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<td>Checking the Health of Sensors</td>
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<td>Windows – Docker Uninstall</td>
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</tr>
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</table>
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<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2023</td>
<td>01</td>
<td>Initial release</td>
</tr>
</tbody>
</table>
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**Email:**
support@hgst.com

**Website:**
https://portal.wdc.com/s/

**UK Import Representation Contact**

Western Digital UK Limited
PO Box 471
Leatherhead KT22 2LU
UK

**Telephone:** +44 1372 366000

**EU Import Representation Contact**

Western Digital EU Limited
PO Box 13379
Swords, Co
Dublin, Ireland
Overview

The topics in this section provide an overview of the Resource Manager Data Center Edition application.

In This Chapter:
- Resource Manager Data Center Edition Overview.............................................2
- Supported Platforms..............................................................................................3
- Compatible Operating Systems.............................................................................3
- Compatible Browsers.........................................................................................4
- Third-Party Software..........................................................................................4
- Third-Party Licenses..........................................................................................4
1.1 Resource Manager Data Center Edition Overview

Resource Manager Data Center Edition is a comprehensive, out-of-band monitoring and management application designed for Western Digital storage platforms. It operates on a central management server, discovering health and utilization data for all compatible devices on a network, and presenting device information and management capabilities to a browser in a convenient dashboard format.

Figure 1: Deployment Overview
1.2 Supported Platforms

The Resource Manager Data Center Edition application supports configuration and management of the following platforms.

<table>
<thead>
<tr>
<th>Product Family</th>
<th>Product Name</th>
<th>Firmware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrastar®</td>
<td>Data102</td>
<td>4008-020 (SEP)</td>
</tr>
<tr>
<td></td>
<td>Data60</td>
<td>&amp; 4.0.31 (OOBM)</td>
</tr>
<tr>
<td>OpenFlex®</td>
<td>Data24</td>
<td>5.0.0</td>
</tr>
<tr>
<td></td>
<td>Data24 3200</td>
<td>1.0.0</td>
</tr>
</tbody>
</table>

**Note:** For supported hardware components, please refer to your platform’s *Compatibility Matrix* and the Resource Manager Data Center Edition *Release Notes*. Unless otherwise noted, Resource Manager Data Center Edition is compatible with each platform’s supported components.

1.3 Compatible Operating Systems

The host server must be running one of the following operating systems in order to host the Resource Manager Data Center Edition application.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>CentOS</td>
<td>8.5</td>
</tr>
<tr>
<td>Red Hat® Enterprise Linux® (RHEL)</td>
<td>8.5, 8.6, 9.0</td>
</tr>
<tr>
<td>Ubuntu</td>
<td>18.04, 20.04, 22.04</td>
</tr>
<tr>
<td>Debian</td>
<td>10.9, 11, 11.2</td>
</tr>
<tr>
<td>Windows Server®</td>
<td>2019, 2022</td>
</tr>
</tbody>
</table>
1.4 Compatible Browsers

One of the following browsers are required to run the Resource Manager Data Center Edition application.

<table>
<thead>
<tr>
<th>Browser</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Chrome</td>
<td>113.0.5672.93 and later</td>
</tr>
<tr>
<td>Mozilla Firefox</td>
<td>102.11.0esr and later</td>
</tr>
<tr>
<td>Microsoft Edge</td>
<td>113.0.1774.42 and later</td>
</tr>
</tbody>
</table>

1.5 Third-Party Software

If not already installed, the following additional software will be installed on the host server by the Resource Manager Data Center Edition installer so that the host can run the Resource Manager Data Center Edition application.

Table 1: Third-Party Software

<table>
<thead>
<tr>
<th>Installation Type</th>
<th>Linux</th>
<th>Windows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Advanced &amp; Docker</td>
<td>Elasticsearch (8.5.3)</td>
<td>Elasticsearch (8.5.3)</td>
</tr>
<tr>
<td></td>
<td>Ansible-Core (2.13.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ansible® (6.7.0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Python (3.8)</td>
<td></td>
</tr>
</tbody>
</table>

Note: For Linux installations, required third-party software may be installed automatically online. For Windows and Docker installations, required third-party software is bundled with Resource Manager Data Center Edition.

Note: The advanced and Docker installations of Resource Manager Data Center Edition include Elasticsearch for orchestration and analytics. Please ensure that the host server meets the following minimum system requirements for operation of Elasticsearch:

- 8GB RAM
- 4 CPU cores
- 100GB of storage capacity per 100 devices discovered

1.6 Third-Party Licenses

Resource Manager Data Center Edition may include or use open source software subject to open source licenses. If required by the applicable open source license, Western Digital may provide the open source code to you on request either electronically or on a physical storage medium for a charge covering the cost of performing such distribution, which may include the cost of media, shipping, and handling.
For Resource Manager Data Center Edition open source licensing information, please see Viewing & Downloading Logs & Notices (page 50) for instructions on downloading the notices file. For licensing information of third-party software provided in the installer, please consult the documentation and features of that software.
Installation

The topics in this section provide instructions for installing the Resource Manager Data Center Edition application.

In This Chapter:
- Downloading Resource Manager Data Center Edition................................. 7
- Installation Options & Features................................................................. 9
- Linux – Basic Installation........................................................................... 10
- Linux – Advanced Installation.................................................................... 11
- Linux – Docker Installation......................................................................... 12
- Windows – Basic Installation...................................................................... 13
- Windows – Advanced Installation............................................................... 14
- Windows – Docker Installation..................................................................... 15
2.1 Downloading Resource Manager Data Center Edition

This procedure provides instructions for downloading the Resource Manager Data Center Edition application from the Western Digital Business Support Center.

**Step 1:** Open a web browser and navigate to: https://portal.wdc.com/s/.

The login page for the **Western Digital Business Support Center** will be displayed:

*Figure 2: Login Page*

**Step 2:** Enter a valid email address and password into the **Email Address** and **Password** fields. Then click the **Login** button.

The **Western Digital B2B Portal** page will be displayed:

*Figure 3: Western Digital B2B Portal*

**Step 3:** Click **Downloads** at the top of the page:

*Figure 4: Downloads Link*

The **Download Resource** page will be displayed:
2. Installation

2.1 Downloading Resource Manager Data Center Edition

Step 4: Use the Select Product drop-down list to select the Resource Manager option:

![Figure 5: Download Resource Page](image)

Step 5: Under Select an option, use the arrows to expand the menus for your operating system and the current version of the Resource Manager Data Center Edition. Then click the link for Software. A compressed file for the selected operating system will be displayed on the right.

![Figure 6: Selecting Resource Manager](image)

An operating system selection list will appear:

![Figure 7: OS Selection List](image)
2. Installation

2.2 Installation Options & Features

Step 6: Click the filename to download the compressed file.

Step 7: Unzip/extract the file to the desired directory on the host server.

Result: The Resource Manager Data Center Edition application has now been downloaded from the Western Digital Business Support Center.

What to do next: Proceed to Installation Options & Features (page 9) to choose the appropriate installation type for your needs.

2.2 Installation Options & Features

The following table shows the differences in available features between the installation options for Resource Manager Data Center Edition.
2.3 Linux – Basic Installation

This procedure provides instructions for a basic installation of the Resource Manager Data Center Edition application on a host server with a Linux operating system.

Step 1: Open a command line and navigate to the directory where the installation file was unzipped/extracted.

Step 2: Run the installation script.

```
# ./install_rmdc.sh
```

The user will be prompted to choose the basic or advanced installation.

```
1 - Basic
2 - Advanced
Please enter the number corresponding to the above installation types to proceed with the installation :
```

Step 3: Input 1 for the basic installation.

```
1
```

The Western Digital End User License Agreement will be presented, and the user will be prompted to accept the license agreement terms and conditions.

```
...
2.4 Linux – Advanced Installation

This procedure provides instructions for an advanced installation of the Resource Manager Data Center Edition application on a host server with a Linux operating system.

Before you begin:

**Note:** The advanced installation of Resource Manager Data Center Edition includes Elasticsearch for orchestration and analytics. Please ensure that the host server meets the following minimum system requirements for operation of Elasticsearch:

- 8GB RAM
- 4 CPU cores
- 100GB of storage capacity per 100 devices discovered

**Note:** Asset data collected in Elasticsearch will be deleted 30 days after collection.

**Step 1:** Open a command line and navigate to the directory where the installation file was unzipped/extracted.

**Step 2:** Run the installation script.

```
# ./install_rmdc.sh
```

The user will be prompted to choose the basic or advanced installation.

```
1 - Basic
2 - Advanced
Please enter the number corresponding to the above installation types to proceed with the installation:
```

**Step 3:** Input 2 for the advanced installation.

```
2
```

The Western Digital End User License Agreement will be presented, and the user will be prompted to accept the license agreement terms and conditions.

```
...
Do you agree All License Agreement Terms and Conditions?(y/n)

Step 4: If you agree, enter y to accept the agreement.

y

The installation script will install Resource Manager Data Center Edition, notify the user when the installation is complete, and return to the command line prompt.

```
...
RMDC and Orchestration application installation complete.
```

Result: The Resource Manager Data Center Edition application is now installed on the Linux OS.

# 2.5 Linux – Docker Installation

This procedure provides instructions for installing the Resource Manager Data Center Edition application on a host server with a Linux operating system using Docker.

**Note:** For any troubleshooting or configuration changes that require restarting Docker, a restart script is included. The usage menu can be accessed using the -h or --help option:

```
# ./rmdc_container.sh --help
Usage:rmdc_containers.sh [ -s | --start Start RMDC containers ]
[ -p | --stop Stop RMDC containers ]
[ -r | --restart Restart RMDC containers]
[ -h | --help Help Info ]
```

Step 1: Navigate to [https://docs.docker.com/desktop/install/linux-install/](https://docs.docker.com/desktop/install/linux-install/) and follow the instructions for downloading and installing the Docker Engine.

Step 2: Open a command line and issue the `docker version` and `docker compose version` commands to ensure that the installation was successful.

```
# docker version
Client: Docker Engine - Community
Version: 24.0.5
API version: 1.43
Go version: go1.20.6
Git commit: ced0996
Built: Fri Jul 21 20:35:18 2023
OS/Arch: linux/amd64
Context: default

Server: Docker Engine - Community
Engine:
  Version: 24.0.5
  API version: 1.43 (minimum version 1.12)
  Go version: go1.20.6
  Git commit: a61e2b4
  Built: Fri Jul 21 20:35:18 2023
  OS/Arch: linux/amd64
  Experimental: false
```
### 2.6 Windows – Basic Installation

This procedure provides instructions for a basic installation of the Resource Manager Data Center Edition application on a host server with a Windows operating system.

**Step 1:** Open a command prompt with administrator privileges and navigate to the directory where the installation file was unzipped/extracted.

**Step 2:** Run the installation script.

```
C:\>install_rmdc.bat
```

The user will be prompted to choose the basic or advanced installation.

```
1 - Basic
2 - Advanced
Please enter the number corresponding to the above installation types to proceed with the installation : [1,2]?
```

**Step 3:** Input 1 for the basic installation.

```
1
```

The Western Digital End User License Agreement will be presented, and the user will be prompted to agree to the license agreement terms and conditions.

```
***
Do you agree All License Agreement Terms and Conditions [Y,N]?
```

**Step 4:** If you agree, enter Y to accept the agreement.
2.7 Windows – Advanced Installation

This procedure provides instructions for an advanced installation of the Resource Manager Data Center Edition application on a host server with a Windows operating system.

Before you begin:

**Note:** The advanced installation of Resource Manager Data Center Edition includes Elasticsearch for orchestration and analytics. Please ensure that the host server meets the following minimum system requirements for operation of Elasticsearch:

- 8GB RAM
- 4 CPU cores
- 100GB of storage capacity per 100 devices discovered

**Note:** Asset data collected in Elasticsearch will be deleted 30 days after collection.

**Step 1:** Open a command prompt with administrator privileges and navigate to the directory where the installation file was unzipped/extracted.

**Step 2:** Run the installation script.

```
C:\>install_rmdc.bat
```

The user will be prompted to choose the basic or advanced installation.

```
1 - Basic
2 - Advanced
```

Please enter the number corresponding to the above installation types to proceed with the installation: [1,2]?

**Step 3:** Input 2 for the advanced installation.

2

The Western Digital End User License Agreement will be presented, and the user will be prompted to agree to the license agreement terms and conditions.

```
... 
Do you agree All License Agreement Terms and Conditions [Y,N]?
```

**Step 4:** If you agree, enter y to accept the agreement.

Result: The Resource Manager Data Center Edition application is now installed on the Windows OS.
The installation script will install Resource Manager Data Center Edition, notify the user when the installation is complete, and return to the command prompt.

