

通過Web介面和CLI安裝Expressway系列發行金鑰的配置示例

目錄

[簡介](#)

[必要條件](#)

[需求](#)

[採用元件](#)

[設定](#)

[Web介面發行金鑰安裝示例](#)

[CLI發行金鑰安裝示例](#)

[驗證](#)

[發行金鑰安裝的Web介面驗證](#)

[發行金鑰安裝的CLI介面驗證](#)

[疑難排解](#)

簡介

本文檔介紹如何通過Web介面和命令列介面(CLI)將發行金鑰安裝到Cisco Expressway系列裝置。

作者：Michael Wall，思科TAC工程師。

必要條件

需求

思科建議您瞭解以下主題：

Expressway安裝

已成功安裝Expressway，並應用了可通過Web介面和/或CLI訪問的有效IP地址。

已申請並收到對Expressway序列號有效的釋放金鑰。

通過Web介面或CLI使用root (通過CLI) 和admin帳戶訪問Expressway。

已從Cisco.com下載Expressway軟體升級映像。

附註：安裝指南可從以下網址獲得：[特色指南](#)

採用元件

本檔案中的資訊是根據以下軟體版本：

Expressway版本x8.7.3和x8.8.3

Expressway C x7.X和x8.X版本

Expressway E x7.X和x8.X版本

PuTTY(終端模擬軟體)

— 或者，您可以使用支援SSH的任何終端模擬軟體，如Secure CRT、TeraTerm等。

PSCP(PuTTY安全複製協定客戶端)

— 您可以使用支援SCP的任何客戶端。

具有版本金鑰或升級金鑰的許可電子郵件。

Web瀏覽器。在本示例中，使用Firefox，Internet Explorer和Chrome也同樣工作。

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。

設定

Web介面發行金鑰安裝示例

此處有兩個選項：

選項一，您可以設定發行金鑰。

選項2，您可以在升級過程中新增發行金鑰。

兩個選項均起作用，我們首先顯示set選項，然後顯示升級選項。

附註：這兩個選項都需要重新啟動Expressway。

選項1顯示set選項。

第1步：安裝Expressway後，使用您的PAK和序列號申請您的發行金鑰，您將收到思科許可團隊發來的許可證電子郵件，其中可以包含或不包含發行金鑰和選項金鑰。

附註：示例電子郵件用於VCS，這是正常的，Expressway系列的電子郵件看起來相同。

附註：PAK的範例不在本檔案的範圍之內。

電子郵件範例

You have received this email because your email address was provided to Cisco Systems during the Serial Number Lookup process for software license activation key/file. Please read this email carefully and forward it with any attachments to the proper system administrator if you are not the correct person.

```
System Serial Number      : 0B616767
Hardware Serial Number   : 0B616767
MAC Address              : 000000000000
Service Contract         : -
SC End Date              : -

Software Part Name       : L-VCS-FINDME:
Tandberg Item No        : L-VCS-FINDME:VCS - Enable User Policy feature
Shipped Version          : -
Shipped Version Key      : 116341U00-1-1C328745
Shipped Image URL        : -
Upgrade To               : -
Upgrade To Key           : 7513492028475672
Upgrade To Image URL     : -

Options
Cisco Option Name        : LIC-VCS-300:
Tandberg Option Name     : 116341X300:VCS - add 300 non-traversal calls
Option Key               : 116341X300-1-7D03B558

Options
Cisco Option Name        : LIC-VCS-DEVPROV:
Tandberg Option Name     : 116341P00:VCS - Enable Device Provisioning
Option Key               : 116341P00-1-1FEB68A1

Options
Cisco Option Name        : LIC-VCS-GW:
Tandberg Option Name     : 116341G00:VCS - Enable GW feature
Option Key               : 116341G00-1-96554215
```

Sample Release Key

第2步：使用Web瀏覽器訪問Expressway的Web介面。使用管理員帳戶登入，您將進入Expressway狀態螢幕。

附註：本文檔中有意將某些數字模糊。

The screenshot shows the Cisco Expressway Status page. At the top, there is a navigation bar with tabs for Status, System, Configuration, Applications, Users, and Maintenance. A red callout bubble points to the 'Status' tab with the text 'Note: Login brings us to the status screen'. In the top right corner, a notification says 'This system has 6 alarms'. Below the navigation bar, the 'Overview' section is highlighted with a red box. A red-bordered box contains the message: 'Invalid release key. Release key is missing: the system is in demonstration mode and has limited functionality; contact your Cisco support representative to buy your release key.' Another red-bordered box in the 'System information' section contains the text: 'Note also, our release key is invalid.' The 'System information' section lists details such as System name (EXP-Core), Up time (6 days 15 hours 7 minutes 51 seconds), Software version (X8.7.3), and IP v4 address (redacted). Below this, there is a table for 'Resource usage (last updated: 12:53:04 UTC)' with columns for 'Rich media session calls' and 'Rich media sessions'. The 'Rich media session calls' table shows values for Current video, Current audio (SIP), Peak video, Peak audio (SIP), Since last restart video, and Since last restart audio (SIP), all of which are 0. The 'Rich media sessions' table shows License usage current and License usage peak, both at 0%.

