EcoDesign Disclosures

2U24 Flash Storage Platform
Regulatory Model: G224-J-12
1ET2163
Version 1.0
February 2020

Western Digital.

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EU EcoDesign Disclosures

This document provides information and instructions related to the 2U24 Flash Storage Platform's disclosures for the EU's ecodesign requirements.

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1.1 EcoDesign Overview

This document provides information about the 2U24 Flash Storage Platform related to its manufacturing and operation, and instructions for secure data deletion and disassembly.

1.2 2U24 Flash Storage Platform EcoDesign Specifications

Product Type	Data Storage
Manufacturer's Name	Western Digital
Manufacturer's Registered Trade Name	Western Digital®
Manufacturer's Registered Trade Address	5601 Great Oaks Parkway San Jose, CA 95119 USA
Product Model Number	**G224-J-12**
Starting Year of Manufacture	2016
PSU efficiency at 20%, 50%, 100% of rated output power	20% load = 88% 50% load = 92% 100% load = 88%
Power Factor at 50% Rated Load Level	Minimum Power Factor = 0.95
Declared Operating Condition Class	A2
Neodymium Content in HDDs	N/A (no HDDs)
Cobalt Content in Batteries	N/A (no batteries)

1.3 Instant Secure Erase / Secure Erase

This section provides conceptual information and instructions for using the Instant Secure Erase (ISE) or Secure Erase (SE) features included with Western Digital drives.

Data Erasure Options

Western Digital provides several options for securely erasing data from its drives. The appropriate method depends upon many factors, including the following:

- Erase Configuration (ISE or SE)
- Drive Type (HDD or SSD)
- Interface Type (SAS, SATA)
- Encryption (none, TCG, or FIPS)

For more information on the `sanitize` command for specific drive models, please see the drive model's specification, contact Western Digital technical support, or download the following whitepaper for details: https://documents.westerndigital.com/content/dam/doc-library/en_us/assets/public/western-digital/collateral/tech-brief/tech-brief-instant-secure-erase....

ISE / SE Overview

Instant Secure Erase (ISE) is Western Digital's implementation of the industry standard T10 (SAS)/T13 (SATA) `sanitize` command, allowing users to instantly erase both user-accesible data and hidden user data from Western Digital drives.

The `sanitize` command supports three options:

1. **Crypto Scramble (SATA) / Crypto Erase (SAS)**: deletes the encryption key of a self-encrypting drive.
2. **Overwrite (HDDs)**: overwrites the data on the drive with a supplied value.
3. **Block Erase (SSDs)**: electrically erases each storage element by modifying their voltage levels.

Secure Erase (SE) is a subset of ISE, where the *Crypto Scramble / Erase* option has been disabled, allowing only the *Overwrite* or *Block Erase* options.

Requirements

To perform secure deletion, the following versions are the minimal recommended/supported utilities for each drive interface required on the host. For other versions, please verify the arguments/parameters in the appropriate man pages.

- **SAS**: sg_sanitize version 1.00 20151219 (included in sg3_utils 1.42*)
- **SATA**: hdparm version 9.58

Erase Methods

The following methods cover all erasure options and storage technologies for Western Digital drives. For more information on the `sanitize` command for specific drive models, please see the drive model's specification.

Note: If a RAID adapter or software is in use, remove the drives from a RAID set before erasure.

* For details on how to use the sg3_utils v1.42 utility, visit http://sg.danny.cz/

Note: If a drive is encrypted (TCG or FIPS), unlock the drive before executing any `sanitize` commands.

Note: In the following commands, replace the generic reference of `<dev>` with the specific device reference appropriate for your operating system (i.e. `sgX` for Linux, `SCSIX:X,X,X` for Windows).

SAS

Note: In the following `sg_sanitize` commands, the `--quick` option starts the deletion immediately. If the `--quick` option is not specified, the drive's `inquiry` response strings are printed in case the wrong device has been specified, and the user is given 15 seconds to reconsider whether they wish to erase all the data on the drive.

- ISE - Crypto Erase - HDD/SSD:

```
# sg_sanitize --crypto --quick <dev>
```

- SE - Overwrite - HDD:

```
# sg_sanitize --overwrite --quick --zero <dev>
```

- Block Erase - SSD:

```
# sg_sanitize --block --quick <dev>
```

SATA

- ISE - Crypto Erase - HDD/SSD:

```
# hdparm --yes-i-know-what-i-am-doing --sanitize-crypto-scramble <dev>
```

- SE - Overwrite - HDD:

```
# hdparm --yes-i-know-what-i-am-doing --sanitize-overwrite hex:11111111 <dev>
```

- Block Erase SSD:

```
# hdparm --yes-i-know-what-i-am-doing --sanitize-block-erase <dev>
```

1.4 2U24 Flash Storage Platform Disassembly

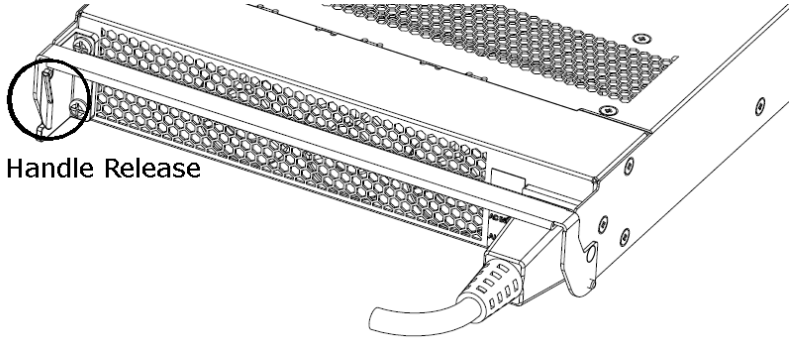
This task provides instructions for disassembling a 2U24 Flash Storage Platform to meet the EU's ecodesign requirements.

Table 1: Procedure Info

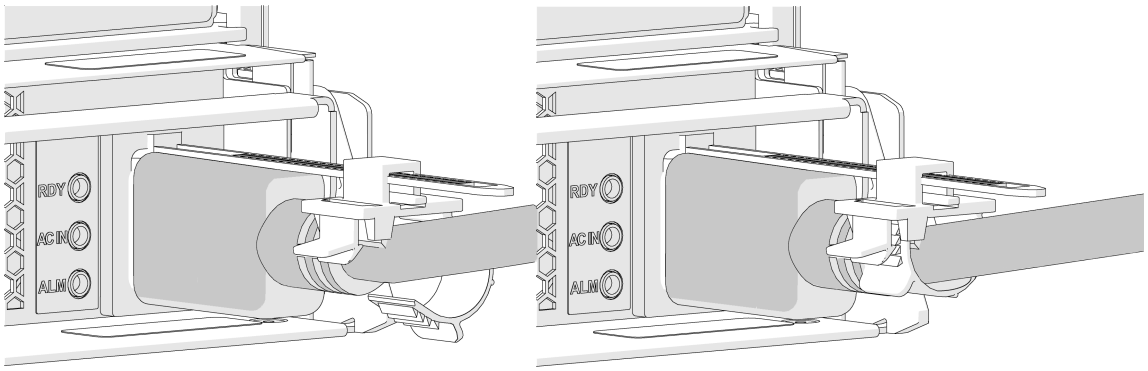
Required Tools	# of People Required	Time Required	Replacement Window
#2 Phillips-Head Screwdriver	2*	1 hours	N/A

Powering Down the Enclosure

Step 1: At the rear of the enclosure, locate the power cable connected to each PSU:



Step 2: Detach the cable retention clip from the power cable:



Step 3: Remove the power cable by pulling its plug away from the receptacle on the PSU.

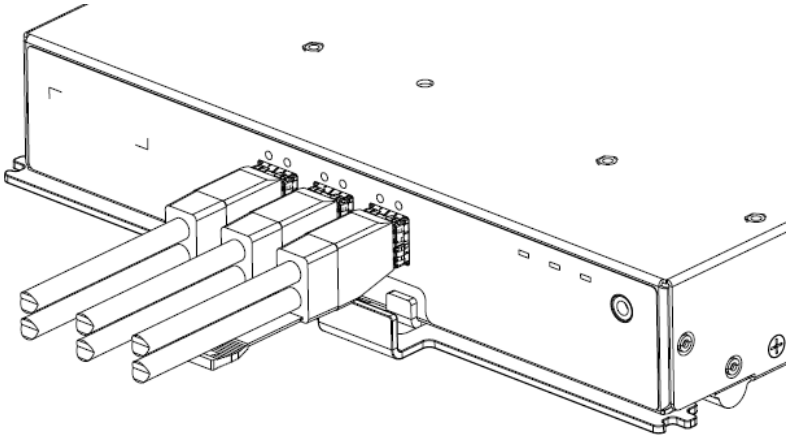
Caution: To reduce the potential for damaging equipment, do not jerk the cable out of the PSU.

