

更改Catalyst 9800無線控制器上的安裝模式

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簡介

本檔案將說明如何在Catalyst 9800無線控制器(WLC)上的不同安裝模式之間變更。

必要條件

需求

思科建議您瞭解以下主題：

- Catalyst 9800無線LAN控制器和存取點(AP)平台
- Catalyst 9800無線LAN控制器軟體功能集

採用元件

本檔案中的資訊是根據以下軟體和硬體版本：

- C9800-40-K9版本16.11.01c

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。

背景資訊

使用本檔案來學習如何透過指令行介面(CLI)在Catalyst 9800無線控制器(WLC)上的不同型別的安裝模式之間進行轉換。此程式也可用於升級9800 WLC。

您可以透過兩種方式在Catalyst 9800 WLC上以套件組合和安裝模式下執行Cisco IOS® XE。

安裝模式

安裝模式使用從二進位制檔案到快閃記憶體的預提取檔案來啟動控制器。控制器使用 `packages.conf` 從提取作為引導變數的檔案。

套件組合模式

如果控制器以二進位制映像(.bin)作為啟動變數啟動，則系統在套件組合模式下工作。在此模式下，控制器會將.bin檔案擷取到RAM中，並從該檔案中執行。此模式使用比安裝模式更多的記憶體，因為從啟動中提取的軟體包被複製到RAM中。



提示：安裝模式是運行WLC的推薦模式。



附註：在9800 WLC上設定高可用性(HA SSO)之前，請確保兩台裝置具有相同的安裝模式。否則，可能會面臨V-Mismatch錯誤：`%BOOT-3-BOOTTIME_INCOMPATIBLE_SW_DETECTED: R0/0: issu_stack: Incompatible software detected.`

開始之前

驗證9800 WLC的操作模式，以確定在模式之間轉換時必須執行的程式。運行 `show version | include Installation mode` 命令檢視當前安裝模式。

```
<#root>
9800-40#
show version | include Installation mode

Installation mode is
INSTALL
```

設定

從安裝到套件組合模式

步驟 1.確保快閃記憶體中有足夠的空間，以便擴展新映像。

```
<#root>
```

```
9800-40#
```

```
show flash:
```

```
...
277 42838080 Oct 08 2018 14:22:06.0000000000 +00:00 wlc9500C-rpboot.2018-10-05_08.14_prabhask.SSA.pkg
278 10633472 Oct 09 2018 20:58:55.0000000000 +00:00 system-report_20181009-205853-Universal.tar.gz
279 19921673 Dec 13 2018 19:27:45.0000000000 +00:00 system-report_20181213-192546-Pacific.tar.gz

235937792 bytes available (5746528256 bytes used)
```

