This task discusses how to add trusted CA certificates to your decryption policy. We strongly recommend you add add issuer CAs for your organization's certificates to avoid issues with decrypting traffic.

Before you begin

Complete the tasks discussed in:

- Create a standard decryption policy with inbound protection, on page 3
- Create a rule-based decryption policy with outbound connection protection

Procedure

Step 1 In your policy, expand **Advanced Options**.

Step 2 In the **Trusted CA certificates** list, do any of the following:

- Click the name of a trusted CA certificate from the list.
- To remove *all* certificates from the list, click  .
- To return the list to its original values, click **Add recommended**.

Decryption policy actions

The following topics discuss how to:

- Copy a decryption policy
- Convert a standard decryption policy to a rule-based decryption policy
- Generate a report about the decryption policy

Related Topics

Convert a standard decryption policy to a rule-based decryption policy, on page 22
Copy a decryption policy, on page 23
Generate a decryption policy report, on page 23

Convert a standard decryption policy to a rule-based decryption policy

The following task discusses how to convert a standard decryption policy to a rule-based decryption policy. After converting to a rule-based decryption policy, you cannot convert it back to a standard decryption policy. Also, you cannot convert any rule-based decryption policy to a standard decryption policy.

We provide this ability so you can use the additional customization available in a rule-based decryption policy. For more information, see About rule-based decryption policies.

Before you begin

Create a decryption policy as discussed in this guide.

Procedure

Step 1 Log in to Secure Firewall Management Center if you haven't already done so.

Step 2 Click **Policies** > **Security policies** > **Decryption**.

Step 3 Next to the decryption policy you wish to convert, in the Actions column, click More icon (⋯) then click **Convert policy mode**.

Step 4 You are required to confirm the action.

The system creates a backup policy with **-backup** appended to the name of the original policy. The original policy retains its name.

Copy a decryption policy

The following task discusses how to copy a decryption policy. Copying the policy copies any rules in the policy and all of the policy's settings.

Before you begin

Create a decryption policy as discussed in this guide.

Procedure

Step 1 Log in to Secure Firewall Management Center if you haven't already done so.

Step 2 Click **Policies** > **Security policies** > **Decryption**.

Step 3 Next to the decryption policy you wish to copy, in the Actions column, click More icon (⋯) then click **Copy policy**.

Step 4 When prompted, provide a name for the policy.

Step 5 Click **Save**.

Generate a decryption policy report

This topic discusses how to create a decryption policy report that includes the following (among other things)

- List of rules
- List of cipher suites
- Policy's default action
- Trusted CA certificates

Before you begin

Create a decryption policy as discussed in this guide.

Procedure

Step 1 Log in to Secure Firewall Management Center if you haven't already done so.

Step 2 Click **Policies** > **Security policies** > **Decryption**.

Step 3 Next to the decryption policy you wish to create a report, in the Actions column, click More icon (⋯) then click **Generate report**.

The system creates a PDF report and opens it for you using your default PDF application.