



Western Digital®

User Guide

Resource Manager Data Center Edition

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Revision History

Date	Revision	Comment
July 2024	01	Initial release for version 2.0.0

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Points of Contact

For further assistance with a Western Digital product, contact Western Digital Datacenter Platforms technical support. Please be prepared to provide the following information, as applicable: part number (P/N), serial number (S/N), product name and/or model number, software version, and a brief description of the issue.

Website:

<https://portal.wdc.com/s/>

Email:

enterprisesupport@wdc.com

UK Import Representation Contact

PO Box 471
Leatherhead KT22 2LU
UK

Telephone: +44 1372 366000

EU Import Representation Contact

BP 80006
92135 Issy les Moulineaux, France



Overview

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

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- Resource Manager Data Center Edition Overview.....	2
- Supported Platforms.....	4
- Compatible Operating Systems.....	4
- Compatible Browsers.....	5
- Third-Party Software.....	5
- Third-Party Licenses.....	5

1.1 Resource Manager Data Center Edition Overview

Resource Manager Data Center Edition is a comprehensive monitoring and management application designed for Western Digital storage platforms. Operating on a central management server, it uses out-of-band connections to discover health and utilization data for all compatible devices on a network. From a compute server, directly attached to an enclosure, it uses in-band or out-of-band connections to discover local device data. In both deployments, Resource Manager Data Center Edition presents device information and management capabilities to a browser in a convenient dashboard format.

Central Service Features

- Data Analytics and Reporting
- Network Operation Center (NOC) View
- Multi-Node Management
- File Based Zoning
- Telemetry
- Centralized Remote Management
- Persistent Storage of Discovered Resources
- Inventory Management
- Policy Engine
- Group Management
- Notification Services
- Authentication Services
- Ansible Modules for Bulk Operations and Orchestration
- Ansible Playbook Templates for End-to-End Orchestration

For more information about central service capabilities, see the following sections:

- [Network & Device Access – Central Service \(page 21\)](#)
- [Server Management – Central Service \(page 48\)](#)
- [OpenFlex Enclosure Management – Central Service \(page 129\)](#)
- [Ultrastar Enclosure Management – Central Service \(page 188\)](#)

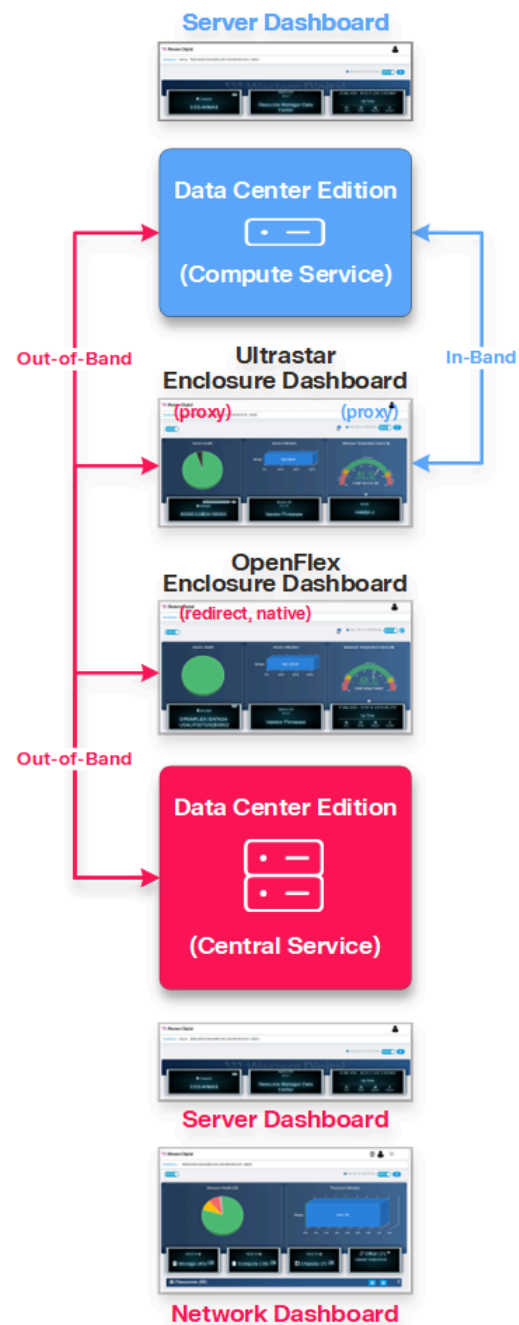
Compute Service Features

- Discovery & Reporting of Compute Server (device attributes, processors, memory, attached media, volumes)
- Discovery & Reporting of Locally Attached Storage Device(s)
- Proxy Management of Remotely Attached Storage Device(s)

For more information about compute service capabilities, see the following sections:

- [Server Management – Compute Service \(page 236\)](#)
- [Ultrastar Enclosure Management – Compute Service \(page 293\)](#)

Figure 1: Deployment Overview



1.2 Supported Platforms

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

Product Family	Product Name	Firmware
Ultrastar®	Data102	4011-005 (SEP) & 4.0.111 (OOBM)
	Data60	
	Data102 3000 Series	2000-098 (SEP) & 3.0.51 (OOBM)
	Data60 3000 Series	
OpenFlex®	Data24	5.0.0 and later
	Data24 3200	1.0.0 1.0.0
	Data24 4000	



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.

Operating System	Version
CentOS	8.5
Red Hat® Enterprise Linux® (RHEL)	8.8, 9.2
Ubuntu	18.04, 20.04, 22.04, 24.04
Debian	10.9, 10.13, 11, 11.2
Windows Server®	2019, 2022



Note: While installing the Resource Manager Data Center Edition (RMDC) Agent, the dependencies failed errors are observed when the sg3-utils version v1.44 is already installed.

1.4 Compatible Browsers

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

Browser	Version
Google Chrome	113.0.5672.93 and later
Mozilla Firefox	102.11.0esr and later
Microsoft Edge	113.0.1774.42 and later

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 5: Third-Party Software

Service Type	Installation Type	OS/Container	Required Software
Compute Service	Basic	Linux	
		Windows	
	Basic	Linux	N/A
		Windows	N/A
Central Service	Advanced	Linux	Elasticsearch (8.5.3) Ansible-Core (2.13.7) Ansible® (6.7.0) Python (3.8)
		Windows	Elasticsearch (8.5.3)
		Docker	



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 information and instructions for installing the Resource Manager Data Center Edition application.