步驟 2.在空間不足時清理舊的安裝檔案，以丟棄新增的軟體包。

```
<#root>
```

```
9800-40#
```

```
install remove inactive
```

```
Cleaning up unnecessary package files
Scanning boot directory for packages ... done.
Preparing packages list to delete ...
C9800-CL-universalk9.2019-12-28_15.32_saurasi3.SSA.bin
File is in use, will not delete.
done.
```

```
The following files will be deleted:
```

```
[chassis 2]:
/bootflash/C9800-CL-mono-universalk9.16.10.01.SPA.pkg
/bootflash/C9800-CL-rpboot.16.10.01.SPA.pkg
/bootflash/C9800-CL-universalk9.16.10.01.SPA.conf
/bootflash/packages.conf
/bootflash/wlc9500C-mono-universalk9.2018-10-05_08.14_prabhask.SSA.pkg
/bootflash/wlc9500C-mono-universalk9.BLD_POLARIS_DEV_LATEST_20180812_104316_V16_10_0_83.SSA.pkg
/bootflash/wlc9500C-rpboot.2018-10-05_08.14_prabhask.SSA.pkg
/bootflash/wlc9500C-rpboot.BLD_POLARIS_DEV_LATEST_20180812_104316_V16_10_0_83.SSA.pkg
/bootflash/wlc9500C-universalk9.2018-10-05_08.14_prabhask.SSA.bin
/bootflash/wlc9500C-universalk9.2018-10-05_08.14_prabhask.SSA.conf
```

```
Do you want to remove the above files? [y/n]yes
```

```
[chassis 2]:
Deleting file bootflash:C9800-CL-mono-universalk9.16.10.01.SPA.pkg ... done.
Deleting file bootflash:C9800-CL-rpboot.16.10.01.SPA.pkg ... done.
Deleting file bootflash:C9800-CL-universalk9.16.10.01.SPA.conf ... done.
Deleting file bootflash:packages.conf ... done.
Deleting file bootflash:wlc9500C-mono-universalk9.2018-10-05_08.14_prabhask.SSA.pkg ... done.
Deleting file bootflash:wlc9500C-mono-universalk9.BLD_POLARIS_DEV_LATEST_20180812_104316_V16_10_0_83.SSA.pkg ... done.
Deleting file bootflash:wlc9500C-rpboot.2018-10-05_08.14_prabhask.SSA.pkg ... done.
Deleting file bootflash:wlc9500C-rpboot.BLD_POLARIS_DEV_LATEST_20180812_104316_V16_10_0_83.SSA.pkg ... done.
Deleting file bootflash:wlc9500C-universalk9.2018-10-05_08.14_prabhask.SSA.bin ... done.
```

```
Deleting file bootflash:wlc9500C-universalk9.2018-10-05_08.14_prabhask.SSA.conf ... done.
SUCCESS: Files deleted.
--- Starting Post_Remove_Cleanup ---
Performing Post_Remove_Cleanup on all members
  [2] Post_Remove_Cleanup package(s) on chassis 2
  [2] Finished Post_Remove_Cleanup on chassis 2
Checking status of Post_Remove_Cleanup on [2]
Post_Remove_Cleanup: Passed on [2]
Finished Post_Remove_Cleanup
```

SUCCESS: install_remove Fri Feb 14 15:06:14 Pacific 2020

9800-40#

show flash:

```
...
297  30983948 Jan 07 2019 04:46:03.0000000000 +00:00 system-report_20190107-044600-Pacific.tar.gz
298  10633472 Oct 09 2018 20:58:55.0000000000 +00:00 system-report_20181009-205853-Universal.tar.gz
299  19921673 Dec 13 2018 19:27:45.0000000000 +00:00 system-report_20181213-192546-Pacific.tar.gz
2931425280 bytes available (3051040768 bytes used)
```

步驟 3.將新映像複製到快閃記憶體。

<#root>

9800-40#

copy tftp: flash:

```
Address or name of remote host []? 10.152.200.238
Source filename []? C9800-40-universalk9_wlc.16.11.01c.SPA.bin
Destination filename [C9800-40-universalk9_wlc.16.11.01c.SPA.bin]?
Accessing tftp://10.152.200.238/C9800-40-universalk9_wlc.16.11.01c.SPA.bin...
Loading C9800-40-universalk9_wlc.16.11.01c.SPA.bin from 10.152.200.238 (via Vlan210): !!!!!!!!!!!!!!!!!!!!!
```

步驟 4.運行此命令以確認映像已成功複製到快閃記憶體：

<#root>

9800-40#

dir flash:*.bin

```
Directory of bootflash:/*.bin
Directory of bootflash:/
 16  -rw-   884905681  Aug 13 2019 22:29:34 +00:00  C9800-40-universalk9_wlc.16.11.01c.SPA.bin
```

