

# 將SecureX與Firepower威脅防禦(FTD)整合並進行故障排除

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## 簡介

SecureXFirepower Firepower(FTD)

## 必要條件

### 需求

- Firepower Management Center (FMC)
- Firepower Threat Defense (FTD)
- 

### 採用元件

- Firepower(FTD)- 6.5
- Firepower(FMC)- 6.5
- (SSE)
- SecureX

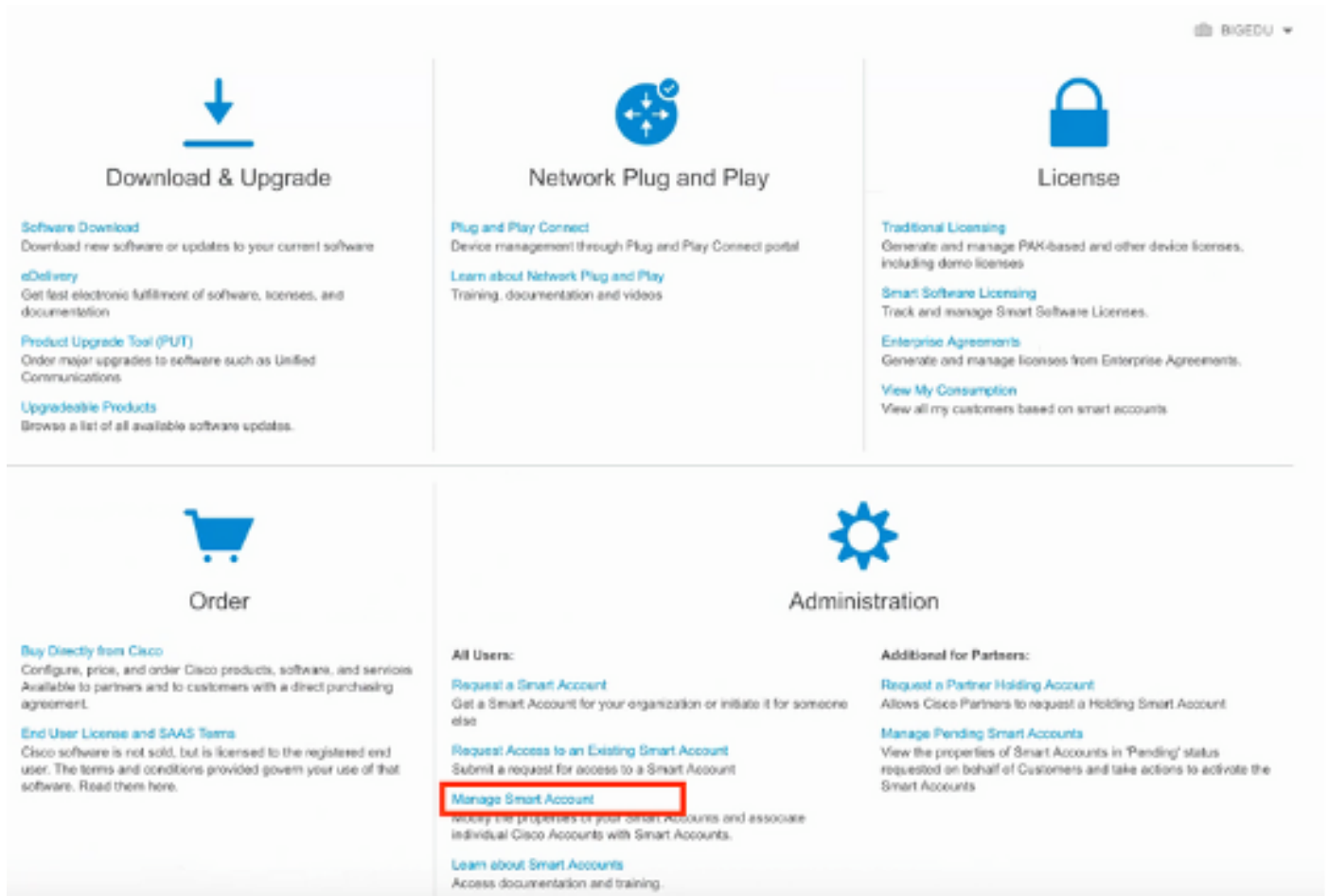
# 設定

## 授權

虛擬帳戶角色：

只有虛擬帳戶管理員或智慧帳戶管理員有權將智慧帳戶與SSE帳戶連結。

步驟1。若要驗證智慧帳戶角色，請導覽至software.cisco.com，然後在Administration Menu下選擇Manage Smart Account。