...  
RMDC installation completed.  
C:\>

Result: The Resource Manager Data Center Edition application is now installed on the Windows OS.

2.8 Windows – Docker Installation

This procedure provides instructions for installing the Resource Manager Data Center Edition application on a host server with a Windows operating system using Docker.

Note: The Docker installation of Resource Manager Data Center Edition is supported by Windows Server 2022 but not Windows Server 2019.

Note: For any troubleshooting or configuration changes that require restarting Docker, a restart script is included. The usage menu can be accessed using the -h or --help option:

C:\>rmdc_container.bat --help  
Usage:rmdc_containers.bat [ -s | --start Start RMDC containers ]  
[ -p | --stop Stop RMDC containers ]  
[ -r | --restart Restart RMDC containers]  
[ -h | --help  Help Info ]

Step 1: Navigate to https://docs.docker.com/desktop/install/windows-install/ and follow the instructions for downloading and installing the Docker Desktop.

Note: Please use the WSL based installation (default option) when installing the Docker Desktop.

Step 2: For Linux based containers to work in Windows, a few options must be enabled in the Windows PowerShell commands. Navigate to https://www.addictivetips.com/windows-tips/how-to-run-linux-docker-containers-on-windows-server/ and follow the steps in the PowerShell console and the instructions for enabling the "Virtual Machine Platform".

Step 3: After the "Virtual Machine Platform" is setup properly, ensure that the Docker Engine is running successfully and Docker Desktop launches without issues.

Step 4: Open a command prompt with administrator privileges and use the Windows installer script to install the Western Digital containers.

C:\>install_rmdc_docker.bat

Note: Use the -h or --help option to see the usage menu for the installer script:

Usage:install_rmdc_docker.bat [ -i | --ip Docker host IP]
Network & Device Access

The topics in this section provide information and instructions for accessing the network, devices on the network, and network-level operations that can be performed with the Resource Manager Data Center Edition.

In This Chapter:
- Logging in to the Network Dashboard................................................................. 18
- Overview of Network Dashboard............................................................................. 20
- Configuring Discovery Settings................................................................................. 30
- Creating a Management Group................................................................................ 33
- Administering Group Operations............................................................................. 38
- Navigating to a Management Server Dashboard...................................................... 42
- Navigating to an Enclosure Dashboard (Data Center Edition)................................. 44
3.1 Logging in to the Network Dashboard

This procedure provides instructions for logging in to the network dashboard through a central management server hosting the Resource Manager Data Center Edition.

**Step 1:** Open a browser and enter the IP address of the management server into the address bar, followed by /login. For example: <serverIP>/login.

The login screen for the management server will appear:

*Figure 11: Management Server Login Screen*

![Sign In - COS-MIMAS](image)

**Note:** By default, the Dashboard NOC checkbox is checked. This enables the network dashboard page to continually display in Network Operations Center mode without session timeout.

**Step 2:** Enter a valid username and password, and click the **Sign In** button.

**Note:** The default username/password is admin/admin.

The Resource Manager Data Center Edition will scan all compatible devices on the network and display the results in a dashboard format:
3. Network & Device Access

3.1 Logging in to the Network Dashboard

What to do next: Proceed to Overview of Network Dashboard (page 20).
3.2 Overview of Network Dashboard

The network dashboard is a summary page that displays health and utilization data for all compatible devices on the network.

**Resource Health**

The **Resource Health** section displays a pie chart that groups the health states of devices into color-coded segments.

*Figure 13: Resource Health Pie Chart*
For additional details, click one of the segments. This will bring up a window with a detailed listing of the devices in that state:

**Figure 14: Health States**

- **OK (70)**
- **DEGRADED/WARNING (6)**
- **CRITICAL FAILURE (9)**
- **NOT AVAILABLE (1)**
Resource Utilization

The **Resource Utilization** section displays an aggregate of the total, free, and used storage across all storage devices discovered on the network.

*Figure 15: Resource Utilization Chart*
Health by Device Type

The center section of the dashboard contains health status information, organized by device type.

Figure 16: Health by Device Type

For additional details, click one of the panels. This will bring up a window with a detailed listing of the devices and health states for that device type.

Figure 17: Health by Device Type
Resources

The **Resources** section provides a list of all the compatible devices (resources) discovered on the network.

*Figure 18: Resources*
If needed, click the **Resources** bar to expand the list. By default, resources are presented in a list view and sorted by the severity of their health status:

**Figure 19: Resources**

![Resources](image-url)
If desired, click the **Grid View** icon to display resources in a grid view:

*Figure 20: Resources*

For more information on logging in to devices on the resource list, see *Navigating to a Management Server Dashboard* (page 42), *Navigating to an Enclosure Dashboard (Data Center Edition)* (page 44), or *Navigating to an Enclosure Dashboard (Standard Edition)* (page 46).
Settings

The upper-right section of the dashboard contains a *Settings* icon.

*Figure 21: The Settings Menu*

Clicking the *Settings* icon will expand the settings section, which contains tabs for *Discovery*, *Group Management*, and *Group Administration*. 
Discovery

The **Discovery** tab contains controls for configuring the scan for resources, with sections for **Discovery Settings** and **Scan Range**.

*Figure 22: The Discovery Tab*

For more information on configuring discovery settings, see [Configuring Discovery Settings](#) (page 30).

Group Management

The **Group Management** tab contains controls for creating groups of resources in order to perform operations on multiple resources simultaneously.

*Figure 23: The Group Management Tab*

For more information on configuring group management settings, see [Creating a Management Group](#) (page 33).
Group Administration

The **Group Administration** tab contains controls for administering operations to the groups of resources created on the **Group Management** tab.

*Figure 24: The Group Administration Tab*

For more information on configuring group administration settings, see [Administering Group Operations (page 38)](#).
3.3 Configuring Discovery Settings

This procedure provides instructions for configuring the settings of the network scan used to discover supported devices.

Before you begin:
- Follow the instructions for Logging in to the Network Dashboard (page 18).

Step 1: From the upper right corner of the network dashboard, click the Settings icon.

![Figure 25: Settings Icon](image)

The Settings section will appear on the right side of the screen, displaying the last visited tab.

Step 2: If needed, click the Discovery tab to view the discovery settings.

![Figure 26: Discovery Settings](image)

Step 3: Click to expand the Discovery Settings section.

![Figure 27: Discovery Settings](image)

Step 4: Use the available fields as follows to configure the settings for the discovery scan:
Discovery Timeout: This value determines the ping wait time allocated per discovery request to receive a positive response for each Scan Range entry. A longer value is suggested when scanning across larger distance networks. Each positive result is captured and used for the query request to retrieve the information.

Query Timeout: This value determines the query for information wait time allocated per query request to receive the information for each discovered platform/device. A longer value is suggested when scanning across larger distance networks. Once all discovered platform/device information is gathered, the results will be displayed in the Resources section at the bottom of the main screen.

Discovery Cycle Time: This value determines how often the entries in the Scan Range section are sent to discover resources on the network. See step 5 (page 31) for scan range entry instructions.

Step 5: Click to expand the Scan Range section.

Figure 28: Scan Range Section

The scan range determines the width of the network scan for platform/device discovery based on the IPv4 Address / CIDR entries and uses the Discovery Timeout and Query Timeout values during the scanning process. The default scan range is based on the subnet this application is running (e.g. 10.20.30.0/24), where the first three octets indicate the "subnet" and the "/24" indicates the whole subnet (e.g. last octet range of 1 to 254). There can be many disparate scan entries to cover multiple networks across multiple sites, as long as this application has visibility into those networks.

Step 6: Use the Add A New Netmask section to create a new scan range entry to apply to the overall set of enabled scan range entries.

The entry should be based on the IPv4 Address / CIDR format. Invalid Format will be displayed until the new entry meets the proper criteria. Scan ranges that overlap previous entries will display an Overlap icon ( ) at all enabled entries that overlap the network range.

a. If needed, hover over the Information icon ( ) on the right to view a CIDR calculator that shows the useable IP address scan range, indicated by First IP and Last IP values.

b. Use the Plus icon to add the new netmask entry to the settings:

Figure 29: Plus Icon
c. Click the checkbox to include the new netmask in the discovery process:

*Figure 30: Checkbox*

![Checkbox](image)

d. Use the **Minus** icon to remove a netmask entry from the settings:

*Figure 31: Minus Icon*

![Minus Icon](image)

**Result:** The settings of the discovery network scan have now been configured.
3.4 Creating a Management Group

This procedure provides instructions for creating a group of resources for the purpose of administering a group operation.

**Before you begin:**
- Follow the instructions for *Logging in to the Network Dashboard* (page 18).

**Step 1:** From the upper right corner of the network dashboard, click the **Settings** icon.

*Figure 32: Settings Icon*

The **Settings** section will appear on the right side of the screen, displaying the last visited tab.

**Step 2:** If needed, click the **Group Management** tab to view the group management settings.

*Figure 33: Group Management Settings*

**Step 3:** Click to expand the **Resources** section.
Step 4: From the list of discovered resources, use the toggle switches to select which resources will be included in a group.
**Important:** It is possible to create a group of resources that are not of the same type (i.e. a "mixed" group). When administering operations to mixed groups, some operations will not be possible. For example, updating Ultrastar enclosure firmware on a mixed group that contains an OpenFlex enclosure will not be allowed.

**Note:** When a resource’s login credentials don’t match those of the Resource Manager Data Center Edition on the management server, the resource’s status will appear as *Unauthorized* and a *Lock* icon will be displayed:

![Figure 36: Lock Icon](Image)

Clicking the *Lock* icon will bring up a dialog box, allowing the user to provide login credentials for that resource.
If login credentials are provided, the information for this resource will become available on the next discovery scan.

**Step 5:** To give the resource group a name and description, click to expand the **Group Creation Options** section, and enter a name and description into the available fields.

**Figure 38: Group Creation Options**

![Group Creation Options](image)

Step 6: Click the **Create** button.

**Figure 39: Create Button**

![Create Button](image)

A progress icon will briefly appear while the group is being created. Afterward, the group will become a selectable option in the **Groups** section.
Step 7: Click to expand the Groups section and verify that the new group is available.

Result: The newly created group is now available for administering group operations to the included resources.
3.5 Administering Group Operations

This procedure provides instructions for administering an operation to a group of resources and tracking the operation progress.

Before you begin:
1. Follow the instructions for Logging in to the Network Dashboard (page 18)
2. Follow the instructions for Creating a Management Group (page 33)

Note: This procedure demonstrates applying a Locate LED task to a group of resources.

Step 1: From the upper right corner of the network dashboard, click the Settings icon.

Figure 42: Settings Icon

The Settings section will appear on the right side of the screen, displaying the last visited tab.

Step 2: If needed, click the Group Administration tab to view the group administration settings.

Figure 43: Group Administration Settings

Step 3: Click to expand the Group Operations section.
3. Network & Device Access
3.5 Administering Group Operations

Step 4: Click the Group Tasks icon for the desired group.

A list of available tasks will be displayed.

Important: The available tasks are based on the resources that make up the group. Some options may be grayed-out if they cannot be performed on every resource in the group (i.e. updating Ultrastar enclosure firmware on a group that contains an OpenFlex enclosure).
3. Network & Device Access
3.5 Administering Group Operations

Important: Other options may be allowed even when devices in the group cannot comply with the request (i.e. enabling a locate LED on a device that is in sleep mode or whose LED is already enabled). In such instances, the request will be ignored by those devices.

Step 5: Scroll to the desired task and click to select it. A new window will be displayed for that group operation:

Figure 47: Group Operation Window

Step 6: Provide the required information (specific to the task), and click the Begin Operation button.

Figure 48: Begin Operation Button

Step 7: Click the OK button to confirm the operation. The Group Operation window will display the progress of the operation:
When the operation is complete, the **Group Operations** window will update to show the completed operation:

**Figure 51: Group Operation Complete**

---

**Step 8:** Click **CLOSE** to close the **Group Operations** window and return to the **Group Administration** settings tab.

**Result:** The group administration settings have now been configured.
3.6 Navigating to a Management Server Dashboard

This procedure provides instructions for navigating to a central management server’s dashboard.

Before you begin:

• Follow the instructions for Logging in to the Network Dashboard (page 18).

Step 1: From the Resources list, identify the resource (server) to be accessed.

Step 2: If needed, click anywhere on the resource row to expand the server details.

Step 3: Click the Device Actions icon.

Step 4: Click to select your preferred option.
The server dashboard will appear.

**Figure 57: Management Server Dashboard**

**Step 5:** If desired, bookmark this dashboard in your browser for future use.

**What to do next:** Proceed to *Server Management (page 48)* for instructions on performing server-level management operations.
3.7 Navigating to an Enclosure Dashboard (Data Center Edition)

This procedure provides instructions for navigating to an enclosure's dashboard, as presented by a server running Resource Manager Data Center Edition.