Step 4: Repeat these steps to remove the remaining power cable.

Removing the SAS Cables

Step 5: At the rear of the enclosure, locate the three (3) HD Mini-SAS cables attached to each ESM:

* 2 people required for lifting enclosure; only 1 required for disassembly



Step 6: If the HD Mini-SAS cables will be reinstalled at a later time, ensure each is labeled or removed in an organized manner such that it can be returned to the same port from which it was removed.

Step 7: To remove an HD Mini-SAS cable, pull on the blue tab extending from beneath the connector. This will free the cable from the port.

Caution: To reduce the potential for damaging equipment, do not jerk the cable out of the ESM.

Step 8: Repeat these steps to remove the remaining HD Mini-SAS cables.

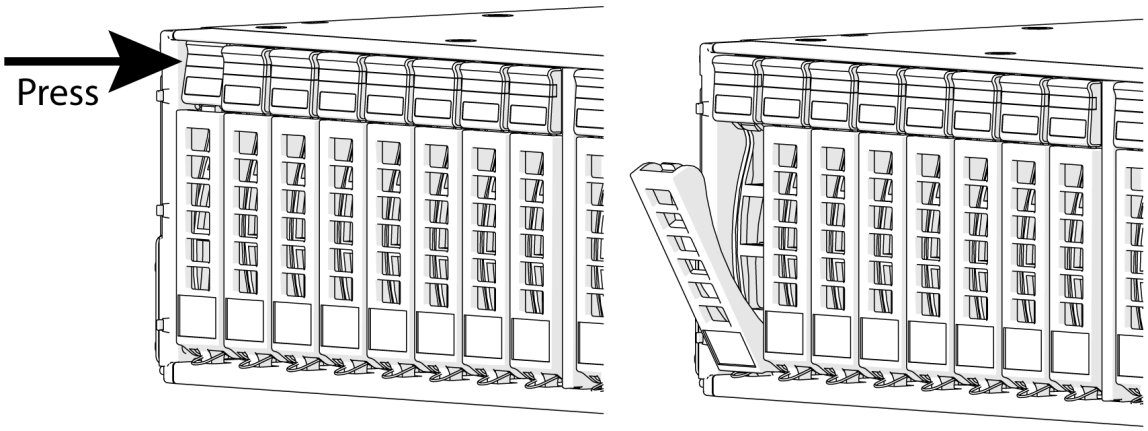
Removing the Drives

Step 9: At the front of the enclosure, locate the twenty-four (24) drives.

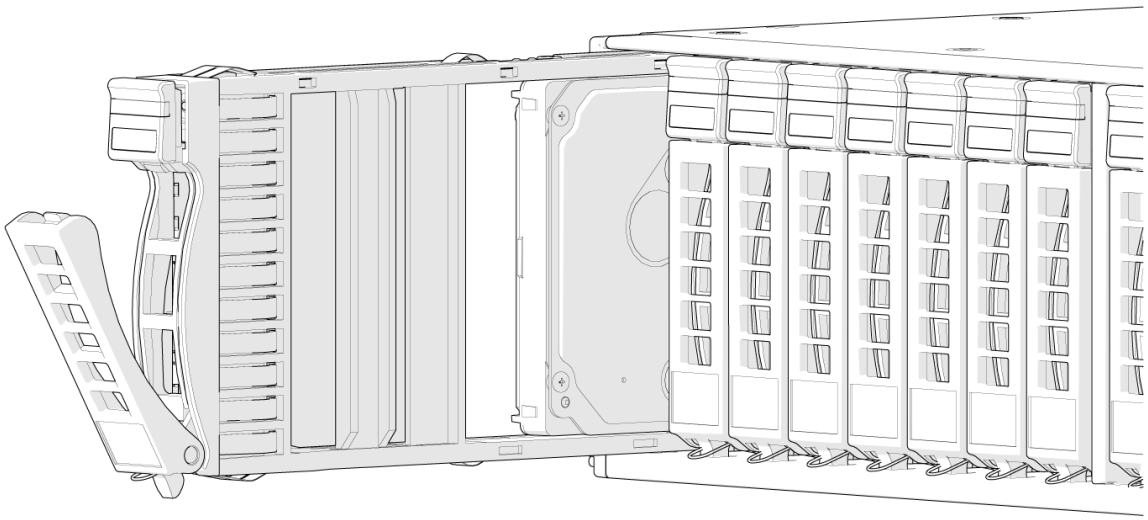
Step 10: If the drives will be reinstalled at a later time, ensure each is labeled or removed in an organized manner such that it can be returned to the same bay from which it was removed.

Step 11: To remove a drive assembly, press the release button to unlatch the drive carrier from the enclosure.

The carrier's handle should extend out of the enclosure:



Step 12: Grasp the handle and pull the drive carrier out of the enclosure with even pressure:

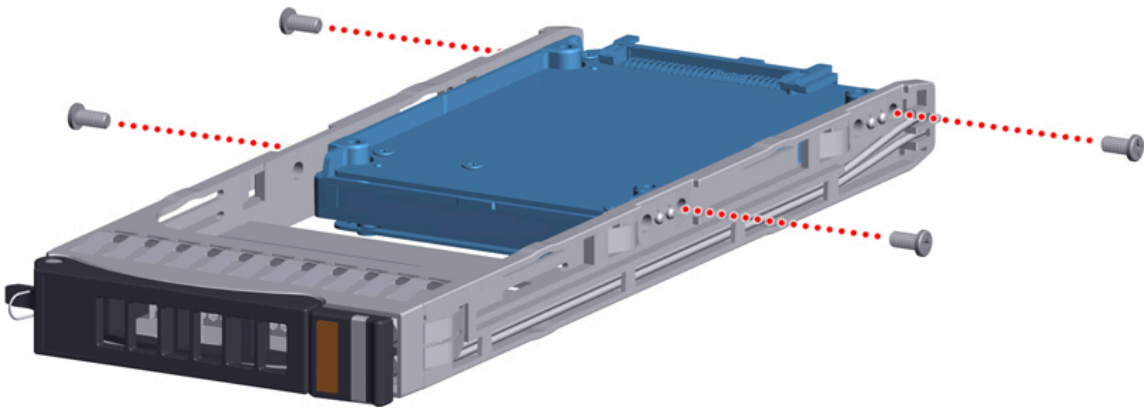


Step 13: Repeat these steps to remove the remaining drives from the enclosure. Store each drive assembly in an ESD-safe environment. Do not stack them on top of one another.

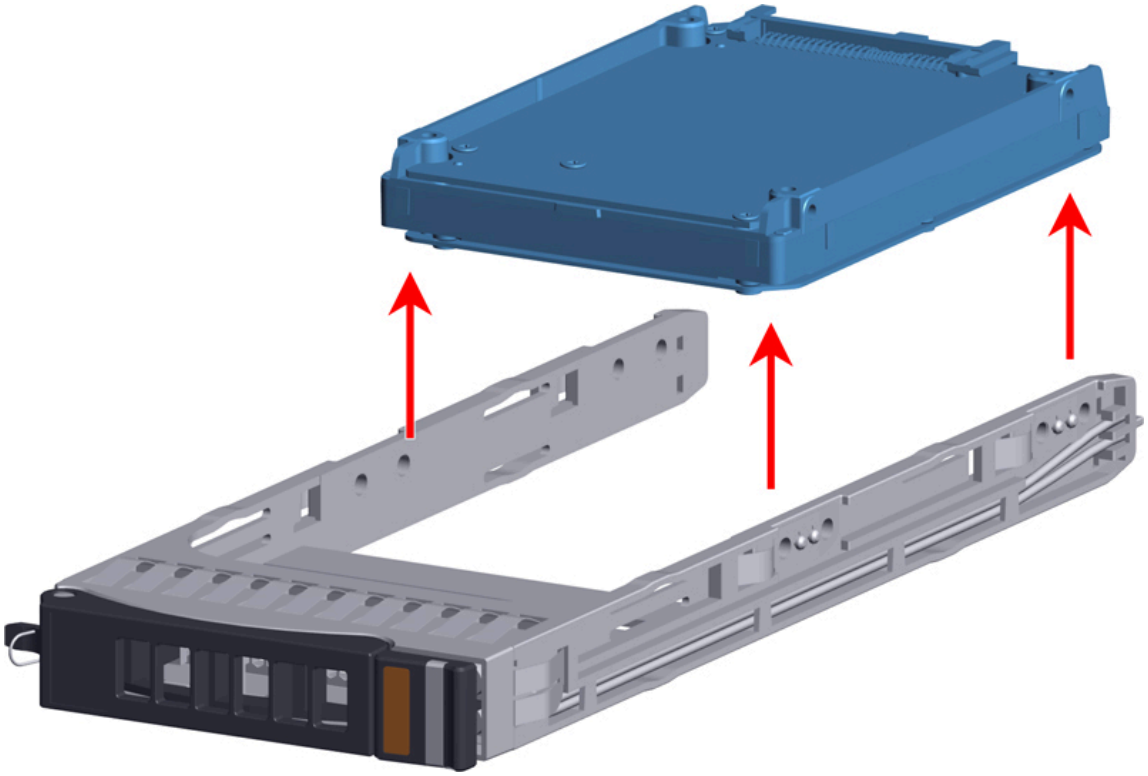
Disassembling Drive Assemblies

Step 14: Lay a drive assembly (drive & carrier) on its side.