步驟2。若要驗證使用者角色，請導覽至Users，並驗證在「Roles」下，帳戶是否設為虛擬帳戶管理員，如下圖所示。

## Users

| User  | Email              | Organization        | Account Access                      | Role   | User Group | Actions   |
|---|--------------------|---------------------|-------------------------------------|--|------------|-----------|
| <input type="checkbox"/> danieben                   |                    |                     |                                     |  |            |           |
| <input type="checkbox"/> Daniel Benitez<br>danieben | danieben@cisco.com | Cisco Systems, Inc. | All Virtual Accounts<br>Mex-AMP TAC | Smart Account Administrator<br>Virtual Account Administrator |            | Remove... |

1 User

步驟3.確保選擇在SSE上鍊接的虛擬帳戶包含安全裝置的許可證，前提是不包含安全許可證的帳戶連結在SSE上，安全裝置和事件沒有顯示在SSE門戶上。

Cisco Software Central > Smart Software Licensing

Smart Software Licensing

Alerts | Inventory | Convert to Smart Licensing | Reports | Preferences | On-Prem Accounts | Activity

Virtual Account: **Mex-AMP TAC** 13 Minor | Hide Alerts

General | **Licenses** | Product Instances | Event Log

Available Actions | Manage License Tags | License Reservation... | Search by License

| License  | Billing | Purchased | In Use | Balance | Alerts | Actions |
|--|---------|-----------|--------|---------|--------|---------|
| <input type="checkbox"/> FPR1010 URL Filtering                                   | Prepaid | 10        | 0      | + 10    |        | Actions |
| <input type="checkbox"/> FPR4110 Threat Defense Malware Protection               | Prepaid | 1         | 0      | + 1     |        | Actions |
| <input type="checkbox"/> FPR4110 Threat Defense Threat Protection                | Prepaid | 1         | 0      | + 1     |        | Actions |
| <input type="checkbox"/> FPR4110 Threat Defense URL Filtering                    | Prepaid | 1         | 0      | + 1     |        | Actions |
| <input type="checkbox"/> HyperFlex Data Platform Enterprise Edition Subscription | Prepaid | 2         | 0      | + 2     |        | Actions |
| <input type="checkbox"/> ISE Apex Session Licenses                               | Prepaid | 1         | 0      | + 1     |        | Actions |
| <input type="checkbox"/> ISE Base Session Licenses                               | Prepaid | 10        | 0      | + 10    |        | Actions |
| <input type="checkbox"/> ISE Plus License  | Prepaid | 10        | 0      | + 10    |        | Actions |
| <input type="checkbox"/> Threat Defense Virtual Malware Protection               | Prepaid | 10        | 1      | + 9     |        | Actions |
| <input type="checkbox"/> Threat Defense Virtual Threat Protection                | Prepaid | 10        | 1      | + 9     |        | Actions |

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步驟4.要驗證FMC是否已註冊到正確的虛擬帳戶，請導航到System>Licenses>Smart License:

## Smart License Status

Cisco Smart Software Manager

|                             |   |
|-----------------------------|---|
| Usage Authorization:        | Authorized (Last Synchronized On Jun 10 2020) |
| Product Registration:       | Registered (Last Renewed On Jun 10 2020)      |
| Assigned Virtual Account:   | Mex-AMP TAC                                   |
| Export-Controlled Features: | Enabled                                       |
| Cisco Success Network:      | Enabled                                       |
| Cisco Support Diagnostics:  | Disabled                                      |

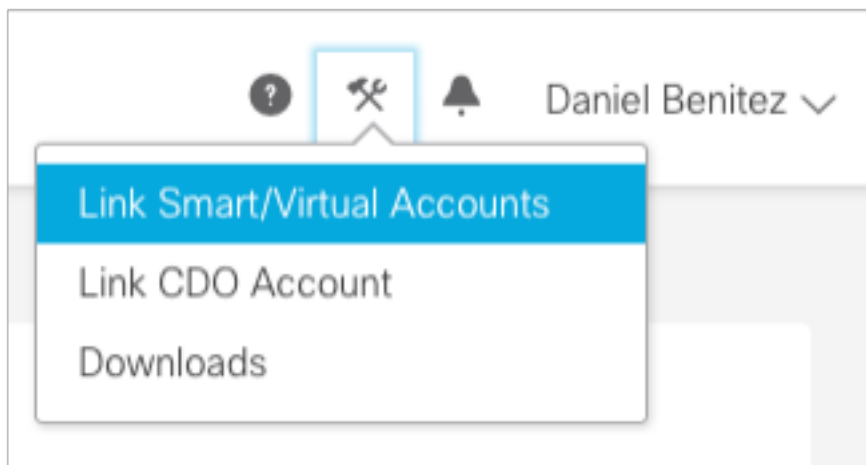
## Smart Licenses

| License Type/Device Name                   | License Status |
|--|----------------|
| >  Firepower Management Center Virtual (1) |                |
| >  Base (1)                                |                |
| >  Malware (1)                             |                |
| >  Threat (1)                              |                |
| >  URL Filtering (1)                       |                |
| >  AnyConnect Apex (1)                     |                |
| >  AnyConnect Plus (1)                     |                |
| AnyConnect VPN Only (0)                    |                |

