Perform C885A-M8 OOB Component Upgrade with Script Procedure

Contents

Introduction

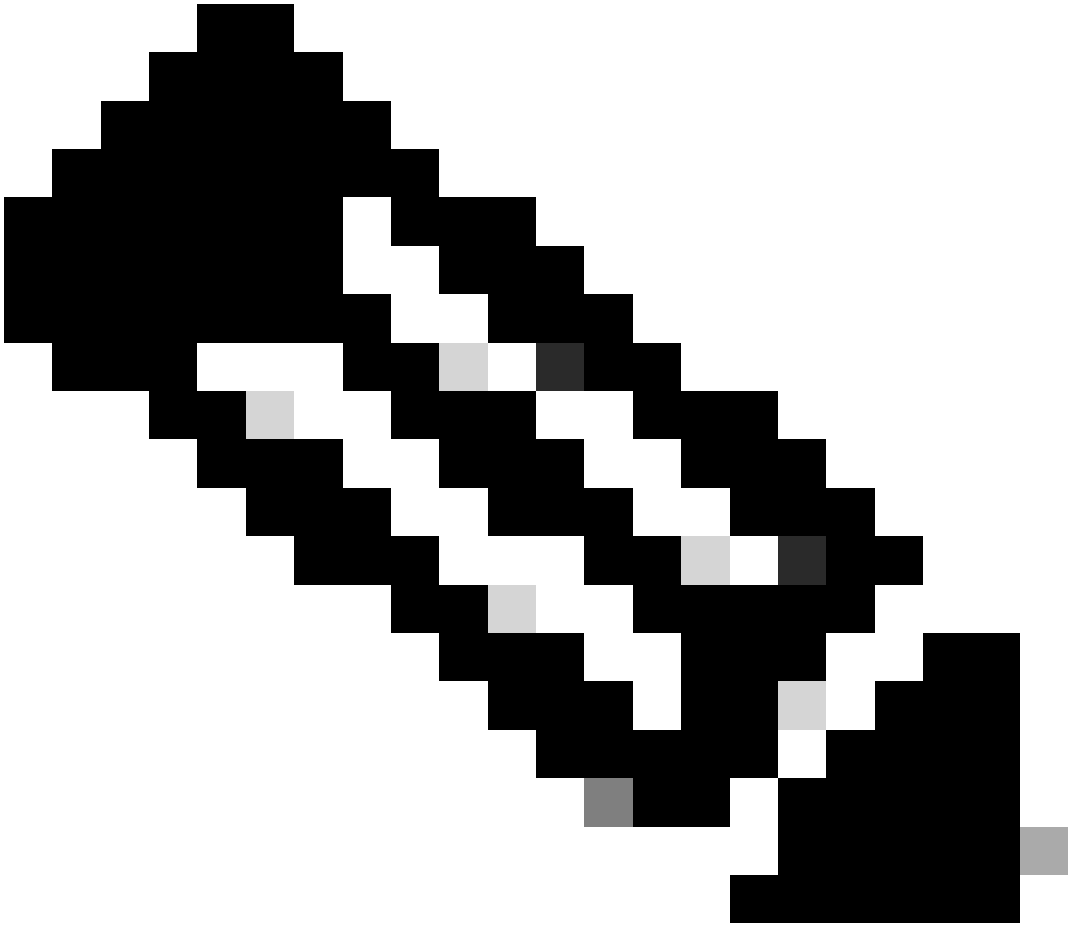
This document describes how to upgrade Server C885-M8 using script method.

Background Information

The C885A_M8_upgrade.py script is a Python-based utility designed to streamline the update process for the out-of-band (OOB) components of the Cisco C885A server.

OOB components such as the BMC (Baseboard Management Controller), BIOS, GPU, and FPGA can be efficiently upgraded using this script via the Redfish API, ensuring compatibility and ease of use.

The C885A_M8_upgrade.py script provides administrators with a reliable and automated solution to maintain the firmware of key server components, ensuring optimal performance, security, and feature availability for the Cisco C885A server.



Note: This script is exclusively intended for updating OOB components. Updates for host components, including NVMe drives and Bluefield cards, must be performed directly from the operating system.

For host component updates, please refer to the README file included in the corresponding firmware bundle for detailed instructions.

Requirements

Ensure Python 3.x is installed along with the requests, beautifultable, and urllib3 modules. If these packages are not

already installed, you can install them using the command:

```
pip install requests beautifultable urllib3
```

Prerequisites

The host must be powered off to update the BIOS and FPGA components

Components Used

UCS C885A M8 Rack Server

Firmware Version: 1.0.28

Ubuntu 22.04.5 LTS

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.

Supported operating system

The Python script can be executed on the operating systems:

- Linux
- Windows
- MacOS

Command Options

Option	Description
--version	Show program version number and exit
-h, --help	Show this help message and exit
Upgrade C885A-M8 OOB components:	
-B FIRMWARE_BUNDLE, --firmwarebundle=FIRMWARE_BUNDLE	Firmware bundle file (tar.gz). If not provided, the script performs discovery operation and then exits.
-U USER_NAME, --bmcusername=USER_NAME	BMC user name
-P PASSWORD, --bmcpassword=PASSWORD	BMC password
-I BMC_IP, --bmcip=BMC_IP	BMC IP address

Option	Description
-D, --discover	Script performs discovery operation and then exits
-F, --fwupgrade	Upgrade out-of-band (OOB) firmware

Firmware upgrade Steps

Step 1: Download Upgrade Files

Download the script from the Cisco Software Download portal and download the files for your server:

- Firmware bundle (Example: **ucs-c885a-m8-1.1.0.250022.tar.gz**)
- Upgrade script (Example: **ucs-c885a-m8-upgrade-script-v1.2.tar.gz**)

Step 2: Prepare the Firmware Bundle and Script

Ensure that the firmware bundle (.tar.gz file) and the upgrade script (C885A_M8_upgrade.py) are stored locally on your computer. These files are going to be used directly from your local system to perform the upgrade.