Step 15: Using a #2 Phillips screwdriver, remove the four (4) M3 6mm screws from the edges of the drive carrier:



Step 16: Pull the drive upward to remove it from the carrier:



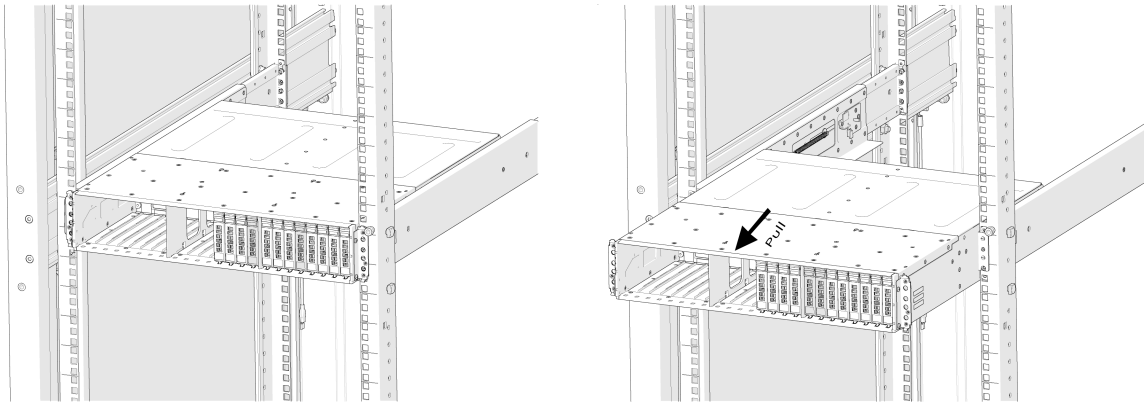
Step 17: Repeat these steps to remove the remaining drives from their carriers.

Removing the Enclosure from the Rack

Step 18: Remove the rack ears covering the screws on the front of the enclosure.

Step 19: Using a #2 Phillips screwdriver, remove the screws securing the chassis to the rack.

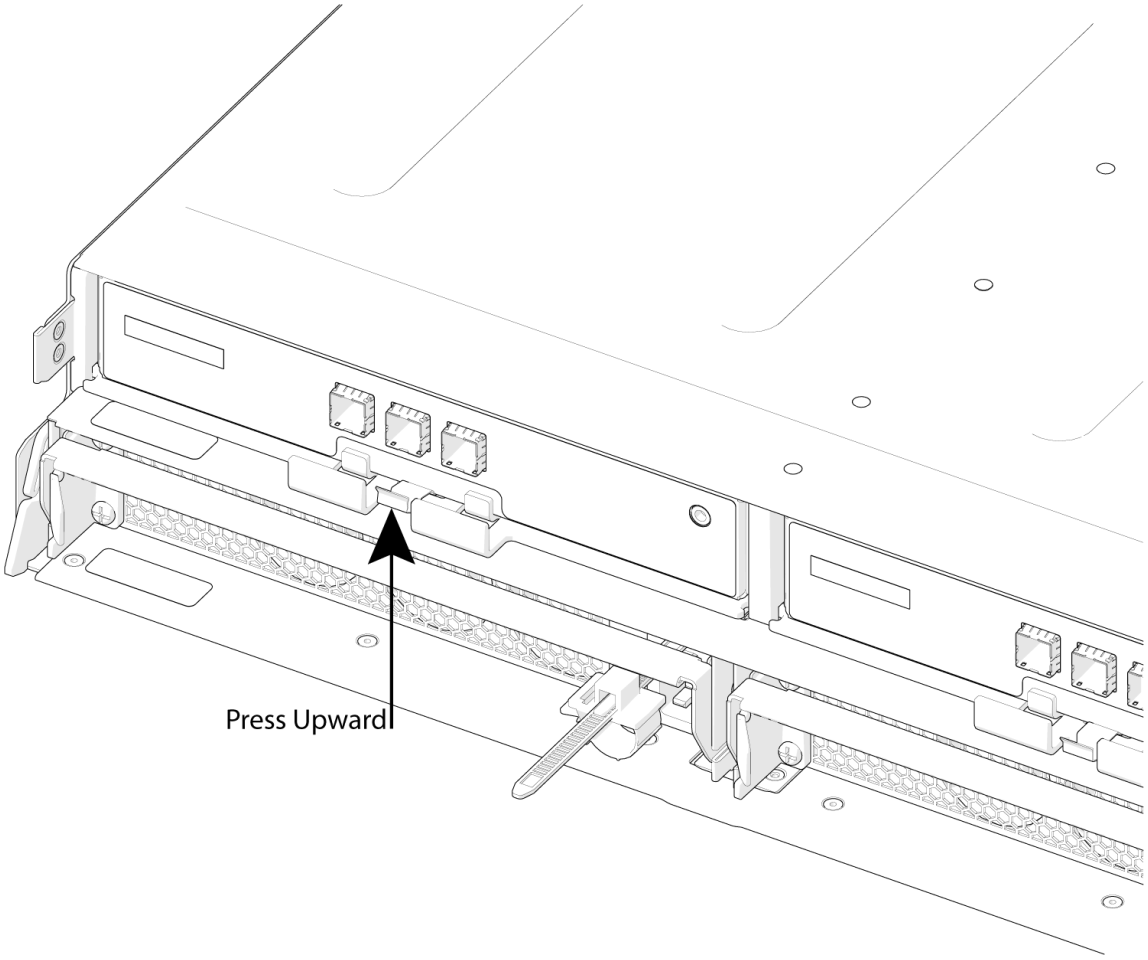
Step 20: Slide the enclosure out of the rack:



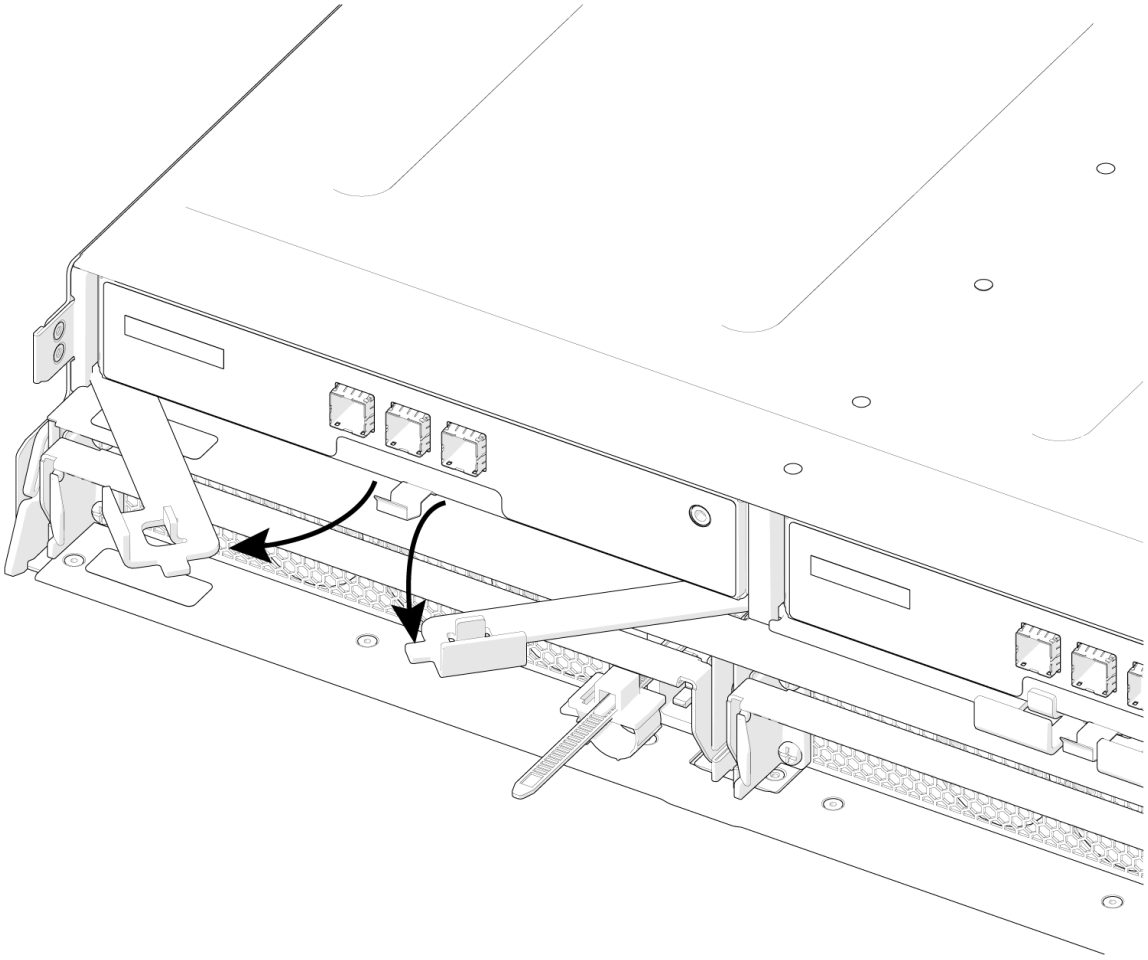
Step 21: Place the enclosure on an ESD-safe work surface.

