

邮件安全设备的安全打印

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简介

本文档介绍思科邮件安全设备(ESA)上的“安全打印”功能。

先决条件

ESA AsyncOS 13.0及更新版本中提供安全打印功能。

安全打印的配置将涉及对内容过滤器行为的基本了解。

背景信息

邮件安全设备可配置为提供被检测为恶意或可疑的邮件附件的安全视图（安全打印的PDF版本）。邮件附件的安全视图被传送给最终用户，原始附件被从邮件中删除。“安全打印”内容过滤器操作根据内容过滤器条件提供各种选项。

在邮件网关中安全打印邮件附件的功能可帮助组织：

- 防止包含恶意或可疑内容的邮件附件进入组织网络。
- 查看恶意或可疑邮件附件，不受恶意软件影响。
- 根据最终用户请求传送原始邮件附件。

安全打印功能。

- 扫描邮件，最大大小为扫描配置“要扫描的最大附件大小”字段，最大6M。
- 将附件（批准的文件类型）打印到图像pdf。
- 打印最多10页原始文件。
- 将可选水印和封面添加到重写的附件。

当前的[《用户指南》](#)在“将邮件网关配置为安全打印邮件附件”一章中提供了有关安全打印功能的更多详细信息。

配置安全打印

- 安全打印参数
- 创建内容过滤器并将其应用于邮件策略

安全打印参数

- WebUI > 导航到 > 安全服务 > 扫描行为 > 编辑全局设置。
- 在蓝色框中记录值。
- 安全打印“最大文件大小”将对最大6M的文件执行操作，但必须小于蓝色框中的值。
- 最大页数：1 - 10
- 文档质量：10 - 10

Global Settings	
Action for attachments with MIME types / fingerprints in table above:	<input type="radio"/> Scan <input checked="" type="radio"/> Skip
Maximum depth of attachment recursion to scan:	<input type="text" value="5"/>
Maximum attachment size to scan:	<input type="text" value="5M"/> <small>(Add a trailing K or M to indicate size units)</small>
Attachment Metadata scan:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Attachment scanning timeout:	<input type="text" value="30"/> <small>(seconds)</small>
Assume attachment matches pattern if not scanned for any reason:	<input type="radio"/> Yes <input checked="" type="radio"/> No
Assume zip file to be unscannable if files in the archive cannot be read?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Action when message cannot be deconstructed to remove specified attachments:	<input checked="" type="radio"/> Deliver <input type="radio"/> Bounce <input type="radio"/> Drop
Bypass all filters in case of a content or message filter error:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Encoding to use when none is specified:	<input type="text" value="US-ASCII"/>
Convert opaque-signed messages to clear-signed (S/MIME unpacking):	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Safe Print Settings	
Maximum File Size: ?	<input type="text" value="5M"/> <small>(Add a trailing K or M to indicate size units)</small>
Maximum Page Count: ?	<input type="text" value="10"/>
Document Quality: ?	<input checked="" type="radio"/> Use Default Value (70) <input type="radio"/> Enter Custom Value: <input type="text" value="70"/>
File Type Selection: ?	<input checked="" type="checkbox"/> Select All <input type="checkbox"/> Expand All <input type="checkbox"/> Collapse All <input type="button" value="Reset"/> <input checked="" type="checkbox"/> Document <input checked="" type="checkbox"/> Microsoft Documents
Watermark: ?	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled Enter Custom Text: <input type="text"/>
Cover Page: ?	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled Enter Custom Text: <input type="text"/>

扫描行为 > 安全打印设置

- 文件类型选择：
- 13.0.0-285中支持的文件类型：

文档

AcroExch.Document(.pdf)
Hancom Office文件(.hwp)
Xhtmlfile(.xhtml)
Xmlfile(.xml)

Microsoft文档

PowerPoint.Show.12(.pptx)

PowerPoint.Show.8(.ppt)
PowerPoint.ShowMacroEnabled.12(.pptm)
PowerPoint.SlideShow.12(.ppsx)
PowerPoint.SlideShowMacroEnabled.12(.ppsm)
PowerPoint.Template.12(.potx)
PowerPoint.Template.8(.pot)
PowerPoint.TemplateMacroEnabled.12(.potm)
Powerpointxmlfile(.pptxml)
Word.Document.12(.docx)
Word.Document.8(.doc)
Word.Template.12(.dotx)
Word.Template.8(.dot)
Word.TemplateMacroEnabled.12(.dotm)
Wordhtmlfile(.dohtml)

