

# 在ISE上配置安全SMTP伺服器

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## 簡介

本文說明如何在Cisco Identity Services Engine(ISE)上配置簡單郵件傳輸協定(SMTP)伺服器，以支援針對多個服務的電子郵件通知。ISE版本3.0支援與SMTP伺服器的安全和不安全連線。

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## 必要條件

### 需求

思科建議您瞭解思科ISE和SMTP伺服器功能的基本知識。

### 採用元件

本文件所述內容不限於特定軟體和硬體版本。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

## 組態

本節介紹ISE的配置以支援用於以下操作的電子郵件通知：

- 在啟用「在電子郵件中包含系統警報」選項的情況下，向任何內部管理員使用者傳送電子郵件警報通知。傳送警報通知的發件人的電子郵件地址硬編碼為ise@<hostname>。
- 允許發起人向訪客傳送電子郵件通知，告知其登入憑據和密碼重置說明。

- 使訪客能夠在成功註冊自身後自動接收其登入憑證，並在訪客帳戶過期之前執行操作。
- 在密碼到期日期之前，向ISE管理員使用者/在ISE上配置的內部網路使用者傳送提醒電子郵件。

## SMTP設定

在ISE可以使用任何電子郵件服務之前，它必須配置SMTP中繼伺服器。要更新SMTP伺服器詳細資訊，請導航到**管理>系統>設定>代理>SMTP伺服器**。

此表顯示了分散式ISE環境中的哪個節點傳送電子郵件。

電子郵件用途	傳送電子郵件的節點
訪客帳戶過期	主要PAN
警報	活動MnT
來自相應門戶的發起人和訪客帳戶通知	PSN
密碼過期	主要PAN

配置SMTP伺服器，以便能夠根據您的要求接受來自ISE的郵件，無論是否進行身份驗證或加密。

### 不進行身份驗證或加密的不安全SMTP通訊設定

1. 定義SMTP伺服器主機名（出站SMTP伺服器）。
2. SMTP埠（此埠必須在網路中開啟才能連線到SMTP伺服器）。
3. 連線超時（輸入思科ISE等待來自SMTP伺服器的響應的最長時間）。
4. 按一下「**Test Connection**」和「**Save**」。

資料包捕獲顯示ISE與SMTP伺服器之間的通訊（無身份驗證或加密）：

```

2056 2020-10-28 17:50:28.476200 10.197.164.21 10.106.32.25 SMTP 184 S: 220 DC1.testlab.com Microsoft ESMTPL MAIL Service, Version: 8.5.9600.16384 ready at Wed, 28 Oct 2020 12:23:03 +0000
2058 2020-10-28 17:50:28.476594 10.106.32.25 10.197.164.21 SMTP 79 C: EHLO ISE3-1
2059 2020-10-28 17:50:28.477232 10.197.164.21 10.106.32.25 SMTP 273 S: 250-DC1.testlab.com Hello [10.106.32.25] | 250-TURN | 250-SIZE | 250-ETRN | 250-PIPELINING | 250-DSN | 250-ENHANCEDSTATUSCODES.
2060 2020-10-28 17:50:28.477465 10.106.32.25 10.197.164.21 SMTP 72 C: QUIT
2061 2020-10-28 17:50:28.478480 10.197.164.21 10.106.32.25 SMTP 130 S: 221 2.0.0 DC1.testlab.com Service closing transmission channel

> Frame 2056: 184 bytes on wire (1472 bits), 184 bytes captured (1472 bits)
> Ethernet II, Src: Cisco_01:81:b1:b1 (bc:16:05:01:81:b1), Dst: Vmware_B8:76:f6 (00:50:56:b8:76:f6)
> Internet Protocol Version 4, Src: 10.197.164.21, Dst: 10.106.32.25
> Transmission Control Protocol, Src Port: 25, Dst Port: 20891, Seq: 1, Ack: 1, Len: 118
▼ Simple Mail Transfer Protocol
  Response: 220 DC1.testlab.com Microsoft ESMTPL MAIL Service, Version: 8.5.9600.16384 ready at Wed, 28 Oct 2020 12:23:03 +0000 \r\n
  Response code: <domain> Service ready (220)
  Response parameter: DC1.testlab.com Microsoft ESMTPL MAIL Service, Version: 8.5.9600.16384 ready at Wed, 28 Oct 2020 12:23:03 +0000

