



# Protecting Against Malicious or Undesirable URLs

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- [Setting Up URL Filtering](#), on page 2
- [Taking Action Based on the Reputation or Category of URLs in Messages](#) , on page 8
- [Handling Unscannable Messages for URL Filtering](#), on page 12
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## URL-Related Protections and Controls

Control and protection against malicious or undesirable links is incorporated into the anti-spam, outbreak, content, and message filtering processes in the work queue. These controls:

- Increase the effectiveness of protection from malicious URLs in messages and attachments.

URL filtering is incorporated into Outbreak Filtering. This strengthened protection is useful even if your organization already has a Cisco Web Security Appliance or similar protection from web-based threats, because it blocks threats at the point of entry.

You can also use content or message filters to take action based on the Web Based Reputation Score (WBRS) of URLs in messages.



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**Note** As a best practice, Cisco recommends rewriting URLs with a questionable, neutral, and favorable or unknown reputation to redirect them to the Cisco Web Security Proxy for click-time evaluation of their safety.

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- Better identify spam

The email gateway uses the reputation and category of links in messages, in conjunction with other spam-identification algorithms, to help identify spam. For example, if a link in a message belongs to a marketing web site, the message is more likely to be a marketing message.

- Support enforcement of corporate acceptable use policies

The category of URLs (for example, Adult Content or Illegal Activities) can be used in conjunction with content and message filters to enforce corporate acceptable use policies.

- Allow you to identify users in your organization who most frequently clicked a URL in a message that has been rewritten for protection, as well as links that have most frequently been clicked.

### Related Topics

- [Which URLs Are Evaluated](#) , on page 2
- [Web Interaction Tracking Page](#)

## Which URLs Are Evaluated

URLs in incoming and outgoing messages (including attachments) are evaluated. Any valid string for a URL is evaluated, including strings with the following:

- http, https, or www
- domain or IP address
- port number preceded by a colon (:)
- uppercase or lowercase letters

When evaluating URLs to determine whether a message is spam, if necessary for load management, the system prioritizes screening of incoming messages over outgoing messages.

## Setting Up URL Filtering

- [Requirements for URL Filtering](#) , on page 2
- [Enable URL Filtering](#), on page 3
- [About the Connection to Talos Intelligence Services](#) , on page 4
- [Web Interaction Tracking](#) , on page 4
- [URL Filtering in Cluster Configurations](#), on page 5
- [Creating Allowed Lists for URL Filtering](#) , on page 5
- [Customizing the Notification That End Users See If a Site Is Malicious](#) , on page 7

## Requirements for URL Filtering

In addition to enabling URL filtering, you must enable other features depending on desired functionality.

For enhanced protection against spam:

- Anti-spam scanning must be enabled globally and per applicable mail policy. This can be either the IronPort Anti-Spam or the Intelligent Multi-Scan feature. See the anti-spam chapter.

For enhanced protection against malware:

- The Outbreak Filters feature must be enabled globally and per applicable mail policy. See the Outbreak Filters chapter.

To take action based on URL reputation, or to enforce acceptable use policies using message and content filters:

- The Outbreak Filters feature must be enabled globally. See the Outbreak Filters chapter.

## Enable URL Filtering

You can enable URL filtering using the **Security Services > URL Filtering** page in the web interface or the `websecurityconfig` command in CLI.

### Before You Begin

- Ensure that the requirements for the individual URL filtering features that you want to use have been met. See [Requirements for URL Filtering](#) , on page 2.
- (Optional) Create a list of URLs that you want all URL filtering functionalities to ignore. See [Creating Allowed Lists for URL Filtering](#) , on page 5.

### Procedure

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- Step 1** Select **Security Services > URL Filtering**.
- Step 2** Click **Enable**.
- Step 3** Select the **Enable URL Category and Reputation Filters** check box.
- Step 4** (Optional) If you have created a list of URLs to exempt from URL filtering when evaluating messages for spam and malware, and from all content and message filtering, select that list.  
  
This setting does not cause the message to bypass anti-spam or Outbreak Filters processing generally.
- Step 5** [Optional] Enable Web Interaction Tracking. See [Web Interaction Tracking](#) , on page 4.
- Step 6** Submit and commit your changes.

If you have met the applicable prerequisites, and you have already configured Outbreak Filters and Anti-Spam protection, then you do not need to make additional configurations to benefit from enhanced automatic detection of spam and malicious URLs.

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### What to do next

- To take action based on the reputation of URLs in messages, see [Taking Action Based on the Reputation or Category of URLs in Messages](#) , on page 8.
- To use URL categories in content and message filters, for example to enforce acceptable use policies, see [Taking Action Based on the Reputation or Category of URLs in Messages](#) , on page 8.
- To redirect all URLs in suspected spam messages to the Cisco Web Security proxy service, see [Using Custom Headers to Redirect URLs in Suspected Spam to the Cisco Web Security Proxy: Configuration Example](#).
- (Optional) To customize the appearance of end user notification page, see [Customizing the Notification That End Users See If a Site Is Malicious](#) , on page 7.

- Ensure that you receive alerts about issues related to this feature. See [Future URL Category Set Changes](#), on page 32, the release notes for your AsyncOS release, and [Adding Alert Recipients](#).

## About the Connection to Talos Intelligence Services

URL reputation and category are provided by cloud-based Talos Intelligence Services.

The email gateway connects to the Talos Intelligence Services either directly or through a web proxy, using the port specified for URL filtering services in [Firewall Information](#). Communication is over HTTPS with mutual certificate authentication. Certificates are updated automatically (see [Service Updates](#).) For additional information about required certificates, see the Release Notes available from the location specified in [Certificates for URL Filtering Features](#), on page 4.

If an HTTP or HTTPS proxy has been configured on the **Security Services > Service Updates** page, the email gateway will use it when communicating with Talos Intelligence Services. For more information about using a proxy server, see [Configuring Server Settings for Downloading Upgrades and Updates](#).



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**Note** Certificates are not saved with a configuration file.

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### Related Topics

- [Certificates for URL Filtering Features](#), on page 4
- [Alert: Beaker Connector: Error Fetching Enrollment Certificate](#), on page 16
- [Alert: Beaker Connector: Certificate Is Invalid](#), on page 16

## Certificates for URL Filtering Features

AsyncOS is designed to automatically deploy and update the certificates needed for communications with cloud services used for URL filtering features. However, if for any reason the system is unable to update these certificates, you will receive an alert that requires action from you.

Ensure that the email gateway is configured to send you these alerts (System type, Warning severity). For instructions, see [Alerts](#).

If you receive an alert about an invalid certificate, contact Cisco TAC, which can provide the required replacement certificate. For instructions to use the replacement certificate, see [Manually Configuring a Certificate for Communication with Talos Intelligence Services](#), on page 19.

## Web Interaction Tracking

The web interaction tracking feature provides information about the end users who clicked on rewritten URLs and the action (allowed, blocked, or unknown) associated with each user click. Once you enable this feature, you can use the Web Interaction Tracking report to view information such as top malicious URLs clicked, top users who clicked on malicious URLs, and so on. For more information about the Web Interaction Tracking report, see [Web Interaction Tracking Page](#).