In This Chapter:

- Installation Options & Features.....	8
- Downloading Resource Manager Data Center Edition.....	8
- Compute Service Installation.....	11
- Central Service Installation.....	13

2.1 Installation Options & Features

The following table shows the differences in available features between the installation options for Resource Manager Data Center Edition.

Table 6: Installation Options & Features

Features	Compute Service	Central Service	
	Basic Install (Linux & Windows)	Basic Install (Linux & Windows)	Advanced Install (Linux, Windows, Docker)
Overall platform health summary	Yes	Yes	Yes
Management firmware events		Yes	Yes
Platform sensor information	Yes	Yes	Yes
Platform zoning	No	Yes	Yes
IOM-based management		Yes	Yes
Platform drive statistics		Yes	Yes
REST-based API web service and client		Yes	Yes
Network Operations Center (NOC) view	No	Yes	Yes
Multi-node management	Yes	Yes	Yes
Asset management view		No	Yes
Centralized remote management	No	Yes	Yes
Authentication services		Yes	Yes
Persistent storage	No	No	Yes
Policy management	No	No	Yes
Notification services (SMTP, SNMP traps)	No	No	Yes
Group operations / orchestration	No	No	Linux only
Analytics	No	No	Yes
Reporting	No	No	Yes
Other features?			

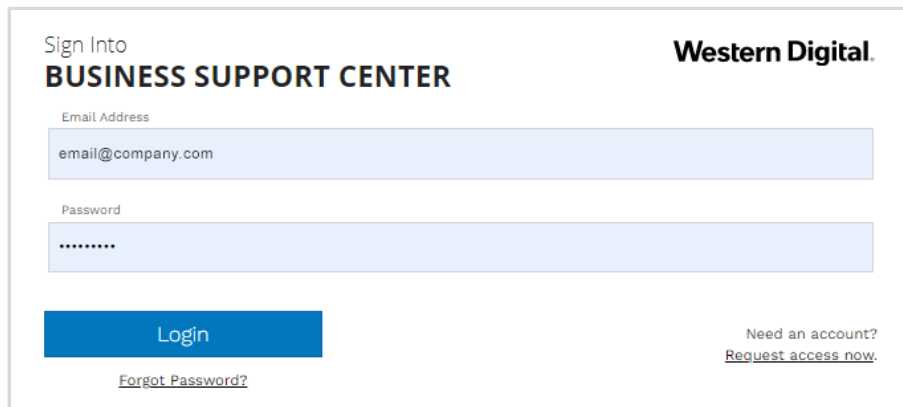
2.2 Downloading Resource Manager Data Center Edition

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

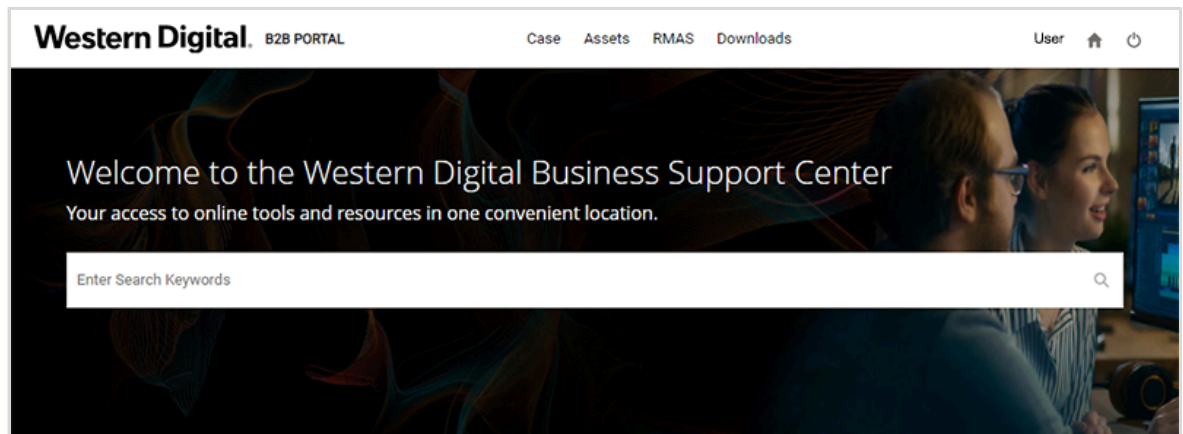


The login page features the Western Digital logo in the top right corner. On the left, it says "Sign Into BUSINESS SUPPORT CENTER". Below this are two input fields: "Email Address" with the placeholder "email@company.com" and "Password" with masked characters. A blue "Login" button is positioned below the password field. To the right of the button, there is a link "Need an account? Request access now." and a link "Forgot Password?" below the login button.

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

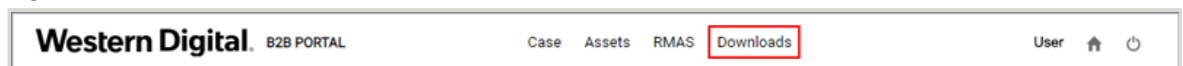
The **Western Digital B2B Portal** page will be displayed:

Figure 3: Western Digital B2B Portal



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

Figure 4: Downloads Link



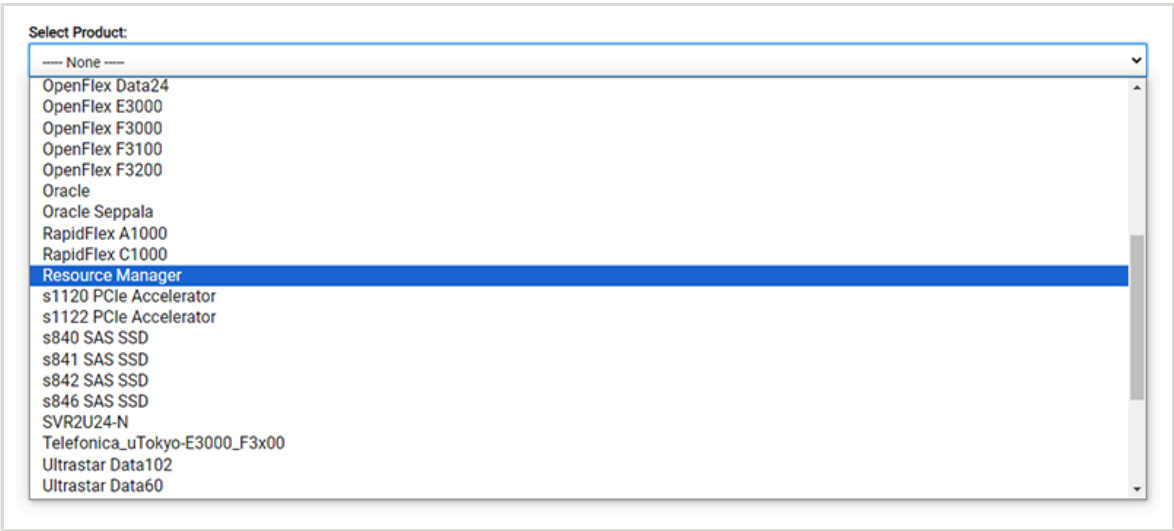
The **Download Resource** page will be displayed:

Figure 5: Download Resource Page



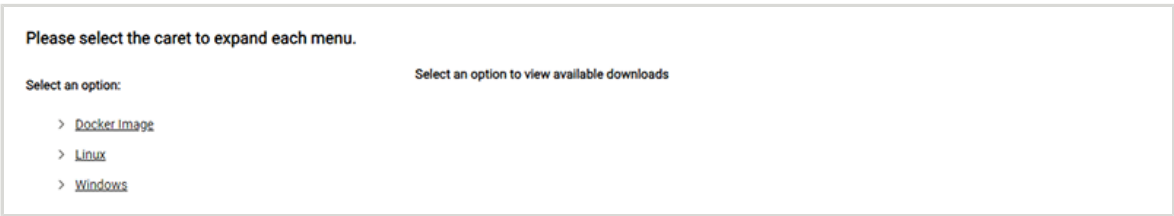
Step 4: Use the **Select Product** drop-down list to select the **Resource Manager** option:

Figure 6: Selecting Resource Manager



An operating system selection list will appear:

Figure 7: OS Selection List



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 8: Docker Image

Please select the caret to expand each menu.

Number of Files per page
Select an Option ▼

Select an option:

- ▼ [Docker Image](#)
- ▼ [Data Center v2.0](#)
 - [Documentation](#)
 - [Software](#)
- > [Linux](#)
- > [Windows](#)

Click on the filename to download

File Name	Size	Release Date
md5sum	81 Bytes	Jul 2, 2024
ResourceManager-DataCenterEdition2.0.0-WDC	1.07 GB	Jun 26, 2024

Figure 9: Linux Compressed File

Please select the caret to expand each menu.

Number of Files per page
Select an Option ▼

Select an option:

- > [Docker Image](#)
- ▼ [Linux](#)
 - ▼ [Data Center v2.0](#)
 - [Documentation](#)
 - [Software](#)
 - > [Standard v1.3.1](#)
 - > [Windows](#)

Click on the filename to download

File Name	Size	Release Date
ResourceManager-DataCenterEdition2.0.0-WDC.tar	33.11 MB	Jun 26, 2024
md5sum	81 Bytes	Jul 2, 2024

Figure 10: Windows Compressed File

Please select the caret to expand each menu.

Number of Files per page
Select an Option ▼

Select an option:

- > [Docker Image](#)
- > [Linux](#)
- ▼ [Windows](#)
 - ▼ [Data Center v2.0](#)
 - [Documentation](#)
 - [Software](#)
 - > [Standard v1.3.1](#)

Click on the filename to download

File Name	Size	Release Date
ResourceManager-DataCenterEdition2.0.0-WDC	431.80 MB	Jun 26, 2024
md5sum	81 Bytes	Jul 2, 2024

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 \(page 8\)](#) to choose the appropriate installation type for your needs.

2.3 Compute Service Installation

This procedure provides instructions for installing the Resource Manager Data Center Edition Compute Service on a host server running a Linux or Windows operating system.

Before you begin: Follow the instructions in [Downloading Resource Manager Data Center Edition \(page 8\)](#).

Step 1: On the host server, open a terminal/command prompt with administrator privileges and navigate to the directory where the installation file was unzipped/extracted.

Step 2: Run the installation script.

Linux Example:

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

Windows Example:

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

The user will be prompted to choose either the Compute Service or Central Service:

```
1 - Compute [ Install RMDC as a compute node agent ]
2 - Management [ Install RMDC as a control node for data center management ]
Please enter the number corresponding to the above installation modes to
proceed with the installation : [1,2]?
```



Note: For more information about these options, see [Resource Manager Data Center Edition Overview \(page 2\)](#).

Step 3: Input 1 for the Compute Service 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, input Y to accept the agreement.

```
Y
```

The installation script will prompt the user about the details of the installation being executed:

```
RMDC installer will proceed to check and install all the prerequisite software
packages.
This might modify the host OS footprint, as additional software packages get
installed or updated.
Do you agree to proceed?(y/n)
```

Step 5: If you agree, input Y to accept the agreement.

```
Y
```

The installation script will install the Resource Manager Data Center Edition Compute Service and notify the user when the installation is complete:

```
Installing Western Digital Resource Manager Data Center.  
Installer v2.0  
Finalising installation. Please wait...  
RMDC Compute Node Agent installation completed.
```

Result: The Resource Manager Data Center Edition Compute Service is now installed on the host server and ready for use.

What to do next: Proceed to [Server Management – Compute Service \(page 236\)](#) or [Ultrastar Enclosure Management – Compute Service \(page 293\)](#) for instructions on managing a compute server or Ultrastar enclosure using the Compute Service.

2.4 Central Service Installation

The topics in this section provide information specific to the installation of the Resource Manager Data Center Edition application for Linux, Windows, and Docker hosted on either a Linux or Windows host. and instructions for installing the application.

2.4.1 Central Service Installation for Linux and Windows

This procedure provides instructions for installing the Resource Manager Data Center Edition Central Service on a host server running a Linux or Windows operating system.