Before you begin:

• Follow the instructions for Logging in to the Network Dashboard (page 18).

Step 1: From the Resources list, identify the resource (enclosure) to be accessed. The following example is an Ultrastar Data60 storage enclosure.

*Figure 58: Enclosure Details*

![](image)

**Tip:** Enter the name of the enclosure into the Search field to narrow down the Resources list for faster searching:

*Figure 59: Search Field*

![](image)

Step 2: If needed, click anywhere on the row to expand the enclosure details.

*Figure 60: Expanded Enclosure Details*

![](image)

Step 3: Click the Device Actions icon.

*Figure 61: Device Actions Icon*

![](image)

The Device Actions window will appear, with options for accessing the enclosure in the current window or a new tab/window.
Step 4: Click to select your preferred option. The enclosure’s dashboard will appear.

Step 5: If desired, bookmark this dashboard in your browser for future use.

What to do next: Proceed to Ultrastar Enclosure Out-of-Band Management (page 166) or OpenFlex Enclosure Management (page 107) for instructions on performing enclosure-level management operations for your platform type.
3.7.1 Navigating to an Enclosure Dashboard (Standard Edition)

This procedure provides instructions for navigating to an enclosure’s dashboard, as presented by a directly attached compute server running Resource Manager Standard Edition.

Before you begin:

- Follow the instructions for Logging in to the Network Dashboard (page 18).

Step 1: From the Resources list, identify the resource (enclosure) to be accessed. The following example is an Ultrastar Data60 storage enclosure.

![Enclosure Details](Fig64.png)

**Tip:** Enter the name of the enclosure into the Search field to narrow down the Resources list for faster searching:

![Search Field](Fig65.png)

Step 2: If needed, click anywhere on the row to expand the enclosure details.

![Expanded Enclosure Details](Fig66.png)

Step 3: Click the Device Actions icon.

![Device Actions Icon](Fig67.png)

The Device Actions window will appear, with options for accessing the enclosure in the current window or a new tab/window.

![Device Actions Window](Fig68.png)
Step 4: Click to select your preferred option. The enclosure’s login screen will appear.

Figure 69: Standard Edition Login Screen

Western Digital Resource Manager – Standard.
Monitoring and Management Capabilities for Western Digital platforms.

This chapter provides information and instructions for management operations that can be performed on the central management server using Resource Manager Data Center Edition.

In This Chapter:
- Overview of Management Server Dashboard..............................................49
- Device Information..........................................................................................50
- Administration.................................................................................................52
- Accounts...........................................................................................................68
- Location............................................................................................................74
- Device OS.........................................................................................................76
- Assets................................................................................................................77
- Policies..............................................................................................................81
- Notifications....................................................................................................92
4.1 Overview of Management Server Dashboard

The management server dashboard contains information and controls for managing the server that hosts the Resource Manager Data Center Edition.

Server Information

The upper section of the dashboard contains panels that present basic server information, such as the network device name, Resource Manager Data Center Edition software version, and uptime statistics.

Figure 70: Server Information Panels

Server Management Controls

The bottom portion of the dashboard provides additional server information and management controls, which are organized into the following tabs:

- Device Information
- Administration
- Accounts
- Location
- Device OS
- Policies
- Assets

The following sections provide procedures for the most common management actions available from these tabs.
4.2 Device Information

The management server’s Device Information tab provides general information about the server and its network role, including IP addresses and the version of Resource Manager Data Center Edition running on it.

4.2.1 Viewing & Downloading Logs & Notices

This procedure provides instructions for downloading logs and notices from the management server using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Device Information tab.

Step 2: Click the Device Files button.

A Device File Viewer window will appear:
Step 3: Use the radio buttons at the top to select the audit logs, notices, or the EULA to be viewed/downloaded. The Resource Manager Data Center Edition will retrieve the selected information.

Step 4: Click the Export button to download the selected files.

Step 5: Click the Close button to close the Device File Viewer.

Result: The logs or notices have now been downloaded from the management server.
4.3 Administration

The management server’s Administration tab provides controls for configuring administration settings, including LDAP/AD and SSL/TLS.

4.3.1 Software Factory Reset

This procedure provides instructions for performing a factory reset of the Resource Manager Data Center Edition software.

Before you begin:

- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Administration tab.

Figure 77: Administration Tab

The Administration page will appear:

Figure 78: Administration Page

Step 2: In the Maintenance section, click the Factory Reset button. This will return Resource Manager Data Center Edition to its original factory settings.

Figure 79: Reset Button

Result: The Resource Manager Data Center Edition has now been returned to factory settings.
4.3.2 Adding an LDAP/AD Group

This procedure provides instructions for adding a Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) group to the management server using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Administration tab.

Figure 80: Administration Tab

The Administration page will appear:

Figure 81: Administration Page

Step 2: In the Settings section, click the Add Group button.

Figure 82: Add Group Button

ADD GROUP

The Add Group window will appear:
Step 3: Type a name into the **Group Name** field, and use the radio buttons to select a role for the group.

**Figure 84: Naming the Group**

Step 4: Click the **Add Group** button.

**Figure 85: Add Group Button**

A success message will be displayed:
Step 5: Click Close to close the Add Group window.

Step 6: In the Settings section, under Groups, verify that LDAP/AD group has been created.

Result: The LDAP/AD group has now been added to the server.
4.3.3 Configuring LDAP/AD Settings

This procedure provides instructions for configuring Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) connection settings on the management server using the Resource Manager Data Center Edition.

Before you begin:

1. Follow the instructions for Navigating to a Management Server Dashboard (page 42).
2. Follow the instructions for Adding an LDAP/AD Group (page 53).

Step 1: From the server dashboard, click the Administration tab.

![Administration Tab]

The Administration page will appear:

![Administration Page]

Step 2: In the Settings section, under LDAP Server, click the Modify button.

![Modify Button]

An LDAP / AD window will appear:
Step 3: Type the hostname or IP address of the LDAP/AD server into the **LDAP Server** field, and type the LDAP/AD domain name into the **LDAP Domain** field.

Step 4: Click the **Update** button to save the LDAP/AD configuration.
When the update is complete, the LDAP Server section will display the new settings:

Step 5: To enable the new configuration, click to toggle the LDAP Server switch to the ON position.
**Note:** To enable an LDAP/AD configuration, at least one LDAP/AD group must be configured.

**Result:** The Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) connection settings have now been configured.
4.3.4 Uploading an LDAP/AD Certificate

This procedure provides instructions for uploading a Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) certificate to the management server using the Resource Manager Data Center Edition.

Before you begin:

1. Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Administration tab.

![Administration Tab](image)

The Administration page will appear:

![Administration Page](image)

Step 2: In the Settings section, under LDAP Server, click the LDAP/AD Server Certificate Upload button.

![LDAP/AD Server Certificate Upload Button](image)

An LDAP Server Certificate window will appear, showing step 1 of 2:
Step 3: Either type the certificate filename into the Certificate File field, or click the Select File button to browse to the certificate and select it.

Step 4: Click the Next button.

The LDAP Server Certificate window will proceed to step 2:
Figure 104: Confirm Certificate

Step 5: Review the selected certificate file name. If correct, click the Please Confirm checkbox and then click the Upload Certificate button to upload the certificate.
**Result:** The Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) certificate has now been uploaded to the management server.
4.3.5 Uploading an HTTPS Certificate & Key

This procedure provides instructions for uploading an SSL/TLS certificate and key pair to the management server using the Resource Manager Data Center Edition.

Before you begin:

• Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Administration tab.

Figure 106: Administration Tab

The Administration page will appear:

Figure 107: Administration Page

Step 2: Under Settings, in the HTTPS Certificate Settings section, click the Certificate & Key Upload button.

Figure 108: Certificate & Key Upload Button

A TLS Certificate & Key Pair window will appear, showing step 1 of the upload process:
Step 3: Click the **Select File** buttons to browse to the desired certificate and key files on the host system.

**Figure 110: Certificate & Key Files Selected**

Step 4: Click the **Next** button.
Figure 111: Next Button

Next

The TLS Certificate & Key Pair window will update to show step 2 of the upload process:

Figure 112: Confirm Certificate & Key Files

Step 5: Review the selected certificate and key file names. If correct, click the Please Confirm checkbox and then click the Upload Certificate button to upload the pair of files.
Result: The SSL/TLS certificate and key pair have now been uploaded to the management server.
4.4 Accounts

The management server’s Accounts tab provides controls for configuring admin and user account access to the server.

4.4.1 Creating a User Account

This procedure provides instructions for creating a user account on the management server using Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Accounts tab.

![Figure 114: Accounts Tab](image)

The Accounts page will appear:

![Figure 115: Accounts Page](image)

Step 2: Click the Create Accounts button.

![Figure 116: Create Accounts Button](image)

A Create Accounts window will appear:
Step 3: Use the available fields to enter a user ID, role, and password. Then click the Create button.

Result: The user account has now been created on the management server.
4.4.2 Editing a User Account

This procedure provides instructions for editing a user account on the management server using Resource Manager Data Center Edition.

Before you begin:

• Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Accounts tab.

![Accounts Tab](image)

The Accounts page will appear:

![Accounts Page](image)

Step 2: Click the Edit icon for the account to be edited.

![Edit Icon](image)

An Update Account window will appear:
Step 3: Use the available fields to edit the account role or password. Then click the Update button.

Result: The management server’s user account has now been edited.
4.4.3 Deleting a User Account

This procedure provides instructions for deleting a user account on the management server using Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Accounts tab.

![Accounts Tab](image)

The Accounts page will appear:

![Accounts Page](image)

Step 2: Click the Delete icon for the account to be deleted.

![Delete Icon](image)

A dialogue box will appear, prompting the user to confirm the deletion:
4. Server Management

4.4 Accounts

Figure 127: Confirm Account Deletion

Are you sure you want to delete Test?

OK  Cancel

Step 3: Click OK.

After the deletion is processed, the Accounts page will refresh to show the remaining accounts:

Figure 128: Remaining Accounts

<table>
<thead>
<tr>
<th>User Id</th>
<th>Identifier</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>admin</td>
<td>Admin</td>
</tr>
<tr>
<td>B1</td>
<td>B1</td>
<td>ReadOnly</td>
</tr>
</tbody>
</table>

Result: The management server’s user account has now been deleted.
4.5 Location

The management server’s **Location** tab provides controls for configuring the server’s physical location attributes.

### 4.5.1 Setting Location Attributes

This procedure provides instructions for setting/modifying the location attributes of the management server using the Resource Manager Data Center Edition.

**Before you begin:**

- Follow the instructions for **Navigating to a Management Server Dashboard** *(page 42).*

**Step 1:** From the server dashboard, click the **Location** tab.

*Figure 129: Location Tab*

![Figure 129: Location Tab](image)

The **Location** page will appear:

*Figure 130: Location Page*

![Figure 130: Location Page](image)
Step 2: To edit a location attribute, click the attribute’s edit icon.

*Figure 131: Edit Icon*

![Edit Icon](image)

Step 3: Repeat as needed to set/modify the remaining attributes.

Result: The location attributes of the management server have now been set.
4.6 Device OS

The management server’s **Device OS** tab provides information about the currently installed version of Resource Manager Data Center Edition and controls for updating it.

### 4.6.1 Checking the Resource Manager Software Version

This procedure provides instructions for checking the version of the Resource Manager Data Center Edition software on the management server.

**Before you begin:**

- Follow the instructions for [Navigating to a Management Server Dashboard](#) (page 42).

**Step 1:** From the server dashboard, click the **Device OS** tab.

![Device OS Tab](image)

The **Device OS** page will appear, displaying the version number:

![Device OS Page](image)

**Result:** The version of the Resource Manager Data Center Edition software has now been checked.
4.7 Assets

The management server’s Assets tab provides searchable information about resources discovered on the same network as the server.

4.7.1 Checking the Status of Assets

This procedure provides instructions for checking the status of assets (or resources) discovered by the network scan.

Before you begin:

- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Assets tab.

**Figure 134: Assets Tab**

The Assets page will appear, providing a list of discovered assets with information such as resource names, IP addresses, and health status:

**Figure 135: Assets Page**
**Note:** In cases where an asset's login credentials don’t match those of the Resource Manager Data Center Edition on the management server, the asset’s status will appear as *Unauthorized* and a *Lock* icon will be displayed:

*Figure 136: Lock Icon*

![Lock Icon](image)

Clicking the *Lock* icon will bring up a dialog box, allowing the user to provide login credentials for that asset.

*Figure 137: Locked Asset Login Dialog Box*

![Locked Asset Login Dialog Box](image)

If login credentials are provided, the information for this asset will become available on the next discovery scan.