步驟 5.檢查當前引導變數 (如果它使用) packages.conf , 刪除它並將image.bin設定為新的引導變數。

刪除以前的引導變數並儲存很重要。對於新變數，還必須儲存新配置。否則，不會發生更改。

```
<#root>
```

```
9800-40#
```

```
show boot
```

```
BOOT variable = bootflash:packages.conf,12;
```

```
CONFIG_FILE variable =
```

```
BOOTLDR variable does not exist
```

```
Configuration register is 0x2102
```

```
9800-40(config)#
```

```
no boot system
```

```
9800-40(config)#
```

```
do write
```

```
9800-40(config)#
```

```
boot system bootflash:C9800-40-universalk9_wlc.16.11.01c.SPA.bin
```

```
9800-40(config)#
```

```
do write
```

步驟 6. 運行此命令以驗證引導變數是否設定為 bootflash:

```
.
```

此時將顯示輸出 **BOOT variable = bootflash:**

```
.
```

```
<#root>
```

```
9800-40#
```

```
show boot
```

```
BOOT variable =
```

```
bootflash:C9800-40-universalk9_wlc.16.11.01c.SPA.bin
```

```
,12;
```

```
CONFIG_FILE variable =
```

```
BOOTLDR variable does not exist
```

```
Configuration register is 0x2102
```

步驟 7. 重新載入控制器，以便以套件組合模式啟動。

```
<#root>
```

```
9800-40#
```

```
reload
```

從套件組合到安裝模式

步驟 1.確保快閃記憶體中有足夠的空間，以便擴展新映像。

```
<#root>
```

```
9800-40#
```

```
dir flash:
```

步驟 2.在空間不足時清理舊的安裝檔案，以丟棄新增的軟體包。

```
<#root>
```

```
9800-40#
```

```
install remove inactive
```

```
Cleaning up unnecessary package files
Scanning boot directory for packages ... done.
Preparing packages list to delete ...
  C9800-CL-universalk9.2019-12-28_15.32_saurasi3.SSA.bin
  File is in use, will not delete.
done.
```

```
The following files will be deleted:
```

```
[chassis 2]:
/bootflash/C9800-CL-mono-universalk9.16.10.01.SPA.pkg
/bootflash/C9800-CL-rpboot.16.10.01.SPA.pkg
/bootflash/C9800-CL-universalk9.16.10.01.SPA.conf
/bootflash/packages.conf
/bootflash/wlc9500C-mono-universalk9.2018-10-05_08.14_prabhask.SSA.pkg
/bootflash/wlc9500C-mono-universalk9.BLD_POLARIS_DEV_LATEST_20180812_104316_V16_10_0_83.SSA.pkg
/bootflash/wlc9500C-rpboot.2018-10-05_08.14_prabhask.SSA.pkg
/bootflash/wlc9500C-rpboot.BLD_POLARIS_DEV_LATEST_20180812_104316_V16_10_0_83.SSA.pkg
/bootflash/wlc9500C-universalk9.2018-10-05_08.14_prabhask.SSA.bin
/bootflash/wlc9500C-universalk9.2018-10-05_08.14_prabhask.SSA.conf
```

```
Do you want to remove the above files? [y/n]yes
```

```
[chassis 2]:
Deleting file bootflash:C9800-CL-mono-universalk9.16.10.01.SPA.pkg ... done.
Deleting file bootflash:C9800-CL-rpboot.16.10.01.SPA.pkg ... done.
Deleting file bootflash:C9800-CL-universalk9.16.10.01.SPA.conf ... done.
Deleting file bootflash:packages.conf ... done.
Deleting file bootflash:wlc9500C-mono-universalk9.2018-10-05_08.14_prabhask.SSA.pkg ... done.
Deleting file bootflash:wlc9500C-mono-universalk9.BLD_POLARIS_DEV_LATEST_20180812_104316_V16_10_0_83.SSA.pkg ... done.
Deleting file bootflash:wlc9500C-rpboot.2018-10-05_08.14_prabhask.SSA.pkg ... done.
```

```
Deleting file bootflash:wlc9500C-rpboot.BLD_POLARIS_DEV_LATEST_20180812_104316_V16_10_0_83.SSA.pkg ...
Deleting file bootflash:wlc9500C-universalk9.2018-10-05_08.14_prabhask.SSA.bin ... done.
Deleting file bootflash:wlc9500C-universalk9.2018-10-05_08.14_prabhask.SSA.conf ... done.
SUCCESS: Files deleted.
--- Starting Post_Remove_Cleanup ---
Performing Post_Remove_Cleanup on all members
  [2] Post_Remove_Cleanup package(s) on chassis 2
  [2] Finished Post_Remove_Cleanup on chassis 2
Checking status of Post_Remove_Cleanup on [2]
Post_Remove_Cleanup: Passed on [2]
Finished Post_Remove_Cleanup

SUCCESS: install_remove  Fri Feb 14 15:06:14 Pacific 2020
```