Removing the ESMs

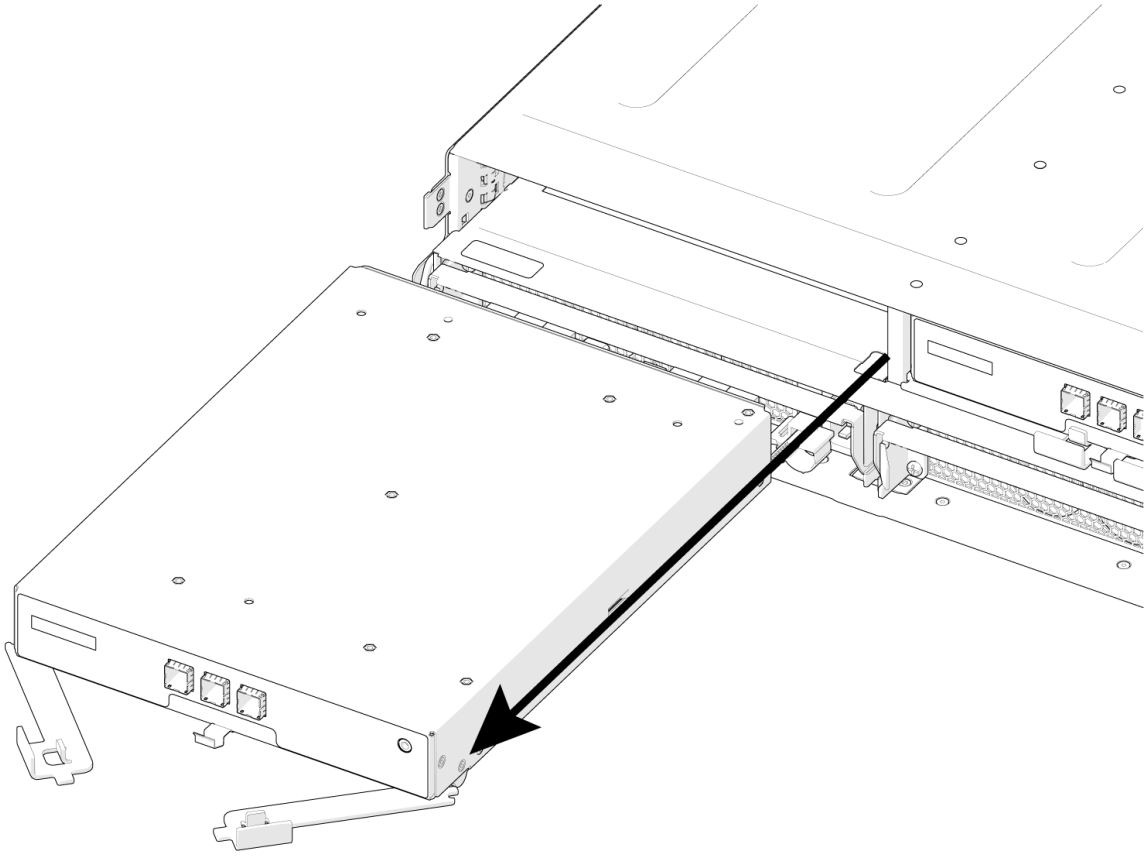
Step 22: To release an ESM from the enclosure, pull up on the release lever:



This will allow the handles to swing out:



Step 23: Grasp both handles and slide the ESM out from the enclosure with even pressure:



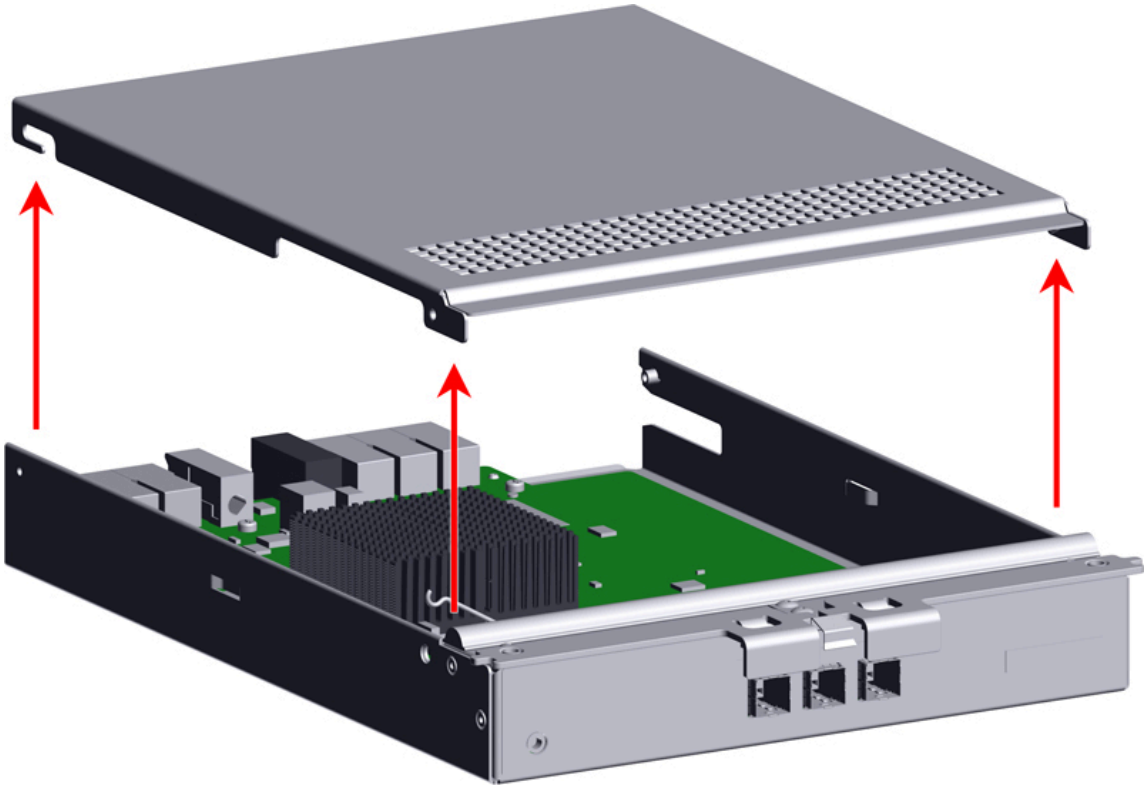
Step 24: Repeat these steps to remove the remaining ESM.