Note: Container Instances of same blade share feature licenses

## 將您的帳戶連結到SSE並註冊裝置。

步驟1。當您登入您的SSE帳戶時，您必須將您的智慧帳戶連結到SSE帳戶，為此，您需要按一下工具圖示並選擇連結帳戶。



帳戶連結後，您會看到智慧帳戶及其上的所有虛擬帳戶。

## 向SSE註冊裝置

步驟1.確保您的環境中允許這些URL:

美國地區

- [api-sse.cisco.com](https://api-sse.cisco.com)

- eventing-ingest.sse.itd.cisco.com

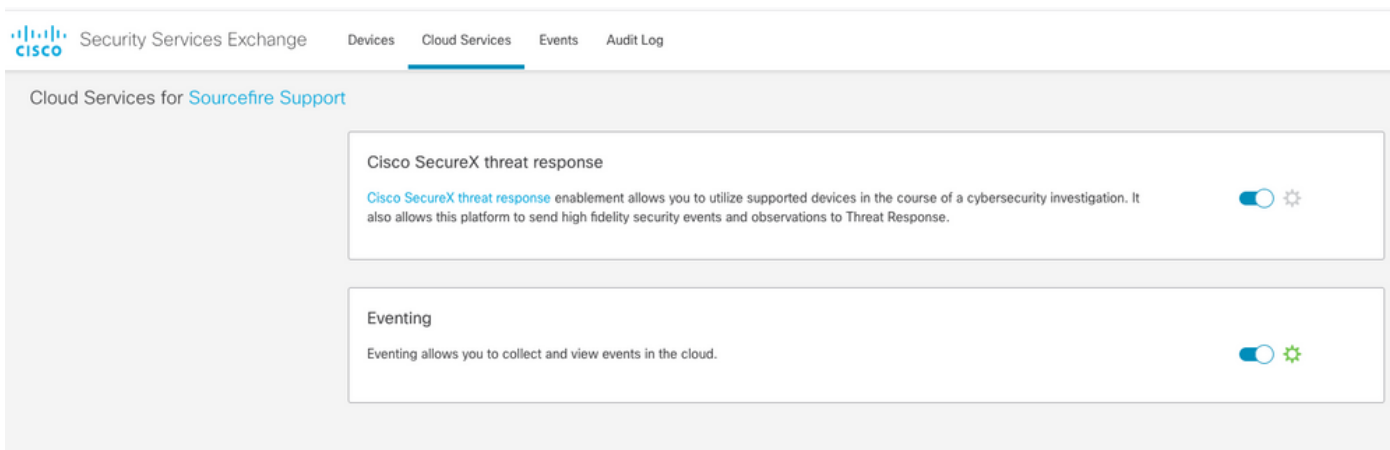
### 歐盟地區

- api.eu.sse.itd.cisco.com
- eventing-ingest.eu.sse.itd.cisco.com

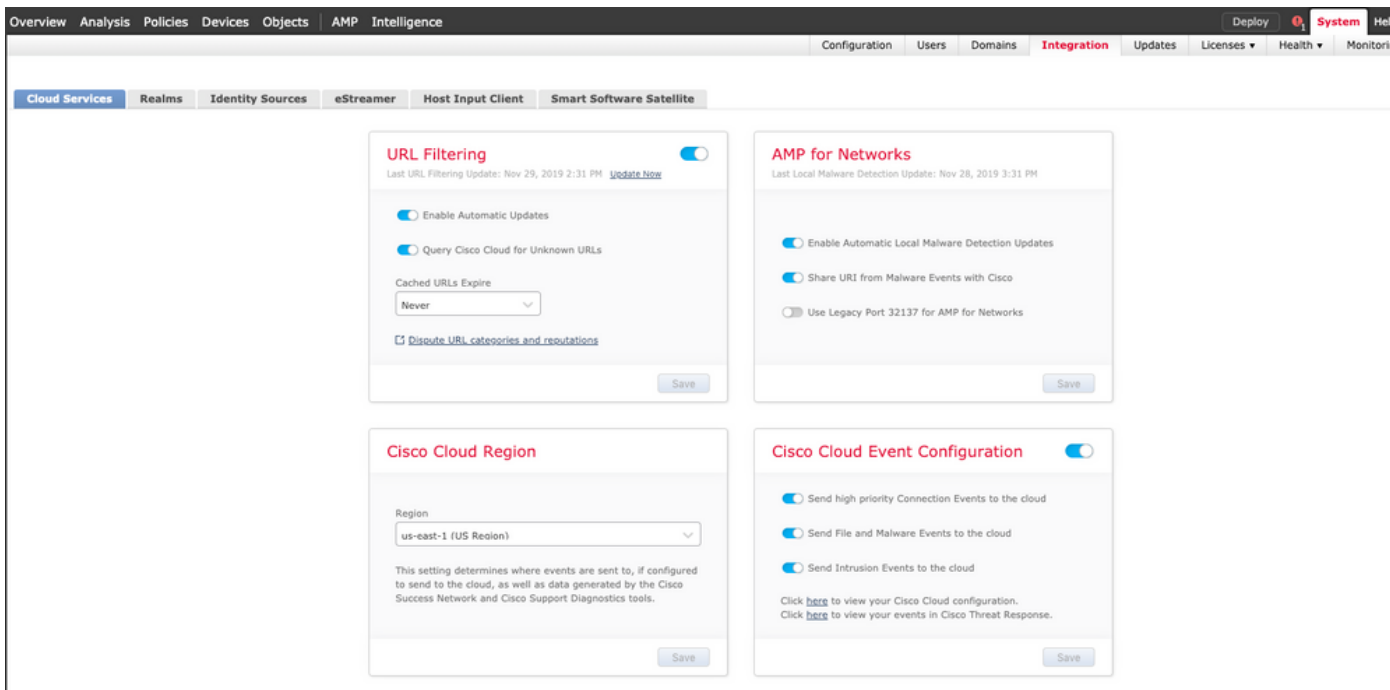
### 亞太及日本地區

- api.apj.sse.itd.cisco.com
- eventing-ingest.apj.sse.itd.cisco.com

步驟2. 使用此URL <https://admin.sse.itd.cisco.com> 登入SSE入口網站，導覽至Cloud Services，並啟用Eventing和Cisco SecureX威脅響應選項，如下圖所示：



步驟3. 登入到Firepower管理中心並導航到System>Integration>Cloud Services，啟用Cisco Cloud Event Configuration，然後選擇要傳送到雲的事件：



步驟4. 您可以返回SSE門戶並驗證現在是否可以看到在SSE上註冊的裝置：

Security Services Exchange    Devices    Cloud Services    Events    Audit Log

Devices for Sourcefire Support

0 Rows Selected

| % | # | Name                    | Type   | Version | Status     | Description              |
|---|---|-------------------------|--|---------|------------|--------------------------|
|   | 1 | Repower                 | Cisco Firepower Threat Defense for VMware    | 6.5.0   | Registered | 27 Repower (FMC managed) |
|   |   | IP Address: 10.10.10.17 | Connector Version:                           |         |            |                          |
|   | 2 | MEX-AMP-FMC             | Cisco Firepower Management Center for VMW... | 6.5.0   | Registered | 24 MEX-AMP-FMC           |
|   |   | IP Address: 10.10.10.14 | Connector Version:                           |         |            |                          |