步驟3:導航到相應的螢幕，安裝您的發行金鑰。將滑鼠懸停在維護頁籤上。



Status System Configuration Applications Users **Maintenance** Click on Maintenance Help Logout

Overview You are here: Status Overview

Invalid release key: Release key is missing: the system is in demonstration mode and has limited functionality; contact your Cisco support representative to buy your release key.

System information

System name	EXP-Core	
Up time	6 days 15 hours 7 minutes 51 seconds	
Software version	X8.7.3	
IPv4 address	[REDACTED].117	
Options	1 Rich Media Sessions, Encryption, Interworking, Expressway Series.	

Resource usage (last updated: 12:53:04 UTC)

Rich media session calls	Current video	0
	Current audio (SIP)	0
	Peak video	0
	Peak audio (SIP)	0
	Since last restart video	0
	Since last restart audio (SIP)	0
Rich media sessions	License usage current	0%
	License usage peak	0%

第4步：彈出選單後，按一下選項鍵。



Status System Configuration Applications Users **Maintenance** Click on Option Keys Help Logout

Overview You are here: Status Overview

Invalid release key: Release key is missing: the system is in demonstration mode and has limited functionality; contact your Cisco support representative to buy your release key.

System information

System name	EXP-Core	
Up time	6 days 15 hours 7 minutes 51 seconds	
Software version	X8.7.3	
IPv4 address	[REDACTED].117	
Options	1 Rich Media Sessions, Encryption, Interworking, Expressway Series.	

Resource usage (last updated: 12:53:04 UTC)

Rich media session calls	Current video	0
	Current audio (SIP)	0
	Peak video	0
	Peak audio (SIP)	0
	Since last restart video	0
	Since last restart audio (SIP)	0
Rich media sessions	License usage current	0%
	License usage peak	0%

- Upgrade
- Logging
- Option keys**
- Tools
- Security certificates
- Backup and restore
- Diagnostics
- Maintenance mode
- Language
- Restart options

第5步：觀察Release key部分，如果這是新安裝，則顯示空白的release key欄位。另一個Expressway安裝的Release key欄位已預填充了當前版本金鑰值。在這種情況下，可使用Upgrade選項設定發行金鑰。

附註：版本金鑰在次要版本升級之間不會更改。發行金鑰僅在主要版本升級（如x7.X到x8.X）之間更改。

將您的發行金鑰複製貼上到發行金鑰欄位：

The screenshot shows the Cisco Expressway-C maintenance interface. At the top, there is a navigation bar with tabs for Status, System, Configuration, Applications, Users, and Maintenance. A red notification bubble indicates 'This system has 6 alarms'. Below the navigation bar, the 'Option keys' section is displayed. A table lists the current release key: 116341E00-1-2B872ED6, with a description of 'Expressway Series' and a status of 'Active'. Below the table, there are buttons for 'Delete', 'Select all', and 'Unselect all'. The 'System information' section shows the serial number '0DE16F47' and active options including '1 Rich Media Sessions, Encryption, Interworking, Expressway Series'. The 'Software option' section has an 'Add option key' field. The 'Release key' section has a 'Release key' field, which is highlighted with a red box and an arrow pointing to a callout box. The callout box contains the text: 'Note the Release Key field is blank if a new Expressway Series Device. This field may be pre-populated if a release key is already installed or upgrading from a prior version. Copy your new release key into this field.' Below the 'Release key' field is a 'Set release key' button. The 'Current licenses' section shows 'Traversal calls' with a value of '1'. At the bottom, the user information is 'User: admin Access: Read-write System host name: VCS-C System time: 13:16 UTC' and the language is 'en_US S/N: 0DE16F47 Version: X8.7.3'.

第6步：您可以看到貼上到Release key欄位的發行密鑰。

Option keys

You are here: Maintenance > Option keys

Invalid release key: Release key is missing: the system is in demonstration mode and has limited functionality; contact your Cisco support representative to buy your release key.

