

# 郵件安全裝置的安全列印

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## 簡介

本檔案介紹思科電子郵件安全裝置(ESA)上的「安全列印」功能。

## 必要條件

ESA AsyncOS 13.0及更新版本提供安全列印功能。

安全列印的配置將涉及對內容過濾器行為的基本理解。

## 背景資訊

郵件安全裝置可以配置為提供被檢測為惡意或可疑郵件附件的安全檢視（安全列印的PDF版本）。郵件附件的安全檢視將傳送給終端使用者，並且原始附件將從郵件中移除。「安全列印」內容過濾器操作根據內容過濾器條件提供多種選項。

在電子郵件網關中安全列印郵件附件的功能可幫助組織：

- 防止包含惡意或可疑內容的郵件附件進入組織網路。
- 檢視惡意或可疑郵件附件，不受惡意軟體的影響。
- 根據終端使用者請求傳送原始郵件附件。

安全列印的作用。

- 掃描郵件大小最高為掃描配置「Maximum attachment size to scan field」的大小，最大為6M。
- 將附件（批准的檔案型別）列印到影象pdf。
- 列印最多10頁原始檔案。
- 將可選的水印和封面新增到重新編寫的附件中。

當前的[使用手冊](#)在「將電子郵件網關配置為安全列印郵件附件」一章中提供了安全列印功能的更多詳細資訊。

## 配置安全列印

- 安全列印引數
- 建立內容過濾器並將其應用到郵件策略

## 安全列印引數

- WebUI > 導航至 > 安全服務 > 掃描行為 > 編輯全域性設定。
- 記下藍色框中的值。
- 安全列印「最大檔案大小」將對最大6M的檔案執行操作，但必須小於藍色框中的值。
- 最大頁數：1 - 10
- 文檔品質：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:	US-ASCII <input type="button" value="v"/>
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"/>

### 掃描行為 > 安全列印設定

- 檔案型別選擇：
- 13.0.0-285支援的檔案型別：

#### 檔案

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

#### Microsoft文檔

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)

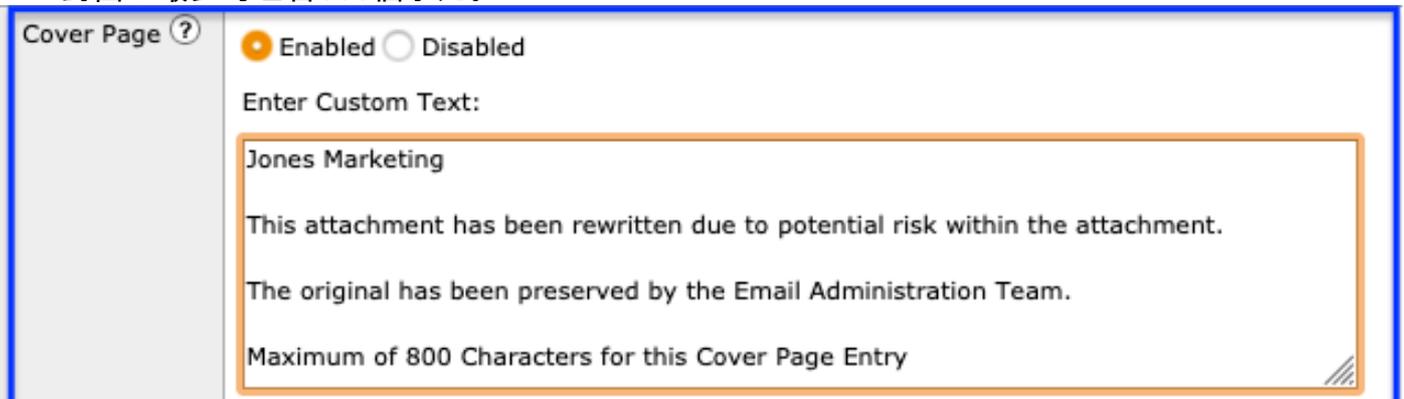
Wordhtmlfile(.docm)

Wordhtmltemplate(.dohtml)

Wordxml(.docxml)

**附註：**支援的檔案型別可能會隨著未來的AsyncOS版本而增加。

- 封面：最多可包含800個字元。



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

掃描行為>編輯全域性設定>封面

- 水印：最多可包含20個字元。
- 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.

封面範例

## 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

## 建立內容過濾器

通過使用內容過濾器和操作「安全列印」，可實現安全列印操作。

附註：內容過濾器將只掃描上述第1f部分「掃描行為」中配置的檔案型別。

Action中有三個選項：「Safe Print」。

- **保護所有附件:**如果條件與觸發Safe Print Action相匹配，則會重寫所有附件。通常應用於「郵件正文」和/或「附件」上匹配的內容篩選器條件。此選項非常靈活，適用於內容過濾器內的任何條件。範例：條件 — 遠端IP/主機名，如果匹配，將重寫所有附件。
- **安全列印匹配附件：**僅對符合條件的特定附件執行操作。此操作已限制條件的「選擇」。常用於內容過濾器，其條件側重於附件內容。此選項只能用於以下條件。URL信譽(檢查：Attachment)僅此選項。URL類別(檢查：Attachment)僅此選項。宏檢測附件檔案資訊
- **刪除無法掃描的附件。**  
如上所述，如果附件無法掃描，此操作將刪除附件。「客戶更換消息」欄位提供新增要通知的單詞、短語的可選空間。