Web Interaction Tracking data is provided by a cloud-based Cisco Aggregator Server.

### Related Topics

- [Configuring Web Interaction Tracking](#), on page 5

- [About the Connection to Cisco Aggregator Server, on page 5](#)

## Configuring Web Interaction Tracking

Depending on your requirements, you can enable web interaction tracking on one of the global settings pages:

- **Outbreak Filters.** Track end users who clicked URLs rewritten by Outbreak Filters. See [Configuring Outbreak Filters Global Settings](#).
- **URL Filtering.** Track end users who clicked URLs rewritten by policies (using content and message filters). See [Enable URL Filtering, on page 3](#).

## About the Connection to Cisco Aggregator Server

The email gateway connects to the Cisco Aggregator Server every 30 minutes (non-configurable), either directly or through a web proxy, using the port specified for URL filtering services in [Firewall Information Communication](#) is over HTTPS with mutual certificate authentication. Certificates are updated automatically (see [Service Updates](#).)

If an HTTP or HTTPS proxy has been configured on the **Security Services > Service Updates** page, the email gateway will use it when communicating with the Cisco Aggregator Server. For more information about using a proxy server, see [Configuring Server Settings for Downloading Upgrades and Updates](#).



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**Note** Certificates are not saved with a configuration file.

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## URL Filtering in Cluster Configurations

- You can enable URL filtering at the machine, group or cluster level.
- If URL filtering is enabled at machine level, URL allowed lists and web interaction tracking can be configured at machine, group or cluster level.
- If URL filtering is enabled at group level, URL allowed lists and web interaction tracking must be configured at group or cluster level.
- If URL filtering is enabled at cluster level, URL allowed lists and web interaction tracking must be configured at cluster level.
- The standard rules for clusters for Message Filters and Content Filters apply.

## Creating Allowed Lists for URL Filtering

If you specify a global allowed list when configuring the URL Filtering feature, then URLs on the allowed list are not evaluated for reputation or category, for anti-spam, Outbreak Filtering, or content and message filtering. However, the messages that contain these URLs are evaluated as usual by anti-spam scanning and Outbreak Filters. You can also specify a URL allowed list in each URL Filtering condition (rule) and action in content and message filters, to supplement the global URL allowed list.

To categorize allowed list URLs from Outbreak Filtering generally, use the Bypass Domain Scanning option that you configure on the Mail Policies: Outbreak Filters page. URL allowed lists for URL filtering are similar to, but independent of, Bypass Domain Scanning. For more information about that feature, see [URL Rewriting and Bypassing Domains](#).

There is no relationship between URL filtering allowed lists described in this section and the allowed list used for sender reputation filtering based on IP Reputation score.

### Before You Begin

Consider importing a list of URLs instead of creating one in the web interface. See [Importing a URL List , on page 6](#).

### Procedure

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**Step 1** Select **Mail Policies > URL Lists**.

**Step 2** Select **Add URL List** or click a list to edit.

Be sure all URLs that you want to designate globally as an allowed list are in a single list. You can select only one global allowed list for URL filtering.

**Step 3** Create and submit the URL list.

To view a list of supported URL formats, enter a semicolon (;) into the **URLs** box and click **Submit**. Then click the **more...** link that appears.

Each URL, domain, or IP address can be on a separate line, or separate each with a comma.

**Step 4** Commit your changes.

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### What to do next

- To designate a URL list as the global allowed list, see [Enable URL Filtering, on page 3](#).
- To designate a URL list as the allowed list for a specific condition (rule) or action in a content or message filter, see [Taking Action Based on the Reputation or Category of URLs in Messages , on page 8](#) and [Content Filter Actions](#). For message filters, see also [URL Category Actions](#) and [URL Category Rule](#).

### Related Topics

- [Importing a URL List , on page 6](#)

## Importing a URL List

You can import a URL list to use as a allowed list for URL filtering.

### Procedure

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**Step 1** Create the text file to import:

- The first line must be the name of the URL list.
- Each URL must be on a separate line.

**Step 2** Upload the file to the `/configuration` directory on the appliance.

**Step 3** Use the `urllistconfig > new` command in the command-line interface.

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## Customizing the Notification That End Users See If a Site Is Malicious

If an end user clicks a malicious URL identified by Outbreak Filtering or a Policy (using Content or Message Filters), the Cisco Web Security proxy displays a notification in the end user's web browser. This notification states that the site is malicious and access to it has been blocked.

When an end user clicks on a URL rewritten using Outbreak Filtering, the notification page is displayed for 10 seconds and then is redirected to the Cisco Web Security proxy for click-time evaluation.

You can customize the appearance of this notification page and display your organization's branding such as company logo, contact information, and so on.



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**Note** If you do not customize the notification page, end users see a Cisco branded notification page.

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### Before You Begin

- Enable URL filtering. See [Enable URL Filtering, on page 3](#).

### Procedure

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- Step 1** Select **Security Services > Block Page Customization**.
- Step 2** Click **Enable**.
- Step 3** Check the **Enable Block Page customization** check box and enter the following details:
- URL of the organization's logo. It is recommended that the logo image is hosted on a publicly accessible server.
  - Organization's name
  - Organization's contact information
- Step 4** Choose the language of the notification. You can choose any one of the languages supported by the web interface.
- Note** The default language of the end user's browser takes precedence over the language you have selected here. Also, if the default language of the end user's browser is not supported by AsyncOS, then the notification is displayed in the language you have selected here.
- Step 5** (Optional) Preview the notification page by clicking **Preview Block Page Customization** link.
- Step 6** Submit and commit your changes.

### Next Steps

Set up URL rewriting in one of the following ways:

- Using Outbreak Filters. See [Redirecting URLs](#).
  - Using Content or Message Filters. See [Taking Action Based on the Reputation or Category of URLs in Messages](#), on page 8.
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# Taking Action Based on the Reputation or Category of URLs in Messages

You can take action based on the reputation or category of URL links in the message body or message attachment using message filters and content filters in incoming and outgoing mail policies.

Because Outbreak Filters take many factors into consideration when evaluating messages for malware, and URL reputation alone may not trigger aggressive message handling, you may want to create filters based on URL reputation.

For example, you can use URL Reputation filters to:

- (For URLs in message body only) Rewrite URLs of neutral or unknown reputation to redirect them to the Cisco cloud Web Security proxy service for click-time evaluation.
- Drop messages that include URLs that have reputation scores in the Untrusted range.

You can use URL Category filters to:

- Filter categories of URLs to enforce organizational policies for acceptable web use, for example to prevent users from visiting adult or gambling sites while at the office.
- Provide enhanced protection from malicious sites, which may not exist long enough to be classified. (For URLs in message body only) You can redirect all URLs in the Unclassified category to the Cisco cloud Web Security proxy service for evaluation at the time a user clicks a link.