```

## 安全SMTP通訊設定

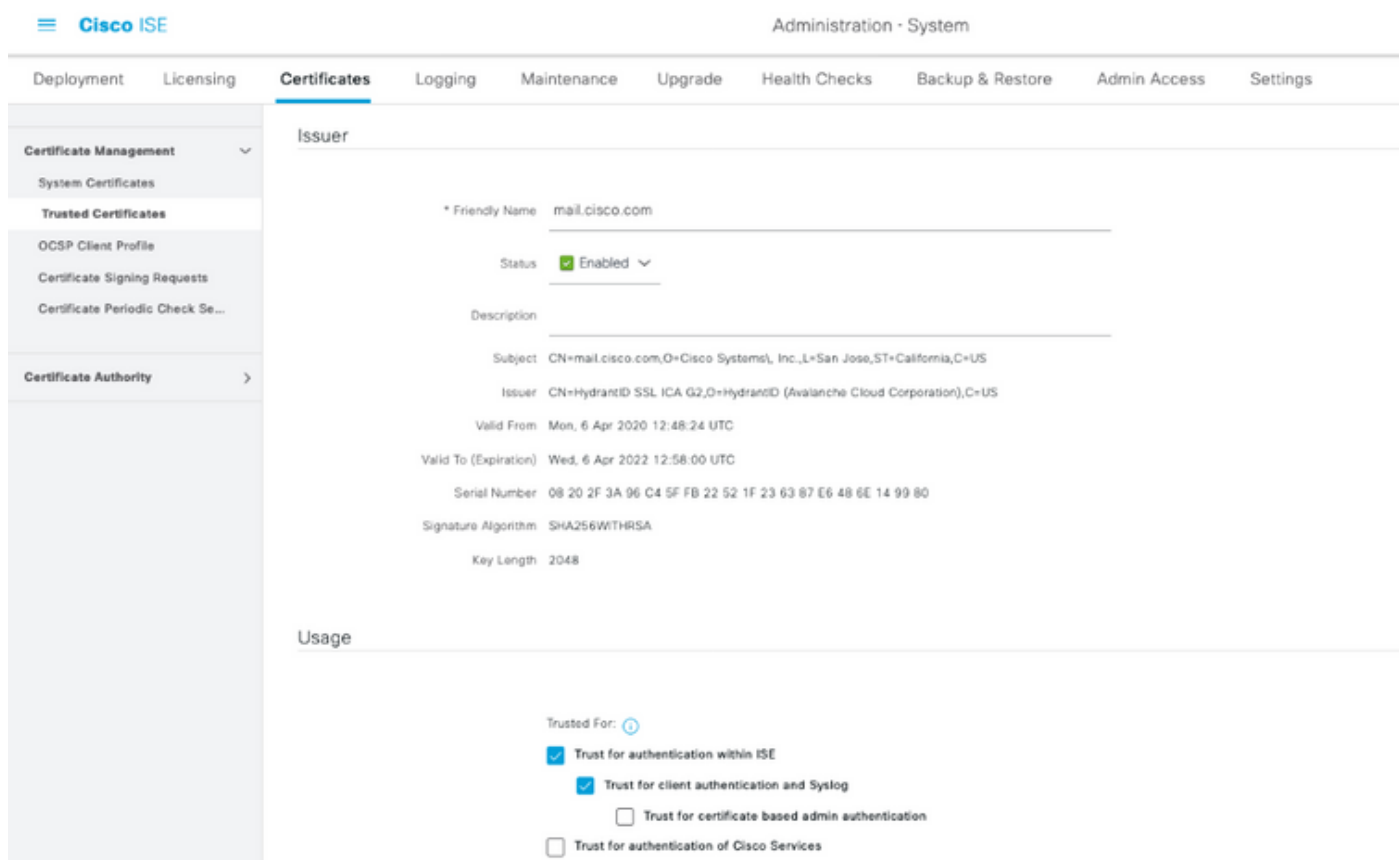
可通過兩種方式建立安全連線：

1. 基於SSL
2. 使用者名稱/基於密碼

使用的SMTP伺服器必須支援基於SSL和憑據的身份驗證。安全SMTP通訊可與同時啟用的任一選項或同時啟用的兩個選項一起使用。

### 已啟用加密的安全SMTP通訊

1. 在ISE受信任證書中匯入SMTP伺服器證書的根CA證書，用法：信任ISE中的身份驗證，信任客戶端身份驗證和系統日誌。
2. 配置SMTP伺服器，在SMTP伺服器上為加密通訊配置的埠，並選中使用TLS/SSL加密選項。



「測試連線」顯示與SMTP伺服器的連線成功。

Certificates Logging Maintenance Upgr

## SMTP Server Settings

Configure a Simple Mail Transfer Protocol(SMTP) server to allow system administrators and sponsors to send email notification to guests with their login credentials and enable guests to automatically receive their login credentials and actions to take before their guest actions.

SMTP Server\*

SMTP Port\*  ⓘ

Connection Timeout  seconds ⓘ

### Encryption settings

Enable TLS/SSL connection encryption to require ISE to establish an encrypted connection to the SMTP mail server before sending e-mail.

Use TLS/SSL Encryption ⓘ

### Authentication Settings

Use Password Authentication

Test Connection



### Information

#### Test Connection to SMTP Server

Successfully connected to mail.testlab.com .

OK

資料包捕獲顯示伺服器已接受ISE請求的STARTTLS選項。

No.	Time	Source	Destination	Protocol	Len	Info
830	2020-10-28 18:49:25.415546	10.197.164.21	10.106.32.25	SMTP	184	S: 220 DC1.testlab.com Microsoft ESMTPL MAIL Service, Version: 8.5.9600.16384 ready at Wed, 28 Oct 2020 13:22:00 +0000
832	2020-10-28 18:49:25.415868	10.106.32.25	10.197.164.21	SMTP	79	C: EHLO ISE3-1
833	2020-10-28 18:49:25.416551	10.197.164.21	10.106.32.25	SMTP	305	S: 250-DC1.testlab.com Hello [10.106.32.25]   250-AUTH=LOGIN   250-AUTH LOGIN   250-TURN   250-SIZE   250-ETRN   250-PIPELINING