Key	Description	Status	Validity period
<input type="checkbox"/> 116341E00-1-2B872ED6	Expressway Series	Active	Unlimited

System information

Serial number: ODE16F47
Active options: 1 Rich Media Sessions, Encryption, Interworking, Expressway Series.

Software option

Add option key

Release key

Release key

Here I've pasted in the Release Key I received for this Expressway

Current licenses

Traversal calls: 1

第7步：按一下Set release key (設定發行金鑰)。

Option keys

You are here: Maintenance > Option keys

Invalid release key. Release key is missing, the system is in demonstration mode and has limited functionality; contact your Cisco support representative to buy your release key.

Key	Description	Status	Validity period
<input type="checkbox"/> 116341E00-1-2B872ED6	Expressway Series	Active	Unlimited

Delete Select all Unselect all

System information

Serial number: 0DE16F47

Active options: 1 Rich Media Sessions, Encryption, Interworking, Expressway Series.

Software option

Add option key

Add option

Release key

Release key: 7800812430795357

Set release key

Click Set release key

Current licenses

Traversal calls	1
-----------------	---

第8步：按一下頁面頂部顯示的提示中的restart超連結以重新啟動Expressway。

Option keys You are here: [Maintenance](#) > Option keys

Saved: The release key has been updated, however a [restart](#) is required for it to take effect.

Notice how a message comes up saying I need to restart. Click on the Restart hyperlink and follow the steps from there. Once rebooted, the key will be installed.

Invalid release key: Release key is missing; the system is in demonstration mode and has limited functionality; contact your Cisco support representative to buy your release key.

Key	Description	Status	Validity period
<input type="checkbox"/> 116341E00-1-2B872ED6	Expressway Series	Active	Unlimited

[Delete](#) [Select all](#) [Unselect all](#)

System information

Serial number: 0DE16F47

Active options: 1 Rich Media Sessions, Encryption, Interworking, Expressway Series.

Software option

Add option key:

[Add option](#)

Release key

Release key: 7800812430795357

[Set release key](#)

Current licenses

選擇二：用於安裝發行金鑰的升級選項

第1步：在Web介面中，按一下「**Maintenance (維護)**」，然後在選單彈出視窗中按一下「**Upgrade**」。

The screenshot shows the Cisco Expressway-C web interface. The top navigation bar includes 'Status', 'System', 'Configuration', 'Applications', 'Users', and 'Maintenance'. The 'Maintenance' dropdown menu is open, with 'Upgrade' highlighted. A red box and arrow point to the 'Upgrade' option with the text 'Click on Maintenance Tab>Upgrade'. Below the menu, the 'Upgrade component' section contains a warning: 'WARNING: You should backup the system before upgrading. [System backup](#)'. There is a file selection area with a 'Browse...' button and the text 'No file selected.'. An 'Upgrade' button is located at the bottom of the section.

第2步：在Upgrade螢幕上，您會看到Upgrade Component部分。

附註：本文檔假定您已將Expressway軟體升級映像下載到本地電腦。

按一下Browse以找到下載的Expressway升級映像：

Upgrade

You are here: Maintenance > Upgrade

Component	Version	Release key
B2BUA Presence Relay	1.0-oak-v8.7.3-rc-2	
B2BUA Service	1.0-oak-v8.7.3-rc-2	
c_mgmt	8.6-1.0.321052	
collectsupport	5368	
oaksupport	5368	
stringencoderssupport	5368	
System platform	X8.7.3	7800812430795357
traffic_server	5368	
xcp-vcs	1.0-oak-v8.7.3-rc-2	
xcpsupport	5368	

Upgrade component

WARNING: You should backup the system before upgrading. [System backup](#)

Select file

No file selected.

Click Browse to locate your upgrade software on your local machine and then upload.

步驟3:出現提示時，在**Release key**欄位中輸入發行金鑰值。從電子郵件中複製並貼上，或者是次要升級（如本例中為x8.7.3到x8.8.3），則從同一螢幕複製並貼上它。

Upgrade

You are here: Maintenance > Upgrade

Component	Version	Release key
B2BUA Presence Relay	1.0-oak-v8.7.3-rc-2	
B2BUA Service	1.0-oak-v8.7.3-rc-2	
c_mgmt	8.6-1.0.321052	
collectdsupport	5368	
oaksupport	5368	
stringencoderssupport	5368	
System platform	X8.7.3	
traffic_server	5368	7800812430795357
xcp-vcs	1.0-oak-v8.7.3-rc-2	
xcpsupport	5368	

Upgrade component

WARNING: You should backup the system before upgrading. [System backup](#)

Select file

Release key

Once the file is selected, you can paste your release key in the field noted to the left. You can copy the release key from your licensing email. Or, if you are just doing a minor upgrade like in this example from 8.7.3 to 8.8.3, you can copy and paste the release key already installed which is circled above in this example.