## Related Topics

- [Using URL-Related Conditions \(Rules\) and Actions](#) , on page 8
- [Filtering by URL Reputation or URL Category: Conditions and Rules](#) , on page 9
- [Modifying URLs in Messages: Using URL Reputation and URL Category Actions in Filters](#) , on page 10
- [Redirected URLs: What Does the End User Experience?](#) , on page 11

## Using URL-Related Conditions (Rules) and Actions

| To  | Example   | Do This  |
|---|---|--|
| Take action on the message as a whole.  | Drop or quarantine messages.  | Create a URL Reputation or URL Category condition or rule, then pair it with any action other than a URL Reputation or URL Category action.<br><br>Exception: Do not pair a URL Reputation condition or rule with a Bounce action. |
| (For URLs in message body only) Modify URLs in a message, or modify their behavior. | Replace a URL in the message with a text note, or make the URL unclickable. | Create a URL Reputation or URL Category action only; do not use a separate URL filtering condition.  |

As always, you must specify a content filter in a mail policy in order to use it.



### Related Topics

- [Filtering by URL Reputation or URL Category: Conditions and Rules](#) , on page 9
- [Modifying URLs in Messages: Using URL Reputation and URL Category Actions in Filters](#) , on page 10

## Filtering by URL Reputation or URL Category: Conditions and Rules

You can perform actions on messages based on the reputation or category of URLs in the message body and message attachments. If you want to perform any action other than modifying URLs or their behavior, add a **URL Reputation** or **URL Category** condition and select the reputation scores or URL categories for which you want to apply the action.

For example, if you want to apply the **Drop (Final Action)** action to all messages that include URLs in the Adult category, add a condition of type **URL Category** with the **Adult** category selected.

If you do not specify a category, the action you choose is applied to all messages.

URL reputation score ranges for trusted, neutral, and untrusted URLs are predefined and not editable. However, you can specify a custom range instead. The specified endpoints are included in the range you specify. For example, if you create a custom range from -8 to -10, then -8 and -10 are included in the range. Use "Unknown" for URLs for which a reputation score cannot be determined.



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**Note** Neutral URL reputation means that URLs are currently clean, but may turn malicious in future, as they are prone to attacks. For such URLs, administrators can create non-blocking policies, for example, redirecting them to the Cisco Web Security Proxy for click-time evaluation.

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URLs that are included on the selected URL allowed list or on the global URL allowed list not evaluated.

The action that you pair with this condition is taken if any URL in the message matches the reputation score or any category specified in the condition.

If you want to modify URLs in a message, or modify their behavior, configure only a URL Reputation or URL Category action. You do not need a separate URL Reputation or URL Category condition or rule for this purpose.



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**Note** Do not pair a URL Reputation condition with a Bounce action.

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**Tip** To check the category of a particular URL, visit the link in [Reporting Uncategorized and Misclassified URLs](#) , on page 32.

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### Related Topics

- [Creating Allowed Lists for URL Filtering](#) , on page 5
- [Content Filters](#)

## Modifying URLs in Messages: Using URL Reputation and URL Category Actions in Filters

Use a URL Reputation or URL Category action to modify URLs in a message, or their behavior, based on the reputation or category of the URL.

URL Reputation and URL Category actions do not require a separate condition. Instead, the selected action is applied based on the reputation or categories that you select in the URL Reputation or URL Category action.

The action is applied only to URLs that meet the criteria specified in the action. Other URLs in the message are not modified.

If you do not specify a category, the action you choose is applied to all messages.

URL reputation score ranges for trusted, neutral, and untrusted URLs are predefined and not editable. However, you can specify a custom range instead. The specified endpoints are included in the range you specify. For example, if you create a custom range from -8 to -10, then -8 and -10 are included in the range. Use “Unknown” for URLs for which a reputation score cannot be determined.




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**Note** Neutral URL reputation means that URLs are currently clean, but may turn malicious in future, as they are prone to attacks. For such URLs, administrators can create non-blocking policies, for example, redirecting them to the Cisco Web Security Proxy for click-time evaluation.

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The following URL-related actions are only applicable for URLs in the message body::

- Defang a URL so that it is unclickable. Message recipients can still see and copy the URL.
- Redirect a URL so that if the message recipient clicks the link, the transaction is routed to a Cisco web security proxy in the cloud, which blocks access if the site is malicious.

Example: You might want to redirect all URLs in the **Uncategorized** category to the Cisco Cloud Web Security proxy service, as malicious sites used in phishing attacks often do not exist long enough to be classified.

See also [Redirected URLs: What Does the End User Experience?](#) , on page 11.

To redirect URLs to a different proxy, see the example in the following bullet.




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**Note** The Cisco Cloud Web Security proxy service has no configurable options in this release. For example, there is no threat score threshold to adjust or action to specify based on threat score.

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- Replace the URL with any text.

To include the original URL in the text that appears in the message, use the \$URL variable.

Examples:

- Replace all URLs in the **Illegal Downloads** category with a note:

```
Message from your system administrator: A link to an illegal downloads web site has been removed from this message.
```

- Include the original URL along with a warning:

WARNING! The following URL may contain malware: \$URL

This becomes: WARNING: The following URL may contain malware: http://example.com.

- Redirect to a custom proxy or web security service:

http://custom\_proxy/\$URL

This becomes: http://custom\_proxy/http://example.com

The reputation and category of URLs that are included on the selected URL allowed list or on the global URL allowed list are not evaluated.

If you defang or replace URLs, you can choose to ignore URLs in signed messages.

Pairing a URL Reputation or URL Category action with a URL Reputation or URL Category condition (or rule) is not recommended. If you pair a condition (rule) and action that include different categories, then no match occurs.



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**Tip** To check the category of a particular URL, visit the link in [Reporting Uncategorized and Misclassified URLs](#), on page 32.

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#### Related Topics

- [Creating Allowed Lists for URL Filtering](#), on page 5
- [Using Custom Headers to Redirect URLs in Suspected Spam to the Cisco Web Security Proxy: Configuration Example](#)
- [Content Filters](#)
- [URL Reputation Rules](#)
- [URL Category Rule](#)

## Redirected URLs: What Does the End User Experience?

Based on the evaluation by the Cisco Cloud Web Security proxy service:

- If the site is benign, the user is directed to the target web site and has no knowledge that the link has been redirected.
- If the site is malicious, the user sees a notice that the site is malicious and access to it has been blocked.

You can customize the appearance of end user notification page and display your organization's branding such as company logo, contact information, and so on. See [Customizing the Notification That End Users See If a Site Is Malicious](#), on page 7.

- If communication with the Cisco Cloud Web Security proxy service times out, the user is allowed to access the target web site.
- If any other error occurs, the user sees a notice.

#### Related Topics

- [Modifying URLs in Messages: Using URL Reputation and URL Category Actions in Filters](#), on page 10

## Handling Unscannable Messages for URL Filtering

In the following scenarios, the URL filtering scanning fails, and the following header - *X-URL-LookUp-ScanningError* is added to the message:

- Unable to obtain the URL Reputation and Category
- Unable to expand the shortened URLs in the message
- Number of URLs in the message body or message attachments exceeds the maximum URL scan limit

You can add a content filter, select the *X-URL-LookUp-ScanningError* header in the Other Header condition, and configure appropriate actions to take on the message.