834	2020-10-28 18:49:25.416658	10.106.32.25	10.197.164.21	SMTP	76	C: STARTTLS
835	2020-10-28 18:49:25.419256	10.197.164.21	10.106.32.25	SMTP	95	S: 220 2.0.0 SMTP server ready

```

Frame 835: 95 bytes on wire (760 bits), 95 bytes captured (760 bits) on interface
Ethernet II, Src: Cisco_01:01:01:01:01:01 (bc:16:65:01:01:01), Dst: Vmware_08:00:27:00:00:00 (00:50:56:0b:76:f6)
Internet Protocol Version 4, Src: 10.197.164.21, Dst: 10.106.32.25
Transmission Control Protocol, Src Port: 25, Dst Port: 31529, Seq: 358, Ack: 24, Len: 29
Simple Mail Transfer Protocol
  Response: 220 2.0.0 SMTP server ready\r\n
    Response code: <domain> Service Ready (220)
    Response parameter: 2.0.0 SMTP server ready
  
```

## 已啟用身份驗證設定的安全SMTP通訊

1. 配置SMTP伺服器 and SMTP埠。
2. 在Authentication Settings下，選中Use Password Authentication選項並提供使用者名稱和密碼。

基於密碼的身份驗證工作正常時，成功測試連線：

Administration · System

Certificates    Logging    Maintenance    Upgrade

## SMTP Server Settings

Configure a Simple Mail Transfer Protocol(SMTP) server to allow users to send email notification to guests with their login information and enable guests to automatically receive their login credentials themselves and with actions to take before their guest actions.

SMTP Server\*

SMTP Port\*  ⓘ

Connection Timeout  seconds ⓘ

### Encryption settings

Enable TLS/SSL connection encryption to require ISE to establish an encrypted connection to the SMTP mail server before sending e-mail.

