

Install an Expressway Series Release Key via the Web Interface and CLI Configuration Example

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Introduction

This document describes the installation of a release key to a Cisco Expressway Series device via the web interface and the Command Line Interface (CLI).

Contributed by Michael Wall, Cisco TAC Engineer.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

Expressway Installation

Have Installed successfully the Expressway and applied a valid IP address that is reachable via web interface and or CLI.

Have applied for and received a release key valid for the Expressway serial number.

Have access to the Expressway with both root (by CLI) and an admin account by web interface or CLI.

Have downloaded an Expressway software upgrade image from Cisco.com.

Note: Installation guides can be found here: [Install and Upgrade Guides](#)

Components Used

The information in this document is based on these software versions:

Expressway Version x8.7.3 and x8.8.3

Expressway C x7.X and x8.X releases

Expressway E x7.X and x8.X releases

PuTTY (terminal emulation software)

---Alternatively, you could use any terminal emulation software that supports SSH such as Secure CRT, TeraTerm, and so on.

PSCP (PuTTY Secure Copy Protocol client)

---You can use any client that supports SCP.

Licensing email with a Release Key or Upgrade Key.

A web browser. In this example, Firefox is used, Internet Explorer and Chrome work equally as well.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Configure

Web Interface Release Key Installation Example

Here you have two options:

Option one, you can set the release key.

Option two, you can add the release key as part of the upgrade process.

Either option works and we show the set option first followed by the upgrade option next.

Note: Both options require an Expressway restart.

Option one shows the set option.

Step 1: Once you have installed your Expressway, have your serial number, and applied for your release key use your PAK and serial number, you receive a license email from the Cisco licensing team which can or can not contain a release key, and option keys.

Note: The example email is for a VCS, this is ok, the email for an Expressway Series looks

the same.

Note: Examples of PAK are outside the scope of this document.

EMAIL EXAMPLE

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    : -
```



Sample Release
Key