Page Size: 25    Total Entries: 2

Events由FTD裝置傳送，請導覽至SSE入口網站上的Events，以驗證裝置傳送至SSE的事件，如下圖所示：

Security Services Exchange    Devices    Cloud Services    Events    Audit Log

Event Stream for Sourcefire Support

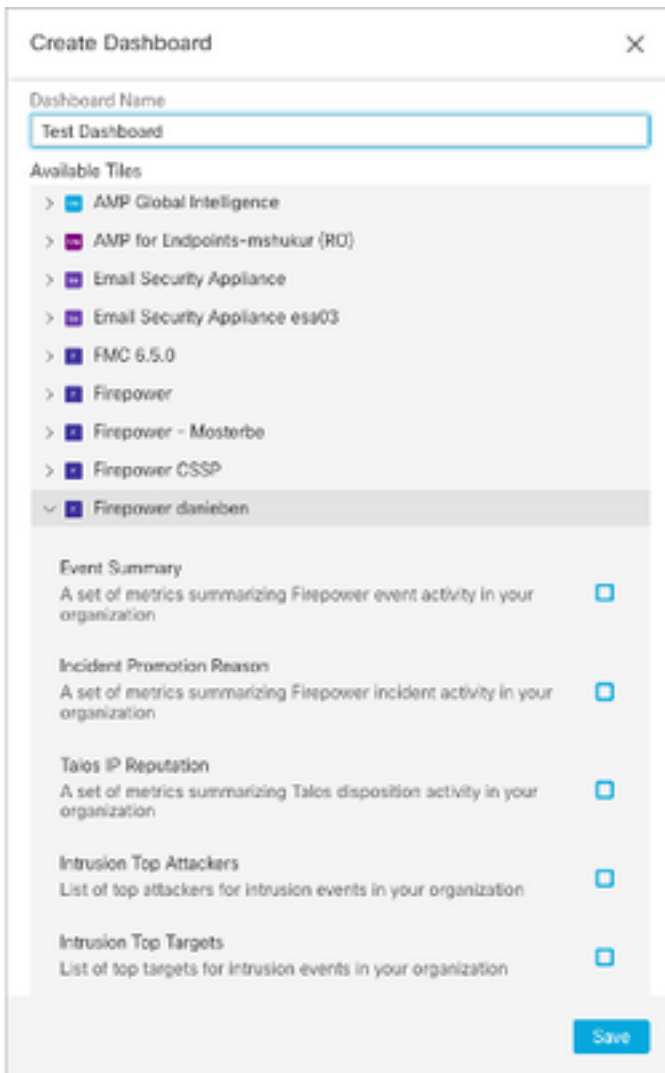
0 Rows Selected

08/04/2020, 18:50 - 08/05/2020, 18:50

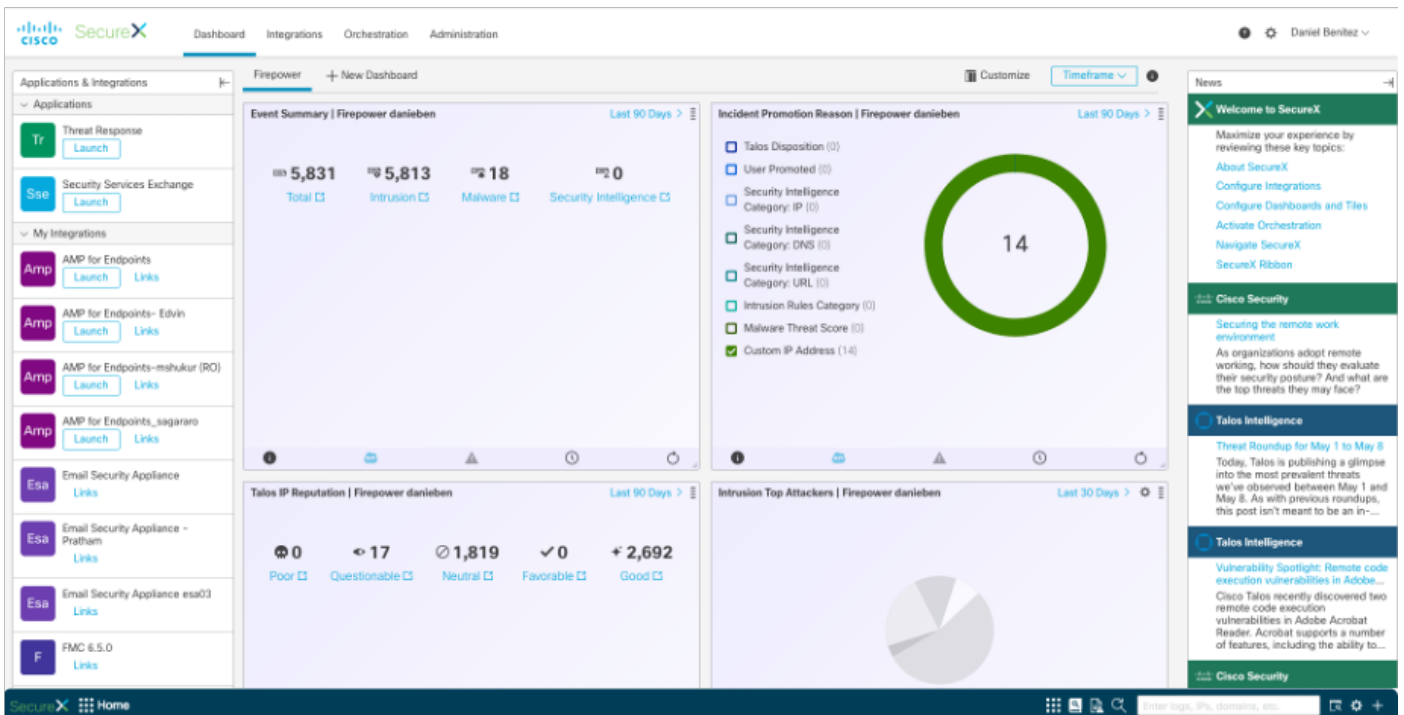
| Talos Disposition | Incident | Destination IP | Event Time              | Ingest Time             | Message | Protocol | Reporting Device ID | Source IP |
|-------------------|----------|----------------|-------------------------|-------------------------|---------|----------|---------------------|-----------|
| Neutral           | No       | 10.10.10.252   | 2020-08-05 18:48:50 UTC | 2020-08-05 18:48:51 UTC |         | tcp      | 09d441eedce5        | 100       |
| Neutral           | No       | 10.10.10.145   | 2020-08-05 18:47:38 UTC | 2020-08-05 18:47:38 UTC |         | tcp      | 09d441eedce5        | 100       |
| Unknown           | No       | 10.10.10.100   | 2020-08-05 18:47:30 UTC | 2020-08-05 18:47:30 UTC |         | tcp      | 09d441eedce5        | 100       |
| Neutral           | No       | 10.10.10.252   | 2020-08-05 18:46:50 UTC | 2020-08-05 18:46:50 UTC |         | tcp      | 09d441eedce5        | 100       |