**Step 2:** Use the **Search** field to limit the asset results by search criteria.
Important: The Search field provides a powerful "deep search" capability for inventory management. Search terms are compared to all attributes associated with an asset, as shown in the expanded asset information in step 3 (page 79). For example, searching on a drive serial number will show which enclosure contains that drive.

Step 3: For additional information about an asset, click the asset's table row or down-arrow. The row will expand to provide additional information:
Figure 139: Additional Asset Info

Result: The status of discovered assets has now been checked.
4.8 Policies

The management server’s Policies tab provides information and controls for configuring server policies.

4.8.1 Creating a Policy

This procedure provides instructions for creating a policy on the management server.

Before you begin:

- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Policies tab.

Step 2: Click the Create Policy button.

A Create Policy window will be displayed, showing step 1:
Step 3: Use the available fields to input a name and description for the policy, and use the toggle switch to enable or disable the policy once it is created.

Step 4: Click the Next button.
Figure 145: Next Button

The **Create Policy** window will proceed to step 2:

**Figure 146: Create Policy Window**

**Step 5:** In the **Rule: Name & Salience** section, use the available fields to input a rule name, salience, and the action to be taken. This creates a rule within the policy.
Step 6: Click to expand the **Rule: Conditions** section, and use the available fields to define the conditions that will trigger the rule. The following example shows the condition of `CablePresent == false`. 
4. Server Management

4.8 Policies

**Step 7:** Click the plus icon to add the rule to the policy.
Step 8: If needed, click to expand the **Rule: Description & Log** section. Use the available fields to input a description of the rule and a label for when this condition is logged.

*Figure 150: Rule Conditions*

Step 9: To add another rule to the policy, click the **Add Rule** button. Then repeat steps 5 (*page 83*) through 8 (*page 86*) to name the rule and define its conditions.

*Figure 151: Add Rule Button*

Step 10: When all rules for the policy have been added, click the **Next** button.

*Figure 152: Next Button*

The **Create Policy** window will proceed to step 3.
Step 11: Review the listed rule(s). If the information looks correct, click the Please Confirm checkbox and then click the Create button.
A popup window will appear, showing the progress of the policy creation.

**Figure 155: Policy Creation Progress**

**Step 12:** When the progress window disappears, check the table on the **Policies** page to ensure that the newly created policy is displayed.
Result: The policy has now been created on the management server.
4.8.2 Deleting a Policy

This procedure provides instructions for deleting a policy from the management server.

**Before you begin:**
- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

**Step 1:** From the server dashboard, click the **Policies** tab.

![Policies Tab](image)

The **Policies** page will appear:

![Policies Page](image)

**Step 2:** Click the **Delete Policy** icon for the policy to be deleted.

![Delete Policy Icon](image)

A popup window will prompt the user to confirm the deletion:

![Delete Policy Icon](image)
Step 3: Click the OK button.
A popup window will appear, showing the progress of the policy deletion.

**Figure 161: Policy Deletion Progress**

Step 4: When the progress window disappears, check the table on the Policies page to ensure that the policy is no longer listed.

**Figure 162: Policies Page**

<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Enabled</th>
<th>Description</th>
<th>Create Date</th>
<th>Last Modified</th>
<th>Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disk FRU</td>
<td>12865-054-1016-017-</td>
<td></td>
<td></td>
<td>07-Aug-2023</td>
<td>16-Aug-2023</td>
<td></td>
</tr>
<tr>
<td>Health 2 Check</td>
<td></td>
<td></td>
<td>Policy for track health for specifier uuid=9220-ueba822b20230f211c</td>
<td>09-Aug-2023</td>
<td>09-Aug-2023</td>
<td></td>
</tr>
<tr>
<td>Temperature Sensor Check</td>
<td></td>
<td></td>
<td>Policy to track temperature</td>
<td>08-Aug-2023</td>
<td>08-Aug-2023</td>
<td></td>
</tr>
</tbody>
</table>

Result: The policy has now been deleted from the management server.
4.9 Notifications

The management server’s Notifications tab provides information and controls for configuring SMTP alerts and SNMP traps.

4.9.1 Creating an SMTP Alert

This procedure provides instructions for creating a Simple Mail Transfer Protocol (SMTP) alert on the management server.

Before you begin:
- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Notifications tab.

![Notifications Tab](image1)

The Notifications page will appear:

![Notifications Page](image2)

Step 2: Click the Create Notification button.

![Create Notification Button](image3)

A Create Notification window will appear, showing step 1:
Step 3: Use the available fields to select the **SMTP Alert** notification type, and input a name and description for the notification.

**Figure 167: Notification Type**

Step 4: Click the **Next** button.
Figure 168: Next Button

The **Create Notification** window will update to show step 2:

Figure 169: SMTP Settings

**Step 5:** Use the available fields to input the required SMTP settings.
Step 6: Click the Next button.

The Create Notification window will update to show step 3:
Step 7: Use the Email Address field to input the addresses that will receive the alert. The addresses will then appear in the Recipients list. Use the Distributions Name field to name this email distribution group.
Tip: Use the Add Distribution or Remove Distribution buttons to create additional email distribution groups or delete existing groups.

Step 8: Click the Next button.

The Create Notification window will update to show step 4:
Step 9: Review the listed information. If correct, click the Please Confirm checkbox and then click the Create button.
When the notification has been created, it will appear in the notifications list:

Result: The SMTP notification has now been created on the management server.
4.9.2 Creating an SNMP Trap

This procedure provides instructions for creating a Simple Network Management Protocol (SNMP) trap on the management server.

**Before you begin:**
- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

**Important:** Resource Manager Data Center Edition currently supports only SHA and DES authentication protocols for SNMP traps.

**Step 1:** From the server dashboard, click the **Notifications** tab.

*Figure 179: Notifications Tab*

The **Notifications** page will appear:

*Figure 180: Notifications Page*

**Step 2:** Click the **Create Notification** button.

*Figure 181: Create Notification Button*

A **Create Notification** window will appear, showing step 1:
Step 3: Use the available fields to select the **SNMP Trap** notification type, and input a name and description for the notification.

Step 4: Click the **Next** button.
4. Server Management
4.9 Notifications

Figure 184: Next Button

The Create Notification window will update to show step 2:

Figure 185: SNMP Settings

Step 5: Use the available fields to input the required SNMP settings.

Figure 186: Populated SNMP Settings

Step 6: Click the Next button.
4. Server Management

4.9 Notifications

**Figure 187: Next Button**

The **Create Notification** window will update to show step 3:

**Figure 188: SNMP Confirmation**

**Step 7:** Review the listed information. If correct, click the **Please Confirm** checkbox and click the **Create** button.

**Figure 189: Create SNMP Notification**
When the notification has been created, it will appear in the notifications list:

**Figure 190: SNMP Notification Created**

![Notifications List]

Result: The SNMP trap has now been created on the management server.
4.9.3 Deleting a Notification

This procedure provides instructions for deleting a notification from the management server.

Before you begin:
- Follow the instructions for Navigating to a Management Server Dashboard (page 42).

Step 1: From the server dashboard, click the Notifications tab.

![Figure 191: Notifications Tab](image)

The Notifications page will appear:

![Figure 192: Notifications Page](image)

Step 2: Click the Delete icon next to the notification to be deleted.

![Figure 193: Delete Icon](image)

A popup will prompt the user to confirm the deletion:

![Figure 194: Confirm Deletion](image)

Step 3: Click the OK button to confirm the deletion.

After the deletion has been processed, the notification will be removed from the Notifications page.
**Figure 195: Notification Removed**

<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Type</th>
<th>Description</th>
<th>Create Date</th>
<th>Last Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACF Enroll</td>
<td>6b6b104f64f</td>
<td>SNMPAlert</td>
<td>Resource Manager Data Center Enrollment</td>
<td>10-Aug-2023 15:45:11</td>
<td>10-Aug-2023 15:45:11</td>
</tr>
<tr>
<td>RACF Error</td>
<td>6b6b104f64f</td>
<td>SNMPTrap</td>
<td>Resource Manager Data Center Error</td>
<td>05-Jul-2023 15:42:31</td>
<td>15-Aug-2023 15:42:31</td>
</tr>
</tbody>
</table>

**Result:** The notification has now been deleted from the management server.
OpenFlex Enclosure Management

This chapter provides instructions for managing OpenFlex products using the Resource Manager Data Center Edition.

In This Chapter:
- Overview of OpenFlex Dashboard ................................................................. 108
- Device Information .................................................................................. 113
- Administration ....................................................................................... 117
- Accounts .................................................................................................... 138
- Location ..................................................................................................... 145
- Controllers ............................................................................................... 148
- Power Supplies ........................................................................................ 149
- Fans .......................................................................................................... 150
- Ports .......................................................................................................... 151
- Sensors ..................................................................................................... 156
- Device OS ................................................................................................. 158
- Media ........................................................................................................ 163
5.1 Overview of OpenFlex Dashboard

The upper portion of the dashboard for an OpenFlex enclosure provides a summary of the enclosure status.

**Device Health**

The *Device Health* section displays a pie chart that groups the health states of this enclosure's components, devices, and sensors into color-coded segments.

*Figure 196: Device Health Pie Chart*
For additional details, click one of the segments. This will bring up a window with a detailed listing of the components, devices, and sensors in that state:

*Figure 197: Components & Sensors Health Status*
Device Utilization

The **Device Utilization** section displays an aggregate of the total, free, and used storage on this enclosure.

*Figure 198: Device Utilization Chart*
Maximum Temperature Sensor

The Maximum Temperature Sensor section of the dashboard displays a temperature scale for the sensor with the highest temperature in the enclosure.

*Figure 199: Maximum Temperature Scale*

For additional details, click the i at the bottom of the panel. This will bring up a window showing the thresholds for that sensor:

*Figure 200: Sensor Temperature Thresholds*
Device Information
The panels in the middle section provide information about the enclosure, including the device ID, firmware version, and uptime/runtime.

Figure 201: Device Details

Device Management Controls
The bottom portion of the dashboard provides enclosure management information and controls, which are organized into the following tabs:

- Device Information
- Administration
- Accounts
- Location
- Controllers
- Power Supplies
- Cooling Devices
- Ports
- Sensors
- Device OS
- Media

The following sections provide procedures for the most common management actions available from these tabs.
5.2 Device Information

The OpenFlex enclosure’s Device Information tab provides general information about the enclosure and its network role, such as model, serial number, hostname, and IP addresses.

5.2.1 Viewing/Downloading Logs & Files

This procedure provides instructions for downloading logs, notices, firmware build information, and telemetry files from an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Device Information tab.

![Figure 202: Device Information Tab]

The Device Information page will appear:

![Figure 203: Device Information Page]

Step 2: Click the Device Logs button.

![Figure 204: Device Logs Button]

A Device File Viewer window will appear:
5. OpenFlex Enclosure Management
5.2 Device Information

Step 3: Use the radio buttons at the top to select the logs or files to be viewed/downloaded. The Resource Manager Data Center Edition will retrieve the selected information.

Step 4: Click the Export button to download the selected files.

Step 5: Click the Close button to close the Device File Viewer.

Result: The logs or files have now been downloaded from the OpenFlex enclosure.
5.2.2 Enabling the Enclosure Ident LED

This procedure provides instructions for enabling the identification LED of an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Device Information tab.

Step 2: Click the Locator LED button.
5. OpenFlex Enclosure Management

5.2 Device Information

Figure 210: Locator LED Button

The enclosure's identification LED will pulse with a blue color, indicating that it is enabled:

Figure 211: Identification LED Enabled

Step 3: To disable the LED, click it again.

Result: The identification LED of the OpenFlex enclosure has now been enabled.
5.3 Administration

The OpenFlex enclosure’s Administration tab provides controls for administrative operations, such as rebooting the enclosure, LDAP/AD settings, and uploading an SSL/TLS certificate.

5.3.1 Rebooting the Enclosure

This procedure provides instructions for rebooting an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Administration tab.

Figure 212: Administration Tab

The Administration page will appear:

Figure 213: Administration Page

Step 2: Click the Reboot button.

Caution: Clicking the Reboot button will reboot the enclosure, making it unavailable until the reboot is completed.
The enclosure will be rebooted, and will become available again when the reboot is completed.

**Result:** The OpenFlex enclosure has now been rebooted.
5.3.2 Enclosure Factory Reset

This procedure provides instructions for performing a factory reset of the OpenFlex enclosure using Resource Manager Data Center Edition software.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Administration tab.

![Figure 215: Administration Tab](image)

The Administration page will appear:

![Figure 216: Administration Page](image)

Step 2: In the Maintenance section, click the Factory Reset button.

![Figure 217: Reset Button](image)

The enclosure will become unresponsive until it is returned to its original factory settings.