第4步：按一下Upgrade按钮。观察后续进程，不要离开该进程，或者必须重新开始。上传映像，然后安装该映像。出现提示时，按一下restart。

Status System Configuration Applications Users Maintenance

You are here: Maintenance > Upgrade

Component	Version	Release key
B2BUA Presence Relay	1.0-oak-v8.7.3-rc-2	
B2BUA Service	1.0-oak-v8.7.3-rc-2	
c_mgmt	8.6-1.0.321052	
collectdsupport	5368	
oaksupport	5368	
stringencoderssupport	5368	
System platform	X8.7.3	7800812430795357
traffic_server	5368	
xcp-vcs	1.0-oak-v8.7.3-rc-2	
xcpsupport	5368	

Information

The 16-character release key for the new software version. This is not required if you are upgrading to a dot release, for example from 1.0 to 1.1.

Upgrade component

WARNING: You should backup the system before upgrading. [System backup](#)

Select file

Release key

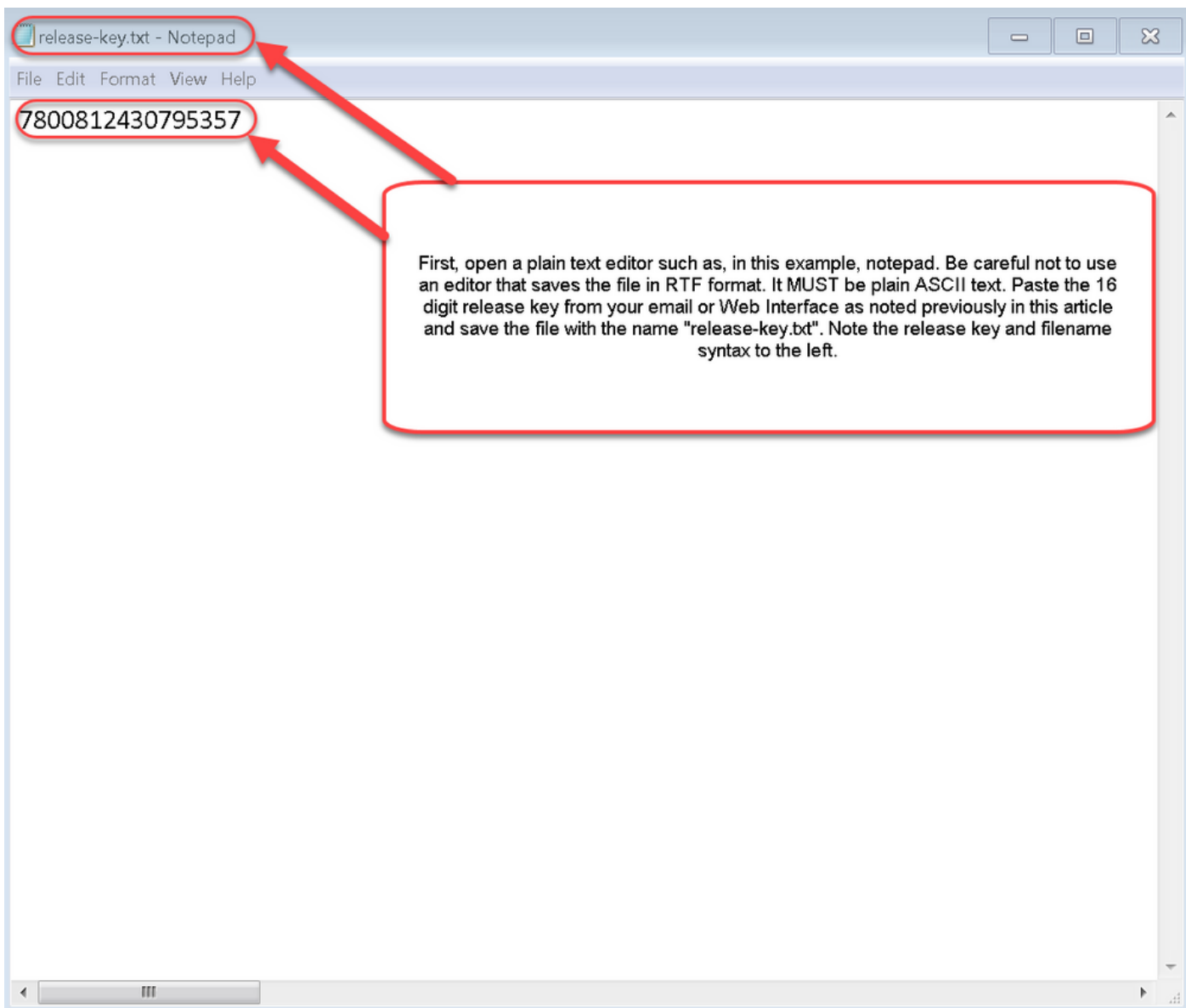
Once the release key is pasted, you can click upgrade and then follow the steps from there. Do not leave the screens that follow or you will have to start over. The image will first upload, then it gets installed and finally you restart the Expressway. Once it is restarted and comes back up, it should be on the new release and the release key can be verified exactly the same as with a fresh install.