```
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
```

Step 2: Access the web interface of the Expressway with a web browser. Log in with an admin account and you are taken to the Expressway Status screen.

Note: Some digits are purposely blurred throughout this document.

Cisco Expressway Note: Login brings us to the status screen This system has 6 alarms

Status System Configuration Applications Users 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	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%

Note also, our release key is invalid.

User: admin Access: Read-write System host name: VCS-C System time: 12:56 UTC Language: en_US S/N: DDE16F47 Version: X8.7.3

Step 3: Navigate to the appropriate screen in order to install your release key. Hover over the maintenance tab.

Cisco Expressway-C This system has 6 alarms

Status System Configuration Applications Users **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	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%

Click on Maintenance

User: admin Access: Read-write System host name: VCS-C System time: 13:06 UTC Language: en_US S/N: DDE16F47 Version: X8.7.3

Step 4: When the menu pops up, click **Option Keys**.

[Status](#) [System](#) [Configuration](#) [Applications](#) [Users](#) [Maintenance](#)

[Help](#) [Logout](#)

Overview You are here: [Status](#) > [Overview](#)

Invalid release key: Release key is missing: the system is in demonstration mode. For full 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	10.10.10.117
Options	1 Rich Media Sessions, Encrypted

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

Click on Option Keys

Step 5: Observe the **Release key** section and if this is a new install, there is a blank release key field. The **Release key** field for another Expressway installation is pre-populated with the current release key value. You use the **Upgrade** option to set the release key in that case.

Note: The release key does not change between minor version upgrades. The release key only changes between major version upgrades such as x7.X to x8.X.

Copy and paste your release key into the **Release key** field:



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
<input type="checkbox"/> 116341E00-1-2B872ED6	Expressway Series	Active

Delete Select all Unselect all

Information

The 16-character release key for this software. Warning: if this is invalid the system will run with restricted functionality.

Range: must be exactly 16 characters

System information

Serial number: 0DE16F47

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

Software option

Add option key

Add option

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.

Release key

Release key

Set release key

Current licenses

Traversal calls: 1

Step 6: You can see the release key pasted into the **Release key** field.

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

Software option

Add option key

Add option

Release key

Release key

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

Set release key

Current licenses

Traversal calls: 1

Step 7: Click **Set release key**.

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