Result: The enclosure has now been reset.
5.3.3 Adding an LDAP/AD Group

This procedure provides instructions for adding a Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) group to an OpenFlex enclosure using the Resource Manager Data Center Edition.  

Before you begin:
• Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Administration tab.

Step 2: In the Settings section, click the Add Group button.
Step 3: Type a name into the Group Name field, and use the radio buttons to select a role for the group.

Step 4: Click the Add Group button.

A success message will be displayed:
5. OpenFlex Enclosure Management
5.3 Administration

Figure 224: Successful Addition of Group

Step 5: Click Close to close the Add Group window.

Figure 225: Closing the Add Group Window

Step 6: In the Settings section, under Groups, verify that LDAP/AD group has been created.

Figure 226: Verifying the Group

Result: The LDAP/AD group has now been added to the enclosure.
5.3.4 Configuring LDAP/AD Settings

This procedure provides instructions for configuring Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) connection settings on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

1. Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).
2. Follow the instructions for Adding an LDAP/AD Group (page 120).

Step 1: From the enclosure dashboard, click the Administration tab.

![Figure 227: Administration Tab](image)

The Administration page will appear:

![Figure 228: Administration Page](image)

Step 2: In the Settings section, under LDAP Server, click the Modify button.

![Figure 229: Modify Button](image)

An LDAP / AD window will appear:
Step 3: Type the hostname or IP address of the LDAP/AD server into the **LDAP Server** field, and type the LDAP/AD domain name into the **LDAP Domain** field.

Step 4: Click the **Update** button to save the LDAP/AD configuration.

The **LDAP Server** section will be overlaid with a modal, showing that the update is in progress:
When the update is complete, the **LDAP Server** section will display the new settings:

**Figure 234: Updated LDAP / AD Settings**

**Step 5**: To enable the new configuration, click to toggle the **LDAP Server** switch to the **ON** position.
5. OpenFlex Enclosure Management
5.3 Administration

**Note:** To enable an LDAP/AD configuration, at least one LDAP/AD group must be configured.

*Figure 235: Toggle Switch*

![Toggle Switch Diagram]

**Result:** The Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) connection settings have now been configured.
5.3.5 Uploading an LDAP/AD Certificate

This procedure provides instructions for uploading a Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) certificate to an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

1. Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Administration tab.

Step 2: In the Settings section, under LDAP Server, click the LDAP/AD Server Certificate Upload button.

An LDAP Server Certificate window will appear, showing step 1 of 2:
Step 3: Either type the certificate filename into the Certificate File field, or click the Select File button to browse to the certificate and select it.

Step 4: Click the Next button.

The LDAP Server Certificate window will proceed to step 2:
Step 5: Review the selected certificate file name. If correct, click the Please Confirm checkbox and then click the Upload Certificate button to upload the certificate.
Result: The Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) certificate has now been uploaded to the enclosure.
5.3.6 Configuring NTP Settings

This procedure provides instructions for configuring network time protocol (NTP) settings on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

1. Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Administration tab.

Step 2: In the Settings section, under NTP Servers, click the Click to Edit link or the edit icon for one of the available NTP server configurations.
Step 3: Type the domain name of an NTP server into the text field, and then click the green checkmark.
After the NTP server is verified, the enclosure's NTP configuration will be updated:

**Step 4:** Click the red X to close the notification, and verify that the NTP server is now listed.

**Result:** The network time protocol (NTP) settings have now been configured on the enclosure.
5.3.7 Uploading an HTTPS Certificate & Key

This procedure provides instructions for uploading an SSL/TLS certificate and key pair to an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Administration tab.

![Administration Tab](image)

The Administration page will appear:

![Administration Page](image)

Step 2: In the HTTPS Certificate Settings section, click the Certificate & Key Upload button.

![Certificate & Key Upload Button](image)

A TLS Certificate & Key Pair window will appear, showing step 1 of the upload process:
5. OpenFlex Enclosure Management
5.3 Administration

Step 3: Click the Select File buttons to browse to the desired certificate and key files on the host system.

Step 4: Click the Next button.
The **TLS Certificate & Key Pair** window will update to show step 2 of the upload process:

**Step 5:** Review the listed certificate and key files, and click the **Please Confirm** checkbox if the files are correct. Then click the **Upload Certificate** button to upload the pair of files.
**Result:** The SSL/TLS certificate and key pair have now been uploaded to the OpenFlex enclosure.
5.4 Accounts

The OpenFlex enclosure’s Accounts tab provides controls for configuring admin and user account access.

5.4.1 Creating a User Account

This procedure provides instructions for creating a user account on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Accounts tab.

![Figure 259: Accounts Tab](image)

The Accounts page will appear:

![Figure 260: Accounts Page](image)

Step 2: Click the Create Accounts button.

![Figure 261: Create Accounts Button](image)

A Create Accounts window will appear:
Figure 262: Create Accounts Window

Step 3: Use the available fields to enter a **User ID**, **Role**, and **Password**. Then click the **Create** button.

Figure 263: Account Details

Step 4: When the account creation is complete, the **Accounts** page will display the new account.
Figure 264: Updated Accounts Page

<table>
<thead>
<tr>
<th>Accounts (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREATE ACCOUNTS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Id</th>
<th>Identifier</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>admin</td>
<td>Admin</td>
</tr>
<tr>
<td>Test</td>
<td>Test</td>
<td>ReadOnly</td>
</tr>
</tbody>
</table>

Result: The user account has now been created on the OpenFlex enclosure.
5.4.2 Editing a User Account

This procedure provides instructions for editing a user account on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

• Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Accounts tab.

Figure 265: Accounts Tab

The Accounts page will appear:

Figure 266: Accounts Page

Step 2: Click the Edit icon for the account to be edited.

Figure 267: Edit Icon

An Update Account window will appear:
Step 3: Use the available fields to edit the account Role or Password. Then click the Update button.

Result: The user account has now been edited on the OpenFlex enclosure.
5.4.3 Deleting a User Account

This procedure provides instructions for deleting a user account from an OpenFlex enclosure using the Resource Manager Data Center Edition.

**Before you begin:**
- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) *(page 44).*

**Step 1:** From the enclosure dashboard, click the Accounts tab.

*Figure 270: Accounts Tab*

The Accounts page will appear:

*Figure 271: Accounts Page*

**Step 2:** Click the Delete icon for the account to be deleted.

*Figure 272: Delete Icon*

The user will be prompted to confirm the account deletion:

*Figure 273: Confirm Account Deletion*

**Step 3:** Click the OK button.

After the deletion is processed, the Accounts page will display the remaining accounts:
Figure 274: Remaining Accounts

Result: The user account has now been deleted from the OpenFlex enclosure.
5.5 Location

The OpenFlex enclosure's Location tab provides controls for configuring the enclosure's physical location attributes.

5.5.1 Setting Location Attributes

This procedure provides instructions for setting the location attributes of an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Location tab.

![Figure 275: Location Tab](image)

The Location page will appear:
**Step 2:** To edit a location attribute, click the attribute’s edit icon.

A text field will be enabled, allowing up to 256 characters for the attribute.
Step 3: Type the appropriate information into the text field and click Enter. Repeat as needed to set/modify the remaining attributes.

Result: The location attributes of the OpenFlex enclosure have now been set.
5.6 Controllers

The OpenFlex enclosure's Controllers tab provides controls for managing the enclosure's IOMs.

5.6.1 Rebooting IOMs

This procedure provides instructions for rebooting the I/O modules of an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

• Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Controllers tab.

![Figure 279: Controllers Tab]

The Controllers page will appear:

![Figure 280: Controllers Page]

Step 2: Click the Reboot button for the desired IOM.

Caution: Clicking the Reboot button will reboot the IOM, making it unavailable until the reboot is completed.

![Figure 281: Reboot Button]

The IOM will be rebooted, and will become available again when the reboot is completed.

Result: The IOM of the OpenFlex enclosure has now been rebooted.
5.7 Power Supplies

The OpenFlex enclosure’s Power Supplies tab provides information about the enclosure’s PSUs.

5.7.1 Checking the Health of PSUs

This procedure provides instructions for checking the health of power supplies for an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

**Step 1:** From the enclosure dashboard, click the Power Supplies tab.

![Figure 282: Power Supplies Tab](image)

The Power Supplies page will appear:

![Figure 283: Power Supplies Page](image)

<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Part Number</th>
<th>Serial Number</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER SUPPLY A</td>
<td>1</td>
<td>DPS-2000A8-2 D</td>
<td>JEUD201000106</td>
<td>Green</td>
<td>None</td>
</tr>
<tr>
<td>POWER SUPPLY B</td>
<td>2</td>
<td>DPS-2000A8-2 D</td>
<td>JEUD201000067</td>
<td>Green</td>
<td>None</td>
</tr>
</tbody>
</table>

**Step 2:** On the right hand side of the page, check the health indicators to ensure that the PSUs aren’t reporting faults.

![Figure 284: PSU Health Indicators](image)

**Result:** The health status the OpenFlex PSUs has now been checked.
5.8 Fans

The OpenFlex enclosure’s Fans tab provides health status for the enclosure’s cooling fans.

5.8.1 Checking the Health of Fans

This procedure provides instructions for checking the health of fans for an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Fans tab.

![Fans Tab](image)

The Fans page will appear:

![Fans Page](image)

Step 2: On the right hand side of the page, check the health indicators to ensure that the fans aren’t reporting faults.

![Fan Health Indicators](image)

Result: The health status the OpenFlex fans has now been checked.
5.9 Ports

The OpenFlex enclosure’s Ports tab provides information and controls for managing the enclosure’s I/O modules and the adapter cards inside them.

5.9.1 Checking the Status of Ports

This procedure provides instructions for checking the health, connection status, link status, and link speed of ports on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Ports tab.

Step 2: The third column provides status indicators for port health, cable connection status, link status, and link speed.

Result: The status of the OpenFlex ports has now been checked.
5.9.2 Configuring Port Settings

This procedure provides instructions for configuring port settings for an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

**Step 1:** From the enclosure dashboard, click the Ports tab.

![Figure 291: Ports Tab](image)

The Ports page will appear:

![Figure 292: Ports Page](image)

**Step 2:** On the left hand side, click the Edit icon for the IOM port to be configured.

![Figure 293: Edit Port Icon](image)

An Update Port window will appear:
5. OpenFlex Enclosure Management

5.9 Ports

Step 3: To manually configure the IP address, netmask, and gateway, select Static from the drop-down list. Or select DHCP to have these settings configured automatically.

Step 4: Click the Next button.
Step 5: To complete the changes to the port settings, click the **Please Confirm** checkbox and then click the **Update** button.
Backend services will automatically restart, which may cause a communication interruption.

**Result:** The port settings have now been configured.
5.10 Sensors

The OpenFlex enclosure’s Sensors tab provides information about the enclosure’s sensors, including current readings, health status, and thresholds.

5.10.1 Checking the Health of Sensors

This procedure provides instructions for checking the health of sensors in an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:
- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Sensors tab.

Figure 299: Sensors Tab

The Sensors page will appear:

Figure 300: Sensors Page

<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Type</th>
<th>Current Reading</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMP DRIVE 01</td>
<td>TEMP_DRIVE_01_2_1</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 02</td>
<td>TEMP_DRIVE_02_2_2</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 03</td>
<td>TEMP_DRIVE_03_2_3</td>
<td>Temperature</td>
<td>29 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 04</td>
<td>TEMP_DRIVE_04_2_4</td>
<td>Temperature</td>
<td>29 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 05</td>
<td>TEMP_DRIVE_05_2_5</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 06</td>
<td>TEMP_DRIVE_06_2_6</td>
<td>Temperature</td>
<td>31 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 07</td>
<td>TEMP_DRIVE_07_2_7</td>
<td>Temperature</td>
<td>30 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 08</td>
<td>TEMP_DRIVE_08_2_8</td>
<td>Temperature</td>
<td>31 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 09</td>
<td>TEMP_DRIVE_09_2_9</td>
<td>Temperature</td>
<td>20 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 10</td>
<td>TEMP_DRIVE_10_2_10</td>
<td>Temperature</td>
<td>20 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 11</td>
<td>TEMP_DRIVE_11_2_11</td>
<td>Temperature</td>
<td>29 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 12</td>
<td>TEMP_DRIVE_12_2_12</td>
<td>Temperature</td>
<td>29 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 13</td>
<td>TEMP_DRIVE_13_2_13</td>
<td>Temperature</td>
<td>31 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 14</td>
<td>TEMP_DRIVE_14_2_14</td>
<td>Temperature</td>
<td>31 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 15</td>
<td>TEMP_DRIVE_15_2_15</td>
<td>Temperature</td>
<td>31 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 16</td>
<td>TEMP_DRIVE_16_2_16</td>
<td>Temperature</td>
<td>31 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 17</td>
<td>TEMP_DRIVE_17_2_17</td>
<td>Temperature</td>
<td>29 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 18</td>
<td>TEMP_DRIVE_18_2_18</td>
<td>Temperature</td>
<td>29 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 19</td>
<td>TEMP_DRIVE_19_2_19</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 20</td>
<td>TEMP_DRIVE_20_2_20</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 21</td>
<td>TEMP_DRIVE_21_2_21</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEMP DRIVE 22</td>
<td>TEMP_DRIVE_22_2_22</td>
<td>Temperature</td>
<td>31 Degrees C</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Step 2: On the right hand side, check the health indicators to ensure that the sensors aren't reporting faults.
Step 3: The **Current Reading** column lists the current value detected by each sensor (temperature, voltage, and current). To see the threshold settings for a sensor, hover your cursor over the sensor’s **Information** icon.

