Instructions for installing the firmware on the CYPSWITCHMP Mid-plane switch card.

The Mid-plane switch can be connected, either to the M50CYP motherboard, or a RS3P4TF160F RAID adapter. Also, it can communicate with the NVMe drives using 4 or 2 PCIe lanes. Depending on where it's connected to and the number of PCIe lanes used to communicate with the NVMe drives, a particular firmware image is required. The factory installed firmware is configured to connect the switch to the motherboard using 4 PCIe lanes to the drives, supporting up to 12 drives per switch. Below is the list of different firmware images explaining the support model.

MBX12 - The switch connects to the motherboard with up to 12-drive support per switch (4 lanes per drive).
MBX24 - The switch connects to the motherboard with up to 24-drive support per switch (2 lanes per drive, SRIS capable drives are required)
HWRX12 - The switch connects to the RS3P4TF160F RAID controller with up to 12-drive support per switch (4 lanes per drive)

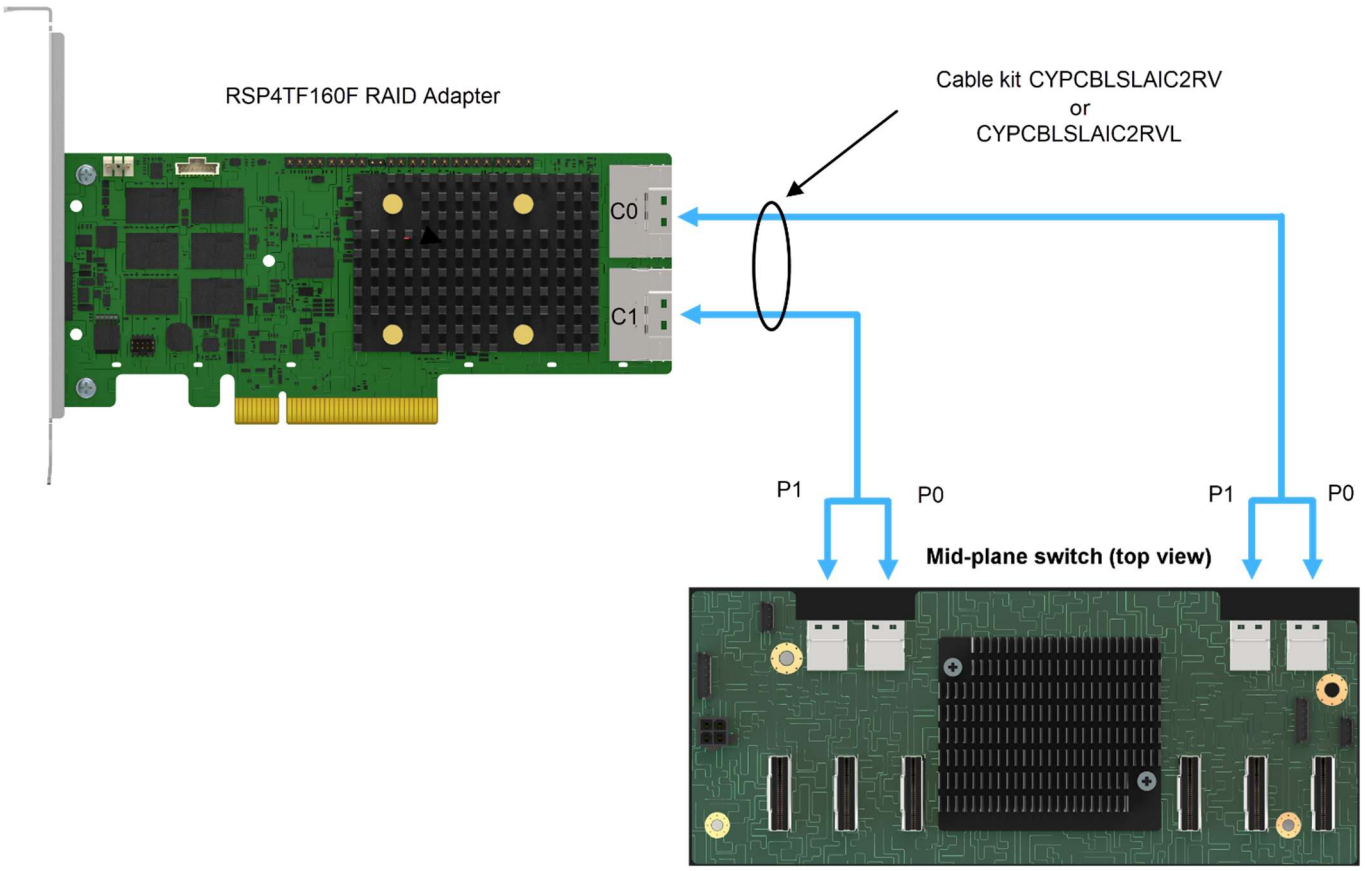
General Instructions:

1. Connect the switch card, either to the motherboard or to the RAID controller, don't connect any drives at this point (see figures below). If the switch card is connected to the motherboard, make sure the VMD ports are disabled.
2. Copy all the files in this firmware package to a USB drive.
3. Boot the system to the EFI shell, change to the USB drive.
4. Run the check_SW_firmware_version.nsh script file and confirm that all the switches are detected, if not, check connections.
5. Run the Flash_Switch.nsh script with the appropriate arguments (check instructions at the end of this document, or check the readme file)
6. DC cycle the system.

Note1: if the HWRX12 firmware image is installed on the switch card, the switch will not be detectable if connected to the motherboard. It needs to be connected to the RAID controller.

Note2: If the switch card is connected to the motherboard and the VMD ports used for this card are enabled, the switch will not be detectable.

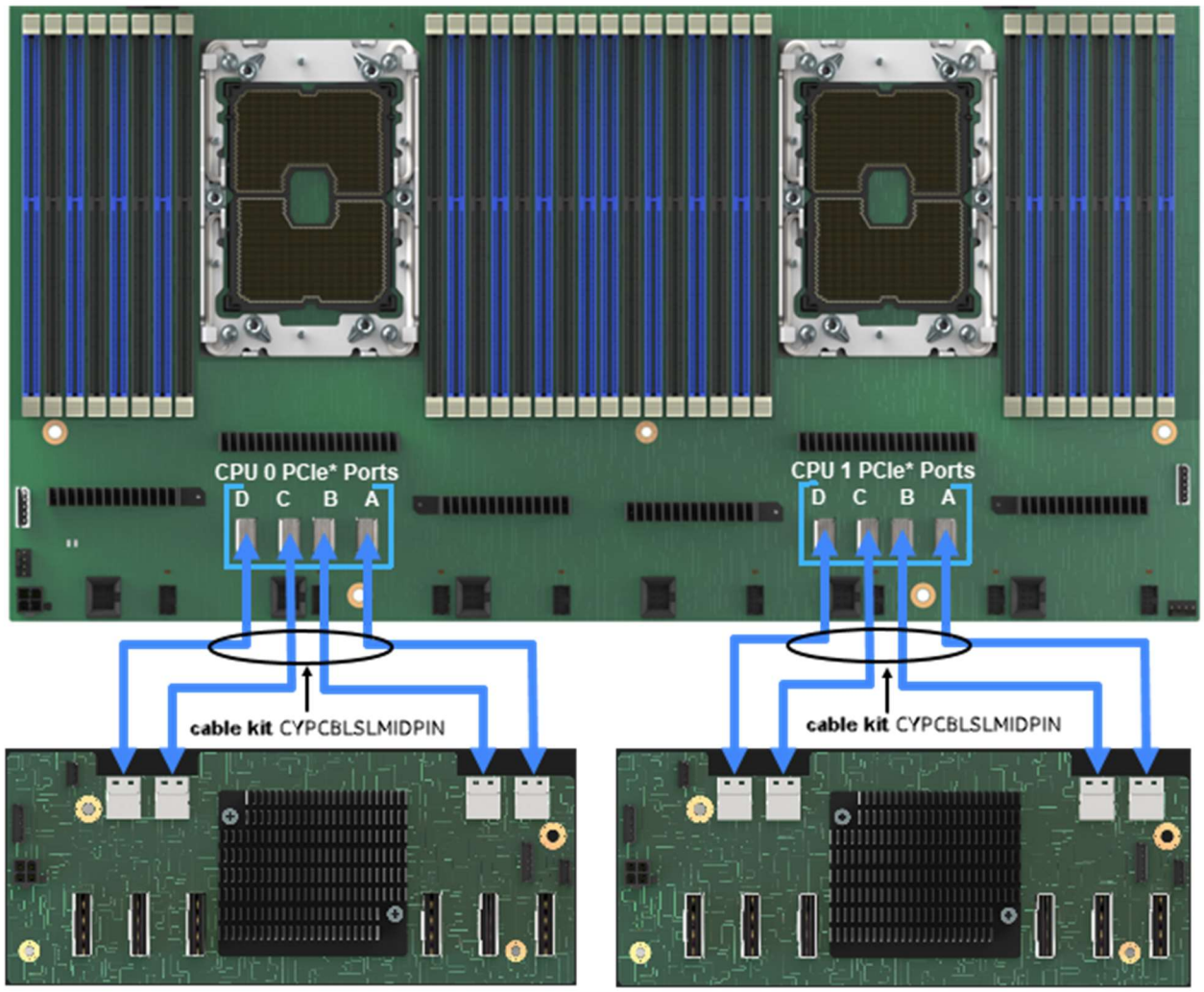
WARNING
Don't flash the HWRX12 firmware version on the switch card if there is no intention to connect the switch to an RS3P4TF160F RAID controller, otherwise, the switch will no longer be detectable when connected to the motherboard. There is no way to recuperate the switch card other than connecting it to an RS3P4TF160F RAID controller and flash is back with a "connect to motherboard" version.