在Expressway重新啟動後，驗證版本是否安裝正確。使用本檔案驗證一節中所述的兩種方法。

CLI發行金鑰安裝示例

通過CLI安裝發行金鑰。此過程包含兩部分，包括使用SCP客戶端（在本示例中為PSCP），來自Windows中的命令(CMD)提示和終端模擬軟體應用程式（如PuTTY）。

第1步：將發行金鑰複製到純文字檔案檔案ASCII中。確保在釋放鍵值之前或之後沒有空格。將發行金鑰複製到文本編輯器應用程式中，將檔案另存為release-key.txt:



第2步：將release-key.txt檔案和PSCP.exe放在電腦上的同一目錄中。在Windows中使用命令(CMD)提示導航到該目錄，並將發行金鑰複製到Expressway上的臨時目錄。使用PSCP事務的根帳戶。出現提示時輸入根帳戶密碼。驗證100%所示的傳輸已完成。以下是範例：

```
C:\Users\jwall>cd desktop
C:\Users\jwall\Desktop>pscp release-key.txt root@.117:/tmp/release-key
Using keyboard-interactive authentication.
Password:
release-key.txt      | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
C:\Users\jwall\Desktop>pscp s42700x8_8_3.tar.gz root@.117:/tmp/tandberg-image.tar.gz
Using keyboard-interactive authentication.
Password:
s42700x8_8_3.tar.gz | 19164 kB | 598.9 kB/s | ETA: 00:12:40 | 4%
```

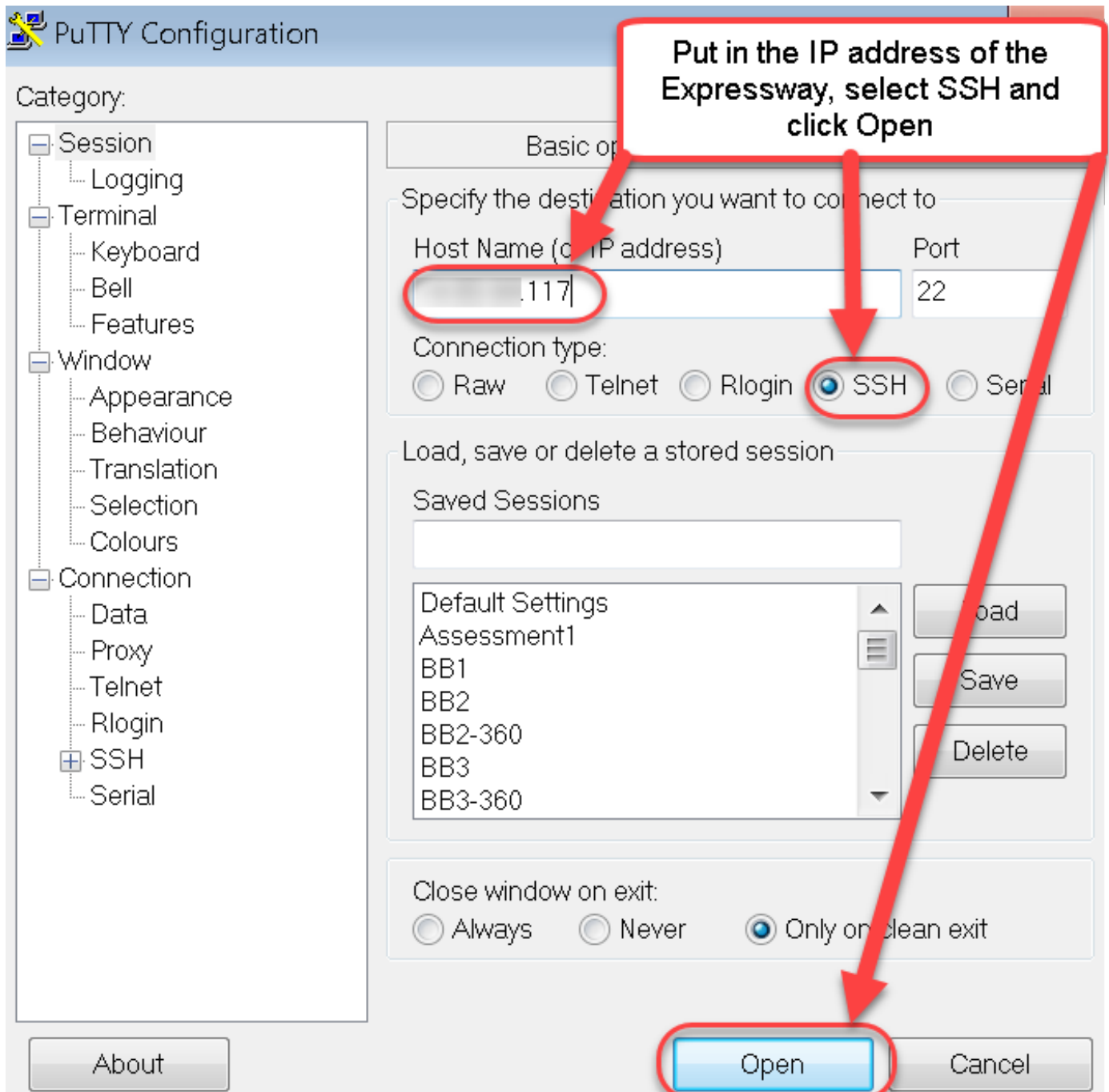
Note in the first circle above, we are using a Windows CMD prompt where I've saved the release-key.txt file to my desktop. In the first line, I've navigated to my desktop with the CMD command "cd desktop" and then am copying the file over to the Expressway using free-ware Putty PSCP. In the next circle, I am copying over the upgrade image to the Expressway using PSCP. The third circle is showing the file transfer progress. Once complete, I will use Putty SSH shell to restart the Expressway.