## Detecting Malicious URLs in Messages Using Content Filter

Use the 'URL Reputation' content filter to detect URLs in messages categorized as malicious by the ETF engine and take appropriate actions on such messages.

You can configure the 'URL Reputation' content filter for ETF in any one of the following ways:

- Use the 'URL Reputation' condition with any appropriate action.
- Use the 'URL Reputation' action with any or no condition.
- Use the 'URL Reputation' condition and action.

The following procedure is used to detect malicious URLs using the 'URL Reputation' condition and action:



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**Note**

- If you only want to use the 'URL Reputation' condition with any appropriate action, do not follow steps 11-20 of the procedure.
  - If you only want to use the 'URL Reputation' action with any or no condition., do not follow steps 4-10 of the procedure.
- 

### Before you begin

- Make sure that you enable URL filtering on your email gateway. To enable URL filtering, go to *Security Services > URL Filtering* page in the web interface. For more information, see [Protecting Against Malicious or Undesirable URLs, on page 1](#).
- Make sure that you enable Outbreak Filters on your email gateway. To enable Outbreak Filters, go to *Security Services > Outbreak Filters* page in the web interface. For more information, see [Outbreak Filters](#).
- Make sure that you enable Anti-Spam engine on your email gateway. To enable the Anti-Spam engine, go to *Security Services > Anti-Spam* page in the web interface. For more information, see [Managing Spam and Graymail](#).

- (Optional) Create a URL list. To create one, go to *Mail Policies > URL Lists* page in the web interface. For more information, see [Protecting Against Malicious or Undesirable URLs, on page 1](#).

## Procedure

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- Step 1** Go to **Mail Policies > Incoming Content Filters**.
- Step 2** Click **Add Filter**.
- Step 3** Enter a name and description for the content filter.
- Step 4** Click **Add Condition**.
- Step 5** Click **URL Reputation**.
- Step 6** Select **External Threat Feeds**.
- Step 7** Select the ETF source(s) to detect malicious URLs.
- Step 8** (Optional) Select the list of allow listed URLs that you do not want the email gateway to detect for threats.
- Step 9** Select the required **Check URLs within** option to detect malicious URLs in the message body and subject and/or message attachments.
- Step 10** Click **OK**.
- Step 11** Click **Add Action**.
- Step 12** Click **URL Reputation**.
- Step 13** Select **External Threat Feeds**.
- Step 14** Make sure that you select the same ETF source(s) that you selected in the condition (Step 7).
- Step 15** (Optional) Select the same list of allow listed URLs that you selected in Step 8.
- Step 16** Select the required **Check URLs within** option to detect malicious URLs in the 'message body and subject' and/or 'message attachments'
- Step 17** Select the required action that you want to perform on the URLs within the message body and subject and/or message attachments.
- Note** In Step 16, if you choose the 'Check URLs within' option as 'Attachments', you can only strip the attachment from the message.
- Step 18** Select whether you want to take actions on all messages or unsigned messages.
- Step 19** Click **OK**.
- Step 20** Submit and commit your changes.
- Note** If you have configured URL Reputation content filters for Web Based Reputation Score (WBR) and ETF on your email gateway, it is recommended to set the order of the WBR URL Reputation content filter higher than the order of the ETF URL Reputation filter, to improve the performance of your email gateway.
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# Detecting Malicious URLs in Messages Using Message Filter

As an example, use the 'URL Reputation' message filter rule syntax to detect malicious URLs in messages using the ETF engine, and to defang the URL.

**Syntax:**

```
defang_url_in_message: if (url-external-threat-feeds (['etf_source1'],
<'URL_allowedlist'>,
<'message_attachments'> , <'message_body_subject'> ,))
{ url-etf-defang(['etf_source1'], "", 0); } <'URL_allowedlist'> ,
<'Preserve_signed'>}
```

**Where**

- `'url-external-threat-feeds'` is the URL Reputation rule.
- `'etf_source1'` is the ETF source(s) used to detect malicious URLs in the messages or message attachments.
- `'URL_allowedlist'` is the name of a URL allowed list. If a URL allowed list is not present, it is displayed as `""`.
- `'message_attachments'` is used to check for malicious URLs in the message attachments. A value of `'1'` is used to detect malicious URLs in the message attachments.
- `'message_body_subject'` is used to check for malicious URLs in the message body and subject. A value of `'1'` is used to detect malicious URLs in the message body and subject.




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**Note** A value of “1,1” is used to detect malicious URLs in the message body, subject, and message attachments.

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- `'url-etf-defang'` is one of the actions that you can take on messages that contain malicious URLs.

The following examples are the ETF-based actions that you can apply on messages that contain malicious URLs:

- `url-etf-strip(['etf_source1'], "None", 1)`
- `url-etf-defang-strip(['etf_source1'], "None", 1, "Attachment removed")`
- `url-etf-defang-strip(['etf_source1'], "None", 1)`
- `url-etf-proxy-redirect(['etf_source1'], "None", 1)`
- `url-etf-proxy-redirect-strip(['etf_source1'], "None", 1)`
- `url-etf-proxy-redirect-strip(['etf_source1'], "None", 1, " Attachment removed")`
- `url-etf-replace(['etf_source1'], "", "None", 1)`
- `url-etf-replace(['etf_source1'], "URL removed", "None", 1)`
- `url-etf-replace-strip(['etf_source1'], "URL removed ", "None", 1)`
- `url-etf-replace-strip(['etf_source1'], "URL removed*", "None", 1, "Attachment removed")`
- `'Preserve_signed'` is represented by `'1'` or `'0'`. `'1'` indicates that this action applies to unsigned messages only and `'0'` indicates that this action applies to all messages.

In the following example, if a URL in the message attachment is detected as malicious by the ETF engine, the attachment is stripped.

```
Strip_Malicious_URLs: if (true) {url-etc-strip(['threat_feed_source'], "", 0);}
```

## Monitoring URL Filtering Results

To view data about malicious and neutral URLs detected, select **Monitor > URL Filtering**. For important information about the data on this page, see [URL Filtering Page](#).

## Displaying URL Details in Message Tracking

To display details in Message Tracking for URLs caught by outbreak filters and relevant content filters:

- Message Tracking must be enabled.
- Outbreak filters and/or content filters based on URL reputation or URL Category must be operational.
- For outbreak filters, URL Rewriting must be enabled. See [URL Rewriting and Bypassing Domains](#).
- URL logging must be enabled. See [Enabling Logging of URLs and Message Tracking Details for URLs](#).

For more information about the data displayed, see [Message Tracking Details](#).

To manage administrative user access to these potentially sensitive details, see [Controlling Access to Sensitive Information in Message Tracking](#).