Result: The health status of the OpenFlex enclosure’s sensors has now been checked.
5.11 Device OS

The OpenFlex enclosure’s Device OS tab provides information about the currently installed version of enclosure firmware and controls for updating it.

5.11.1 Updating Enclosure Firmware

This procedure provides instructions for updating the firmware on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Device OS tab.

Figure 303: Device OS Tab

The Device OS page will appear:

Figure 304: Device OS Page

Step 2: Click the Update OS button.

Figure 305: Update OS Button

An Update OS window will appear:
5. OpenFlex Enclosure Management

5.11 Device OS

Figure 306: Update OS Window

Step 3: Click the Select File button to browse to the desired firmware file and select it.

Figure 307: Selected FW File

Step 4: Click the Next button.

Figure 308: Next Button

The Update OS window will proceed to the confirmation step:
5. OpenFlex Enclosure Management

5.11 Device OS

Figure 309: Confirm OS Update

Step 5: Review the listed filename. If correct, click the Please Confirm checkbox to confirm the file. To auto-activate the firmware after uploading, click the Auto Activate checkbox. When all selections have been made, click the Upload button to upload the firmware to the enclosure.

Figure 310: Confirm OS Update

After the file is uploaded, a window will appear to show the firmware update progress:
Step 6: If you did not select the Auto Activate checkbox in step 5 (page 160), an Activate button will appear after the enclosure firmware has been updated. Click the Activate button to activate the firmware.

Caution: Activating the firmware will cause the enclosure to reboot.

The enclosure will reboot to activate the firmware:
Result: The OpenFlex enclosure firmware has now been updated.
5.12 Media

The OpenFlex enclosure’s Media tab provides information about the drives installed in the enclosure and controls for changing their power state.

5.12.1 Checking the Health of Drives

This procedure provides instructions for checking the health status of drives in an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Media tab.

Step 2: On the right hand side, check the health indicators to ensure that the drives aren’t reporting faults.
5. OpenFlex Enclosure Management

5.12 Media

**Figure 316: Drive Health Indicators**

<table>
<thead>
<tr>
<th>Device</th>
<th>Health</th>
<th>Drive</th>
<th>Description</th>
<th>Media Status</th>
<th>Power State</th>
<th>Health Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Result:** The health status of the OpenFlex enclosure’s drives has now been checked.
5.12.2 Powering Off a Drive

This procedure provides instructions for powering off a drive in an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the **Media** tab.

**Figure 317: Media Tab**

The **Media** page will appear:

**Figure 318: Media Page**

<table>
<thead>
<tr>
<th>Name</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Capacity</th>
<th>Version</th>
<th>Serial Number</th>
<th>Drive Name</th>
<th>Power State</th>
<th>Health</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEVICE 1</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 2</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 3</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 4</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 5</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 6</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 7</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 8</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 9</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 10</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 11</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 12</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 13</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 14</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 15</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 16</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 17</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 18</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 19</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 20</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 21</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030571</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
<tr>
<td>DEVICE 22</td>
<td>Western Digital</td>
<td>WDA0410BBFNC1</td>
<td>160 GB</td>
<td>FW01</td>
<td>8030598</td>
<td>NW1220101465</td>
<td>ON</td>
<td>Green</td>
<td>Fine</td>
</tr>
</tbody>
</table>

**Step 2:** To power off a drive, click its **Power State** toggle switch.

**Figure 319: Drive Power State Toggle Switch**

**Result:** The OpenFlex enclosure’s drive has now been powered off.
Ultrastar Enclosure
Out-of-Band Management

This chapter provides information and instructions for remote, out-of-band management operations that can be performed on an Ultrastar storage enclosure from a server running Resource Manager Data Center Edition.

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- Accounts..............................................................................................................177
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- Power Supplies...................................................................................................189
- Fans.....................................................................................................................190
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- Expanders............................................................................................................197
- Sensors................................................................................................................198
- Connectors..........................................................................................................200
- Device OS..........................................................................................................201
- Zone Sets.............................................................................................................206
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6.1 Overview of Ultrastar Out-of-Band Dashboard

Management Connection Method

The topics in this section cover out-of-band management capabilities from a remote server. The out-of-band, remote nature of the connection is indicated by the Out-of-Band Remote Device designation that appears on the dashboard:

Figure 320: Out-of-Band Remote Device Designation
Device Health

The **Device Health** section displays a pie chart that groups the health states of this enclosure’s components and sensors into color-coded segments.

*Figure 321: Device Health Pie Chart*

[Image of Device Health Pie Chart]

For additional details, click one of the segments. This will bring up a window with a detailed listing of the components and sensors in that state:

*Figure 322: Components & Sensors Health Status*

[Image of Components & Sensors Health Status]
Device Utilization

The Device Utilization section displays an aggregate of the total, free, and used storage on this enclosure.

Figure 323: Device Utilization Chart
Maximum Temperature Sensor

The Maximum Temperature Sensor section of the dashboard displays a temperature scale for the sensor with the highest temperature in the enclosure.

Figure 324: Maximum Temperature Scale

For additional details, click the ? at the bottom of the panel. This will bring up a window showing the thresholds for that sensor:

Figure 325: Sensor Temperature Thresholds
Device Information

The panels in the middle section provide information about the enclosure, including the device ID, firmware version, and regulatory model number.

Figure 326: Device Details

Device Management Controls

The bottom portion of the dashboard provides enclosure management information and controls, which are organized into the following tabs:

- Device Information
- Administration
- Accounts
- Location
- Controllers
- Power Supplies
- Fans
- Ports
- Expanders
- Sensors
- Connectors
- Device OS
- Zone Sets
- Media

The following sections provide procedures for the most common management actions available from these tabs.
6.2 Device Information

The Ultrastar enclosure’s Device Information tab provides general information about the enclosure and its network role, such as model, serial number, hostname, and IP addresses.

6.2.1 Viewing/Downloading Logs & Messages

This procedure provides instructions for downloading logs and messages from an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Device Information tab.

![Figure 327: Device Information Tab]

The Device Information page will appear:

![Figure 328: Device Information Page]

Step 2: Click the Device Files button.

![Figure 329: Device Files Button]

A Device File Viewer window will appear:
6. Ultrastar Enclosure Out-of-Band Management
6.2 Device Information

Step 3: Use the radio buttons at the top to select the logs or messages to be viewed/downloaded. The Resource Manager Data Center Edition will retrieve the selected information.

Step 4: Click the Export button to download the selected files.

Step 5: Click the Close button to close the Device File Viewer.

Result: The logs or messages have now been downloaded from the Ultrastar enclosure.
6.2.2 Enabling the Enclosure Ident LED

This procedure provides instructions for enabling the identification LED of an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:
- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Device Information tab.

![Device Information Tab](image1)

The Device Information page will appear:

![Device Information Page](image2)

Step 2: Click the Locator LED button.

![Locator LED Button](image3)

The enclosure's identification LED will pulse with a blue color, indicating that it is enabled:
Step 3: To disable the LED, click it again.

Result: The identification LED of the Ultrastar enclosure has now been enabled.
6.3 Administration

The Ultrastar enclosure’s Administration tab provides controls for administrative operations, such as rebooting the enclosure.

6.3.1 Rebooting the Enclosure

This procedure provides instructions for rebooting an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Administration tab.

![Administration Tab]

The Administration page will appear:

![Administration Page]

Step 2: Click the Reboot button.

Caution: Clicking the Reboot button will reboot the enclosure, making it unavailable until the reboot is completed.

![Reboot Button]

The enclosure will be rebooted, and will become available again when the reboot is completed.

Result: The Ultrastar enclosure has now been rebooted.
6.4 Accounts

The Ultrastar enclosure’s Accounts tab provides controls for configuring admin and user account access.

6.4.1 Creating a User Account

This procedure provides instructions for creating a user account on an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Accounts tab.

![Accounts Tab](image)

The Accounts page will appear:

![Accounts Page](image)

<table>
<thead>
<tr>
<th>User Id</th>
<th>Identifier</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>admin</td>
<td>Admin</td>
</tr>
<tr>
<td>operator</td>
<td>operator</td>
<td>Operator</td>
</tr>
<tr>
<td>readonly</td>
<td>readonly</td>
<td>Read/Write</td>
</tr>
</tbody>
</table>

Step 2: Click the Create Accounts button.

![Create Accounts Button](image)

A Create Accounts window will appear:
Step 3: Use the available fields to enter a **User ID**, **Role**, and **Password** for the account. Then click the **Create** button.

After the creation is processed, the **Accounts** page will display the new account.
### Figure 345: Updated Accounts Page

<table>
<thead>
<tr>
<th>User Id</th>
<th>Identifier</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>admin</td>
<td>Admin</td>
</tr>
<tr>
<td>operator</td>
<td>operator</td>
<td>Operator</td>
</tr>
<tr>
<td>readonly</td>
<td>readonly</td>
<td>ReadOnly</td>
</tr>
<tr>
<td>Test</td>
<td>Test</td>
<td>ReadOnly</td>
</tr>
</tbody>
</table>

**Result:** A user account has now been created on the Ultrastar enclosure.
6.4.2 Editing a User Account

This procedure provides instructions for editing a user account on an Ultrastar enclosure using the Resource Manager Data Center Edition.

**Before you begin:**

- Follow the instructions for *Navigating to an Enclosure Dashboard (Data Center Edition) (page 44)*.

**Step 1:** From the enclosure dashboard, click the **Accounts** tab.

*Figure 346: Accounts Tab*

The **Accounts** page will appear:

*Figure 347: Accounts Page*

<table>
<thead>
<tr>
<th>User Id</th>
<th>Identifier</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>admin</td>
<td>Admin</td>
</tr>
<tr>
<td>operator</td>
<td>operator</td>
<td>Operator</td>
</tr>
<tr>
<td>readonly</td>
<td>readonly</td>
<td>ReadOnly</td>
</tr>
<tr>
<td>Test</td>
<td>Test</td>
<td>ReadOnly</td>
</tr>
</tbody>
</table>

**Step 2:** Click the **Edit** icon for the account to be edited.

*Figure 348: Edit Icon*

<table>
<thead>
<tr>
<th>User Id</th>
<th>Identifier</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>admin</td>
<td>Admin</td>
</tr>
<tr>
<td>operator</td>
<td>operator</td>
<td>Operator</td>
</tr>
<tr>
<td>readonly</td>
<td>readonly</td>
<td>ReadOnly</td>
</tr>
<tr>
<td>Test</td>
<td>Test</td>
<td>ReadOnly</td>
</tr>
</tbody>
</table>

An **Update Account** window will appear:
Step 3: Use the available fields to update the **Password** for the account. Then click the **Update** button.

After the update is processed, the **Accounts** page is displayed again.
Result: The user account has now been updated on the Ultrastar enclosure.
6.4.3 Deleting a User Account

This procedure provides instructions for deleting a user account from an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Accounts tab.

Figure 352: Accounts Tab

The Accounts page will appear:

Figure 353: Accounts Page

<table>
<thead>
<tr>
<th>User Id</th>
<th>Identifier</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>admin</td>
<td>Admin</td>
</tr>
<tr>
<td>operator</td>
<td>operator</td>
<td>Operator</td>
</tr>
<tr>
<td>readonly</td>
<td>readonly</td>
<td>ReadOnly</td>
</tr>
<tr>
<td>Test</td>
<td>Test</td>
<td>Test</td>
</tr>
</tbody>
</table>

Step 2: Click the Delete icon for the account to be deleted.

Figure 354: Delete Icon

The user will be prompted to confirm the account deletion:

Figure 355: Confirm Account Deletion

Are you sure you want to delete Test?

OK Cancel
Step 3: Click the **OK** button.