步驟3:複製要升級到的映像，例如此處使用的8.8.3。通過PSCP複製此映像。驗證狀態顯示為100%，這意味著映像的軟體已轉移到Expressway，並且您準備好重新啟動Expressway。

```
C:\Users\jwall>cd desktop
C:\Users\jwall\Desktop>pscp release-key.txt root@[REDACTED].117:/tmp/release-key
Using keyboard-interactive authentication.
Password:
release-key.txt          | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
C:\Users\jwall\Desktop>pscp s42700x8_8_3.tar.gz root@[REDACTED].117:/tmp/tandberg-image.tar.gz
Using keyboard-interactive authentication.
Password:
s42700x8_8_3.tar.gz     | 474310 kB | 577.7 kB/s | ETA: 00:00:00 | 100%
C:\Users\jwall\Desktop>_
```

Note, the installation is complete. Now we go to Putty and restart the Expressway via CLI from an SSH session. Alternatively, you can reboot the Expressway from the Web Interface.

第4步：通過到Expressway的SSH會話重新啟動Expressway。開啟PuTTY並鍵入Expressway的IP地址。按一下SSH開啟。



第5步：出現提示時，按一下**Open**並使用管理員帳戶登入Expressway。出現提示時輸入管理員帳戶密碼。驗證您是否有正確的命令重新啟動Expressway。輸入命令，後跟空格和問號，確保命令正確。Expressway確認**xCommand Boot**已重新啟動。輸入命令**xCommand Boot**重新啟動Expressway。