9800-40#

show flash:

```
...
297  30983948 Jan 07 2019 04:46:03.0000000000 +00:00 system-report_20190107-044600-Pacific.tar.gz
298  10633472 Oct 09 2018 20:58:55.0000000000 +00:00 system-report_20181009-205853-Universal.tar.gz
299  19921673 Dec 13 2018 19:27:45.0000000000 +00:00 system-report_20181213-192546-Pacific.tar.gz

2931425280 bytes available (3051040768 bytes used)
```

步驟 3.將新映像複製到快閃記憶體。

<#root>

9800-40#

copy tftp: flash:

```
Address or name of remote host []? 10.152.200.238
Source filename []? C9800-40-universalk9_wlc.16.11.01c.SPA.bin
Destination filename [C9800-40-universalk9_wlc.16.11.01c.SPA.bin]?
Accessing tftp://10.152.200.238/C9800-40-universalk9_wlc.16.11.01c.SPA.bin...
Loading C9800-40-universalk9_wlc.16.11.01c.SPA.bin from 10.152.200.238 (via Vlan210): !!!!!!!!!!!!!!!!!!!!!
```

步驟 4.運行此命令以確認映像已成功複製到快閃記憶體：

<#root>

9800-40#

dir flash:*.bin

```
Directory of bootflash:/*.bin
Directory of bootflash:/
 16 -rw- 884905681 Aug 13 2019 22:29:34 +00:00 C9800-40-universalk9_wlc.16.11.01c.SPA.bin
```

步驟 5.檢查當前引導變數，如果它顯示image.bin檔案，請將其刪除並設定 packages.conf 作為新的引導變數。刪除以前的引導變數並儲存很重要。對於新變數，還必須儲存新配置。否則，不會發生更改。

```
<#root>
9800-40#
show boot
BOOT variable = bootflash:C9800-40-universalk9_wlc.16.11.01c.SPA.bin,12;
CONFIG_FILE variable =
BOOTLDR variable does not exist
Configuration register is 0x2102
9800-40(config)#
no boot system

9800-40(config)#
do write

9800-40(config)#
boot system bootflash:packages.conf

9800-40(config)#
do write
```

步驟 6.運行此命令以驗證引導變數是否設定為 bootflash:packages.conf.

此時將顯示輸出 **BOOT variable = flash:packages.conf.**

```
<#root>
9800-40#
show boot

BOOT variable =
bootflash:packages.conf
,12;
CONFIG_FILE variable =
BOOTLDR variable does not exist
Configuration register is 0x2102
```

步驟 7.軟體將映像安裝到快閃記憶體。 **install add file bootflash:**

activate commit

命令將交換器從套件組合模式移至安裝模式。

<#root>

9800-40#

```
install add file bootflash:C9800-40-universalk9_wlc.16.11.01c.SPA.bin activate commit
```