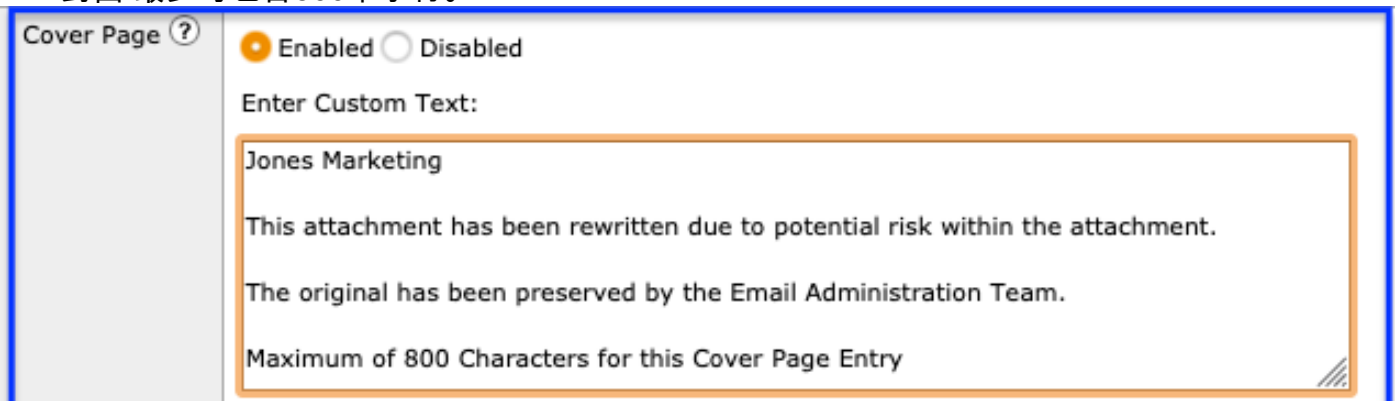
Wordhtmlfile(.docm)

Wordhtmltemplate(.dohtml)

Wordxml(.docxml)

注意：支持的文件类型可能会随着未来的AsyncOS版本而增加。

- 封面:最多可包含800个字符。



Cover Page ? Enabled Disabled

Enter Custom Text:

Jones Marketing

This attachment has been rewritten due to potential risk within the attachment.

The original has been preserved by the Email Administration Team.

Maximum of 800 Characters for this Cover Page Entry

扫描行为>编辑全局设置>封面

- 水印：最多可包含20个字符。
- 提交>提交更改。

This is a safe-printed document.
The original attachment had 2 page(s).
Safeprint maximum page count configuration is 10 page(s).
Number of pages truncated are 0 page(s).

Cover Page includes attachment details related pages printed.

Jones Marketing

This attachment has been rewritten due to potential risk within the attachment.

The original has been preserved by the Email Administration Team.

Maximum of 800 Characters for this Cover Page Entry

Optional Cover Page details.
Value is configurable from the "Scan Behavior," page.



Disabling "Cover Page" causes this page to be excluded from the Safe Print Attachment.

封面示例

Create a certificate

1. create a self signed certificate on the ESA | export in pfx format | then use sslshopper to convert or a known unix string to convert.
 - a. Webui > certificate > create > create new self signed certificate > complete the template > submit > commit changes.
 - b. Return to the certificate page and choose the export option.

Convert the Exported Certificate

The certificate created and exported from the ESA will be in .pfx format. The SMA only supports .pem format for importing, so this certificate will need to be converted. To convert certificate from .pfx format to .pem format, use one of the two options:

- Convert *.pfx certificate to a *.pem certificate: <https://www.sslshopper.com/ssl-converter.html>
- openssl command: `openssl pkcs12 -in mycert.pfx -out mycert.pem -nodes`

A final clean up step is required to prepare the files.

- Create a second text file.
- Open the original certificate file and note the presence of 2 portions, certificate and private key.
- Each portion of the certificate is defined by the boundaries `-----BEGIN ----- AND -----END -----`
 - o Copy the private key into the newly created text file:
 - o `-----BEGIN PRIVATE KEY-----` to `-----END PRIVATE KEY-----`
 - o Save the file as `your_name.key`

 - o Next, working with the original file, only save the portion `-----BEGIN CERTIFICATE-----` to `-----END CERTIFICATE-----`
 - o Delete everything else above and below the certificate.
 - o Save the file as `your_name.crt`

The final product will be the two portions to load into the Service Provider certificate options

2. Generate a self-signed certificate using this set of commands from unix cli

Do you have a unix server which you can execute the openssl commands?