## 在SecureX上配置自定義儀表板

步驟1. 若要建立儀表板，請按一下**+新建儀表板**圖示，選擇要用於儀表板的名稱和磁貼，如下圖所示：



第2步：在此之後，您可以看到從SSE填充的儀表板資訊，您可以選擇任何檢測到的威脅，然後啟動SSE門戶，並在其上使用事件型別篩選器：



驗證

驗證FTD是否生成事件（惡意軟體或入侵），對於入侵事件，請導航至 **Analysis>Files>Malware Events**，對於入侵事件，請導覽至**Analysis>Intrusion>Events**。

驗證在將裝置註冊到SSE 部分第4步中提到的在SSE門戶上註冊的事件。

驗證資訊是否顯示在SecureX控制面板上，或者檢查API日誌，以便檢視可能的API失敗的原因。

## 疑難排解

### 檢測連線問題

可以從action\_queue.log檔案中檢測一般連線問題。在出現故障時，您可以看到檔案中存在以下日誌：

```
ActionQueueScrape.pl[19094]: [SF::SSE::Enrollment] canConnect: System (/usr/bin/curl -s --connect-timeout 10 -m 20 -L --max-redirs 5 --max-filesize 104857600 --capath /ngfw/etc/sf/keys/fireamp/thawte_roots -f https://api.eu.sse.itd.cisco.com/providers/sse/api/v1/regions) Failed, curl returned 28 at /ngfw/usr/local/sf/lib/perl/5.10.1/SF/System.pmline 10477.
```

在這種情況下，退出代碼28表示操作超時，我們應該檢查與Internet的連線。您還可能看到退出代碼6，這意味著存在DNS解析問題

### DNS解析引起的連線問題

步驟1.檢查連線是否正常工作。

```
root@ftd01:~# curl -v -k https://api-sse.cisco.com
* Rebuilt URL to: https://api-sse.cisco.com/
* getaddrinfo(3) failed for api-sse.cisco.com:443
* Couldn't resolve host 'api-sse.cisco.com'
* Closing connection 0
curl: (6) Couldn't resolve host 'api-sse.cisco.com'
```

上面的輸出顯示，裝置無法解析URL <https://api-sse.cisco.com>，在這種情況下，我們需要驗證是否配置了正確的DNS伺服器，它可以通過專家CLI中的nslookup進行驗證：

```
root@ftd01:~# nslookup api-sse.cisco.com
;; connection timed out; no servers could be reached
```

上面的輸出顯示未到達配置的DNS，為了確認DNS設定，請使用**show network**命令：

```
> show network
===== [ System Information ] =====
Hostname : ftd01
DNS Servers : x.x.x.10
Management port : 8305
IPv4 Default route
Gateway : x.x.x.1

===== [ eth0 ] =====
State : Enabled
Link : Up
Channels : Management & Events
```



```
Mode : Non-Autonegotiation
MDI/MDIX : Auto/MDIX
MTU : 1500
MAC Address : x:x:x:x:9D:A5
-----[ IPv4 ]-----
Configuration : Manual
Address : x.x.x.27
Netmask : 255.255.255.0
Broadcast : x.x.x.255
-----[ IPv6 ]-----
Configuration : Disabled

=====[ Proxy Information ]=====
State : Disabled
Authentication : Disabled
```