Disassembling the ESMs

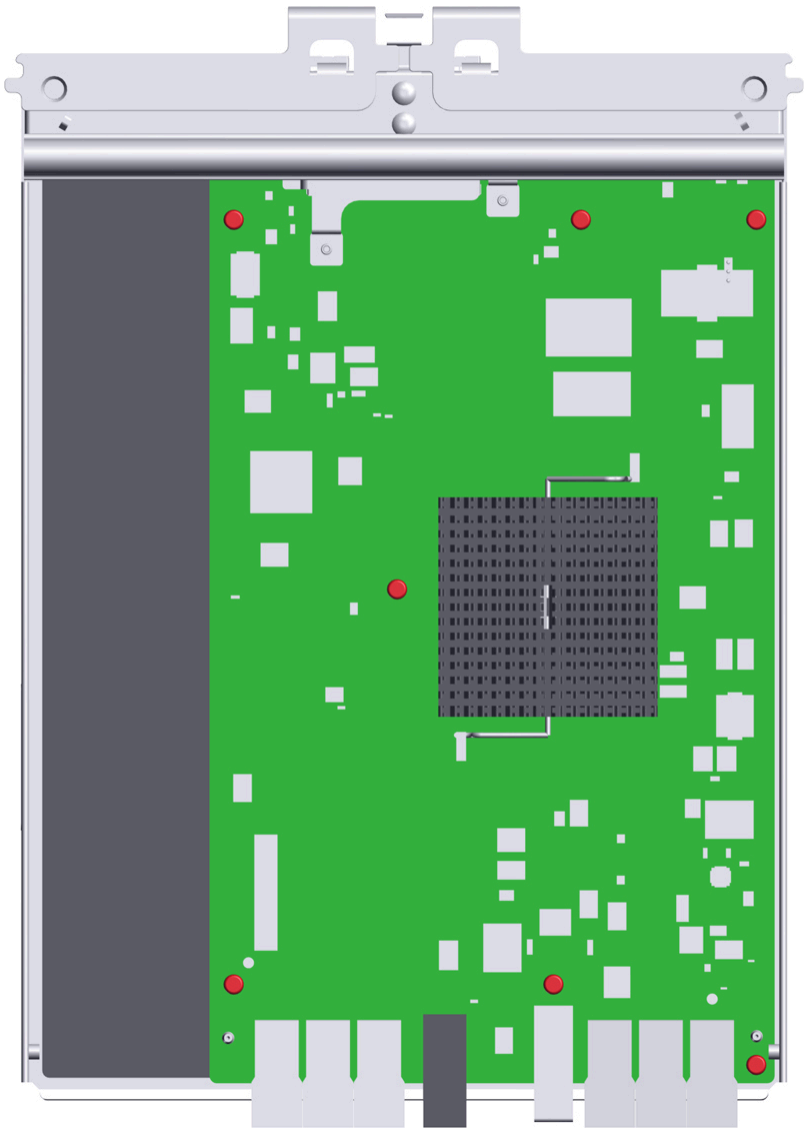
Step 25: Turn over the ESM so its bottom side is facing up.

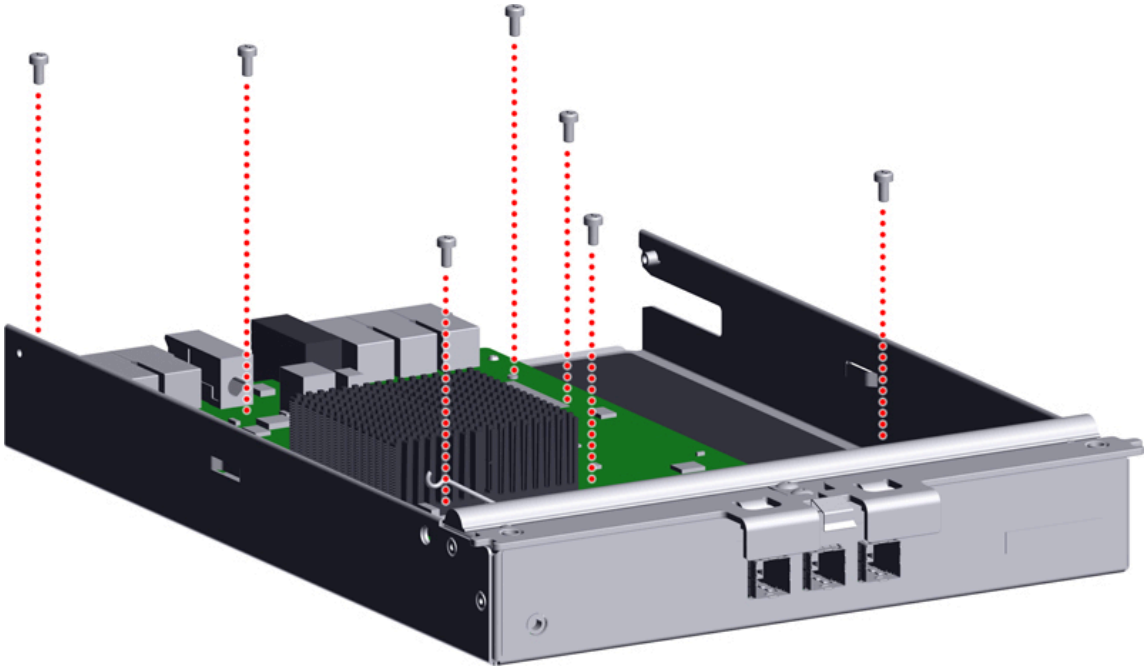
Step 26: Using a #2 Phillips screwdriver, remove the two (2) M3 6mm screws securing the bottom cover to the ESM:

Step 27: Remove the bottom cover from the ESM:

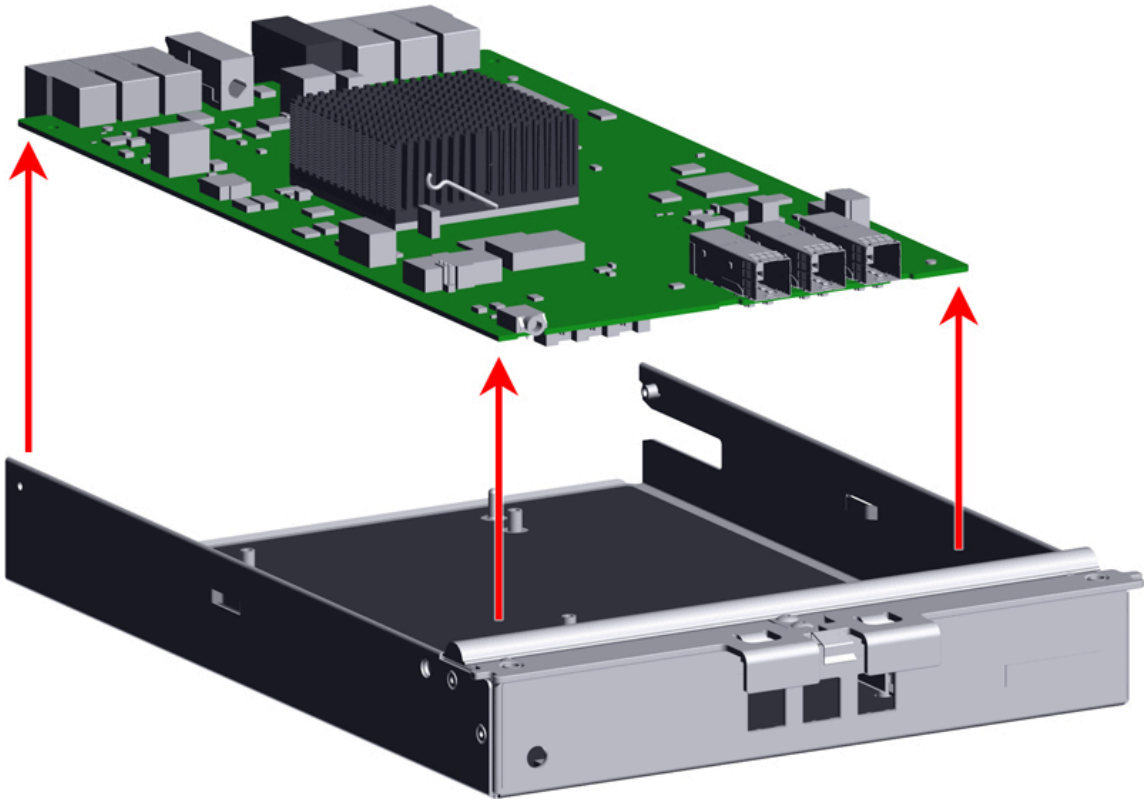


Step 28: Using a #2 Phillips screwdriver, remove the seven (7) M3 6mm screws securing the circuit board to the ESM. The following image shows the screws in red (for identification purposes only):





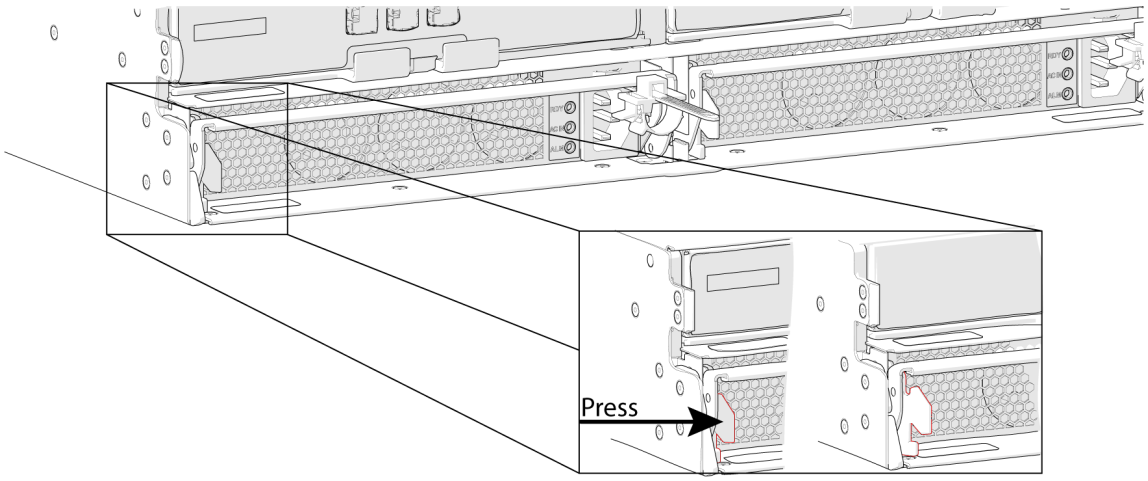
Step 29: Pull upward on the circuit board to remove it from the ESM:



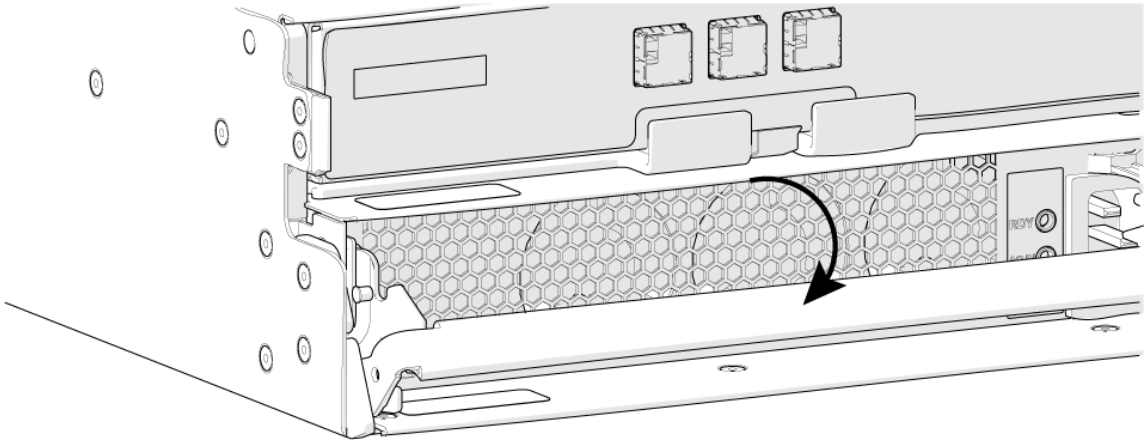
Step 30: Repeat these steps to remove the PCB from the remaining ESM.

Removing the PSUs

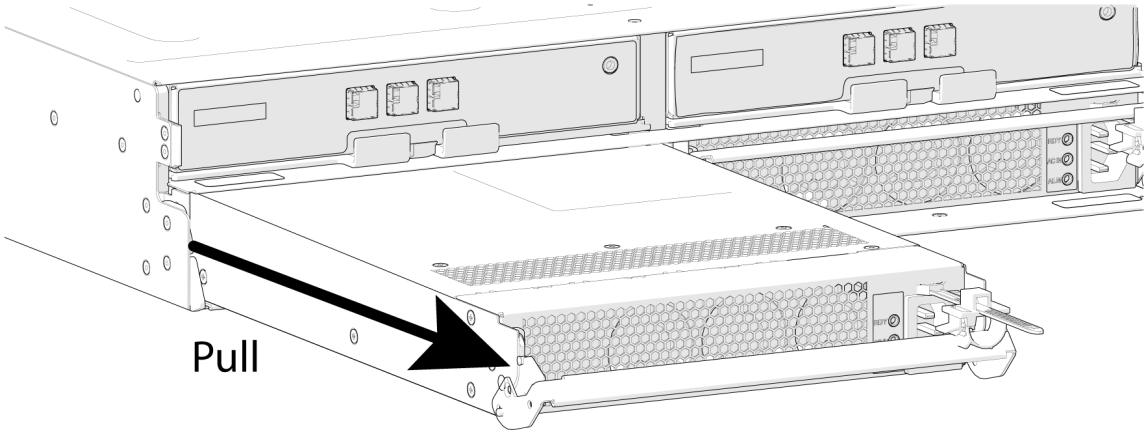
Step 31: At the rear of the enclosure, press the PSU handle-release:



Step 32: With the release pressed, swing the handle downward:



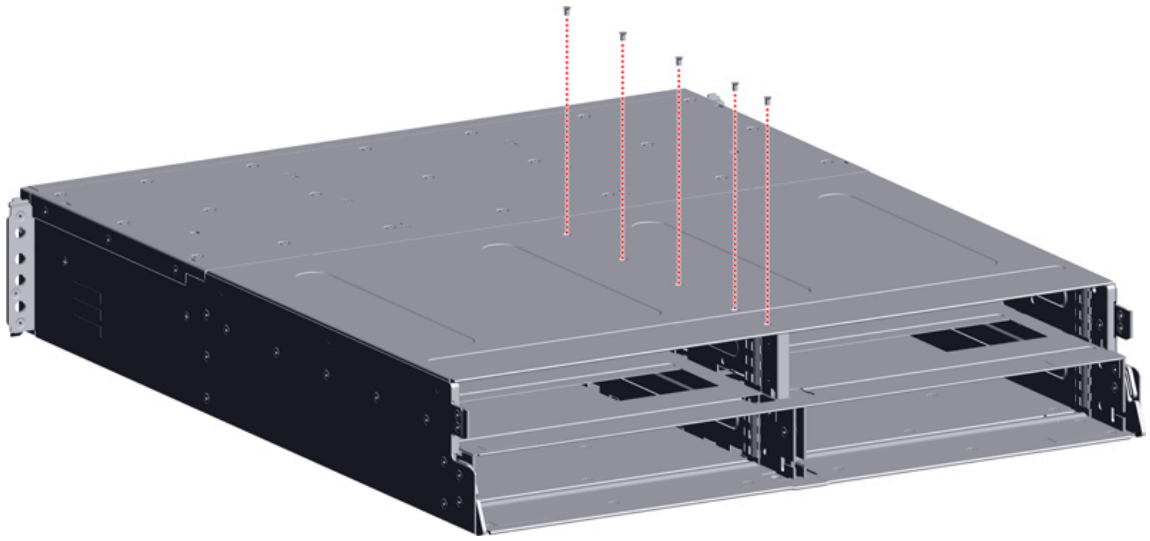
Step 33: Use the handle to pull with even pressure and remove the PSU:



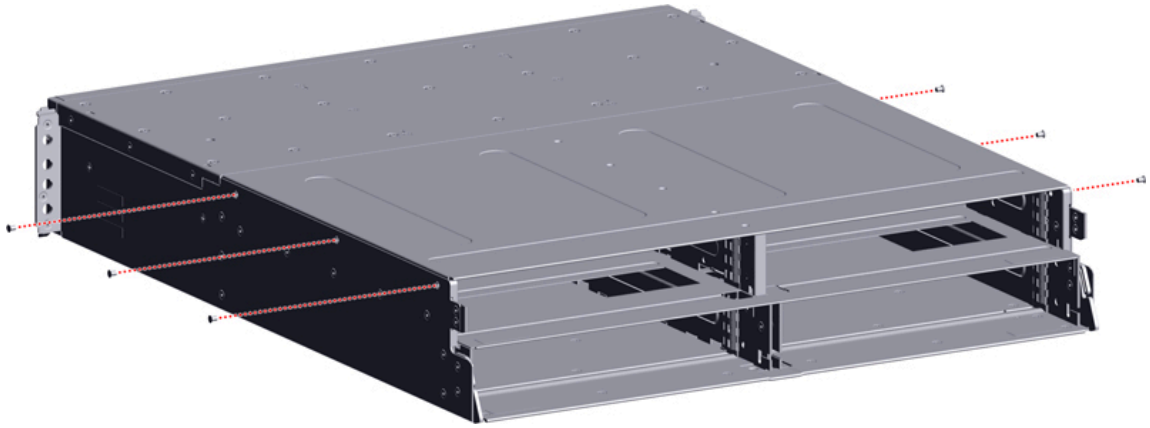
Step 34: Repeat these steps to remove the remaining PSU.