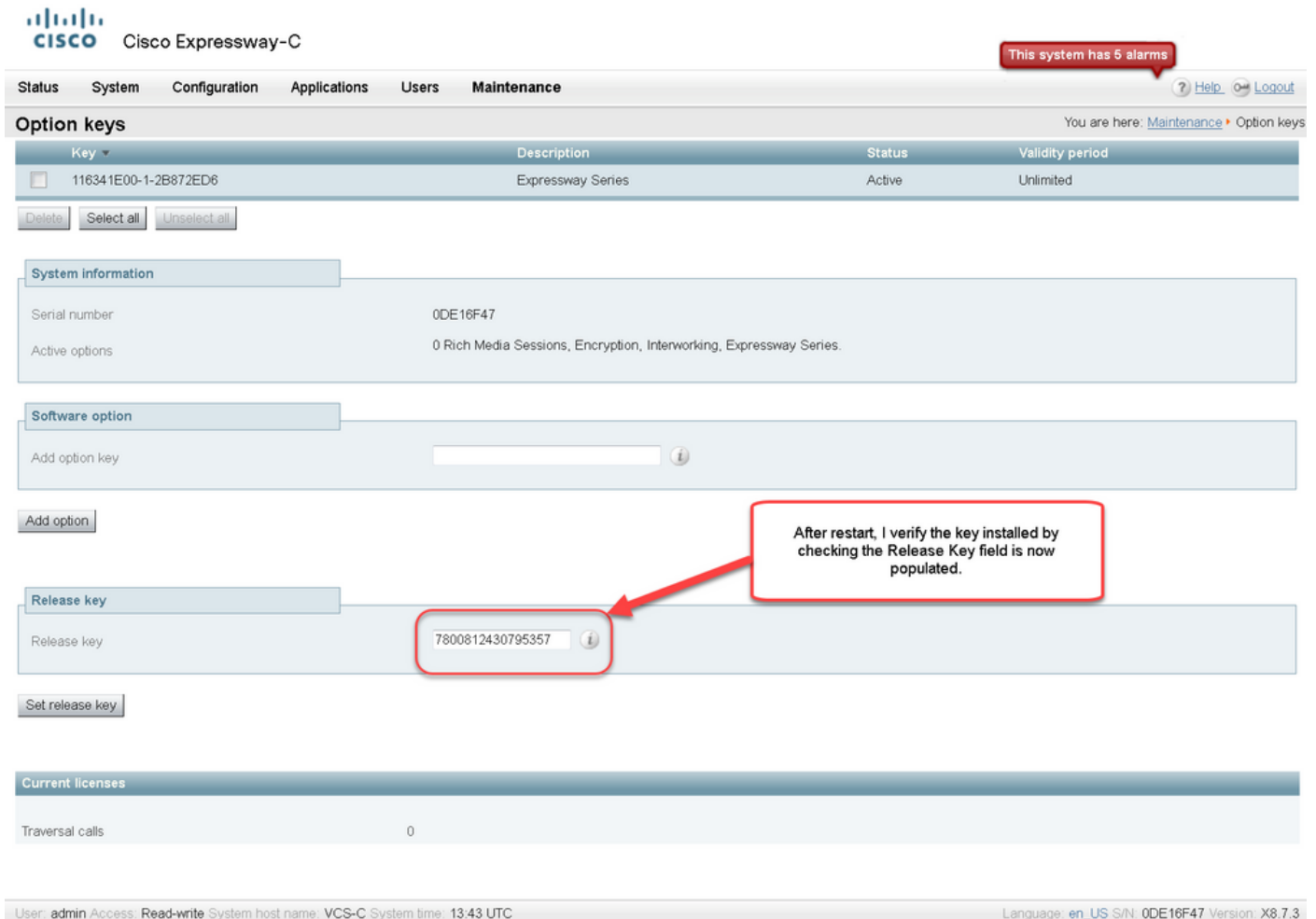
Expressway閃爍，表示它處於重新啟動過程中，並且PuTTY會話關閉。此行為是正常的，因為Expressway重新啟動時連線終止。Expressway大約需要三到五分鐘來重新引導。完成後，按照本文檔的驗證部分所述，通過Web介面或CLI驗證發行金鑰是否正確安裝。

驗證

發行金鑰安裝的Web介面驗證

驗證網路介面中安裝的發行金鑰的方法有兩種：

選項1:如前所述，檢視Options Key頁面，然後檢查Release key欄位。



選項2:檢查Upgrade頁面，如前所述：

This system has 5 alarms

Status System Configuration Applications Users Maintenance

Help Logout

You are here: Maintenance > Upgrade

Component	Version	Release key
B2BUA Presence Relay	1.0-oak-v6.7.3-rc-2	
B2BUA Service	1.0-oak-v6.7.3-rc-2	
c_mgmt	8.6-1.0.321052	
collectsupport	5368	
oaksupport	5368	
stringencoderssupport	5368	
System platform	X8.7.3	7800812430795357
traffic_server	5368	
xcp-vcs	1.0-oak-v6.7.3-rc-2	
xcpsupport	5368	

Upgrade component

WARNING: You should backup the system before upgrading. [System backup](#)

Select file No file selected.

You can also verify by checking the upgrade option under the Maintenance Tab. Note the release key is now visible under the release key column of this page.