## Troubleshooting URL Filtering

### Related Topics

- [Viewing Logs](#) , on page 15
- [Alert: Beaker Connector: Error Fetching Enrollment Certificate](#) , on page 16
- [Alert: Beaker Connector: Certificate Is Invalid](#) , on page 16
- [Unable to Connect to Talos Intelligence Services](#), on page 16
- [Alert: Unable to Connect to the Cisco Aggregator Server](#), on page 17
- [Alert: Unable to Retrieve Web Interaction Tracking Information from the Cisco Aggregator Server](#), on page 17
- [Using the websecurityadvancedconfig Command](#) , on page 18
- [Message Tracking Search Does Not Find Messages with Specified Category](#) , on page 18
- [Malicious URLs and Marketing Messages Are Not Caught by Anti-Spam or Outbreak Filters](#) , on page 18
- [URLs in a Filtered Category Are Not Handled Correctly](#) , on page 18
- [End User Reaches Malicious Site via Rewritten URL](#) , on page 18
- [Manually Configuring a Certificate for Communication with Talos Intelligence Services](#) , on page 19

## Viewing Logs

URL filtering information is posted to the following logs:

- Mail Logs ( mail\_logs ). Information related to the result of scanning a URL (action taken of a message depending on the URL) is posted to this log.
- URL Filtering Logs ( web\_client ). Information related to errors, timeouts, network issues, and so on while attempting the URL lookup are posted this log.

Most information is at Info or Debug level. For more information on logs, see [Logging](#).

Logs do not include information about what happens when a user clicks a redirected link in a message.

"SDS" and in logs refers to URL reputation services. "Beaker Connector" refers to Talos engine.

## Alert: Beaker Connector: Error Fetching Enrollment Certificate

### Problem

You receive an info-level alert about an error fetching the enrollment client certificate.

### Solution

This certificate is required to connect to the following cloud-based services: Talos Intelligence Services (to obtain URL reputation and category) and Cisco Aggregator Server (to obtain web interaction tracking data). Try the following:

1. Check for networking issues such as incorrect proxy settings or firewall issues.
2. Verify that your URL Filtering feature key is valid and active.
3. If the problem persists, contact Cisco TAC.

## Alert: Beaker Connector: Certificate Is Invalid

### Problem

You receive a critical alert about an invalid Beaker connector certificate.

### Solution

This certificate is required to connect to Talos Intelligence Services in the cloud in order to obtain URL reputation and category.

To obtain and manually install a certificate, see [Manually Configuring a Certificate for Communication with Talos Intelligence Services](#) , on page 19.

## Unable to Connect to Talos Intelligence Services

### Problem

The **Security Services > URL Filtering** page persistently indicates an issue connecting to Talos Intelligence Services.

### Solution

- If you have enabled URL filtering but have not yet committed the change, commit the change.
- Check for recent alerts related to the connection with Talos Intelligence Services. See [Viewing Recent Alerts](#). If applicable, see [Alert: Beaker Connector: Error Fetching Enrollment Certificate](#) , on page 16 and [Alert: Beaker Connector: Certificate Is Invalid](#) , on page 16.



- If you are connecting via a proxy specified in **Security Services > Service Updates**, verify that this is configured and working properly.
- Check for other network issues that might prevent connection.
- If you see errors in the URL Filtering Logs related to timed out requests to the Talos client, use the `websecuritydiagnostics` command and the `websecurityadvancedconfig` command in the command-line interface to investigate and make changes:
  - If the diagnostics show that Response Time is not less than the configured URL Lookup Timeout, increase the URL Lookup Timeout value accordingly.
- Check the URL Filtering Logs for non-timeout errors in communications with the URL scanner, Cisco Web Security Services, or Talos client. "Talos client" in logs represents Talos Intelligence Services. If you see such log messages, contact TAC.

## Alert: Unable to Connect to the Cisco Aggregator Server

### Problem

You receive the following warning alert: Unable to Connect to the Cisco Aggregator Server.

### Solution

Do the following:

1. Check the connectivity between the email gateway and the Cisco Aggregator Server by pinging the hostname of the server from the email gateway. Use the `aggregatorconfig` command in CLI to view the hostname of the Cisco Aggregator Server.
2. If you are connecting via a proxy specified in **Security Services > Service Updates**, verify that this is configured and working properly.
3. Check for other network issues that might prevent connection.
4. Check if the DNS service is running.
5. If the problem persists, contact Cisco TAC.

## Alert: Unable to Retrieve Web Interaction Tracking Information from the Cisco Aggregator Server

### Problem

You receive the following warning alert: Unable to retrieve web interaction tracking information from the Cisco Aggregator Server.

### Solution

Do the following:

1. If you are connecting via a proxy specified in **Security Services > Service Updates**, verify that this is configured and working properly.
2. Check for other network issues that might prevent connection.
3. Check if the DNS service is running.
4. If the problem persists, contact Cisco TAC.

## Using the `websecurityadvancedconfig` Command

Except for changes explicitly described in this document, make no other changes using the `websecurityadvancedconfig` command without guidance from TAC.

## Message Tracking Search Does Not Find Messages with Specified Category

### Problem

Messages that contain URLs in a particular category are not found when searching by that category.

### Solution

See [Expected Messages Are Missing from Search Results](#).

## Malicious URLs and Marketing Messages Are Not Caught by Anti-Spam or Outbreak Filters

### Problem

Malicious URLs and messages containing marketing links are not caught by the anti-spam or outbreak filters.

### Solution

- This can occur because web site reputation and category are only two among many criteria that anti-spam and outbreak filters use to determine their verdicts. You can increase the sensitivity of these filters by lowering the thresholds required to take action such as rewriting or replacing URLs with text, or quarantining or dropping messages. For details, see [The Outbreak Filters Feature and Mail Policies](#) and [Defining Anti-Spam Policies](#). Alternatively, create content or message filters based on URL reputation score.
- This can also occur if the email gateway is unable to connect to the Talos Intelligence Services. See [Unable to Connect to Talos Intelligence Services, on page 16](#).

## URLs in a Filtered Category Are Not Handled Correctly

### Problem

The defined action in a content or message filter based on URL category is not applied.

### Solution

- Use the Trace feature (described in the Troubleshooting chapter) to follow the message processing path.
- This can occur if the email gateway is unable to connect to the Talos Intelligence Services. See [Unable to Connect to Talos Intelligence Services, on page 16](#).
- If there are no connection issues, the URLs may not yet be categorized, or may be miscategorized. See [Reporting Uncategorized and Misclassified URLs , on page 32](#). You can use this site to determine the category of a URL.

## End User Reaches Malicious Site via Rewritten URL

### Problem

A malicious URL was redirected to the Cisco Web Security Proxy, but the end user was able to access the site anyway.

### Solution

This can occur if:

- The site was not yet identified as a malicious site.
- The connection to the Cisco Web Security Proxy timed out, which should be a rare occurrence. Ensure that network issues are not interfering with the connection.

## Manually Configuring a Certificate for Communication with Talos Intelligence Services

Use this procedure if the email gateway is unable to automatically obtain a certificate for communication with Talos Intelligence Services.