Removing the Rear Cover

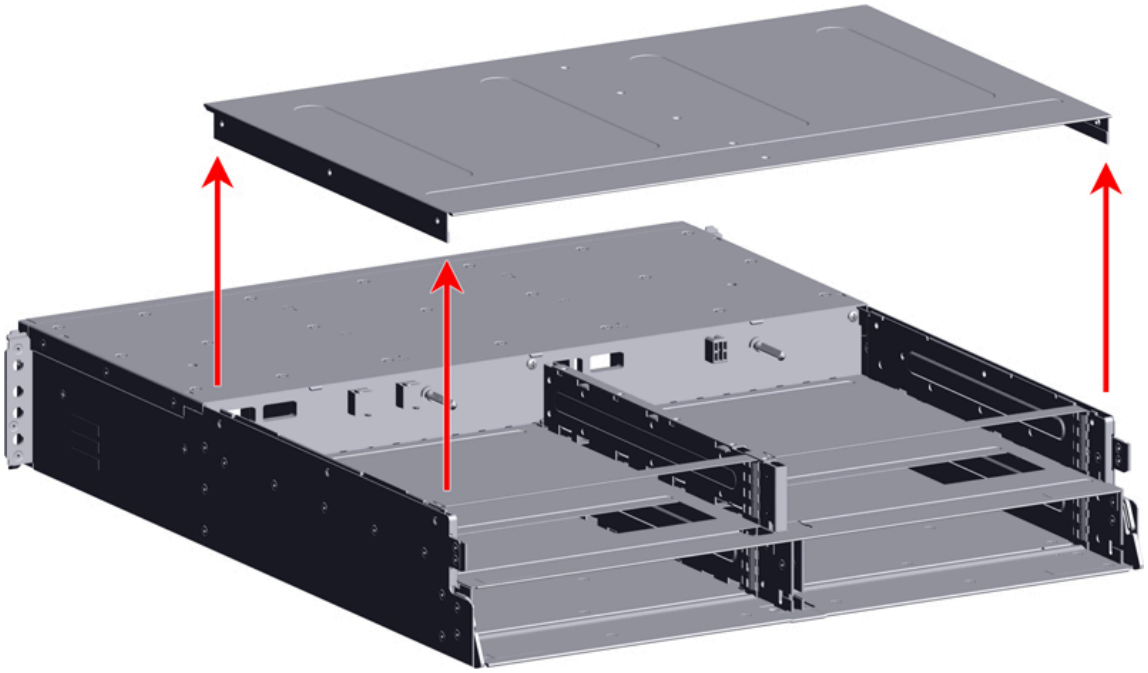
Step 35: Using a #2 Phillips screwdriver, remove the five (5) screws on top of the chassis, securing the rear cover to the chassis:



Step 36: Using a #2 Phillips screwdriver, remove the six (6) screws on the sides of the chassis, securing the rear cover to the chassis:



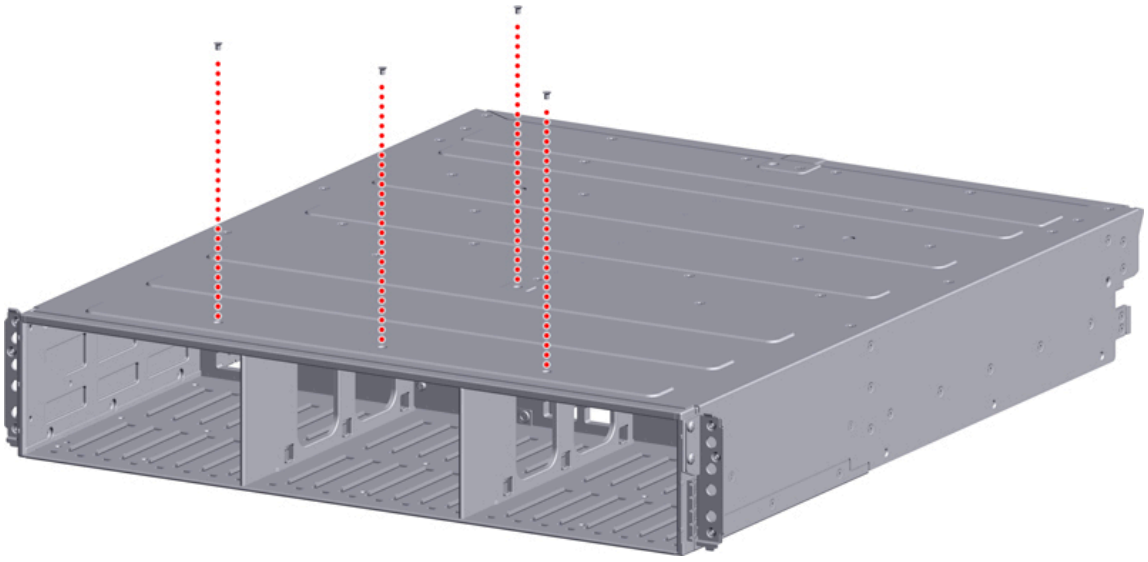
Step 37: Pull the rear cover upward to remove it from the chassis:



Removing the Drive Housing

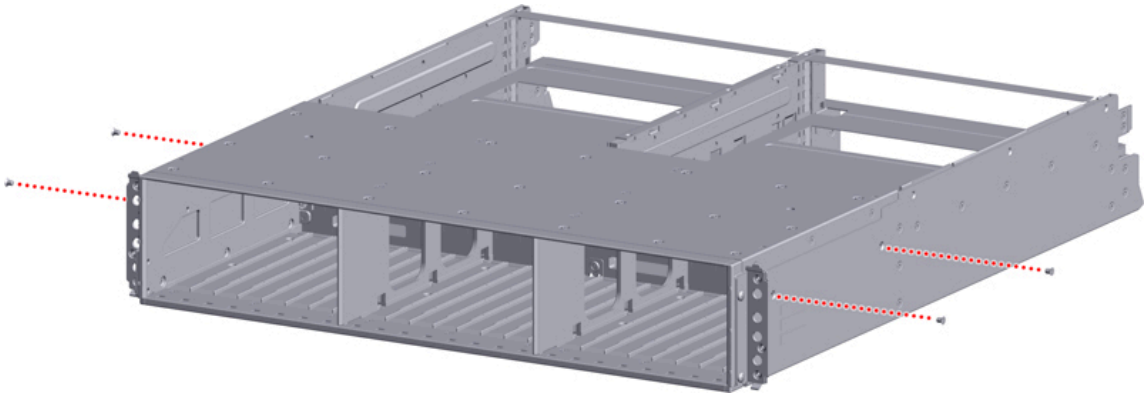
Step 38: Turn the enclousure over so that its bottom side is facing up.

Step 39: Using a #2 Phillips screwdriver, remove the four (4) screws on the bottom of the chassis, securing the drive housing to the chassis:

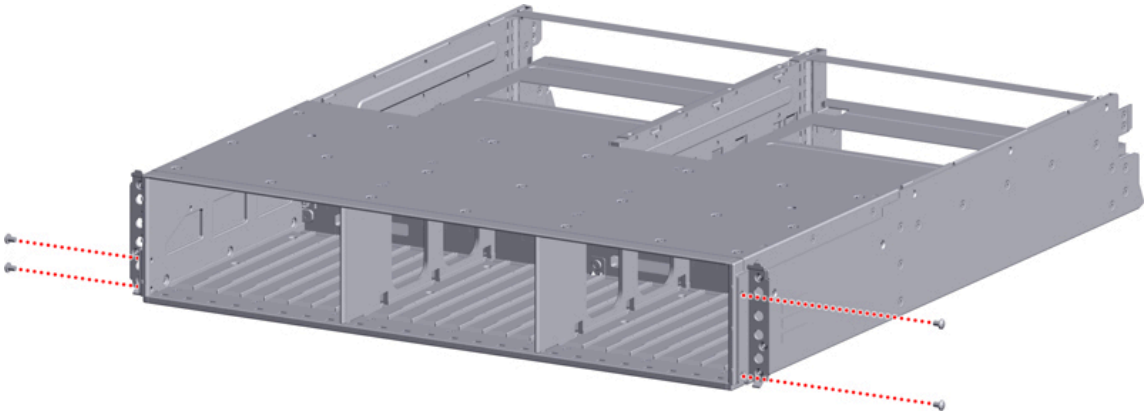


Step 40: Turn the enclosure over so that its top side is facing up.

