Troubleshoot Misclassification and Scan Failures for DLP

Contents

Introduction

This document describes common methods to troubleshoot misclassification and scan failures (or misses) related to DLP on the ESA.

Important Information

It is critical to note that Data Loss Prevention (DLP) on the Cisco Email Security Appliance (ESA). is plug-and-play in the sense that you can enable it, create a policy, and start to scan for sensitive data; however, you ought to also be aware that the best results only are achieved after you tune DLP to fit your company-specific requirements. This would include things such as types of DLP policies, policy match details, how to adjust the severity scale, filters, and additional customizations.

Violation Vs. No Violation Log Examples

Here are some examples of DLP violations that you can see within the mail logs and/or Message Tracking. The logline includes a timestamp, log level, MID #, violation or no violation, severity and risk factor, and the policy that was matched.

```
Thu Jul 11 16:05:28 2019 Info: MID 40 DLP violation. Severity: CRITICAL (Risk Factor: 96). DLP policy m
```

```
Thu Jul 11 16:41:50 2019 Info: MID 46 DLP violation. Severity: LOW (Risk Factor: 24). DLP policy match:
```

When there is no violation found, then the mail logs and/or Message Tracking simply logs **DLP no violation**.

```
Mon Jan 20 12:59:01 2020 Info: MID 26245883 DLP no violation
```

Troubleshoot Checklist

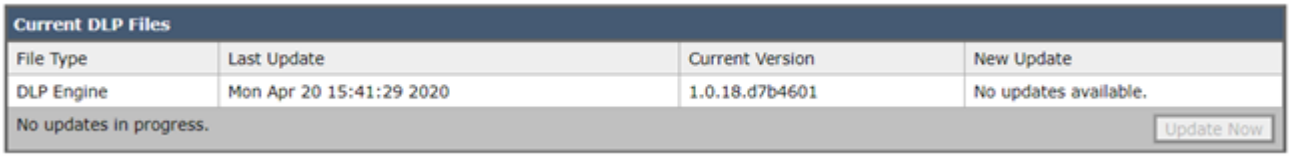
Provided here are common items that can be reviewed when you deal with DLP misclassifications or scan failures/misses.

Note: This is not an exhaustive list. Please contact Cisco TAC if you have an item you wish to see included.

Confirm DLP Engine Version

DLP engine updates are not automatic by default, so it is crucial to make sure you run the newest version that includes any recent enhancements or bug fixes.

You can navigate to **Data Loss Prevention** under **Security Services** in the GUI to confirm the current engine version and to see if any updates are available. If an update is available then you can click **Update Now** to perform the update.

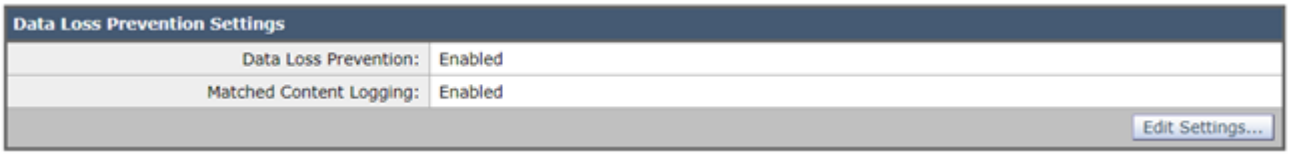


Enable Matched Content Logging

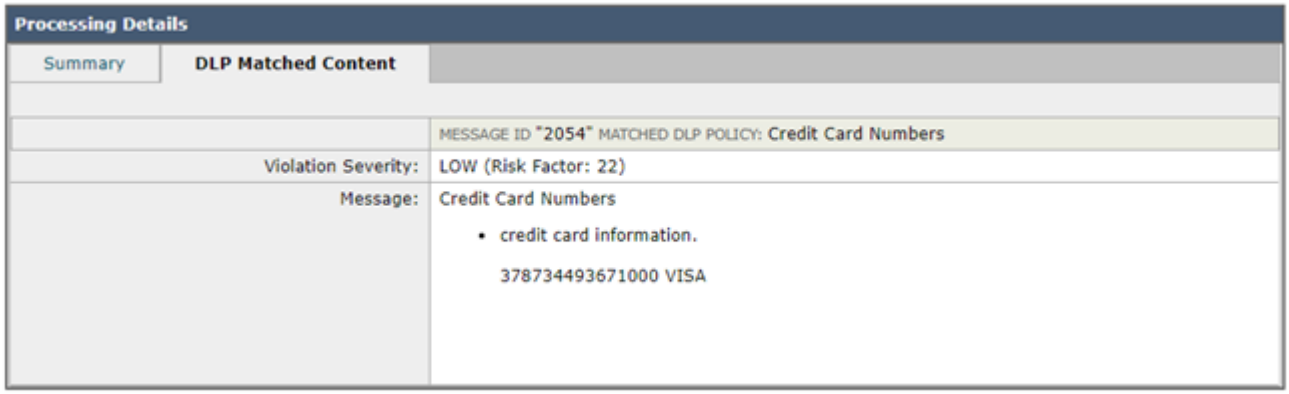
DLP offers the option to log the content that violates your DLP policies. This data can then be viewed in **Message Tracking** to help track down what content within an email would cause a particular violation.