Use TLS/SSL Encryption ⓘ

### Authentication Settings

Use Password Authentication

User Name\*

Password\*

i

### Information

**Test Connection to SMTP Server**

Successfully connected to mail.testlab.com .

顯示使用憑據成功身份驗證的資料包捕獲示例：

No.	Time	Source	Destination	Protocol	Leng	Info
1631	2020-10-20 18:43:13.671815	10.197.164.21	10.106.32.25	SMTP	184	S: 220 DC1.testlab.com Microsoft ESMTS MAIL Service, Version: 8.5.9080.10384 ready at Wed, 20 Oct 2020 13:15:48 +0000
1633	2020-10-20 18:43:13.671279	10.106.32.25	10.197.164.21	SMTP	79	C: EHLO ISE3-1
1634	2020-10-20 18:43:13.671925	10.197.164.21	10.106.32.25	SMTP	305	S: 250-DC1.testlab.com Hello [10.106.32.25]   250-AUTH=LOGIN   250-AUTH LOGIN   250-TURN   250-SIZE   250-ETRN   250-PIPELINING  ...
1635	2020-10-20 18:43:13.672058	10.106.32.25	10.197.164.21	SMTP	78	C: AUTH LOGIN
1636	2020-10-20 18:43:13.672652	10.197.164.21	10.106.32.25	SMTP	84	S: 334 VvN1cnShnMjUg
1637	2020-10-20 18:43:13.672793	10.106.32.25	10.197.164.21	SMTP	80	C: User: cG9vaWdhcnx=
1638	2020-10-20 18:43:13.673429	10.197.164.21	10.106.32.25	SMTP	84	S: 334 UGFzc3lvccnDQ6
1639	2020-10-20 18:43:13.673474	10.106.32.25	10.197.164.21	SMTP	80	C: Pass: DyFzY2BxMjM=
1640	2020-10-20 18:43:13.677862	10.197.164.21	10.106.32.25	SMTP	103	S: 235 2.7.0 Authentication successful
1641	2020-10-20 18:43:13.677271	10.106.32.25	10.197.164.21	SMTP	72	C: QUIT
1642	2020-10-20 18:43:13.677986	10.197.164.21	10.106.32.25	SMTP	130	S: 221 2.0.0 DC1.testlab.com Service closing transmission channel

▶ Frame 1640: 103 bytes on wire (824 bits), 103 bytes captured (824 bits)  
 ▶ Ethernet II, Src: Cisco\_81:81:bf [bc:16:65:01:81:bf], Dst: Vmware\_8b:76:f6 (00:50:56:8b:76:f6)  
 ▶ Internet Protocol Version 4, Src: 10.197.164.21, Dst: 10.106.32.25  
 ▶ Transmission Control Protocol, Src Port: 25, Dst Port: 30267, Seq: 394, Ack: 54, Len: 37  
 ▼ Simple Mail Transfer Protocol  
   Response: 235 2.7.0 Authentication successful\r\n  
   Response code: Authentication successful (235)  
   Response parameter: 2.7.0 Authentication successful

## 驗證

使用本節內容，確認您的組態是否正常運作。

1. 使用「測試連線」選項驗證與已配置SMTP伺服器的連線。

2. 從訪客門戶傳送測試電子郵件，地址為：Work Centers > Guest Access > Portals & Components > Guest Portals > Self-Registered Guest Portal(default)> Portal Page Customization > Notifications > Email > Preview window Settings，輸入有效的電子郵件地址並傳送測試電子郵件。收件人必須從「訪客郵件設定」下配置的電子郵件地址接收電子郵件。為訪客帳戶憑據傳送的示例電子郵件通知：