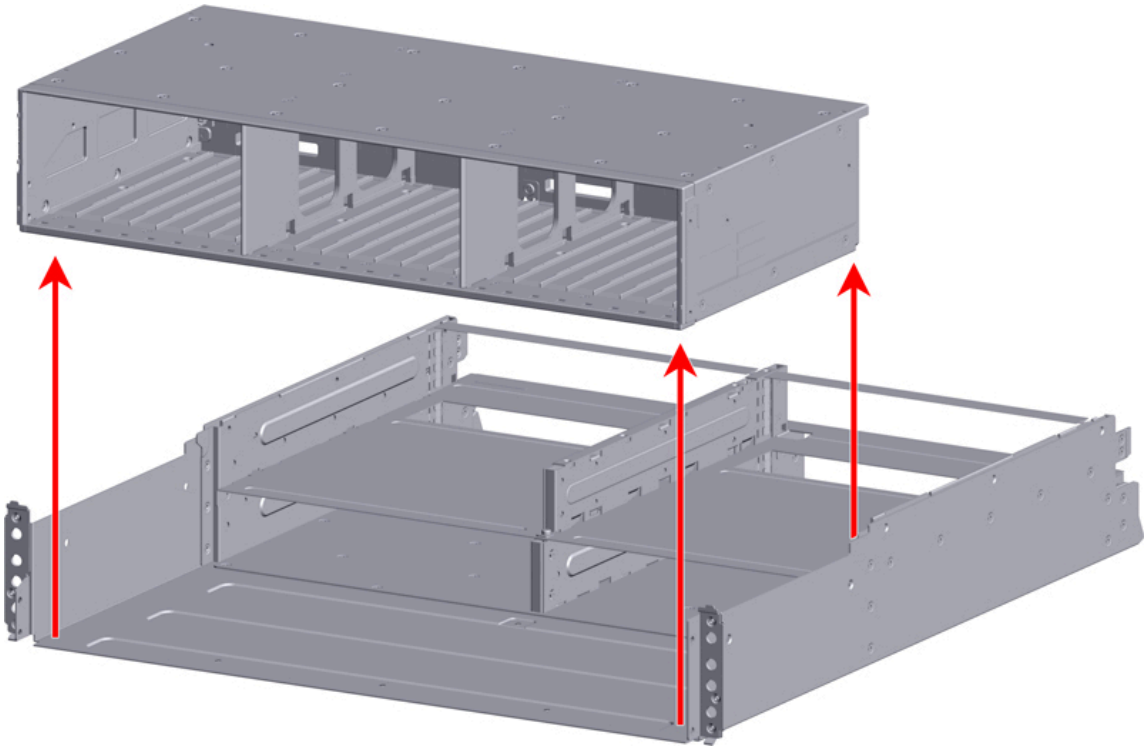
Step 41: Using a #2 Phillips screwdriver, remove the four (4) screws on the sides of the chassis, securing the drive housing to the chassis:



Step 42: Using a #2 Phillips screwdriver, remove the four (4) screws on the sides of the chassis, in front of the rack ears:



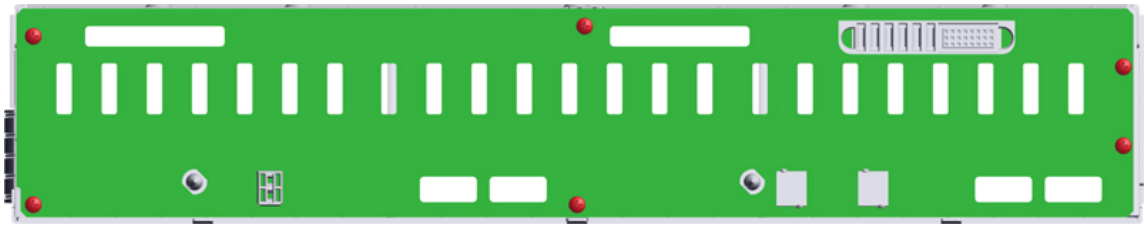
Step 43: Pull the drive housing up to remove it from the chassis:

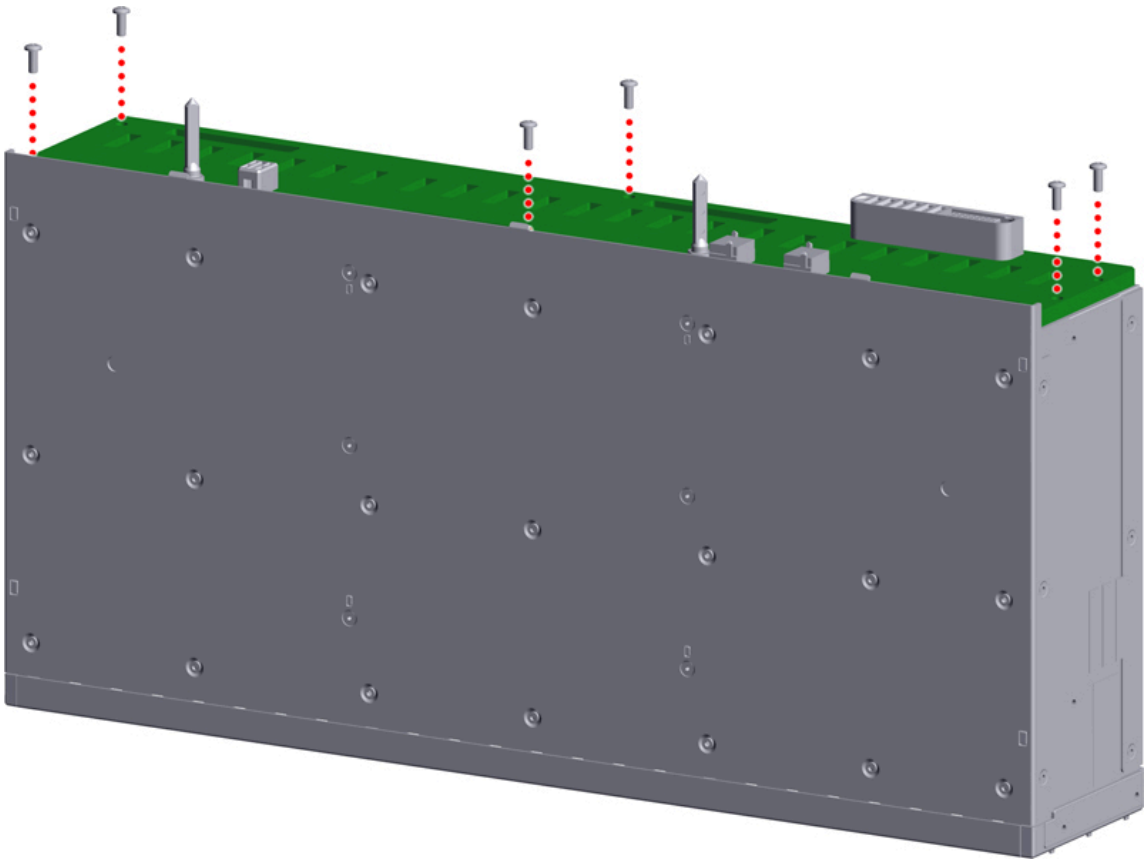


Removing the Midplane

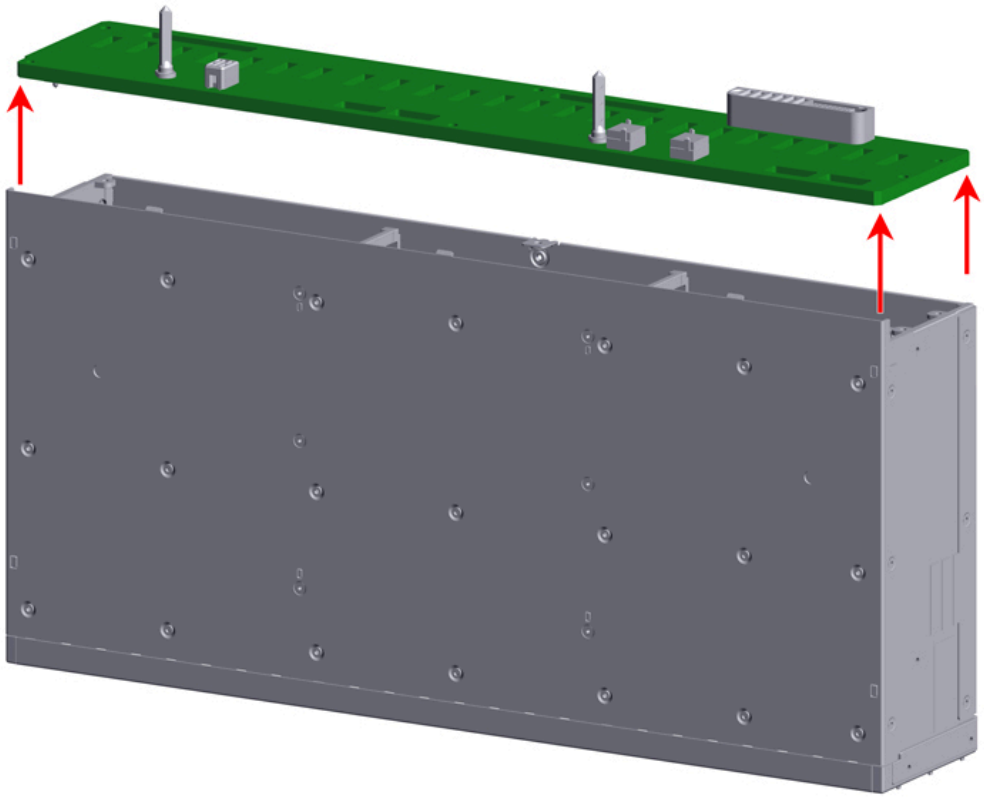
Step 44: Lay the drive housing on its face so that the midplane is facing up.

Step 45: Using a #2 Phillips screwdriver, remove the six (6) screws securing the midplane to the drive housing. The following image shows the screws in red (for identification purposes only):





Step 46: Pull the midplane up to remove it from the drive housing:



The disassembly is now complete.