User: admin Access: Read-write System host name: VCS-C System time: 13:46 UTC Language: en_US S/N: 0DE16F47 Version: X8.7.3

發行金鑰安裝的CLI介面驗證

通過到CLI的SSH會話驗證通過CLI介面安裝的發行金鑰。使用管理員帳戶登入，如本文檔前面所述。在此處，輸入命令 `xStatus SystemUnit Software`。您觀察到升級成功，且已安裝版本金鑰：

```
login as: admin
Using keyboard-interactive authentication.
Password:
5 alarms:
 * warning   NTP server not available - The system is unable to contact an NTP
server
 * warning   Insecure password in use - The root user has the default password
set
 * warning   Configuration warning - For phone book requests to work correctly,
authentication policy must be enabled on the Default Subzone and any other rele
vant subzone; authentication must also be enabled on the Default Zone if the end
points are not registered
 * warning   Date and time not validated - The system is unable to obtain the c
orrect time and date from any of the NTP servers
 * warning   Configuration warning - For provisioning to work correctly, authen
tication policy must be enabled on the Default Zone and any other relevant zone
that receives provisioning requests

TANDBERG Video Communication Server X8.8.3
SW Release date: 2016-10-12 11:14, build
OK

xstatus systemunit software
c SystemUnit: /
Software:
  Build: "oak_v8.8.3_rc_1"
  Configuration:
    AdvancedAccountSecurity: "False"
    DeviceProvisioning: "True"
    DualNetworkInterfaces: "False"
    Encryption: "True"
    EnhancedOCSCollaboration: "False"
    Expressway: "False"
    ExpresswaySeries: "True"
    FindMe: "True"
    Interworking: "True"
    NonTraversalCalls: "750"
    Registrations: "0"
    StarterPack: "False"
    TPRoom: "0"
    TraversalCalls: "0"
    UserDevice: "0"
    Name: "s42700"
  ReleaseDate: "2016-10-12"
  ReleaseKey: "7800812430795357"
  Version: "X8.8.3"
t c /end
OK
```

Using Putty to SSH, as noted previously, I login as admin.

Once logged in, I use the command "xstatus systemunit software" to verify both my software version (in this case, my upgrade succeeded) and release key installed towards the bottom of the output.

疑難排解

在Cisco Expressway上安裝版本金鑰時，您沒有任何問題。在Expressway的**Release key**欄位中輸入選項鍵，或在升級是故障的最常見原因時輸入選項鍵。本文開頭提到的電子郵件示例顯示了發行金鑰以外的選項金鑰。在**Release Key**（發行金鑰）欄位中輸入選項鍵時出錯：

Saved: The release key has been updated, however a restart is required for it to take effect.

Key	Description	Status	Validity period
<input type="checkbox"/> 116341E00-1-2B872ED6	Expressway Series	Active	Unlimited

Delete Select all Unselect all

System information

Serial number: 0DE16F47

Active options: 0 Rich Media Sessions, 0 Room Systems, 0 Desktop Systems, Encryption, Interworking, FindMe, Device Provisioning, Expressway Series.

Software option

Add option key:

Add option

Release key

Release key:

Set release key

Here, I've made a mistake which is one of the most common causes of a release key installation failure. Specifically, I've tried to install an option key as a release key. The Expressway will allow me to make this mistake and will not show the error until I have fully restarted/rebooted the Expressway. Just as before, I've pasted in the "bad" key in the release key field, clicked on "Set release key" and now as before I am being prompted to restart the Expressway.

Current licenses

Traversal calls	0
Desktop System License	0
Room System License	0

Expressway接受Release key欄位中的任何值。使用輸入的錯誤值重新啟動Expressway，您會收到錯誤「Invalid release key(無效發行金鑰)」：

Option keys

You are here: Maintenance > Option keys

Invalid release key. Release key is missing: the system is in demonstration mode and has limited functionality; contact your Cisco support representative to buy your release key.

Key	Description	Status	Validity period
<input type="checkbox"/> 116341E00-1-2B872ED6	Expressway Series	Active	Unlimited

Delete Select all Unselect all

System information

Serial number: 0DE16F47

Active options: 1 Rich Media Sessions, 0 Room Systems, 0 Desktop System Encryption, Interworking, FindMe, Device Provisioning, Expressway Series.

Software option

Add option key:

Add option

Release key

Release key:

Set release key

Current licenses

Traversal calls	1
Desktop System License	0
Room System License	0

Ugh, now I have a very Unhappy Expressway because I installed an option key as a release key. Note the option key showing as the release key now with the big red warning at the top? To fix this error, I simply use the procedure in this document to install a proper RELEASE KEY and not an option key.

安裝本文檔中說明的發行金鑰以更正此情況。

附註：發行金鑰和選項金鑰與網路介面右下角的序列號繫結，如果序列發生變化（虛擬機器硬體發生變化時可能會發生這種情況），則需要重新生成並重新安裝發行金鑰和選項

針對任何其他型別的故障，請與Cisco TAC聯絡。