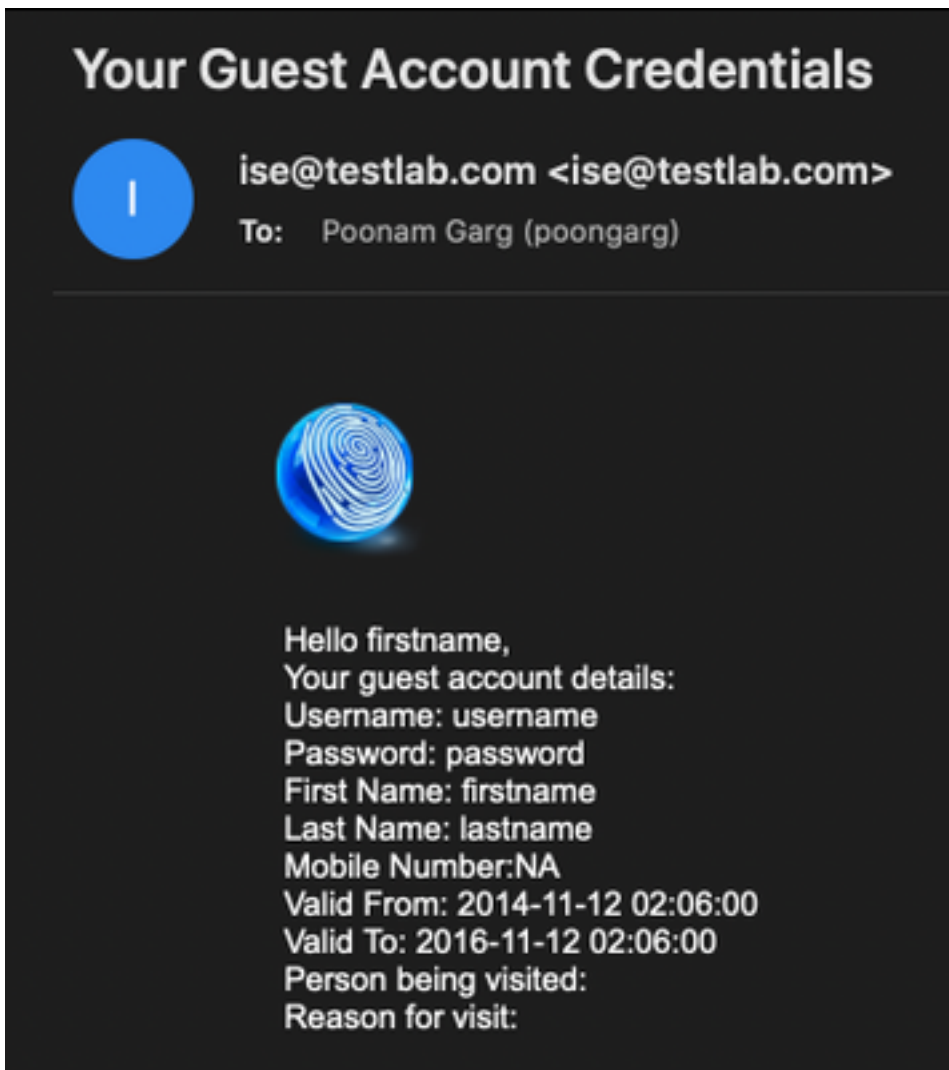
Time	Source	Destination	Protocol	Len	Address	Info
2475	2020-10-26 18:51:33.867597	173.37.182.6	SMTP	151	00:50:56:0b:76:f6, bc:16:65:01:81:bf	S: 220 xch-rcd-001.cisco.com Microsoft ESMTD MAIL Service ready at Mon, 26 Oct 2020 08:24:07 -0500
2477	2020-10-26 18:51:33.867980	18.186.32.25	SMTP	67	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: EHLO ISE3-1
2494	2020-10-26 18:51:34.136372	173.37.182.6	SMTP	299	00:50:56:0b:76:f6, bc:16:65:01:81:bf	S: 250-xch-rcd-001.cisco.com Hello [18.186.32.25]   250-SIZE 37748736   250-PIPELINING   250-DSN   250-ENHANCED MAIL FROM: <ise@testlab.com>
2495	2020-10-26 18:51:34.136729	18.186.32.25	SMTP	83	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: MAIL FROM: <ise@testlab.com>
2513	2020-10-26 18:51:34.405187	173.37.182.6	SMTP	75	00:50:56:0b:76:f6, bc:16:65:01:81:bf	S: 250 2.1.8 Sender OK
2514	2020-10-26 18:51:34.405472	18.186.32.25	SMTP	84	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: RCPT TO: <poongarg@cisco.com>
2522	2020-10-26 18:51:34.674387	173.37.182.6	SMTP	78	00:50:56:0b:76:f6, bc:16:65:01:81:bf	S: 250 2.1.5 Recipient OK
2523	2020-10-26 18:51:34.674586	18.186.32.25	SMTP	60	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA
2532	2020-10-26 18:51:34.943137	173.37.182.6	SMTP	100	00:50:56:0b:76:f6, bc:16:65:01:81:bf	S: 354 Start mail input; end with <CRLF>.<CRLF>
2533	2020-10-26 18:51:34.951891	18.186.32.25	SMTP	2714	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 2660 bytes
2534	2020-10-26 18:51:34.951927	18.186.32.25	SMTP	2714	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 2660 bytes
2535	2020-10-26 18:51:34.951932	18.186.32.25	SMTP	2714	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 2660 bytes
2536	2020-10-26 18:51:34.952189	18.186.32.25	SMTP	199	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 145 bytes