步驟 8.類型 y (yes) 所有提示。 安裝完成後，控制器會繼續進行重新載入。

<#root>

```
install_add_activate_commit: START Tue Aug 13 23:10:24 Central 2019
```

```
Aug 13 23:10:25.685: %INSTALL-5-INSTALL_START_INFO: Chassis 1 R0/0: install_engine: Started install one
```

```
This operation requires a reload of the system. Do you want to proceed?
```

```
Please confirm you have changed boot config to bootlegs:packages.conf [y/n]y
```

```
--- Starting initial file syncing ---
```

```
Info: Finished copying bootflash:C9800-40-universalk9_wlc.16.11.01c.SPA.bin to the selected chassis  
Finished initial file syncing
```

```
--- Starting Add ---
```

```
Performing Add on all members
```

```
[1] Add package(s) on chassis 1
```

```
[1] Finished Add on chassis 1
```

```
Checking status of Add on [1]
```

```
Add: Passed on [1]
```

```
Finished Add
```

```
Image added. Version: 16.11.1c.0.503
```

```
install_add_activate_commit: Activating PACKAGE
```

```
Following packages shall be activated:
```

```
/bootflash/C9800-rpboot.16.11.01c.SPA.pkg
```

```
/bootflash/C9800-mono-universalk9_wlc.16.11.01c.SPA.pkg
```

```
/bootflash/C9800-hw-programmables.16.11.01c.SPA.pkg
```

```
This operation may require a reload of the system. Do you want to proceed? [y/n]y
```

```
--- Starting Activate ---
```

```
Performing Activate on all members
```

```
[1] Activate package(s) on chassis 1
```

```
[1] Finished Activate on chassis 1
```

```
Checking status of Activate on [1]
```

```
Activate: Passed on [1]
```

```
Finished Activate
```

```
--- Starting Commit ---
```

```
Performing Commit on all members
```

```
Aug 13 23:14:12.122: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: Chassis 1 R0/0: rollback_timer: Inst
Aug 13 23:14:13.350: %IGMP_QUERIER-4-SAME_SRC_IP_ADDR: An IGMP General Query packet with the same source
Aug 13 23:14:16.635: %IGMP_QUERIER-4-SAME_SRC_IP_ADDR: An IGMP General Query packet with the same source
[1] Finished Commit on chassis 1
Checking status of Commit on [1]
Commit: Passed on [1]
Finished Commit
```

```
/usr/binos/conf/install_util.sh: line 594: /bootflash/.installer/install_add_pkg_list.txt: No such file
Install will reload the system now!
SUCCESS: install_add_activate_commit Tue Aug 13 23:14:49 Central 2019
```

```
Aug 13 23:14:49.485: %INSTALL-5-INSTALL_COMPLETED_INFO: Chassis 1 R0/0: install_engine: Completed insta
Chassis 1 reloading, reason - Reload command
Aug 13 23:14:51.994: %PMAN-5-EXITACTION: F0/0: pvp: Process manager is exiting:
Aug 13 23:14:52.000: %PMAN-5-EXITACTION: C0/0: pvp: Process manager is exiting:
Aug 13 23:14:53.100: %PMAN-5
```

Initializing Hardware ...

驗證

使用本節內容，確認您的組態是否正常運作。

控制器重新啟動後，您可以驗證控制器的當前安裝模式。運行 `show version` 命令，確認轉換成功。

安裝模式

```
<#root>
9800-40#
show version | include system image|Installation mode

System image file is "bootflash:packages.conf"
Installation mode is

INSTALL
```

套件組合模式

```
<#root>
9800-40#
show version | include system image|Installation mode

System image file is "bootflash:/C9800-40-universalk9_wlc.16.11.01c.SPA.bin"
Installation mode is

BUNDLE
```

疑難排解

目前尚無特定資訊可用於排解此組態的疑難問題。

相關資訊

- [Cisco Catalyst 9800-CL 雲端無線控制器安裝指南](#)
- [適用於無線LAN控制器的TAC建議IOS XE版本](#)
- [最終使用手冊](#)
- [思科技術支援與下載](#)

關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。