After the deletion is processed, the **Accounts** page will update to show the remaining accounts:

**Figure 356: Updated Accounts Page**

<table>
<thead>
<tr>
<th>User Id</th>
<th>Identifier</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>admin</td>
<td>Admin</td>
</tr>
<tr>
<td>operator</td>
<td>operator</td>
<td>Operator</td>
</tr>
<tr>
<td>readonly</td>
<td>readonly</td>
<td>ReadOnly</td>
</tr>
</tbody>
</table>

**Result:** The user account has now been deleted from the Ultrastar enclosure.
6.5 Location

The Ultrastar enclosure's **Location** tab provides controls for configuring the enclosure's physical location attributes.

### 6.5.1 Setting Location Attributes

This procedure provides instructions for setting the location attributes of an Ultrastar enclosure using the Resource Manager Data Center Edition.

**Before you begin:**
- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) *(page 44)*.

**Step 1:** From the enclosure dashboard, click the **Location** tab.

![Figure 357: Location Tab](image)

The **Location** page will appear:

![Figure 358: Location Page](image)

**Step 2:** To edit a location attribute, click the attribute's edit icon.
Figure 359: Edit Icon

A text field will appear, allowing up to 256 characters.

Figure 360: Attribute Text Field

Step 3: Enter the desired information, and click the green checkmark to save the attribute information.

Figure 361: Saving Attribute Information

Step 4: Repeat these steps as needed to set/modify the remaining attributes.

Result: The location attributes of the Ultrastar enclosure have now been set.
6.6 Controllers

The Ultrastar enclosure’s Controllers tab provides controls for managing the enclosure’s IOMs.

6.6.1 Checking the Health of IOMs

This procedure provides instructions for checking the health status of the I/O modules for an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:
- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Controllers tab.

![Figure 362: Controllers Tab](image)

The Controllers page will appear:

![Figure 363: Controllers Page](image)

Step 2: On the right hand side of the page, check the health indicators to ensure that the IOMs aren’t reporting faults.

![Figure 364: IOM Health Indicators](image)

Result: The health status the Ultrastar IOMs has now been checked.
6.6.2 Rebooting the IOMs

This procedure provides instructions for rebooting the I/O modules of an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:
- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Controllers tab.

![Figure 365: Controllers Tab]

The Controllers page will appear:

![Figure 366: Controllers Page]

Step 2: Click the Reboot button.

**Caution:** Clicking the Reboot button will reboot the IOM, making it unavailable until the reboot is completed.

![Figure 367: Reboot Button]

The IOM will be rebooted, and will become available again when the reboot is completed.

Result: The IOM of the Ultrastar enclosure has now been rebooted.
6.7 Power Supplies

The Ultrastar enclosure’s Power Supplies tab provides controls for managing the enclosure’s PSUs.

6.7.1 Checking the Health of PSUs

This procedure provides instructions for checking the health of power supplies for an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Power Supplies tab.

Step 2: On the right hand side of the page, check the health indicators to ensure that the PSUs aren’t reporting faults.

Result: The health status the Ultrastar PSUs has now been checked.
6.8 Fans

The Ultrastar enclosure’s Fans tab provides health and speed information about the enclosure’s cooling fans.

6.8.1 Checking the Health of Fans

This procedure provides instructions for checking the health of fans for an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Fans tab.

Figure 371: Fans Tab

The Fans page will appear:

Figure 372: Fans Page

Step 2: On the right hand side of the page, check the health indicators to ensure that the Fans aren’t reporting faults.

Figure 373: Fan Health Indicators
6. Ultrastar Enclosure Out-of-Band Management

6.8 Fans

**Result:** The health status the Ultrastar fans has now been checked.
6.9 Ports

The Ultrastar enclosure's Ports tab provides information about the enclosure's I/O ports, including connection status, link speed, and IP addresses.

6.9.1 Checking the Status of Ports

This procedure provides instructions for checking the health, connection status, link status, and link speed of ports on an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

• Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Ports tab.

![Figure 374: Ports Tab]

The Ports page will appear:

![Figure 375: Ports Page]

Step 2: The third column provides status indicators for port health, cable connection status, link status, and link speed.

![Figure 376: Fan Health Indicators]

Result: The status of the Ultrastar ports has now been checked.
6.9.2 Configuring Port Settings

This procedure provides instructions for configuring port settings for an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:
- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Ports tab.

Figure 377: Ports Tab

The Ports page will appear:

Figure 378: Ports Page

Step 2: On the left hand side, click the Edit icon for the IOM ports to be configured.

Figure 379: Edit Port Icon

An Update Port window will appear:
Step 3: To manually configure the IP address, netmask, and gateway, select **Static** from the drop-down list. Or select **DHCP** to have these settings configured automatically.

Step 4: Click the **Next** button.
Figure 382: Next Button

The Update Port window proceeds to the confirmation step:

Figure 383: Confirming Port Settings

Step 5: To complete the changes to the port settings, click the Please Confirm checkbox and then click the Update button.
Backend services will automatically restart, which may cause a communication interruption.

**Result:** The port settings have now been configured.
6.10 Expanders

The Ultrastar enclosure’s Expanders tab provides information about the enclosure’s primary and secondary expanders, including version and health status.

### 6.10.1 Checking the Health of Expanders

This procedure provides instructions for checking the health of the expanders of an Ultrastar enclosure using the Resource Manager Data Center Edition.

**Before you begin:**

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

**Step 1:** From the enclosure dashboard, click the Expanders tab.

![Figure 385: Expanders Tab](image)

The Expanders page will appear:

![Figure 386: Expanders Page](image)

**Step 2:** On the right hand side, check the health indicators to ensure that the expanders aren't reporting faults.

![Figure 387: Expander Health Indicators](image)

**Result:** The health status the Ultrastar expanders has now been checked.
6.11 Sensors

The Ultrastar enclosure's Sensors tab provides information about the enclosure's sensors, including current readings, health status, and thresholds.

6.11.1 Checking the Health of Sensors

This procedure provides instructions for checking the health of sensors in an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:
- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Sensors tab.

![Sensors Tab]

The Sensors page will appear:

![Sensors Page]

<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Type</th>
<th>Current Reading</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMP SLOT 00</td>
<td>TEMP SLOT_00</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 01</td>
<td>TEMP SLOT_01</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 02</td>
<td>TEMP SLOT_02</td>
<td>Temperature</td>
<td>2 27 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 03</td>
<td>TEMP SLOT_03</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 04</td>
<td>TEMP SLOT_04</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 05</td>
<td>TEMP SLOT_05</td>
<td>Temperature</td>
<td>2 27 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 06</td>
<td>TEMP SLOT_06</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 07</td>
<td>TEMP SLOT_07</td>
<td>Temperature</td>
<td>2 27 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 08</td>
<td>TEMP SLOT_08</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 09</td>
<td>TEMP SLOT_09</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 10</td>
<td>TEMP SLOT_10</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 11</td>
<td>TEMP SLOT_11</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 12</td>
<td>TEMP SLOT_12</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 13</td>
<td>TEMP SLOT_13</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 14</td>
<td>TEMP SLOT_14</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 15</td>
<td>TEMP SLOT_15</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 16</td>
<td>TEMP SLOT_16</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 17</td>
<td>TEMP SLOT_17</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 18</td>
<td>TEMP SLOT_18</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 19</td>
<td>TEMP SLOT_19</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 20</td>
<td>TEMP SLOT_20</td>
<td>Temperature</td>
<td>1 24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

Step 2: On the right hand side, check the health indicators to ensure that the sensors aren't reporting faults.
**Figure 390: Sensor Health Indicators**

<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Type</th>
<th>Current Reading</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMP SLOT 00</td>
<td>TEMP_SLOT_00</td>
<td>Temperature</td>
<td>24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 01</td>
<td>TEMP_SLOT_01</td>
<td>Temperature</td>
<td>24 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 02</td>
<td>TEMP_SLOT_02</td>
<td>Temperature</td>
<td>27 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 03</td>
<td>TEMP_SLOT_03</td>
<td>Temperature</td>
<td>26 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 04</td>
<td>TEMP_SLOT_04</td>
<td>Temperature</td>
<td>26 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 05</td>
<td>TEMP_SLOT_05</td>
<td>Temperature</td>
<td>27 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 06</td>
<td>TEMP_SLOT_06</td>
<td>Temperature</td>
<td>26 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 07</td>
<td>TEMP_SLOT_07</td>
<td>Temperature</td>
<td>27 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 08</td>
<td>TEMP_SLOT_08</td>
<td>Temperature</td>
<td>26 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 09</td>
<td>TEMP_SLOT_09</td>
<td>Temperature</td>
<td>26 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 10</td>
<td>TEMP_SLOT_10</td>
<td>Temperature</td>
<td>26 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 11</td>
<td>TEMP_SLOT_11</td>
<td>Temperature</td>
<td>26 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 12</td>
<td>TEMP_SLOT_12</td>
<td>Temperature</td>
<td>34 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 13</td>
<td>TEMP_SLOT_13</td>
<td>Temperature</td>
<td>34 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 14</td>
<td>TEMP_SLOT_14</td>
<td>Temperature</td>
<td>34 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 15</td>
<td>TEMP_SLOT_15</td>
<td>Temperature</td>
<td>34 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 16</td>
<td>TEMP_SLOT_16</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 17</td>
<td>TEMP_SLOT_17</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 18</td>
<td>TEMP_SLOT_18</td>
<td>Temperature</td>
<td>31 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 19</td>
<td>TEMP SLOT_19</td>
<td>Temperature</td>
<td>32 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 20</td>
<td>TEMP_SLOT_20</td>
<td>Temperature</td>
<td>33 Degrees C</td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

**Step 3:** The Current Reading column lists the current value detected by each sensor (temperature, voltage, and current). To see the threshold settings for a sensor, hover your cursor over the sensor’s Information icon.

**Figure 391: Sensor Thresholds**

<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Type</th>
<th>Current Reading</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMP SLOT 00</td>
<td>TEMP_SLOT_00</td>
<td>Temperature</td>
<td>27 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 01</td>
<td>TEMP_SLOT_01</td>
<td>Temperature</td>
<td>26 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 02</td>
<td>TEMP_SLOT_02</td>
<td>Temperature</td>
<td>6 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 03</td>
<td>TEMP_SLOT_03</td>
<td>Temperature</td>
<td>7 Degrees C</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>TEMP SLOT 04</td>
<td>TEMP_SLOT_04</td>
<td>Temperature</td>
<td>7 Degrees C</td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

**Result:** The health status of the Ultrastar enclosure’s sensors has now been checked.
6.12 Connectors

The Ultrastar enclosure's Connectors tab provides connection status and health information about the enclosure's IOM ports.

6.12.1 Checking the Status of Cables

This procedure provides instructions for checking the health and connection status of data cables on an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Connectors tab.

**Figure 392: Connectors Tab**

The Connectors page will appear:

**Figure 393: Connectors Page**

<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Cable</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONN HOST 00</td>
<td>1</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 01</td>
<td>2</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 02</td>
<td>3</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 03</td>
<td>4</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 04</td>
<td>5</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 05</td>
<td>6</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 06</td>
<td>7</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 07</td>
<td>8</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 08</td>
<td>9</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 09</td>
<td>10</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 10</td>
<td>11</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
<tr>
<td>CONN HOST 11</td>
<td>12</td>
<td>connected</td>
<td>connected</td>
<td>None</td>
</tr>
</tbody>
</table>

**Step 2:** The Cable column lists the connection status of each IOM port, and the Health column lists the health status of those connections. View both columns to ensure that any connected cables are not reporting faults.

**Result:** The health and connection status of data cables on the Ultrastar enclosure have now been checked.
6.13 Device OS

The Ultrastar enclosure's Device OS tab provides information about the currently installed version of enclosure firmware and controls for updating it.

6.13.1 Updating Enclosure Firmware

This procedure provides instructions for updating the firmware on an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

⚠️ Caution: Updating firmware requires rebooting the Ultrastar enclosure.

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

**Step 1:** From the enclosure dashboard, click the Device OS tab.

*Figure 394: Device OS Tab*

The Device OS page will appear:

*Figure 395: Device OS Page*

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Vendor Firmware</td>
</tr>
<tr>
<td>Type</td>
<td>Dedicated</td>
</tr>
</tbody>
</table>

**Step 2:** In the upper portion of the Device OS page, check the center card and note the firmware version currently on the enclosure. This will be used to verify a successful update at the end of this process.

*Figure 396: Starting Firmware Version*

**Step 3:** Click the Update OS button.
6. Ultrastar Enclosure Out-of-Band Management
6.13 Device OS

Figure 397: Update OS Button

An Update OS window will appear:

Figure 398: Update OS Window

Step 4: In the text field, enter the full path to the firmware file and its filename.

Figure 399: Path to FW File

Step 5: Click the Next button.