Before you begin:



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

- 32GB 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.

- Follow the instructions in [Downloading Resource Manager Data Center Edition \(page 8\)](#).

Step 1: On the host server, open a terminal/command prompt with administrator privileges and navigate to the directory where the installation file was unzipped/extracted.

Step 2: Run the installation script.

Linux Example:

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

Windows Example:

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

The user will be prompted to choose either the Compute Service or Central Service:

```
1 - Compute [ Install RMDc as a compute node agent ]
2 - Management [ Install RMDc as a control node for data center management ]
Please enter the number corresponding to the above installation modes to
proceed with the installation : [1,2]?
```



Note: For more information about these options, see [Resource Manager Data Center Edition Overview \(page 2\)](#).

Step 3: Input 2 for the Central Service installation.

```
2
```

The user will be prompted to choose either the Basic or Advanced installation:

```
1 - Basic [ Only RMDc Software Components Installation ]
2 - Advanced [ RMDc & Required Pre-requisites Software Installation ]
Please enter the number corresponding to the above installation types to
proceed with the installation : [1,2]?
```

Step 4: Input 1 (Basic) or 2 (Advanced) for the desired installation type.

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 5: If you agree, input Y to accept the agreement.

```
Y
```

The installation script will prompt the user about the details of the installation being executed:

```
RMDc installer will proceed to check and install all the prerequisite
software packages.
This might modify the host OS footprint, as additional software packages get
installed or updated.
Do you agree to proceed?(y/n)
```

Step 6: If you agree, input Y to accept the agreement.

```
Y
```

The installation script will install the Resource Manager Data Center Edition Compute Service and notify the user when the installation is complete:

```
Installing Western Digital Resource Manager Data Center.
Installer v2.0
Finalising installation. Please wait...
RMDc Compute Node Agent installation completed.
```

Result: The Resource Manager Data Center Edition Central Service is now installed on the host server and ready for use.

What to do next: Proceed to [Network & Device Access – Central Service \(page 21\)](#), [Server Management – Central Service \(page 48\)](#), [OpenFlex Enclosure Management – Central Service \(page 129\)](#), or [Ultrastar Enclosure Management – Central Service \(page 188\)](#) for instructions on accessing network devices, managing a central server, managing an OpenFlex enclosure, or managing an Ultrastar enclosure using the Central Service.

2.4.1.1 Upgrading from Version 1.0.0 to 2.0.0 using Linux

This procedure provides instructions for upgrading the Resource Manager Data Center Edition from version 1.0.0 (Advanced installation) to version 2.0.0 (Advanced installation, Central Service), and reindexing the last thirty (30) days of 1.0.0 historical data for immediate use in version 2.0.0 Analytics and Reports.

Before you begin:



Important: Analytics and Reports do not require version 1.0.0 data. They will function properly using data collected only from the time of 2.0.0 installation. If 1.0.0 data is not needed, skip this procedure and only follow the instructions in Central Service Installation [\(page 129\)](#).

Step 1: Follow the instructions in [Downloading Resource Manager Data Center Edition \(page 8\)](#).

Step 2: Follow the instructions in Central Service Installation [\(page 129\)](#) to install the **Advanced** installation.

Step 3: Run the installation script.

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

The user will be prompted to choose either the Compute Service or Central Service:

```
1 - Compute [ Install RMDC as a compute node agent ]
2 - Management [ Install RMDC as a control node for data center management ]
Please enter the number corresponding to the above installation modes to
proceed with the installation : [1,2]?
```



Note: For more information about these options, see [Resource Manager Data Center Edition Overview \(page 2\)](#).

Step 4: Input 2 for the Central Service installation.

```
2
```

The user will be prompted to choose either the Basic or Advanced installation:

```
1 - Basic [ Only RMDC Software Components Installation ]
2 - Advanced [ RMDC & Required Pre-requisites Software Installation ]
Please enter the number corresponding to the above installation types to
proceed with the installation : [1,2]?
```

Step 5: Input 1 (Basic) or 2 (Advanced) for the desired installation type.

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 6: If you agree, input **Y** to accept the agreement.

```
Y
```

The installation script will prompt the user about the details of the installation being executed:

```
RMDC installer will proceed to check and install all the prerequisite
software packages.
This might modify the host OS footprint, as additional software packages get
installed or updated.
Do you agree to proceed?(y/n)
```

Step 7: If you agree, input **Y** to accept the agreement.

```
Y
```

The installation script will install the Resource Manager Data Center Edition Compute Service and notify the user when the installation is complete:

```
Installing Western Digital Resource Manager Data Center.
Installer v2.0.0
Finalising installation. Please wait...
RMDC Compute Node Agent installation completed.
```

Result: The version 1.0.0 data has now been replaced with version 2.0.0.0 Analytics and Reports.

2.4.1.2 Upgrading from Version 1.0.0 to 2.0.0 using Windows

This procedure provides instructions for upgrading the Resource Manager Data Center Edition from version 1.0.0 (Advanced installation) to version 2.0.0 (Advanced installation, Central Service), and reindexing the last thirty (30) days of 1.0.0 historical data for immediate use in version 2.0.0 Analytics and Reports.

Before you begin:



Important: Analytics and Reports do not require version 1.0.0 data. They will function properly using data collected only from the time of 2.0.0 installation. If 1.0.0 data is not needed, skip this procedure and only follow the instructions in Central Service Installation [\(page 16\)](#).

Step 1: Follow the instructions in [Downloading Resource Manager Data Center Edition \(page 8\)](#).

Step 2: Follow the instructions in Central Service Installation [\(page 16\)](#) to install the **Advanced** installation.

Uninstall RMDC 1.0.0

Step 3: Uninstall the Central Service for version 1.0.0 by running the following script:

```
:
```

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

The user will be asked if Resource Manager Data Center Edition version 2.0.0 is already uninstalled:

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

Step 4: Input y.

```
y
```

The user will be notified that the RMDC process is stopped, and then prompted to continue:

```
RMDC process stopped.
RMDC process successfully removed from startup.
Do you want to save RMDC configuration files to be restored later [Y,N]?
```

Step 5: Input y.