-----------------	---

Step 8: Click the **restart** hyperlink in the prompt that appears at the top of the page to restart the Expressway.

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

Option Two: **Upgrade** option to install your release key

Step 1: From the Web interface, Click **Maintenance** as before and then **Upgrade** in the menu pop-up.

Upgrade

Component

- B2BUA Presence Relay
- B2BUA Service
- c_mgmt
- collectdsupport
- oaksupport
- stringencoderssupport
- System platform
- traffic_server
- xcp-vcs
- xcpsupport

Maintenance

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

Release key

7800812430795357

You are here: Maintenance > Upgrade

Upgrade component

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

Select file No file selected.

Step 2: On the **Upgrade** screen, you see an **Upgrade Component** section.

Note: This document assumes you have downloaded an Expressway software upgrade image to your local computer.

Click **Browse** to locate your downloaded Expressway upgrade image:

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.

Step 3: Enter the release key value into the **Release key** field when prompted. Copy and paste from the email or if this is a minor upgrade such as in this case, x8.7.3 to x8.8.3, copy and paste it from the same screen.

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	
xcp-vcs	1.0-oak-v8.7.3-rc-2	
xcpsupport	5368	

7800812430795357

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.

Step 4: Click the **Upgrade** button. Watch the process that follows and do not navigate away from the process, or you have to start over. The image is uploaded, then it is been installed. Click **restart** when prompted.

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

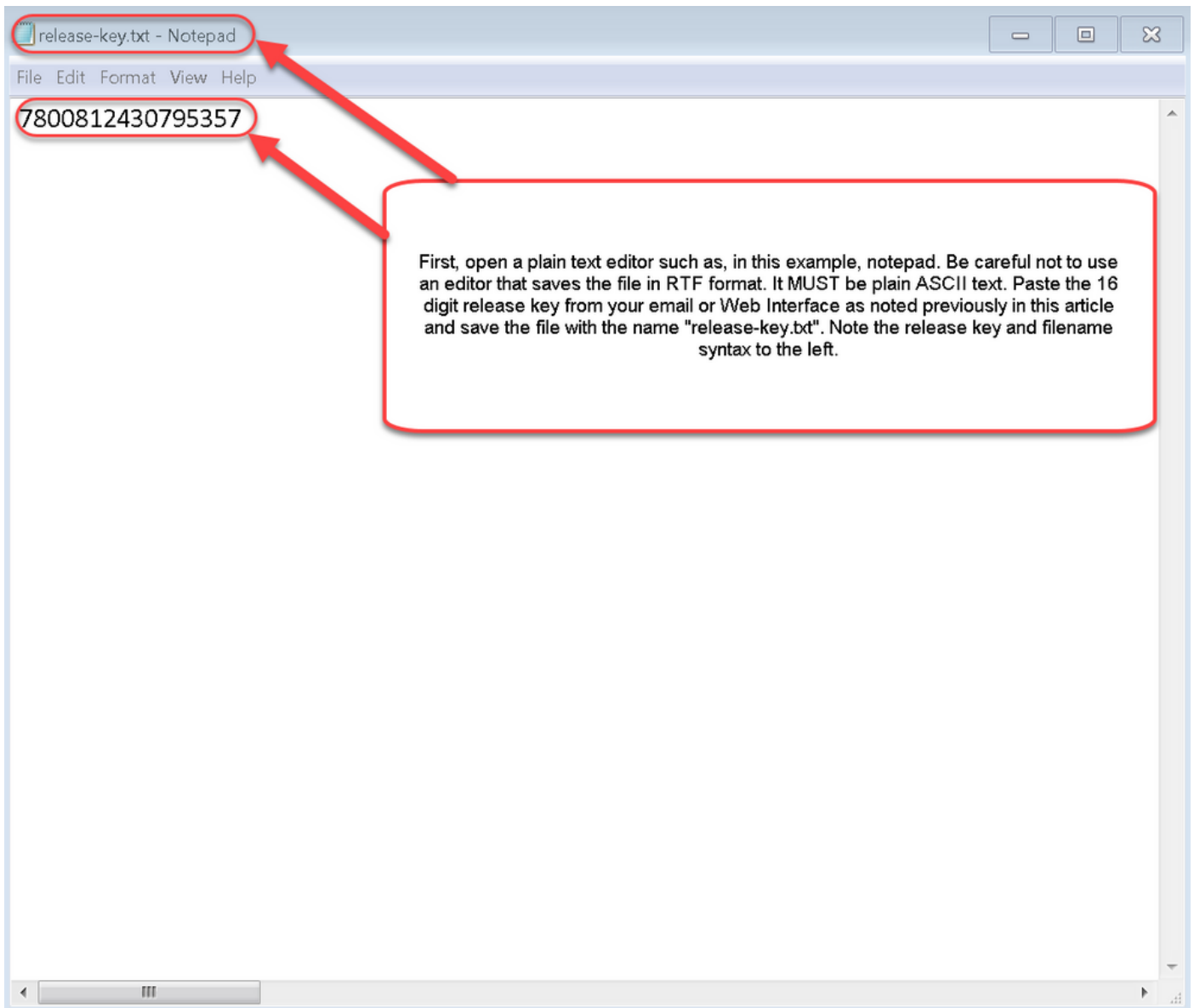
Once the release key is pasted, you can click upgrade and then follow the steps from there. Do not leave the screens that follow or you will have to start over. The image will first upload, then it gets installed and finally you restart the Expressway. Once it is restarted and comes back up, it should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

Verify the release has been installed properly, once the Expressway has restarted. Use the two methods noted in the **Verify** section of this document.

CLI Release Key Installation Example

Install a release key via the CLI. This is a two-part process that involves the use of an SCP client (PSCP in this example from command (CMD) prompt in Windows and a terminal emulation software application such as PuTTY.

Step 1: Copy your release key into a plain ASCII text file. Ensure there are no spaces before or after the release key value. Copy the release key into your text editor application save the file as **release-key.txt**:



Step 2: Place the **release-key.txt** file and PSCP.exe in the same directory on your computer. Navigate to that directory with a command (CMD) prompt in Windows and copy the release key to a temp directory on the Expressway. Use the root account for the PSCP transaction. Enter the root account password when prompted. Verify the transfer completed as indicated by 100%. Here is an example:

```
C:\Users\jawa11>cd desktop
C:\Users\jawa11\Desktop>powershell scp release-key.txt root@10.10.10.117:/tmp/release-key
Using keyboard-interactive authentication.
Password:
release-key.txt          | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
C:\Users\jawa11\Desktop>powershell scp s42700x8_8_3.tar.gz root@10.10.10.117:/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%
```

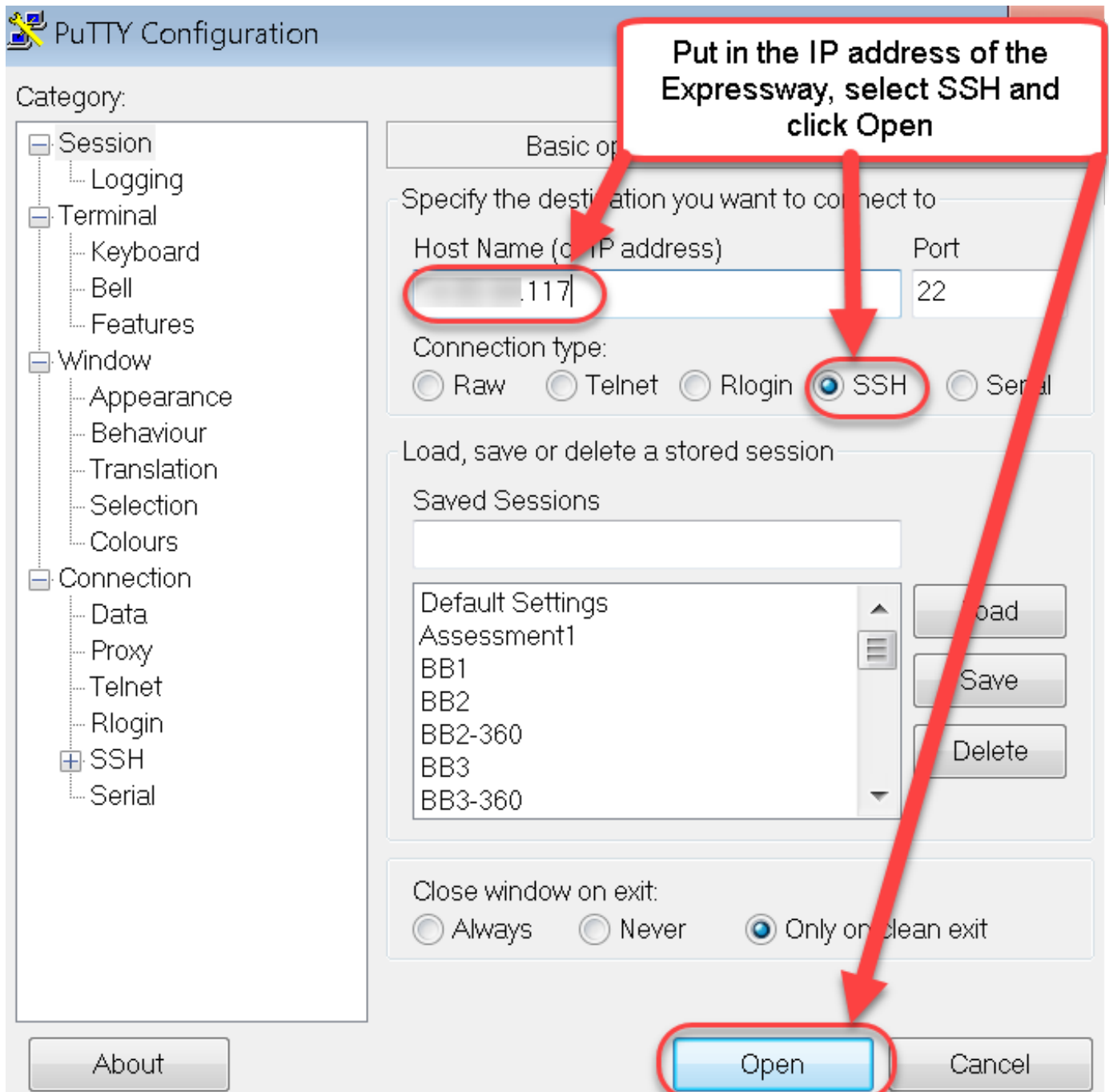
Note in the first circle above, we are using a Windows CMD prompt where I've saved the release-key.txt file to my desktop. In the first line, I've navigated to my desktop with the CMD command "cd desktop" and then am copying the file over to the Expressway using free-ware Putty PSCP. In the next circle, 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.

Step 3: Copy the image you want to upgrade to, such as 8.8.3 used here. Copy this image over PSCP. Verify the status shows at 100%, which means the software of the image has been transferred over to the Expressway and you are ready to reboot the Expressway.