### Procedure

---

- Step 1** Obtain the required certificate.
  - Step 2** Upload the certificate using **Network > Certificates**, or use the `certconfig` command in the command-line interface.
  - Step 3** In the command-line interface, enter the `websecurityconfig` command.
  - Step 4** Follow the prompts to set the client certificate for Talos Intelligence Services Authentication.
- 

## About URL Categories

### Related Topics

- [URL Category Descriptions](#) , on page 19
- [Determining the Category of a URL](#) , on page 32
- [Reporting Uncategorized and Misclassified URLs](#) , on page 32
- [Future URL Category Set Changes](#) , on page 32

## URL Category Descriptions

These URL categories are the same categories that are used on recent releases of AsyncOS for Web Security appliances.

| URL Category   | Abbreviation | Code | Description  | Example URLs   |
|----------------|--------------|------|--|--|
| Adult          | adlt         | 1006 | Directed at adults, but not necessarily pornographic. May include adult clubs (strip clubs, swingers clubs, escort services, strippers); general information about sex, non-pornographic in nature; genital piercing; adult products or greeting cards; information about sex not in the context of health or disease. | www.adultentertainmentexpo.com<br>www.adultnetline.com |
| Advertisements | adv          | 1027 | Banner and pop-up advertisements that often accompany a web page; other advertising websites that provide advertisement content. Advertising services and sales are classified as “Business and Industry.”   | www.adforce.com<br>www.doubleclick.com                 |
| Alcohol        | alc          | 1077 | Alcohol as a pleasurable activity; beer and wine making, cocktail recipes; liquor sellers, wineries, vineyards, breweries, alcohol distributors. Alcohol addiction is classified as “Health and Nutrition.” Bars and restaurants are classified as “Dining and Drinking.”  | www.samueladams.com<br>www.whisky.com                  |
| Arts           | art          | 1002 | Galleries and exhibitions; artists and art; photography; literature and books; performing arts and theater; musicals; ballet; museums; design; architecture. Cinema and television are classified as “Entertainment.”  | www.moma.org<br>www.nga.gov                            |
| Astrology      | astr         | 1074 | Astrology; horoscope; fortune telling; numerology; psychic advice; tarot.  | www.astro.com<br>www.astrology.com                     |
| Auctions       | auct         | 1088 | Online and offline auctions, auction houses, and classified advertisements.  | www.craigslist.com<br>www.ebay.com                     |

| URL Category               | Abbreviation | Code | Description   | Example URLs                                 |
|----------------------------|--------------|------|---|--|
| Business and Industry      | busi         | 1019 | Marketing, commerce, corporations, business practices, workforce, human resources, transportation, payroll, security and venture capital; office supplies; industrial equipment (process equipment), machines and mechanical systems; heating equipment, cooling equipment; materials handling equipment; packaging equipment; manufacturing: solids handling, metal fabrication, construction and building; passenger transportation; commerce; industrial design; construction, building materials; shipping and freight (freight services, trucking, freight forwarders, truckload carriers, freight and transportation brokers, expedited services, load and freight matching, track and trace, rail shipping, ocean shipping, road feeder services, moving and storage). | www.freightcenter.com<br>www.staples.com     |
| Chat and Instant Messaging | chat         | 1040 | Web-based instant messaging and chat rooms.   | www.icq.com<br>www.meebo.com                 |
| Cheating and Plagiarism    | plag         | 1051 | Promoting cheating and selling written work, such as term papers, for plagiarism.   | www.bestessays.com<br>www.superiorpapers.com |
| Child Abuse Content        | cprn         | 1064 | Worldwide illegal child sexual abuse content.   | —  |
| Computer Security          | csec         | 1065 | Offering security products and services for corporate and home users.   | www.computersecurity.com<br>www.symantec.com |

| URL Category            | Abbreviation | Code | Description   | Example URLs   |
|-------------------------|--------------|------|---|--|
| Computers and Internet  | comp         | 1003 | Information about computers and software, such as hardware, software, software support; information for software engineers, programming and networking; website design; the web and Internet in general; computer science; computer graphics and clip art. "Freeware and Shareware" is a separate category. | www.xml.com<br>www.w3.org  |
| Dating                  | date         | 1055 | Dating, online personals, matrimonial agencies.   | www.eharmony.com<br>www.match.com                                  |
| Digital Postcards       | card         | 1082 | Enabling sending of digital postcards and e-cards.  | www.all-yours.net<br>www.delivr.net                                |
| Dining and Drinking     | food         | 1061 | Eating and drinking establishments; restaurants, bars, taverns, and pubs; restaurant guides and reviews.  | www.hideawaybrewpub.com<br>www.restaurantrow.com                   |
| Dynamic and Residential | dyn          | 1091 | IP addresses of broadband links that usually indicates users attempting to access their home network, for example for a remote session to a home computer.  | http://109.60.192.55<br>http://dynalink.co.jp<br>http://ipadsl.net |
| Education               | edu          | 1001 | Education-related, such as schools, colleges, universities, teaching materials, and teachers' resources; technical and vocational training; online training; education issues and policies; financial aid; school funding; standards and testing.   | www.education.com<br>www.greatschools.org                          |
| Entertainment           | ent          | 1093 | Details or discussion of films; music and bands; television; celebrities and fan websites; entertainment news; celebrity gossip; entertainment venues. Compare with the "Arts" category.  | www.eonline.com<br>www.ew.com                                      |

| URL Category           | Abbrevia-tion | Code | Description  | Example URLs  |
|------------------------|---------------|------|--|---|
| Extreme                | extr          | 1075 | Material of a sexually violent or criminal nature; violence and violent behavior; tasteless, often gory photographs, such as autopsy photos; photos of crime scenes, crime and accident victims; excessive obscene material; shock websites.   | www.car-accidents.com<br>www.crime-scene-photos.com |
| Fashion                | fash          | 1076 | Clothing and fashion; hair salons; cosmetics; accessories; jewelry; perfume; pictures and text relating to body modification; tattoos and piercing; modeling agencies. Dermatological products are classified as "Health and Nutrition."   | www.fashion.net<br>www.findabeautysalon.com         |
| File Transfer Services | fts           | 1071 | File transfer services with the primary purpose of providing download services and hosted file sharing   | www.rapidshare.com<br>www.yousendit.com             |
| Filter Avoidance       | filt          | 1025 | Promoting and aiding undetectable and anonymous web usage, including cgi, php and glype anonymous proxy services.  | www.bypassschoolfilter.com<br>www.filterbypass.com  |
| Finance                | fnnc          | 1015 | Primarily financial in nature, such as accounting practices and accountants, taxation, taxes, banking, insurance, investing, the national economy, personal finance involving insurance of all types, credit cards, retirement and estate planning, loans, mortgages. Stock and shares are classified as "Online Trading." | finance.yahoo.com<br>www.bankofamerica.com          |
| Freeware and Shareware | free          | 1068 | Providing downloads of free and shareware software.  | www.freewarehome.com<br>www.shareware.com           |