The script will create a log file in the installation directory.

```
RMDC configuration files saved successfully.
Do you want to delete RMDC logfile (C:\rmdc\rmdc.log) [Y,N]?
```

Step 6: Input y.

The script will uninstall the application.

```
Removed RMDC logfile.
Removing Elasticsearch service...
Elasticsearch service removed successfully.
Do you want to remove elasticsearch data [Y,N]?N
Elasticsearch data is retained.
RMDC uninstalled successfully.
```

Install RMDC 2.0.0

Step 7: Run the installation script.

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

The user will be prompted to choose either the Compute Service or Central Service:

```
1 - Compute [ Install RMDC as a compute node agent ]
2 - Management [ Install RMDC as a control node for data center management ]
Please enter the number corresponding to the above installation modes to
proceed with the installation : [1,2]?
```



Note: For more information about these options, see [Resource Manager Data Center Edition Overview \(page 2\)](#).

Step 8: Input 2 for the Central Service installation.

```
2
```

The user will be prompted to choose either the Basic or Advanced installation:

```
1 - Basic [ Only RMDC Software Components Installation ]
2 - Advanced [ RMDC & Required Pre-requisites Software Installation ]
```



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

Step 9: Input **1** (Basic) or **2** (Advanced) for the desired installation type.

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 10: If you agree, input **Y** to accept the agreement.

```
Y
```

The installation script will prompt the user about the details of the installation being executed:

```
RMDC installer will proceed to check and install all the prerequisite
software packages.
This might modify the host OS footprint, as additional software packages get
installed or updated.
Do you agree to proceed?(y/n)
```

Step 11: If you agree, input **Y** to accept the agreement.

```
Y
```

The installation script will install the Resource Manager Data Center Edition Compute Service and notify the user when the installation is complete:

```
Installing Western Digital Resource Manager Data Center.
Installer v2.0.0
Finalising installation. Please wait...
RMDC Compute Node Agent installation completed.
```

Result: The version 1.0.0 data has now been uninstalled and is available for version 2.0.0 Analytics and Reports.

2.4.2 Central Service Installation for Docker

This procedure provides instructions for installing the Resource Manager Data Center Edition Central Service on a host server running Docker and using a Linux or Windows host.

Before you begin:

- Follow the instructions in [Downloading Resource Manager Data Center Edition \(page 8\)](#).

Docker Container Installation on Linux Host

Step 1: On the host server, open a terminal/command prompt with administrator privileges and navigate to the directory where the installation file was unzipped/extracted.

Step 2: Run the installation script.

```
:
```

```
#./install_rmdc_containers.sh
```

The user will be prompted to agree to the license terms and conditions:

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

Step 3: If you agree, input Y to accept the agreement.

```
Y
```

The installation script will prompt the user about the details of the installation being executed:

```
Installing Western Digital Resource Manager Data Center.
Installer v2.0
Checking for and installing required support files and applications.
Docker install is selected
Docker is already installed.
RMDC 2.0.0 installation in progress
Loaded image: wd-rmdc:2.0.0
Loaded image: elasticsearch:8.5.3
Loaded image: alpine:3.20.0
[+] Running 5/5
# Network wd_default          Created          0.1s
# Volume "wd_rmdc-supportfiles" Created          0.0s
# Volume "wd_esdata01"       Created          0.0s
# Container wd-es01-1        Healthy         21.6s
# Container wd-rmdc-1        Started
has context menu
```

Docker Container Installation on Windows Host

Step 4: On the host server, open a terminal/command prompt with administrator privileges and navigate to the directory where the installation file was unzipped/extracted.

Step 5: Run the installation script.

```
:
```

```
C:>\ install_rmdc_docker.bat
```

The user will be prompted to enter the IP Address of the Docker Host:

```
C:\RMDC2.0\RC3\Docker\ResourceManager-DataCenterEdition2.0.0-WDC
\ResourceManager-DataCenterEdition2.0.0-WDC>install_rmdc_docker.bat
Please enter the IP address of Docker host :
```

Step 6: Type the IP Address and press **Enter**.

The End User License Agreement will appear and prompt the user to agree:

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

Step 7: If you agree, input Y to accept the agreement.

```
Y
```

The installation script will prompt the user about the details of the installation being executed:

```
Installing Western Digital Resource Manager Data Center.
Installer v2.0
Preparing to install RMDC 2.0.0. Please wait...
RMDC 2.0.0 installation in progress...
[+] Running 5/5
```

# Network wd_default	Created	0.1s
# Volume "wd_esdata01"	Created	0.0s
# Volume "wd_rmdc-supportfiles"	Created	0.0s
# Container wd-es01-1	Healthy	21.6s
# Container wd-rmdc-1	Started	21.9s

Result: The Resource Manager Data Center Edition Central Service is now installed on the Docker host server and ready for use.

What to do next: Proceed to [Network & Device Access – Central Service \(page 21\)](#), [Server Management – Central Service \(page 48\)](#), [OpenFlex Enclosure Management – Central Service \(page 129\)](#), or [Ultrastar Enclosure Management – Central Service \(page 188\)](#) for instructions on accessing network devices, managing a central server, managing an OpenFlex enclosure, or managing an Ultrastar enclosure using the Central Service.



Network & Device Access – Central Service

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.....	22
- Overview of Network Dashboard.....	24
- Configuring Discovery Settings.....	32
- Creating a Management Group.....	35
- Administering Group Operations.....	40
- Navigating to a Management Server Dashboard.....	44
- Navigating to an Enclosure Dashboard.....	46