```
C:\Users\jawa11>cd desktop
C:\Users\jawa11\Desktop>powershell scp release-key.txt root@10.10.10.117:/tmp/release-key
Using keyboard-interactive authentication.
Password:
release-key.txt          | 0 kB | 0.0 kB/s | ETA: 00:00:00 | 100%
C:\Users\jawa11\Desktop>powershell scp s42700x8_8_3.tar.gz root@10.10.10.117:/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\jawa11\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.

Step 4: Reboot the Expressway via an SSH session to the Expressway. Open PuTTY and type in the IP address of the Expressway. Click SSH to open.



Step 5: Click **Open** and log in to the Expressway with an admin account when prompted. Enter the admin account password when prompted. Verify you have the right command to reboot the Expressway. Enter the command followed by a space and question mark to ensure you have it correct. The Expressway confirms that **xCommand Boot** is been restarted. Enter the command **xCommand Boot** to reboot the Expressway.



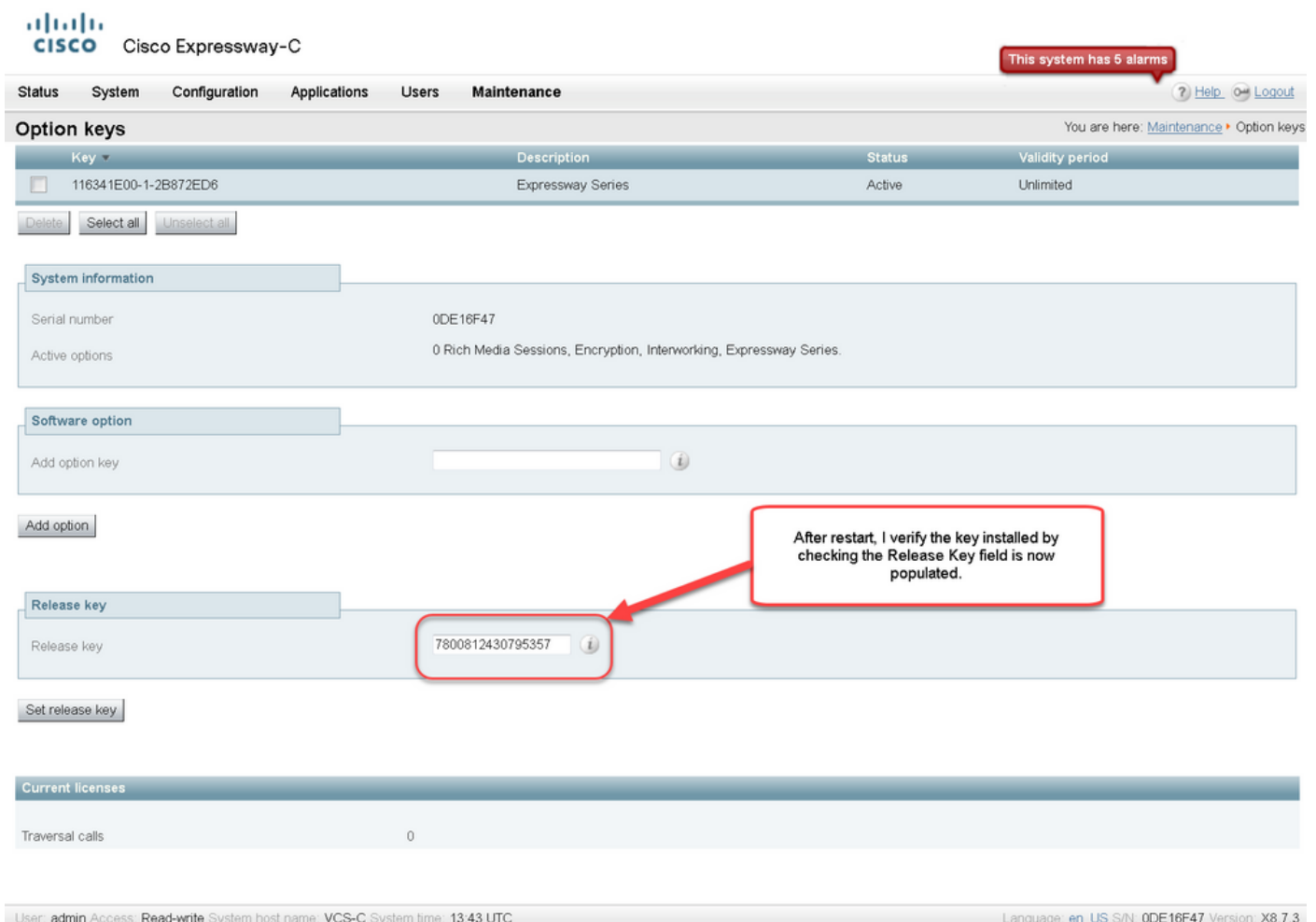
The Expressway flashes that it is in reboot process and your PuTTY session closes. This behavior is normal because the connection is terminated when the Expressway reboots. The Expressway takes about three to five minutes to reboot. Once complete, verify the release key installed correctly either via the web interface or the CLI as noted in the **Verify** section of this document.

Verify

Web Interface Verification of Release Key Installation

There are two ways you can verify the Release Key installed in the web interface:

Option 1: Look at the **Options Key Page** as noted previously and check the **Release key** field.



Option 2: Check the **Upgrade Page** as noted previously:

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.

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

CLI Interface Verification of Release Key Installation

Verify the Release Key installed via the CLI interface by an SSH session to the CLI. Log in with an admin account as noted previously in this document. Once there, you enter the command **xStatus SystemUnit Software**. You observe the upgrade was successful and the release key is installed:

```
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"
^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.

Troubleshoot

You do not have any issues when you install a release key onto a Cisco Expressway. Enter an option key in the **Release key** field of the Expressway or enter an option key when you upgrade are the most common causes for failure. The email example cited at the beginning of this article shows option keys in addition to the release key. An error occurs when an option key is entered in the **Release Key** field:

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.

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

An Expressway accepts any value in the **Release key** field. Reboot the Expressway with an incorrect value entered and you receive an error "**Invalid release key**":

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.

Install a release key as noted in this document to correct this condition.

Note: The release keys and option keys are tied to the serial number seen on the bottom right corner of the web interface, if the serial changes (which can happen with hardware changed of the virtual machine) the release key and options would need to be re-generated and re-installed)

Engage Cisco TAC for assistance for any other types of failure.