2537	2020-10-26 18:51:34.950436	18.186.32.25	SMTP	2714	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 2660 bytes
2560	2020-10-26 18:51:35.220463	18.186.32.25	SMTP	2714	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 2660 bytes
2561	2020-10-26 18:51:35.220480	18.186.32.25	SMTP	2714	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 2660 bytes
2563	2020-10-26 18:51:35.220783	18.186.32.25	SMTP	2714	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 2660 bytes
2564	2020-10-26 18:51:35.220793	18.186.32.25	SMTP	2714	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: DATA Fragment, 2660 bytes
2566	2020-10-26 18:51:35.220870	18.186.32.25	SMTP	784	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	From: <ise@testlab.com>, subject: Your Guest Account Credentials, (text/html) (image/png)
2583	2020-10-26 18:51:35.597164	173.37.182.6	SMTP	186	00:50:56:0b:76:f6, bc:16:65:01:81:bf	S: 250 2.6.0 <366327480.7.1603718483290@ISE3-1> [InternalID=201137613468157, Hostname=XCH-ALN-001.cisco.com]
2584	2020-10-26 18:51:35.597441	18.186.32.25	SMTP	60	bc:16:65:01:81:bf, 00:50:56:0b:76:f6	C: QUIT
2595	2020-10-26 18:51:35.865758	173.37.182.6	SMTP	102	00:50:56:0b:76:f6, bc:16:65:01:81:bf	S: 221 2.0.0 Service closing transmission channel

```

Frame 2522: 78 bytes on wire (624 bits), 78 bytes captured (624 bits)
Ethernet II, Src: Cisco_01:81:bf (bc:16:65:01:81:bf), Dst: Vmware_0b:76:f6 (00:50:56:0b:76:f6)
Internet Protocol Version 4, Src: 173.37.182.6, Dst: 18.186.32.25
Transmission Control Protocol, Src Port: 25, Dst Port: 22083, Seq: 364, Ack: 73, Len: 24
Simple Mail Transfer Protocol
Response: 250 2.1.5 Recipient OK\r\n
Response code: Requested mail action okay, completed (250)
Response parameter: 2.1.5 Recipient OK