This command creates a 2048-bit private key (domain.key) and a self-signed certificate (domain.crt) from scratch:
sample:

```
openssl req -newkey rsa:2048 -nodes -keyout domain.key -x509 -days 365 -out domain.crt
```

Answer the CSR information prompt to complete the process.

The `-x509` option tells req to create a self-signed certificate. The `-days 365` option specifies that the certificate will be valid for 365 days. A temporary CSR is generated to gather information to associate with the certificate.

My command:

```
openssl req -newkey rsa:2048 -nodes -keyout esa1.home.iphmx.com.key -x509 -days 365 -out esa1.home.iphmx.com.crt
```

Sample:

```
CHARELLA-M-D2LM:~ charella$ openssl req -newkey rsa:2048 -nodes -keyout esa1.home.iphmx.com.key -x509 -days 365 -out esa1.home.iphmx.com.crt
```

Generating a 2048 bit RSA private key

```
-----+++
```

```
..+++
```

```
writing new private key to 'esa1.home.iphmx.com.key'
```

```
-----
```

You are about to be asked to enter information that will be incorporated into your certificate request.

What you are about to enter is what is called a Distinguished Name or a DN.

There are quite a few fields but you can leave some blank

For some fields there will be a default value.

If you enter '.', the field will be left blank.

Watermark Sample

水印示例

创建内容过滤器

安全打印操作将通过使用内容过滤器和操作“安全打印”来实现。

注意：内容过滤器将仅扫描在上文第1f部分“扫描行为”中配置的文件类型。

操作中有三个选项，“安全打印”。

- **安全打印所有附件:**如果条件与触发安全打印操作匹配，则会重写所有附件。通常应用于与“邮件正文”和/或“附件”匹配的内容过滤器条件。此选项非常灵活，可在内容过滤器内的任何条件下运行。示例：条件 — 远程IP/主机名，如果匹配，将重写所有附件。
- **安全打印匹配附件：**仅对与条件匹配的特定附件执行操作。此操作限制条件的“选择”。通常用于关注附件内容的条件的内容过滤器。此选项只能用于以下条件。URL信誉(在中检查：附件)仅此选项。URL类别(检查：附件)仅此选项。宏检测附件文件信息
- **删除无法扫描的附件。**
如前所述，如果附件无法扫描，此操作将删除附件。“客户更换消息”字段提供可选空间，添加要通知的单词和短语。





Safe Print

Help

Do you want to safe print the message attachments when a message matches a configured condition or not?

To configure Safe Print settings globally on your appliance, go to [Security Services > Scan Behavior](#)

Action for attachment(s)

- Safeprint all attachments.  
- Safeprint matching attachments.  

Strip unscannable attachment(s)

- Yes 

Custom Replacement Message (Optional)