在此示例中，使用了錯誤的DNS伺服器，您可以使用以下命令更改DNS設定：

```
> configure network dns x.x.x.11
```

重新測試此連線後，連線成功。

```
root@ftd01:~# curl -v -k https://api-sse.cisco.com
* Rebuilt URL to: https://api-sse.cisco.com/
* Trying x.x.x.66...
* Connected to api-sse.cisco.com (x.x.x.66) port 443 (#0)
* ALPN, offering http/1.1
* Cipher selection: ALL:!EXPORT:!EXPORT40:!EXPORT56:!aNULL:!LOW:!RC4:@STRENGTH
* successfully set certificate verify locations:
* CAfile: none
CApath: /etc/ssl/certs
* TLSv1.2 (OUT), TLS header, Certificate Status (22):
* TLSv1.2 (OUT), TLS handshake, Client hello (1):
* TLSv1.2 (IN), TLS handshake, Server hello (2):
* TLSv1.2 (IN), TLS handshake, Certificate (11):
* TLSv1.2 (IN), TLS handshake, Server key exchange (12):
* TLSv1.2 (IN), TLS handshake, Request CERT (13):
* TLSv1.2 (IN), TLS handshake, Server finished (14):
* TLSv1.2 (OUT), TLS handshake, Certificate (11):
* TLSv1.2 (OUT), TLS handshake, Client key exchange (16):
* TLSv1.2 (OUT), TLS change cipher, Client hello (1):
* TLSv1.2 (OUT), TLS handshake, Finished (20):
* TLSv1.2 (IN), TLS change cipher, Client hello (1):
* TLSv1.2 (IN), TLS handshake, Finished (20):
* SSL connection using TLSv1.2 / ECDHE-RSA-AES128-GCM-SHA256
* ALPN, server accepted to use http/1.1
* Server certificate:
* subject: C=US; ST=California; L=San Jose; O=Cisco Systems, Inc.; CN=api -sse.cisco.com
* start date: 2019-12-03 20:57:56 GMT
* expire date: 2021-12-03 21:07:00 GMT
* issuer: C=US; O=HydrantID (Avalanche Cloud Corporation); CN=HydrantID S SL ICA G2
* SSL certificate verify result: self signed certificate in certificate chain (19), continuing anyway.
>GET / HTTP/1.1
>Host: api-sse.cisco.com
>User-Agent: curl/7.44.0
>Accept: */*
>
<HTTP/1.1 403 Forbidden
<Date: Wed, 08 Apr 2020 01:27:55 GMT
<Content-Type: text/plain; charset=utf-8
<Content-Length: 9
```

```
<Connection: keep-alive
<Keep-Alive: timeout=5
<ETag: "5e17b3f8-9"
<Cache-Control: no-store
<Pragma: no-cache
<Content-Security-Policy: default-src 'self'
<X-Content-Type-Options: nosniff
<X-XSS-Protection: 1; mode=block
<Strict-Transport-Security: max-age=31536000; includeSubdomains;
```

## SSE門戶的註冊問題

FMC和FTD都需要連線到其管理介面上的SSE URL，要測試連線，請在具有根訪問許可權的Firepower CLI上輸入以下命令：

```
curl -v https://api-sse.cisco.com/providers/sse/services/registration/api/v2/clients --cacert /ngfw/etc/ssl/connectorCA.pem
curl -v https://est.sco.cisco.com --cacert /ngfw/etc/ssl/connectorCA.pem

curl -v https://eventing-ingest.sse.itd.cisco.com --cacert /ngfw/etc/ssl/connectorCA.pem
curl -v https://mx01.sse.itd.cisco.com --cacert /ngfw/etc/ssl/connectorCA.pem
```

可以使用以下命令繞過證書檢查：

```
root@ftd01:~# curl -v -k https://api-sse.cisco.com
* Rebuilt URL to: https://api-sse.cisco.com/
* Trying x.x.x.66...
* Connected to api-sse.cisco.com (x.x.x.66) port 443 (#0)
* ALPN, offering http/1.1
* Cipher selection: ALL:!EXPORT:!EXPORT40:!EXPORT56:!aNULL:!LOW:!RC4:@STRENGTH
* successfully set certificate verify locations:
* CAfile: none
CApath: /etc/ssl/certs
* TLSv1.2 (OUT), TLS header, Certificate Status (22):
* TLSv1.2 (OUT), TLS handshake, Client hello (1):
* TLSv1.2 (IN), TLS handshake, Server hello (2):
* TLSv1.2 (IN), TLS handshake, Certificate (11):
* TLSv1.2 (IN), TLS handshake, Server key exchange (12):
* TLSv1.2 (IN), TLS handshake, Request CERT (13):
* TLSv1.2 (IN), TLS handshake, Server finished (14):
* TLSv1.2 (OUT), TLS handshake, Certificate (11):
* TLSv1.2 (OUT), TLS handshake, Client key exchange (16):
* TLSv1.2 (OUT), TLS change cipher, Client hello (1):
* TLSv1.2 (OUT), TLS handshake, Finished (20):
* TLSv1.2 (IN), TLS change cipher, Client hello (1):
* TLSv1.2 (IN), TLS handshake, Finished (20):
* SSL connection using TLSv1.2 / ECDHE-RSA-AES128-GCM-SHA256
* ALPN, server accepted to use http/1.1
* Server certificate:
* subject: C=US; ST=California; L=San Jose; O=Cisco Systems, Inc.; CN=api -sse.cisco.com
* start date: 2019-12-03 20:57:56 GMT
* expire date: 2021-12-03 21:07:00 GMT
* issuer: C=US; O=HydrantID (Avalanche Cloud Corporation); CN=HydrantID S SL ICA G2
* SSL certificate verify result: self signed certificate in certificate chain (19), continuing anyway.
>GET / HTTP/1.1
>Host: api-sse.cisco.com
>User-Agent: curl/7.44.0
>Accept: */*
>
```

```
<HTTP/1.1 403 Forbidden
<Date: Wed, 08 Apr 2020 01:27:55 GMT
<Content-Type: text/plain; charset=utf-8
<Content-Length: 9
<Connection: keep-alive
<Keep-Alive: timeout=5
<ETag: "5e17b3f8-9"
<Cache-Control: no-store
<Pragma: no-cache
<Content-Security-Policy: default-src 'self'
<X-Content-Type-Options: nosniff
<X-XSS-Protection: 1; mode=block
<Strict-Transport-Security: max-age=31536000; includeSubdomains;
```