```

電子郵件收件人接收的示例電子郵件通知：



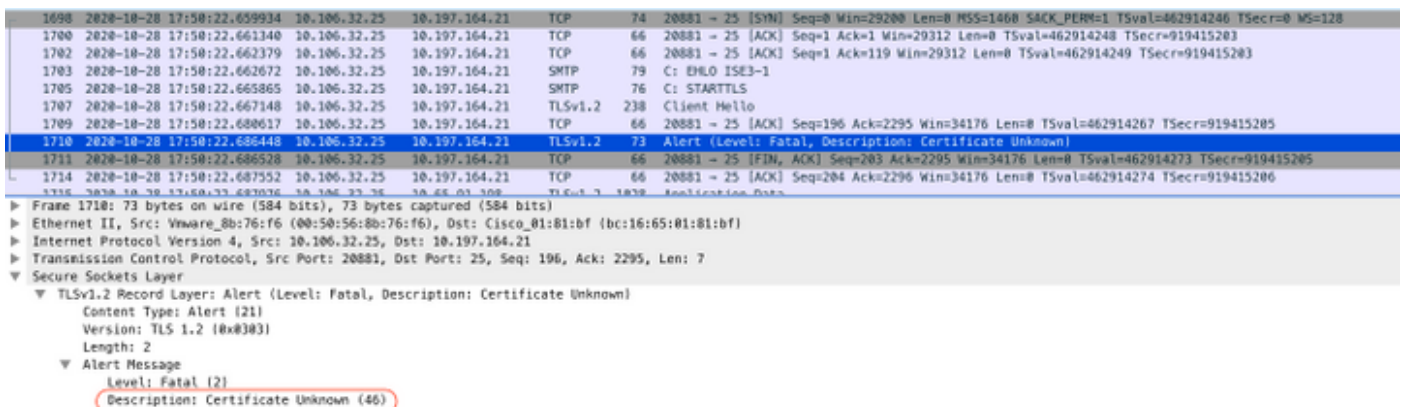
疑難排解

本節提供的資訊可用於對組態進行疑難排解：

問題：測試連線顯示：「無法連線到SMTP伺服器，SSL錯誤。請檢查受信任的證書」。



資料包捕獲顯示SMTP伺服器提供的證書不受信任：



解決方案：在ISE受信任證書中匯入SMTP伺服器的根CA證書，並在埠上配置TLS支援。

問題：測試連線顯示：驗證失敗:無法連線到SMTP伺服器，使用者名稱或密碼不正確。



此處資料包捕獲示例顯示身份驗證未成功。

No.	Time	Source	Destination	Protocol	Length	Info
938	2020-10-28 18:11:40.722253	10.197.164.21	10.186.32.25	SMTP	184	S: 220 DC1.testlab.com Microsoft ESMT MAIL Service, Version: 8.5.9600.16384 ready at Wed, 28 Oct 2020 12:44:15 +0800
940	2020-10-28 18:11:40.722653	10.186.32.25	10.197.164.21	SMTP	79	C: EHLO ISE3-1
941	2020-10-28 18:11:40.723363	10.197.164.21	10.186.32.25	SMTP	305	S: 250-DC1.testlab.com Hello [10.186.32.25]   250-AUTH=LOGIN   250-AUTH LOGIN   250-TURN   250-SIZE   250-ETRN   250-PIPELINING
942	2020-10-28 18:11:40.723531	10.186.32.25	10.197.164.21	SMTP	78	C: AUTH LOGIN
946	2020-10-28 18:11:40.729063	10.197.164.21	10.186.32.25	SMTP	84	S: 334 VNWlca5h0wB6
949	2020-10-28 18:11:40.729172	10.186.32.25	10.197.164.21	SMTP	76	C: User: dGva0D0+
950	2020-10-28 18:11:40.730056	10.197.164.21	10.186.32.25	SMTP	84	S: 334 uGfrc3dvcnd6
951	2020-10-28 18:11:40.730151	10.186.32.25	10.197.164.21	SMTP	80	C: Pass: QyFzY2BwMjM=
952	2020-10-28 18:11:40.748181	10.197.164.21	10.186.32.25	SMTP	185	S: 535 5.7.3 Authentication unsuccessful

Frame 952: 185 bytes on wire (840 bits), 185 bytes captured (840 bits)  
Ethernet II, Src: Cisco\_01:81:bf (bc:16:65:81:81:bf), Dst: Vmware\_Bb:76:f6 (00:50:56:8b:76:f6)  
Internet Protocol Version 4, Src: 10.197.164.21, Dst: 10.186.32.25  
Transmission Control Protocol, Src Port: 25, Dst Port: 24553, Seq: 394, Ack: 50, Len: 39  
Simple Mail Transfer Protocol  
Response: 535 5.7.3 Authentication unsuccessful  
Response code: Authentication credentials invalid (535)  
Response parameter: 5.7.3 Authentication unsuccessful