Verify that the files are in the correct location on your local computer:

```
Firmware Bundle: <path_to_firmware_bundle.tar.gz>
Upgrade Script: <path_to_C885A_M8_upgrade.py>
```

Step 3: Run the Inventory Command

Before performing the update, use the discovery (-D) option to list the current firmware versions of the OOB components.

Proceed to list the Component Inventory which indicates whether an update is required based on the running firmware versions.

```
python3 C885A_M8_upgrade.py -B firmware_bundle.tar.gz -U <BMC_USERNAME> -P <BMC_PASSWORD> -I <BMC_IP> -
```

Replace:

- firmware_bundle.tar.gz with the firmware bundle file name.
- <BMC_USERNAME> with the BMC username (admin, root).
- <BMC_PASSWORD> with the BMC password.
- <BMC_IP> with the BMC IP address.

```
python3 C885A_M8_upgrade.py -B ucs-c885a-m8-1.0.0.240001.tgz -U root -P password -I 192.168.1.100 -D
```

Review the inventory output to identify which components require an update.

```
Extracting firmware bundle... success
Validating BMC login details... success
Inventory started... success

Inventory Details
-----------------
IP : 10.x.x.x
Hostname : C885A
Board Serial : 8852444001
Product Name : UCSC-885A-M8-M3X2
Host Power State: Off
GPU Model : MI300X
```

```
+------+------------+--------------------+---------------------+-----------------+
| S.No | Component  | Running FW version | Packaged FW Version | Update Required |
+------+------------+--------------------+---------------------+-----------------+
| 1    | BMC        | 1.1.3              | 1.1.4               | Yes             |
+------+------------+--------------------+---------------------+-----------------+
| 2    | BIOS       | 1.1.3              | 1.1.4               | Yes             |
+------+------------+--------------------+---------------------+-----------------+
| 3    | DCSCM-FPGA | 2.02               | 2.03                | Yes             |
+------+------------+--------------------+---------------------+-----------------+
| 4    | MB-FPGA    | 2.02               | 2.03                | Yes             |
+------+------------+--------------------+---------------------+-----------------+
| 5    | HIB-FPGA   | 2.23               | 2.24                | Yes             |
+------+------------+--------------------+---------------------+-----------------+
```

Step 4: Perform Firmware upgrade

Run the upgrade command to update all OOB components using -F command to upgrade the system:

```
python ucs-c885a-m8-upgrade.py -B <firmware_bundle.tar.gz> -U <BMC_username> -P <BMC_password> -I <BMC_
```

The script extracts the firmware bundle, validate BMC login, and start the upgrade.

Progress and status for each component is displayed.

```
Update Status
-------------
IP              : 10.x.x.x
Hostname        : C885A
```

```
Board Serial    : 8852444001
Product Name    : UCSC-885A-M8-M3X2
Host Power State: Off
GPU Model       : MI300X
```

```
+------+------------+--------------------+--------------------+-----------------+---------------+-----
| S.No | Component  | Running FW version | Packaged FW Version | Update Required | Update Status | Upda
+------+------------+--------------------+--------------------+-----------------+---------------+-----
| 1    | BMC        | 1.1.3              | 1.1.4              | Yes             | Triggered     |
+------+------------+--------------------+--------------------+-----------------+---------------+-----
| 2    | BIOS       | 1.1.3              | 1.1.4              | Yes             | Completed     |
+------+------------+--------------------+--------------------+-----------------+---------------+-----
| 3    | DCSCM-FPGA | 2.02               | 2.03               | Yes             | Completed     |
+------+------------+--------------------+--------------------+-----------------+---------------+-----
| 4    | MB-FPGA    | 2.02               | 2.03               | Yes             | Completed     |
+------+------------+--------------------+--------------------+-----------------+---------------+-----
| 5    | HIB-FPGA   | 2.23               | 2.24               | Yes             | Completed     |
+------+------------+--------------------+--------------------+-----------------+---------------+-----
```

```
Update completed successfully
The GPU  update has been completed successfully. Please perform an A/C power cycle to activate.
The BIOS update has been completed successfully. Please power ON the host to activate.
The FPGA update has been completed successfully. Please perform an A/C power cycle to activate.
The BMC  update has been successfully triggered and will take approximately 12 minutes to complete. Dur
the HTTPS service will be unavailable.
```

Step 5: Post-Upgrade Actions

BMC update: Takes approximately 12 minutes; HTTPS service is going to be unavailable during this time. Wait until service is restored.

BIOS update: Power ON the host to activate.

GPU and FPGA updates: Perform an A/C power cycle to activate.

Step 6: Troubleshooting and TAC Contact

If discovery or upgrade fails, the script collects tech support logs automatically.

Logs are saved as a tar.gz file (Example: C885A-upgrade-logs-<serial>-<date>.tar.gz).
You can find the logs within same folder where the script was run.

Contact Cisco TAC and provide the log file for further assistance.

Related Information

TACDCN-2018

Cisco UCS C885A M8 Rack Server Data Sheet

UCS C885A M8 Rack Server Spec Sheet