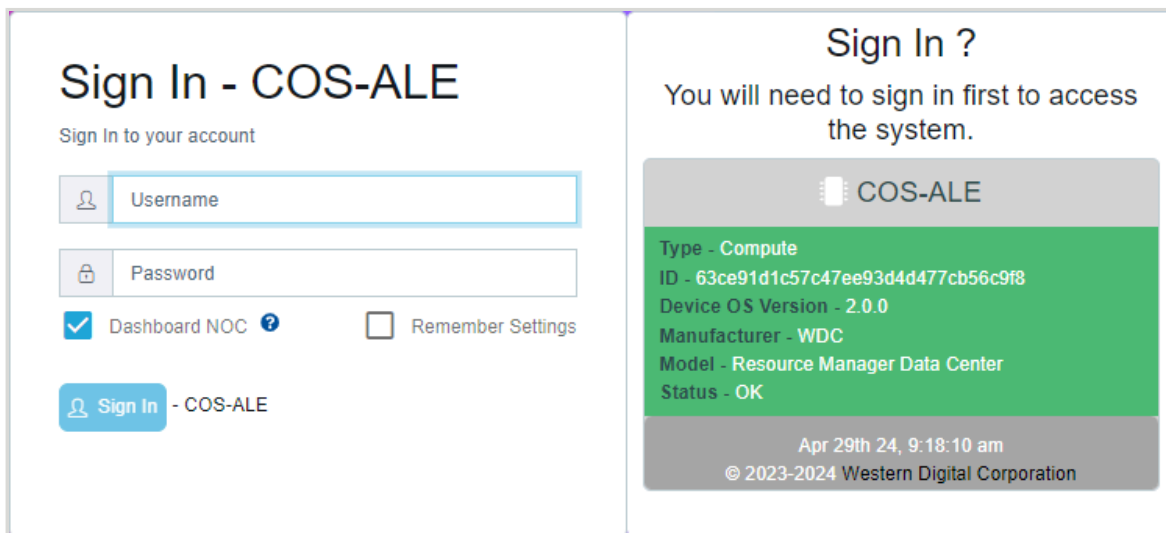
3.1 Logging in to the Network Dashboard

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



The login screen is divided into two main sections. The left section, titled "Sign In - COS-ALE", contains a "Sign In to your account" prompt, a "Username" field, a "Password" field, a checked "Dashboard NOC" checkbox with a help icon, an unchecked "Remember Settings" checkbox, and a "Sign In - COS-ALE" button. The right section, titled "Sign In ?", contains a message: "You will need to sign in first to access the system." Below this is a grey header bar with the COS-ALE logo. A green box displays system information: "Type - Compute", "ID - 63ce91d1c57c47ee93d4d477cb56c9f8", "Device OS Version - 2.0.0", "Manufacturer - WDC", "Model - Resource Manager Data Center", and "Status - OK". At the bottom, a grey bar shows the date and time "Apr 29th 24, 9:18:10 am" and the copyright notice "© 2023-2024 Western Digital Corporation".



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.

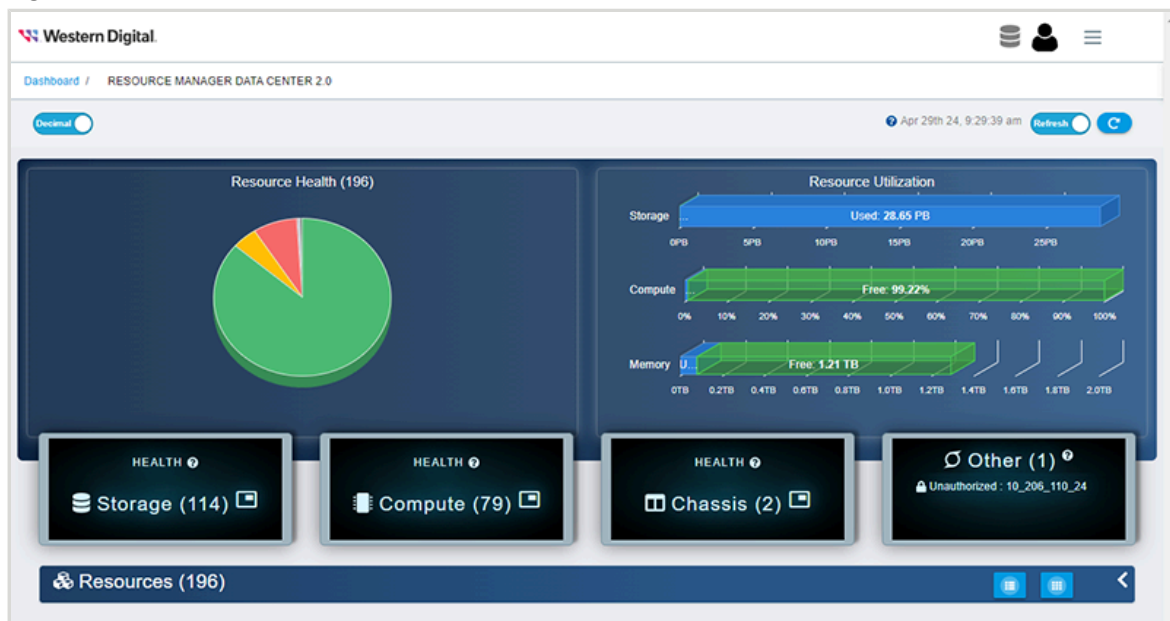
Step 2: Enter a valid username and password, and click the **Sign In** button.



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:

Figure 12: The Network Dashboard



What to do next: Proceed to [Overview of Network Dashboard \(page 24\)](#).