Figure 400: Next Button
The **Update OS** window will proceed to the confirmation step:

**Figure 401: Confirm OS Update**

![Update OS confirmation window](image)

**Step 6:** Review the listed filename. If correct, click the **Please Confirm** checkbox to confirm the file. To auto-activate the firmware after uploading, click the **Auto Activate** checkbox. When all selections have been made, click the **Upload** button to upload the firmware to the enclosure.

**Figure 402: Confirm OS Update**

![Update OS confirmation window with selections](image)

A window will appear to show the file upload progress:
When the file is uploaded, another window will appear to show the firmware update progress:

**Figure 404: Firmware Update Progress**

---

**Step 7:** If you did not select the **Auto Activate** checkbox in step 6 *(page 203)*, an **Activate** button will appear after the enclosure firmware has been updated. Click the **Activate** button to activate the firmware.

**Caution:** Activating the firmware will cause the enclosure to reboot.
6. Ultrastar Enclosure Out-of-Band Management
6.13 Device OS

Figure 405: Activate Firmware

The enclosure will reboot to activate the firmware:

Figure 406: Activation / Reboot

Step 8: In the upper portion of the Device OS page, check the center card and verify that the firmware version has been updated.

Figure 407: Updated Firmware Version

Result: The Ultrastar enclosure firmware has now been updated.
6.14 Zone Sets

The Ultrastar enclosure's Zone Sets tab provides information and controls for configuring and activating zoning on the enclosure.

6.14.1 Enabling & Disabling a Zoning Configuration

This procedure provides instructions for enabling/disabling a zoning configuration on an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

Caution: Activating a different zoning configuration requires rebooting the Ultrastar enclosure.

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Zone Sets tab.

Figure 408: Zone Sets Tab

The Zone Sets page will appear:

Figure 409: Zone Sets Page

<table>
<thead>
<tr>
<th>Zone Sets (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Zone Set 0</td>
</tr>
<tr>
<td>Zone Set 3</td>
</tr>
</tbody>
</table>

Note: In this example, Zone Configuration 0 is enabled.

Step 2: To enable a different zoning configuration, click its Activate switch to toggle it to the ON position.

Note: Enabling a new zoning configuration will automatically disable the existing configuration.
After the configuration change has been processed, the Administration tab will be displayed and the Reboot dialog modal will be launched.

**Step 3:** Confirm the enclosure reboot for the zone change to take effect.

**Result:** The zoning configuration has now been modified.
6.15 Media

The Ultrastar enclosure's **Media** tab provides information about the drives installed in the enclosure and controls for changing their power state or activating their locator LEDs.

### 6.15.1 Checking the Health of Drives

This procedure provides instructions for checking the health status of drives in an Ultrastar enclosure using the Resource Manager Data Center Edition.

**Before you begin:**

- Follow the instructions for *Navigating to an Enclosure Dashboard (Data Center Edition)* *(page 44).*

**Step 1:** From the enclosure dashboard, click the **Media** tab.

![Figure 412: Media Tab](image)

The **Media** page will appear:

![Figure 413: Media Page](image)

<table>
<thead>
<tr>
<th>Slot</th>
<th>Identifier</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Capacity</th>
<th>Protocol</th>
<th>Disk Type</th>
<th>Version</th>
<th>Serial Number</th>
<th>Durable Name</th>
<th>Power State</th>
<th>Locator LED</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>H01ST</td>
<td>HUT2101014020</td>
<td>10.0TB</td>
<td>SAS</td>
<td>AS601</td>
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</tbody>
</table>

**Step 2:** On the right hand side, check the health indicators to ensure that the drives aren’t reporting faults.
6. Ultrastar Enclosure Out-of-Band Management

6.15 Media

Figure 414: Drive Health Indicators

<table>
<thead>
<tr>
<th>Slot</th>
<th>Name</th>
<th>Identifier</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Capacity</th>
<th>Protocol</th>
<th>Disk Type</th>
<th>Version</th>
<th>Serial Number</th>
<th>Durable Name</th>
<th>Power Code</th>
<th>Locator LED</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
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<td>SAS</td>
<td>HD0</td>
<td>A650</td>
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<td>HG721010ALA200</td>
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<td>HD0</td>
<td>A650</td>
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<td>HGST</td>
<td>HG721010ALA200</td>
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<td>SAS</td>
<td>HD0</td>
<td>A650</td>
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<td>HG721010ALA200</td>
<td>HGST</td>
<td>HG721010ALA200</td>
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<td>SAS</td>
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</table>

Result: The health status the Ultrastar enclosure's drives has now been checked.
6.15.2 Enabling a Drive Ident LED

This procedure provides instructions for enabling the identification LED of a drive in an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

**Step 1:** From the enclosure dashboard, click the Media tab.

*Figure 415: Media Tab*

The Media page will appear:

*Figure 416: Media Page*

```
<table>
<thead>
<tr>
<th>Name</th>
<th>Identifier</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Capacity</th>
<th>Protocol</th>
<th>Disk Type</th>
<th>Version</th>
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<th>Durable Name</th>
<th>Power State</th>
<th>Locator LED</th>
<th>Health</th>
<th>Details</th>
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</thead>
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<td>SLOT 11</td>
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<td>SAS</td>
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<td>5000CCA251B8E83D</td>
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<td>HDD</td>
<td>SAS</td>
<td>SAS</td>
<td>7P10B2V7</td>
<td>5000CCA251B8E83D</td>
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<td>SAS</td>
<td>7P10B2V7</td>
<td>5000CCA251B8E83D</td>
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<td>OFF</td>
<td>SE</td>
<td>C0</td>
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<td>SAS</td>
<td>HDD</td>
<td>SAS</td>
<td>SAS</td>
<td>7P10B2V7</td>
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<td>SAS</td>
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<td>5000CCA251B8E83D</td>
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<td>OFF</td>
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</tr>
<tr>
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<td>SAS</td>
<td>7P10B2V7</td>
<td>5000CCA251B8E83D</td>
<td>ON</td>
<td>OFF</td>
<td>SE</td>
<td>C0</td>
</tr>
</tbody>
</table>
```

**Step 2:** To enable a drive’s identification LED, click its icon in the Locator LED column.

*Figure 417: Drive Locator LED*
Result: The Ultrastar enclosure's drive identification LED has now been enabled.
6.15.3 Powering Off a Drive

This procedure provides instructions for powering off a drive in an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for Navigating to an Enclosure Dashboard (Data Center Edition) (page 44).

Step 1: From the enclosure dashboard, click the Media tab.

![Media Tab](image)

The Media page will appear:

![Media Page](image)

<table>
<thead>
<tr>
<th>Slot</th>
<th>Model</th>
<th>Capacity</th>
<th>Protocol</th>
<th>Disk Type</th>
<th>Version</th>
<th>Serial Number</th>
<th>Durable Name</th>
<th>Power State</th>
<th>Locator LED</th>
<th>Health</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLOTO</td>
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<td>10.00 TB</td>
<td>SAS</td>
<td>HDD</td>
<td>A008</td>
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<td>5000C0A251B883E0</td>
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<td>-</td>
<td>SC</td>
<td>None</td>
</tr>
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<td>SAS</td>
<td>HDD</td>
<td>A009</td>
<td>7Q04Y77</td>
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<td>HDD</td>
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<td>-</td>
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<td>SAS</td>
<td>HDD</td>
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</tr>
<tr>
<td>SLOTO</td>
<td>HDST</td>
<td>10.00 TB</td>
<td>SAS</td>
<td>HDD</td>
<td>A013</td>
<td>7Q5K487</td>
<td>5000C0A251B883J0</td>
<td>-</td>
<td>-</td>
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<td>None</td>
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<tr>
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<td>10.00 TB</td>
<td>SAS</td>
<td>HDD</td>
<td>A014</td>
<td>7Q5K487</td>
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<tr>
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<tr>
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<td>10.00 TB</td>
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<td>5000C0A251B883M0</td>
<td>-</td>
<td>-</td>
<td>SC</td>
<td>None</td>
</tr>
</tbody>
</table>

Step 2: To power off a drive, click its Power State toggle switch.

![Drive Power State Toggle Switch](image)
Result: The Ultrastar enclosure's drive has now been powered off.
Uninstallation

The topics in this section provide instructions for uninstalling the Resource Manager Data Center Edition application.

In This Chapter:
- Linux – Basic & Advanced Uninstall................................................................. 215
- Linux – Docker Uninstall............................................................................. 215
- Windows – Basic & Advanced Uninstall...................................................... 217
- Windows – Docker Uninstall...................................................................... 218
7.1 Linux – Basic & Advanced Uninstall

This procedure provides instructions for uninstalling the basic or advanced installation of Resource Manager Data Center Edition from a host server with a Linux operating system.

**Step 1:** Open a command line and navigate to the directory where the application files reside.

**Step 2:** Run the uninstall script.

```
#/uninstall_rmdc.sh
```

The user will be prompted to confirm the uninstallation.

```
Do you want to uninstall Western Digital Resource Manager Data Center?(y/n)
```

**Step 3:** Input `y` to continue.

```
y
```

The uninstallation script will uninstall Resource Manager Data Center Edition and return to the command line prompt when finished.

```
...
```

**Result:** The Resource Manager Data Center Edition application is now uninstalled from the Linux OS.

7.2 Linux – Docker Uninstall

This procedure provides instructions for uninstalling the Docker installation of Resource Manager Data Center Edition from a host server with a Linux operating system.

**Step 1:** Open a command line and navigate to the directory where the application files reside.

**Step 2:** Run the uninstall script.

```
#/uninstall_rmdc_containers.sh
```

The user will be prompted to confirm the uninstallation:

```
Do you want to uninstall Resource Manager Data Center and its associated containers?(y/n)
```

**Step 3:** Input `y` to continue.

```
y
```

The user will be notified of the data that will be lost with the uninstallation and will be prompted again to confirm the uninstallation:

```
This will result in losing data related to RMDC configurations, orchestration, analytics etc.
Do you want to continue?(y/n)
```

**Step 4:** Input `y` to continue.

```
y
```
7. Uninstallation

7.2 Linux – Docker Uninstall

The uninstallation script will uninstall Resource Manager Data Center Edition and return to the command line prompt when finished:

```
Removing RMDC and Elasticsearch containers.
[+] Running 5/5
- Container docker-rmdc-1            Removed
- Container docker-es01-1            Removed
- Volume docker_rmdc-supportfiles    Removed
- Volume docker_esdata01             Removed
- Network docker-default             Removed
#```

**Result:** The Resource Manager Data Center Edition application is now uninstalled from the Linux OS.
7.3 Windows – Basic & Advanced Uninstall

This procedure provides instructions for uninstalling the basic or advanced installation of Resource Manager Data Center Edition from a host server with a Windows operating system.

**Step 1:** Open a command prompt with administrator privileges and navigate to the directory where the application files reside.

**Step 2:** Run the uninstall script.

```
C:\>uninstall_rmdc.bat
```

The user will be prompted to confirm the uninstallation.

```
Do you want to uninstall Western Digital Resource Manager Data Center(RMDC) [Y,N]?
```

**Step 3:** Input `Y` to continue.

```
Y
```

The uninstallation script will uninstall Resource Manager Data Center Edition, notify the user, and return to the command prompt when finished.

```
...  
RMDC uninstalled successfully.  
C:\>
```

**Result:** The Resource Manager Data Center Edition application is now uninstalled from the Windows OS.
This procedure provides instructions for uninstalling the Docker installation of Resource Manager Data Center Edition from a host server with a Windows operating system.

**Step 1:** Open a command prompt with administrator privileges and navigate to the directory where the application files reside.

**Step 2:** Run the uninstall script.

```
C:\>uninstall_rmdc_containers.bat
```

The user will be prompted to confirm the uninstallation.

```
Do you want to uninstall Resource Manager Data Center(RMDC) [Y,N]?
```

**Step 3:** Input `Y` to continue.

```
Y
```

The user will be notified of the data that will be lost with the uninstallation and will be prompted again to confirm the uninstallation:

```
This will result in losing data related to RMDC configurations, orchestration, analytics etc
Do you want to continue [Y,N]?
```

**Step 4:** Input `Y` to continue.

```
Y
```

The uninstallation script will uninstall Resource Manager Data Center Edition and notify the user when finished.

```
Removing RMDC and Elasticsearch containers.
[+] Running 5/5
- Container docker_build-rmdc-1        Removed    0.8s
- Container docker_build-es01-1        Removed    2.8s
- Volume docker_build_esdata01          Removed    0.0s
- Volume docker_build_rmdc-supportfiles Removed    0.0s
- Network docker_build_default          Removed    0.7s
```

**Result:** The Resource Manager Data Center Edition application is now uninstalled from the Windows OS.