## 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

內容過濾

器操作>安全列印

使用上面的內容過濾器介紹開始建立CF。

**提示：**建立過濾器時，請考慮上面提到的3個安全列印選項和相關條件限制。

- WebUI > 導航至 > 郵件策略 > 傳入內容過濾器 > 新增過濾器。

- 新增條件：條件取決於「安全列印操作」的3個選擇。  
( 可選操作，非常推薦 ) 新增操作>隔離>重複郵件>選擇您為建立的自定義隔離

安全列印。選擇「確定」以新增。



操作>隔離>重複郵件

**提示：**複製到隔離區。作為防故障操作，請考慮將郵件複製到帶有原始附件的隔離區。如果附件執行安全列印重寫，則此操作將作為您認為有價值的任何文檔的保險，即使這些文檔與條件相匹配。建立專門用於安全列印的自定義隔離區，以方便識別。

- 新增操作>安全列印 選擇與條件對應的安全列印選擇。
- ( 可選 ) Add Action - Add Log條目，並包括將在郵件跟蹤中反映的文本，以確認匹配。示例：  
：使用特殊字元突出顯示，以便獲得可視性，新增描述或篩選器名稱以標識 — #安全列印編號  
或>安全列印<
- 提交以建立內容過濾器。提交更改以儲存到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		
<a href="#">Add Condition...</a>		
Order	Condition	Rule
1	Attachment Content	attachment-dictionary-match("Restricted_Language", 1)

Actions		
<a href="#">Add Action...</a>		
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)

安全列印內容過濾器示例

特定於安全列印消息處理的日誌條目。

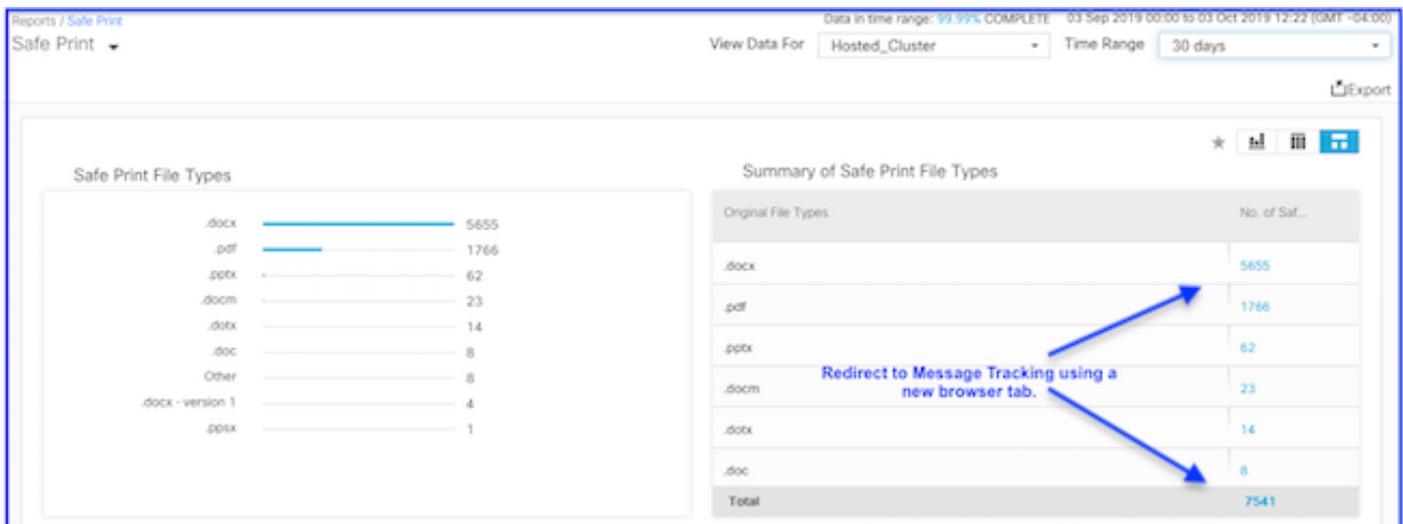
MID 95 The attachment(s) are successfully safe-printed, Filename(s):

Create\_Certificate\_for=20Amp.docx

MID 95 rewritten to MID 96 by safeprint-matching-attachments-strip-unscan filter 'SP\_type'

下一代報告(ng)中的報告檢視

允許使用者點選號碼並使用新的瀏覽器頁籤重定向至「郵件跟蹤」。



NG報表安全列印

## 報告重定向操作的跟蹤條件

The screenshot shows the 'Message Tracking' interface. At the top, it says 'Tracking criteria for redirected link from Safe Print Report'. Below this, under 'Search Criteria (For Search Messages)', there are three input fields: 'Message Received: Custom Range 03 Sep 2019, 00:00 - 03 Oct 2019, 12:22', 'Cisco Host All Hosts', and 'Safe Print True'. Blue arrows point from the title to each of these three fields.

## 報告重定向操作的搜尋結果

The screenshot shows a search interface with a blue border. At the top, it says '> S/MIME'. Below that, there is a section titled 'Advanced Search Option for Safe Print'. Inside this section, there is a checkbox labeled 'Safe Print' which is checked. Below the checkbox, there is a blue horizontal line. At the bottom of the section, it says '> Sender Domain Reputation'.

高級搜尋選項 — 安全列印

## 疑難排解

跟蹤級別的郵件日誌：顯示警報。

### 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
```

日誌記錄示例

## 相關資訊

- [思科電子郵件安全裝置 — 產品支援](#)
- [思科電子郵件安全裝置 — 版本說明](#)
- [Cisco Email Security Appliance — 最終使用手冊](#)
- [思科內容安全管理裝置 — 產品支援](#)
- [思科內容安全管理裝置 — 版本說明](#)
- [思科內容安全管理裝置 — 最終使用手冊](#)

- [Cisco Web Security — 產品支援](#)
- [思科網路安全 — 版本說明](#)
- [Cisco Web Security — 最終使用手冊](#)