| URL Category       | Abbreviation | Code | Description  | Example URLs                              |
|--------------------|--------------|------|--|---|
| Gambling           | gamb         | 1049 | Casinos and online gambling; bookmakers and odds; gambling advice; competitive racing in a gambling context; sports booking; sports gambling; services for spread betting on stocks and shares. Websites dealing with gambling addiction are classified as “Health and Nutrition.” Government-run lotteries are classified as “Lotteries”.   | www.888.com<br>www.gambling.com           |
| Games              | game         | 1007 | Various card games, board games, word games, and video games; combat games; sports games; downloadable games; game reviews; cheat sheets; computer games and Internet games, such as role-playing games.   | www.games.com<br>www.shockwave.com        |
| Government and Law | gov          | 1011 | Government websites; foreign relations; news and information relating to government and elections; information relating to the field of law, such as attorneys, law firms, law publications, legal reference material, courts, dockets, and legal associations; legislation and court decisions; civil rights issues; immigration; patents and copyrights; information relating to law enforcement and correctional systems; crime reporting, law enforcement, and crime statistics; military, such as the armed forces, military bases, military organizations; anti-terrorism. | www.usa.gov<br>www.law.com                |
| Hacking            | hack         | 1050 | Discussing ways to bypass the security of websites, software, and computers.   | www.hackthissite.org<br>www.gohacking.com |



| URL Category         | Abbrevia-tion | Code | Description  | Example URLs                       |
|----------------------|---------------|------|--|------------------------------------|
| Hate Speech          | hate          | 1016 | Websites promoting hatred, intolerance, or discrimination on the basis of social group, color, religion, sexual orientation, disability, class, ethnicity, nationality, age, gender, gender identity; sites promoting racism; sexism; racist theology; hate music; neo-Nazi organizations; supremacism; Holocaust denial.  | www.kkk.com<br>www.nazi.org        |
| Health and Nutrition | hlth          | 1009 | Health care; diseases and disabilities; medical care; hospitals; doctors; medicinal drugs; mental health; psychiatry; pharmacology; exercise and fitness; physical disabilities; vitamins and supplements; sex in the context of health (disease and health care); tobacco use, alcohol use, drug use, and gambling in the context of health (disease and health care); food in general; food and beverage; cooking and recipes; food and nutrition, health, and dieting; cooking, including recipe and culinary websites; alternative medicine. | www.health.com<br>www.webmd.com    |
| Humor                | lol           | 1079 | Jokes, sketches, comics and other humorous content. Adult humor likely to offend is classified as "Adult."   | www.humor.com<br>www.jokes.com     |
| Illegal Activities   | ilac          | 1022 | Promoting crime, such as stealing, fraud, illegally accessing telephone networks; computer viruses; terrorism, bombs, and anarchy; websites depicting murder and suicide as well as explaining ways to commit them.  | www.ekran.no<br>www.thedisease.net |

| URL Category                                 | Abbreviation | Code | Description   | Example URLs                                 |
|--|--------------|------|---|--|
| Illegal Downloads                            | ildl         | 1084 | Providing the ability to download software or other materials, serial numbers, key generators, and tools for bypassing software protection in violation of copyright agreements. Torrents are classified as “Peer File Transfer.” | www.keygenguru.com<br>www.zcrack.com         |
| Illegal Drugs                                | drug         | 1047 | Information about recreational drugs, drug paraphernalia, drug purchase and manufacture.  | www.cocaine.org<br>www.hightimes.com         |
| Infrastructure and Content Delivery Networks | infr         | 1018 | Content delivery infrastructure and dynamically generated content; websites that cannot be classified more specifically because they are secured or otherwise difficult to classify.  | www.akamai.net<br>www.webstat.net            |
| Internet Telephony                           | voip         | 1067 | Telephonic services using the Internet.   | www.evaphone.com<br>www.skype.com            |
| Job Search                                   | job          | 1004 | Career advice; resume writing and interviewing skills; job placement services; job databanks; permanent and temporary employment agencies; employer websites.   | www.careerbuilder.com<br>www.monster.com     |
| Lingerie and Swimsuits                       | ling         | 1031 | Intimate apparel and swim wear, especially when modeled.  | www.swimsuits.com<br>www.victoriassecret.com |
| Lotteries                                    | lotr         | 1034 | Sweepstakes, contests and state-sponsored lotteries.  | www.calottery.com<br>www.flalottery.com      |
| Mobile Phones                                | cell         | 1070 | Short Message Services (SMS); ring tones and mobile phone downloads. Cellular carrier websites are included in the “Business and Industry” category.  | www.cbfsms.com<br>www.zedge.net              |

| URL Category                   | Abbreviation | Code | Description  | Example URLs                                |
|--------------------------------|--------------|------|--|---|
| Nature                         | natr         | 1013 | Natural resources; ecology and conservation; forests; wilderness; plants; flowers; forest conservation; forest, wilderness, and forestry practices; forest management (reforestation, forest protection, conservation, harvesting, forest health, thinning, and prescribed burning); agricultural practices (agriculture, gardening, horticulture, landscaping, planting, weed control, irrigation, pruning, and harvesting); pollution issues (air quality, hazardous waste, pollution prevention, recycling, waste management, water quality, and the environmental cleanup industry); animals, pets, livestock, and zoology; biology; botany. | www.enature.com<br>www.nature.org           |
| News                           | news         | 1058 | News; headlines; newspapers; television stations; magazines; weather; ski conditions.  | www.cnn.com<br>news.bbc.co.uk               |
| Non-Governmental Organizations | ngo          | 1087 | Non-governmental organizations such as clubs, lobbies, communities, non-profit organizations and labor unions.   | www.panda.org<br>www.unions.org             |
| Non-Sexual Nudity              | nsn          | 1060 | Nudism and nudity; naturism; nudist camps; artistic nudes.   | www.artenuda.com<br>www.naturistsociety.com |
| Online Communities             | comm         | 1024 | Affinity groups; special interest groups; web newsgroups; message boards. Excludes websites classified as “Professional Networking” or “Social Networking.”  | www.igda.org<br>www.ieee.org                |
| Online Storage and Backup      | osb          | 1066 | Offsite and peer-to-peer storage for backup, sharing, and hosting.   | www.adrive.com<br>www.dropbox.com           |

| URL Category              | Abbreviation | Code | Description   | Example URLs                              |
|---------------------------|--------------|------|---|---|
| Online Trading            | trad         | 1028 | Online brokerages; websites that enable the user to trade stocks online; information relating to the stock market, stocks, bonds, mutual funds, brokers, stock analysis and commentary, stock screens, stock charts, IPOs, stock splits. Services for spread betting on stocks and shares are classified as "Gambling." Other financial services are classified as "Finance." | www.tdameritrade.com<br>www.scottrade.com |
| Organizational Email      | pem          | 1085 | Websites used to access business email (often via Outlook Web Access).  | —   |
| Parked Domains            | park         | 1092 | Websites that monetize traffic from the domain using paid listings from an ad network, or are owned by "squatters" hoping to sell the domain name for a profit. These also include fake search websites which return paid ad links.   | www.domainzaar.com<br>www.parked.com      |
| Peer File Transfer        | p2p          | 1056 | Peer-to-peer file request websites. This does not track the file transfers themselves.  | www.bittorrent.com<br>www.limewire.com    |
| Personal Sites            | pers         | 1081 | Websites about and from private individuals; personal homepage servers; websites with personal contents; personal blogs with no particular theme.   | www.karymullis.com<br>www.stallman.org    |
| Photo Searches and Images | img          | 1090 | Facilitating the storing and searching for, images, photographs, and clip-art.  | www.flickr.com<br>www.photobucket.com     |
| Politics                  | pol          | 1083 | Websites of politicians; political parties; news and information on politics, elections, democracy, and voting.   | www.politics.com<br>www.thisnation.com    |