解決方案：驗證SMTP伺服器上配置的使用者名稱或密碼。

問題：測試連線顯示：連線到SMTP伺服器失敗。



解決方案：驗證SMTP伺服器埠配置，檢查SMTP伺服器名稱是否可由ISE上配置的DNS伺服器解析。

此處的示例顯示未為SMTP服務配置的587埠上的SMTP伺服器傳送重置消息。



```

1103 2020-10-28 18:24:18.330613 10.106.32.25 10.197.164.21 DNS 76 Standard query 0x2a06 A mail.testlab.com
1104 2020-10-28 18:24:18.330643 10.106.32.25 10.197.164.21 DNS 76 Standard query 0xde13 AAAA mail.testlab.com
1105 2020-10-28 18:24:18.331978 10.197.164.21 10.106.32.25 DNS 92 Standard query response 0x2a06 A mail.testlab.com A 10.197.164.21
1106 2020-10-28 18:24:18.332020 10.197.164.21 10.106.32.25 DNS 127 Standard query response 0xde13 AAAA mail.testlab.com SOA dcl.testlab.com
1107 2020-10-28 18:24:18.332281 10.106.32.25 10.197.164.21 TCP 74 21243 - 587 [SYN] Seq=0 Win=29200 Len=0 MSS=1460 SACK_PERM=1 TSval=464949919 TSecr=0 WS=128
1108 2020-10-28 18:24:18.335520 10.197.164.21 10.106.32.25 TCP 60 587 - 21243 [RST, ACK] Seq=1 Ack=1 Win=0 Len=0
1109 2020-10-28 18:24:18.336787 10.106.32.25 10.65.91.198 TLSv1.2 929 Application data
1110 2020-10-28 18:24:18.362481 Vmware_0b:6e... Broadcast ARP 60 Who has 10.106.32.5? Tell 10.106.32.15

```

▶ Frame 1108: 60 bytes on wire (480 bits), 60 bytes captured (480 bits)  
▶ Ethernet II, Src: Cisco\_01:81:bf (bc:16:65:01:81:bf), Dst: Vmware\_0b:76:f6 (00:50:56:0b:76:f6)  
▶ Internet Protocol Version 4, Src: 10.197.164.21, Dst: 10.106.32.25  
▼ Transmission Control Protocol, Src Port: 587, Dst Port: 21243, Seq: 1, Ack: 1, Len: 0  
Source Port: 587  
Destination Port: 21243  
[Stream index: 34]  
[TCP Segment Len: 0]  
Sequence number: 1 (relative sequence number)  
[Next sequence number: 1 (relative sequence number)]  
Acknowledgment number: 1 (relative ack number)  
0101 .... = Header Length: 20 bytes (5)  
▼ Flags: 0x014 (RST, ACK)  
000. .... = Reserved: Not set  
...0 .... = Nonce: Not set  
...0... .... = Congestion Window Reduced (CWR): Not set  
...0.. .... = ECN-Echo: Not set  
...0. .... = Urgent: Not set  
...0... .... = Acknowledgment: Set  
...0...0... = Push: Not set  
▶ ....0...0... = Reset: Set  
...0...0... = Syn: Not set  
...0...0... = Fin: Not set  
[TCP Flags: .....A-R..]  
Window size value: 0  
[Calculated window size: 0]  
[Window size scaling factor: -1 (unknown)]  
Checksum: 0xe949 [unverified]  
[Checksum Status: Unverified]  
Urgent pointer: 0  
▶ [SEQ/ACK analysis]  
▶ [Timestamps]

## 相關資訊

- [https://www.cisco.com/c/en/us/td/docs/security/ise/3-0/admin\\_guide/b\\_ISE\\_admin\\_3\\_0/b\\_ISE\\_admin\\_30\\_basic\\_setup.html#id\\_121735](https://www.cisco.com/c/en/us/td/docs/security/ise/3-0/admin_guide/b_ISE_admin_3_0/b_ISE_admin_30_basic_setup.html#id_121735)
- [技術支援與文件 - Cisco Systems](#)