- No

内容过滤

器操作>安全打印

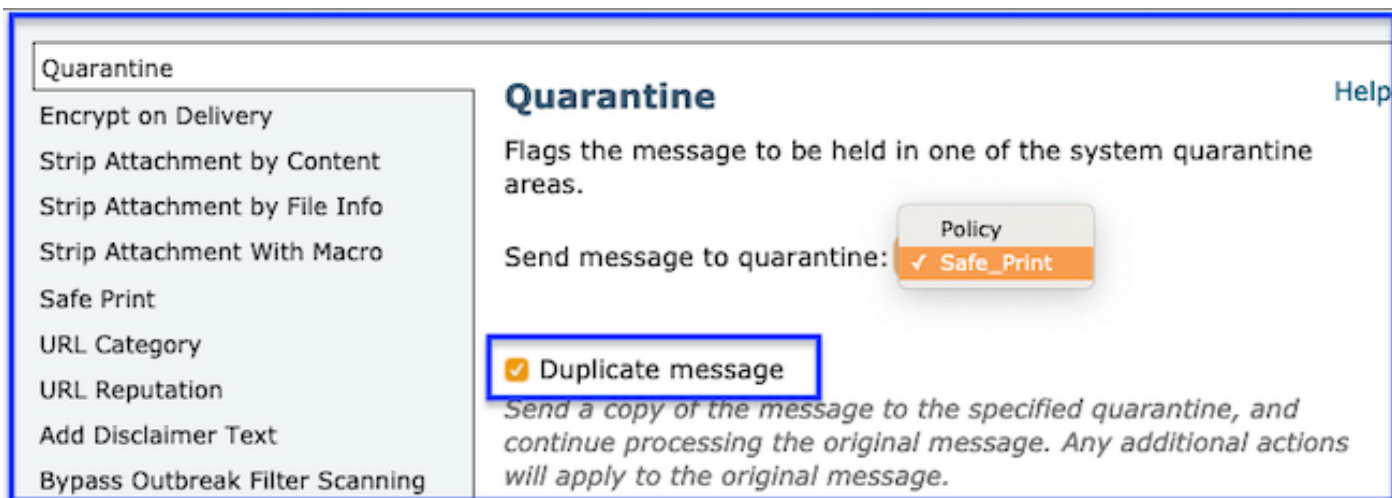
使用上述内容过滤器简介，开始创建CF。

提示：在创建过滤器时，请考虑上述3个安全打印选项和相关条件限制。

- WebUI > 导航至 > 邮件策略 > 传入内容过滤器 > 添加过滤器。

- 添加条件:该条件取决于“安全打印操作”的3个选项。
(可选操作 , 非常推荐) 添加操作>隔离>复制邮件>选择您为创建的自定义隔离区

安全打印。选择OK以添加。



操作>隔离>复制邮件

提示：复制到隔离区。作为故障保护操作，请考虑复制邮件以隔离原始附件。如果附件执行“安全打印”重写，则此操作将作为您确定具有价值的任何文档的保险，即使它们与条件匹配也是如此。为安全打印创建专门的自定义隔离区，以便轻松识别。

- 添加操作>安全打印 选择与条件对应的安全打印选择。
- (可选) 添加操作 — 添加日志条目并包括将反映在邮件跟踪中以确认匹配的文本。 示例：使用特殊字符突出显示以获得可视性，添加说明或过滤器名称以识别 — #安全打印#或>安全打印<
- 提交以创建内容过滤器。提交更改以保存到ESA。

Edit Incoming Content Filter

Content Filter Settings

Name:	SP_Language_Dict
Currently Used by Policies:	Default Policy
Description:	filetype
Order:	4 ⬇ (of 4)

Conditions

Add Condition...

Order	Condition	Rule
1	Attachment Content	attachment-dictionary-match("Restricted_Language", 1)

Actions

Add Action...

Order	Action	Rule
1	Add Log Entry	log-entry("== SafePrint-Dict \$MatchedContent ==")
2	▲ Quarantine	duplicate-quarantine("Safe_Print")
3	▲ Safe Print	safeprint-matching-attachments-strip-unscan(1, 1)

样本安全打印内容过滤器

记录特定于安全打印邮件处理的条目。

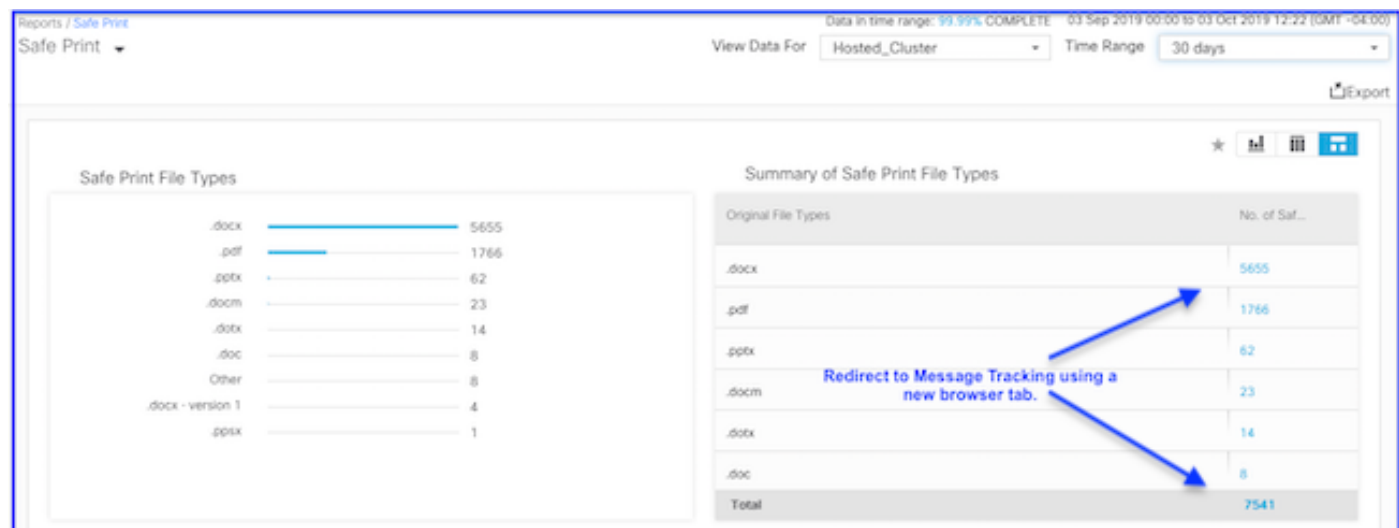
MID 95 The attachment(s) are successfully safe-printed, Filename(s):