| URL Category               | Abbreviation | Code | Description   | Example URLs  |
|----------------------------|--------------|------|---|---|
| Pornography                | porn         | 1054 | Sexually explicit text or depictions. Includes explicit anime and cartoons; general explicit depictions; other fetish material; explicit chat rooms; sex simulators; strip poker; adult movies; lewd art; web-based explicit email.                         | www.redtube.com<br>www.youporn.com                  |
| Professional Networking    | pnet         | 1089 | Social networking for the purpose of career or professional development. See also “Social Networking.”  | www.linkedin.com<br>www.europeanpwn.net             |
| Real Estate                | rest         | 1045 | Information that would support the search for real estate; office and commercial space; real estate listings, such as rentals, apartments, and homes; house building.   | www.realtor.com<br>www.zillow.com                   |
| Reference                  | ref          | 1017 | City and state guides; maps, time; reference sources; dictionaries; libraries.  | www.wikipedia.org<br>www.yellowpages.com            |
| Religion                   | rel          | 1086 | Religious content, information about religions; religious communities.  | www.religionfacts.com<br>www.religioustolerance.org |
| SaaS and B2B               | saas         | 1080 | Web portals for online business services; online meetings.  | www.netsuite.com<br>www.salesforce.com              |
| Safe for Kids              | kids         | 1057 | Directed at, and specifically approved for, young children.   | kids.discovery.com<br>www.nickjr.com                |
| Science and Technology     | sci          | 1012 | Science and technology, such as aerospace, electronics, engineering, mathematics, and other similar subjects; space exploration; meteorology; geography; environment; energy (fossil, nuclear, renewable); communications (telephones, telecommunications). | www.physorg.com<br>www.science.gov                  |
| Search Engines and Portals | srch         | 1020 | Search engines and other initial points of access to information on the Internet.   | www.bing.com<br>www.google.com                      |

| URL Category          | Abbreviation | Code | Description  | Example URLs                                    |
|-----------------------|--------------|------|--|---|
| Sex Education         | sxed         | 1052 | Factual websites dealing with sex; sexual health; contraception; pregnancy.  | www.avert.org<br>www.scarleteen.com             |
| Shopping              | shop         | 1005 | Bartering; online purchasing; coupons and free offers; general office supplies; online catalogs; online malls.   | www.amazon.com<br>www.shopping.com              |
| Social Networking     | snet         | 1069 | Social networking. See also “Professional Networking.”   | www.facebook.com<br>www.twitter.com             |
| Social Science        | socs         | 1014 | Sciences and history related to society; archaeology; anthropology; cultural studies; history; linguistics; geography; philosophy; psychology; women's studies.            | www.archaeology.org<br>www.anthropology.net     |
| Society and Culture   | scty         | 1010 | Family and relationships; ethnicity; social organizations; genealogy; seniors; child-care.   | www.childcare.gov<br>www.familysearch.org       |
| Software Updates      | swup         | 1053 | Websites that host updates for software packages.  | www.softwarepatch.com<br>www.versiontracker.com |
| Sports and Recreation | sprt         | 1008 | All sports, professional and amateur; recreational activities; fishing; fantasy sports; public parks; amusement parks; water parks; theme parks; zoos and aquariums; spas. | www.espn.com<br>www.recreation.gov              |
| Streaming Audio       | aud          | 1073 | Real-time streaming audio content including Internet radio and audio feeds.  | www.live-radio.net<br>www.shoutcast.com         |
| Streaming Video       | vid          | 1072 | Real-time streaming video including Internet television, web casts, and video sharing.   | www.hulu.com<br>www.youtube.com                 |
| Tobacco               | tob          | 1078 | Pro-tobacco websites; tobacco manufacturers; pipes and smoking products (not marketed for illegal drug use). Tobacco addiction is classified as “Health and Nutrition.”    | www.bat.com<br>www.tobacco.org                  |

| URL Category         | Abbreviation | Code | Description  | Example URLs                                |
|----------------------|--------------|------|--|---|
| Transportation       | trns         | 1044 | Personal transportation; information about cars and motorcycles; shopping for new and used cars and motorcycles; car clubs; boats, airplanes, recreational vehicles (RVs), and other similar items. Note, car and motorcycle racing is classified as “Sports and Recreation.”  | www.cars.com<br>www.motorcycles.com         |
| Travel               | trvl         | 1046 | Business and personal travel; travel information; travel resources; travel agents; vacation packages; cruises; lodging and accommodation; travel transportation; flight booking; airfares; car rental; vacation homes.   | www.expedia.com<br>www.lonelyplanet.com     |
| Unclassified         | —            | —    | Websites which are not in the Cisco database are recorded as unclassified for reporting purposes. This may include mistyped URLs.  | —   |
| Weapons              | weap         | 1036 | Information relating to the purchase or use of conventional weapons such as gun sellers, gun auctions, gun classified ads, gun accessories, gun shows, and gun training; general information about guns; other weapons and graphic hunting sites may be included. Government military websites are classified as “Government and Law.” | www.coldsteel.com<br>www.gunbroker.com      |
| Web Hosting          | whst         | 1037 | Website hosting; bandwidth services.   | www.bluehost.com<br>www.godaddy.com         |
| Web Page Translation | tran         | 1063 | Translation of web pages between languages.  | babelfish.yahoo.com<br>translate.google.com |

| URL Category    | Abbreviation | Code | Description  | Example URLs                      |
|-----------------|--------------|------|--|-----------------------------------|
| Web-Based Email | mail         | 1038 | Public web-based email services. Websites enabling individuals to access their company or organization's email service are classified as "Organizational Email." | mail.yahoo.com<br>www.hotmail.com |

## Determining the Category of a URL

To look up the category of a particular URL, visit the site shown in [Reporting Uncategorized and Misclassified URLs](#), on page 32.

## Reporting Uncategorized and Misclassified URLs

To report URLs that have been miscategorized, and URLs that are not categorized but should be, visit:

[https://talosintelligence.com/reputation\\_center/support](https://talosintelligence.com/reputation_center/support)

To check the status of submitted URLs, click the **Status on Submitted URLs** tab on this page.

## Future URL Category Set Changes

Rarely, the set of URL categories may change as a result of emerging trends and technologies. For example, a category may be added or removed, renamed, merged with another category, or split into two categories. These changes can affect the results from existing filters, so if changes occur, the email gateway will send an alert (System type, Warning severity). If you receive such an alert, you should evaluate and possibly update content and message filters to work with the updated categories. Existing filters will not automatically be changed. To ensure that you receive these alerts, see [Adding Alert Recipients](#).

The following changes do not require category set changes and will not generate alerts:

- Routine categorization of newly-categorized sites.
- Recategorization of misclassified sites.