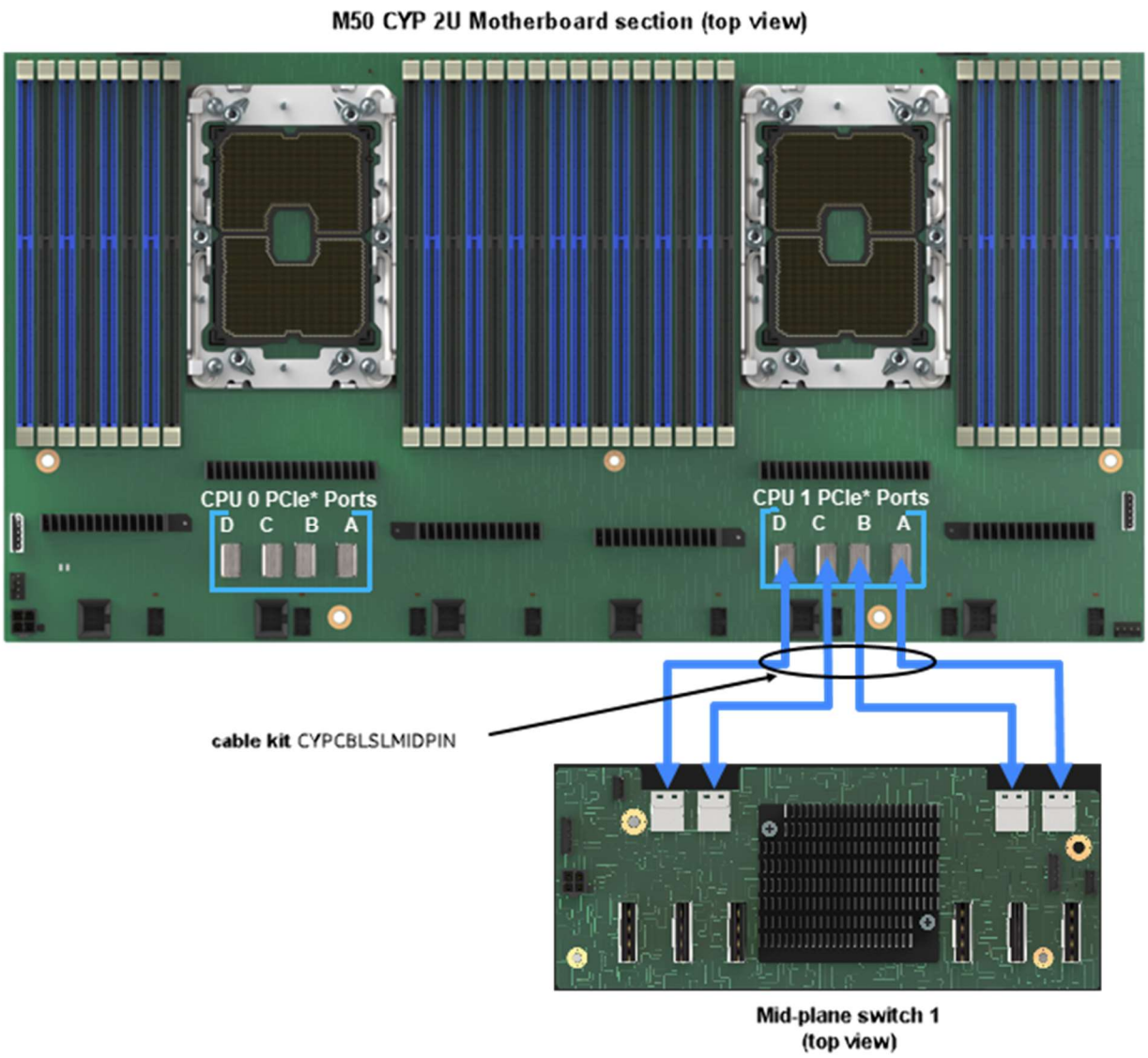
Connecting the Mid-plane switch to the RSP4TF160F RAID controller

Note: more information on this type of connection can be found on the [Intel® RAID Adapters RS3P4TF160F and RS3P4MF088F Hardware User Guide.]

M50 CYP 2U Motherboard section (top view)



Connecting two Mid-plane switches to the M50CYP motherboard



Connecting one single Mid-plane switches to the M50CYP motherboard

Note: more information on this type of connection can be found on the Intel® VROC (VMD NVMe RAID) Quick Configuration Guide for the Intel® Server System M50CYP Family.

Instructions for running the Flash_Switch script.

Usage: Flash_Switch <switch_number> <firmware_image>
where
switch_number can be 1 for switch #1
2 for switch #2
B for both switches

firmware_image can be MBX12 - the switch connects to the motherboard with up to 12 drive support per switch (4 lanes per drive)
MBX24 - the switch connects to the motherboard with up to 24 drive support per switch (2 lanes per drive, SRIS capable drives are required)
HWRX12 - the switch connects to the RS3P4TF160F RAID controller with up to 12 drive suport per switch (4 lanes per drive)

All arguments must be written in upper case !

Example:

Flash_Switch B HWRX12 This command will flash both installed switches with the firmware which supports up to 12 drives managed by the RS3P4TF160F RAID controller.

Note: If the switch card is connected to the system motherboard and the HWRX12 is installed, after DC cycling the system, the switch card will not be detectable. The switch card will need to be connected to an RS3P4TF160F RAID controller to be detected again. Don't flash the HWRX12 firmware version on the switch card if there is no intention to connect the switch to an RS3P4TF160F RAID controller.