**附註：**您會收到403 Forbidden報文，因為從測試傳送的引數不是SSE期望的，但這一點足以驗證連通性。

## 驗證SSEConnector狀態

您可以驗證連結器屬性，如圖所示。

```
# more /ngfw/etc/sf/connector.properties
registration_interval=180
connector_port=8989
connector_fqdn=api-sse.cisco.com
```

為了檢查SSConnector和EventHandler之間的連線，可以使用此命令，以下是連線錯誤的示例：

```
root@firepower:/etc/sf# netstat -anlp | grep EventHandler_SSEConnector.sock
unix 2 [ ACC ] STREAM LISTENING 3022791165 11204/EventHandler
/ngfw/var/sf/run/EventHandler_SSEConnector.sock
```

在已建立的連線的範例中，可以看到串流狀態為已連線：

```
root@firepower:/etc/sf# netstat -anlp | grep EventHandler_SSEConnector.sock
unix 2 [ ACC ] STREAM LISTENING 382276 7741/EventHandler
/ngfw/var/sf/run/EventHandler_SSEConnector.sock
unix 3 [ ] STREAM CONNECTED 378537 7741/EventHandler
/ngfw/var/sf/run/EventHandler_SSEConnector.sock
```

## 驗證傳送到SSE門戶和CTR的資料

若要從FTD裝置傳送事件以瞭解TCP連線需要使用<https://eventing-ingest.sse.itd.cisco.com>建立，以下是SSE入口和FTD之間未建立連線的範例：

```
root@firepower:/ngfw/var/log/connector# lsof -i | grep conn
connector 60815 www 10u IPv4 3022789647 0t0 TCP localhost:8989 (LISTEN)
connector 60815 www 12u IPv4 110237499 0t0 TCP firepower.cisco.com:53426->ec2-100-25-93-234.compute-1.amazonaws.com:https (SYN_SENT)
```

在connector.log日誌中：

```
time="2020-04-13T14:34:02.88472046-05:00" level=error msg="[firepower.cisco.com][events.go:90
events:connectWebSocket] dial tcp x.x.x.246:443: getsockopt: connection timed out"
time="2020-04-13T14:38:18.244707779-05:00" level=error msg="[firepower.cisco.com][events.go:90
events:connectWebSocket] dial tcp x.x.x.234:443: getsockopt: connection timed out"
```

```
time="2020-04-13T14:42:42.564695622-05:00" level=error msg="[firepower.cisco.com][events.go:90
events:connectWebSocket] dial tcp x.x.x.246:443: getsockopt: connection timed out"
time="2020-04-13T14:47:48.484762429-05:00" level=error msg="[firepower.cisco.com][events.go:90
events:connectWebSocket] dial tcp x.x.x.234:443: getsockopt: connection timed out"
time="2020-04-13T14:52:38.404700083-05:00" level=error msg="[firepower.cisco.com][events.go:90
events:connectWebSocket] dial tcp x.x.x.234:443: getsockopt: connection timed out"
```

**附註：**請注意，顯示的x.x.x.246和1x.x.x.246屬於<https://eventing-ingest.sse.itd.cisco.com>的IP地址可能會更改，因此建議允許基於URL而非IP地址的流量進入SSE門戶。

如果此連線未建立，則事件不會傳送到SSE門戶。以下是FTD和SSE輸入網站之間已建立的連線的範例：

```
root@firepower:# lsof -i | grep conn
connector 13277  www  10u  IPv4  26077573      0t0  TCP localhost:8989 (LISTEN)
connector 13277  www  19u  IPv4  26077679      0t0  TCP x.x.x.200:56495->ec2-35-172-147-
246.compute-1.amazonaws.com:https (ESTABLISHED)
```

## 影片