Caution: It is important to know that if enabled, this content can include sensitive data such as credit card numbers and social security numbers, and more.

You can navigate to **Data Loss Prevention** under **Security Services** in the GUI to see if **Matched Content Logging** is enabled.



Example Of Matched Content Logging Seen In Message Tracking



Review The Scan Behavior Configuration

The Scan Behavior configuration on the ESA also impacts the functionality behind DLP. If you refer to the image here as an example, which has a configured **maximum attachment scanning size** of **5M**, anything larger can cause DLP scans to be missed. Also, the **action for attachments with MIME types** setting is another common item you want to review. This ought to be set to the default of **Skip** so that the MIME types listed are skipped and all others are scanned. If instead it is set to Scan, then the ESA only scans those MIME types listed in the table.

Similarly, other settings listed here can mpact the DLP scans and ought to be taken into account respective to the attachment/email content.

You can navigate to **Scan Behavior** under **Security Services** in the GUI, or from the **scanconfig** command within the CLI.

Attachment Type Mappings

Add Mapping... | Import List...

Fingerprint / MIME	Type	Edit	Delete
MIME Type	audio/*	Edit...	
MIME Type	video/*	Edit...	
MIME Type	image/*	Edit...	
Fingerprint	Media	Edit...	
Fingerprint	Image	Edit...	

Export List...

Global Settings

Action for attachments with MIME types / fingerprints in table above:	Skip
Maximum depth of attachment recursion to scan:	5
Maximum attachment size to scan:	5M
Attachment Metadata scan:	Enabled
Attachment scanning timeout:	30 seconds
Assume attachment matches pattern if not scanned for any reason:	No
Assume zip file to be unscannable if files in the archive cannot be read?	No
Action when message cannot be deconstructed to remove specified attachments:	Deliver
Bypass all filters in case of a content or message filter error:	Yes
Encoding to use when none is specified:	US-ASCII
Convert opaque-signed messages to clear-signed (S/MIME unpacking):	Disabled
Safe Print settings	Maximum File Size: 5M; Maximum Page Count: 10; Document Quality: 70
Actions for Unscannable Messages due to decoding errors found during URL Filtering Actions:	Disabled
Action when a message is unscannable due to extraction failures:	Deliver As Is
Action when a message is unscannable due to RFC violations:	Disabled

Edit Global Settings...

Review The Severity Scale Configuration

The default severity scale thresholds are sufficient for most environments; however, if you need to modify them to assist with False Negative (FN) or False Positive (FP) matches then you can do so. You can also create a new dummy policy and compare them to confirm if your DLP policy uses the recommended default thresholds.

Note: Different predefined policies (such as US HIPAA vs. PCI-DSS) have different scales

Severity Scale:

IGNORE	LOW	MEDIUM	HIGH	CRITICAL
0 - 34	35 - 54	55 - 72	73 - 87	88 - 100

Edit Scale...

Review The Email Addresses Added To The Filter Senders And Recipients Fields

Check that any entries entered into either of these fields match the correct case of the sender and/or recipient

email addresses. The Filter Senders and Recipients field is **case sensitive**. The DLP policy does not trigger if the email address looks like "**T**est**E**mail@mail.com" in the mail client and is entered as "**t**est**e**mail@mail.com" into these fields.

Related Information

- Cisco Email Security Appliance - End-User Guides
- What is Data Loss Prevention?
- Trigger a DLP Violation to Test a HIPAA Policy on the ESA