Create_Certificate_for=20Amp.docx

MID 95 rewritten to MID 96 by safeprint-matching-attachments-strip-unscan filter 'SP_type'

下一代报告(ng)中的报告视图

允许用户使用新的浏览器选项卡点击号码并重定向到邮件跟踪。

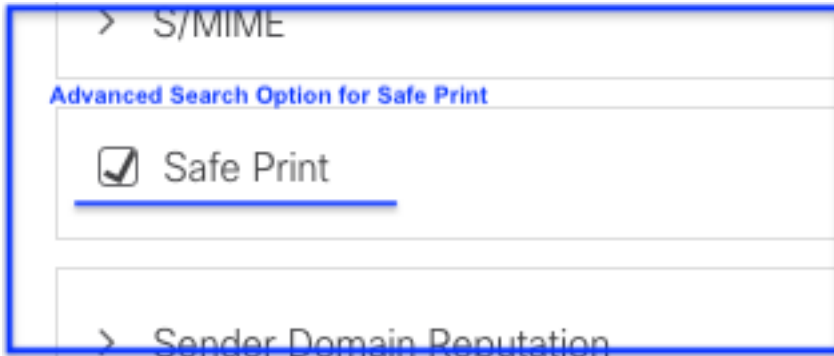


NG报告安全打印

报告重定向操作中的跟踪条件



报告重定向操作的搜索结果



高级搜索选项 — 安全打印

故障排除

跟踪级别的邮件日志：显示警报。

Example 1 - Temp directory not found

```
Thu Jul 11 07:20:32 2019 Info: MID 134 Unable to safe print the attachment, Filename: 20_page.docx, Reason: IO error occurred during safeprinting of the attachment
Thu Jul 11 07:20:32 2019 Trace: MID 134 Unable to safe print the attachment, Filename: 20_page.docx, Exception: Unable to create tmp directory for safeprinting document: [Errno 2] No such file or directory: '/asdasd'
```

Example 2 - IO error

```
Thu Jul 11 07:19:01 2019 Info: MID 132 Unable to safe print the attachment, Filename: 20_page.docx, Reason: IO error occurred during safeprinting of the attachment
Thu Jul 11 07:19:01 2019 Trace: MID 132 Unable to safe print the attachment, Filename: 20_page.docx, Exception: Error while creating safeprinted PDF document: [Errno 2] No such file or directory: '/adسد/i/safe_print_20_page.pdf'
```

Example 3 - Corrupted and Encrypted files

```
Thu Jul 11 08:34:31 2019 Info: MID 142 Unable to safe print the attachment, Filename: corrupt_file=20(1).docx, Reason: The attachment is corrupted
Thu Jul 11 08:34:31 2019 Trace: MID 142 Unable to safe print the attachment, Filename: corrupt_file=20(1).docx, Exception: not readable
Thu Jul 11 08:34:31 2019 Info: MID 142 Unable to safe print the attachment, Filename: sept_subscription.pdf, Reason: The attachment is encrypted
Thu Jul 11 08:34:31 2019 Trace: MID 142 Unable to safe print the attachment, Filename: sept_subscription.pdf, Exception: password protected
Thu Jul 11 08:34:31 2019 Info: MID 142 The attachment(s) are successfully safe-printed, Filename(s): 20_page.docx, 18_pages.docx, 21_page.docx
Thu Jul 11 08:34:31 2019 Info: MID 142 rewritten to MID 143 by safeprint-all-attachments-strip-unscan filter 'sp'
```

Example 4 - Timeout error

```
Thu Jul 11 10:32:29 2019 Info: MID 165 Unable to safe print the attachment, Filename: 20_page.docx, Reason: A timeout error occurred when trying to safe print the attachment
```

日志记录示例

相关信息

- [思科邮件安全设备 — 产品支持](#)
- [思科邮件安全设备 — 版本说明](#)
- [思科邮件安全设备 — 最终用户指南](#)
- [思科内容安全管理设备 — 产品支持](#)
- [思科内容安全管理设备 — 版本说明](#)
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