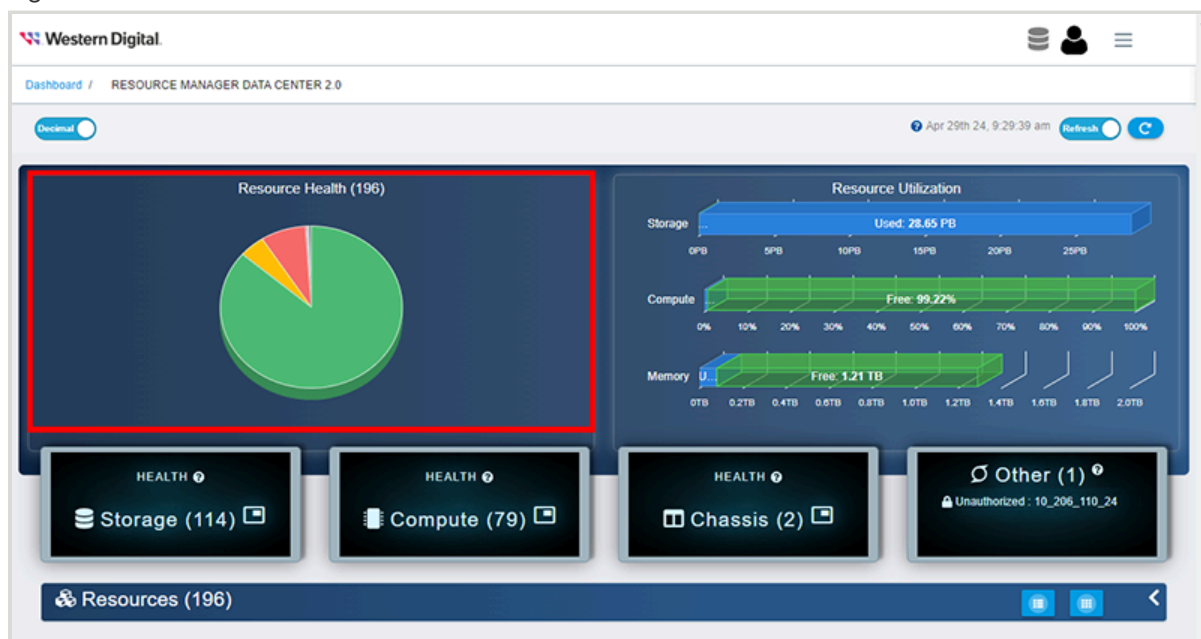
3.2 Overview of Network Dashboard

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

Resource Health

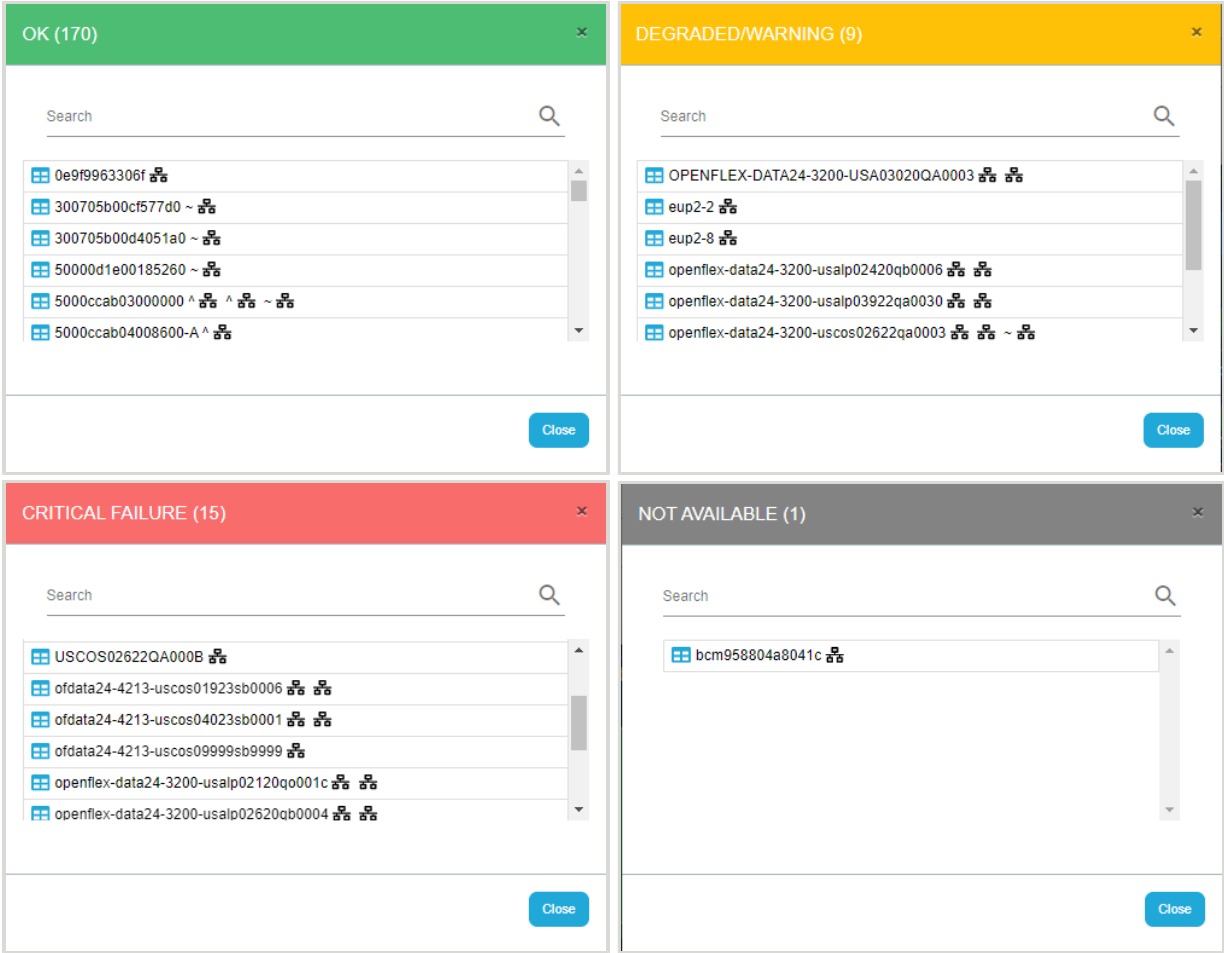
The **Resource Health** section displays a pie chart that groups the health states of devices into color-coded segments.

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:

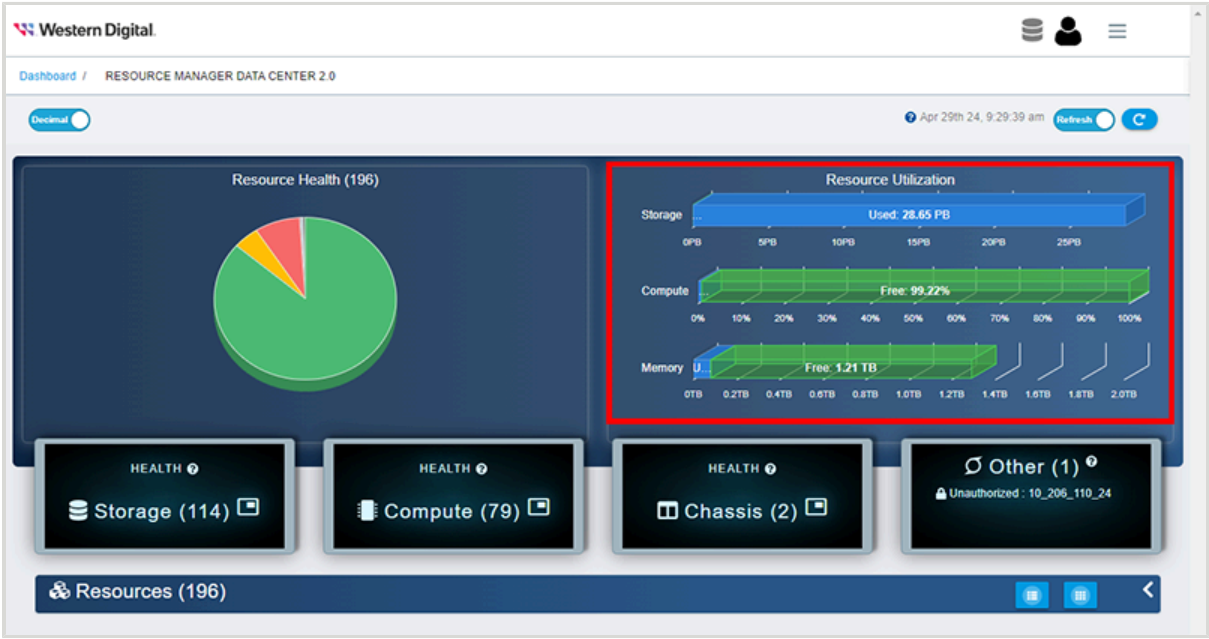
Figure 14: Health States



Resource Utilization

The **Resource Utilization** section displays the total, free, and used capacity for storage, compute, and memory devices discovered on the network.

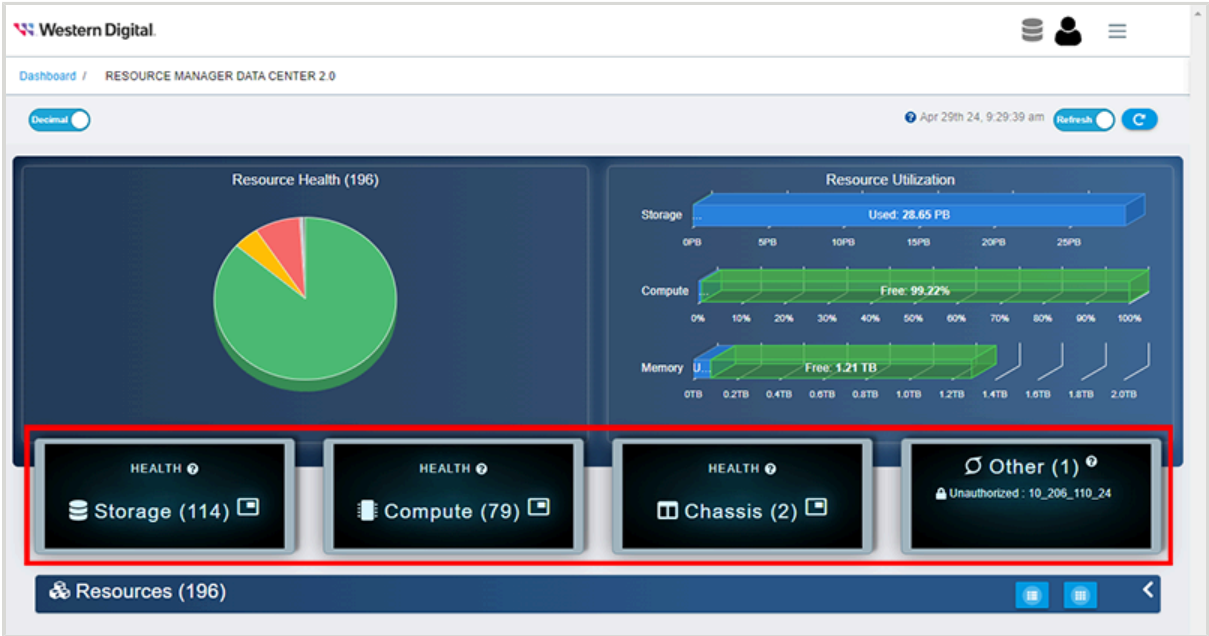
Figure 15: Resource Utilization Chart



Health by Device Type

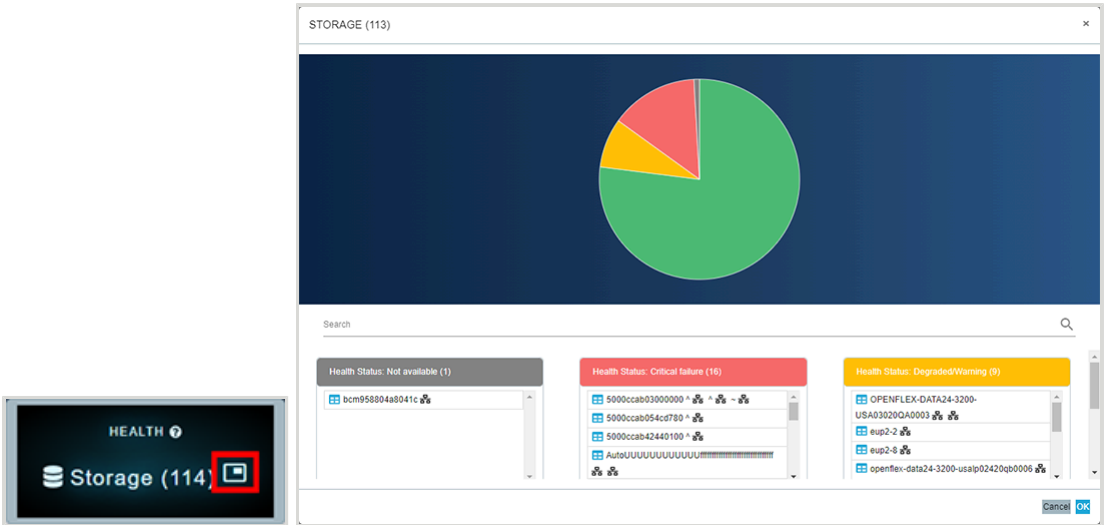
The center section of the dashboard contains health status information, organized by device type.

Figure 16: Health by Device Type



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

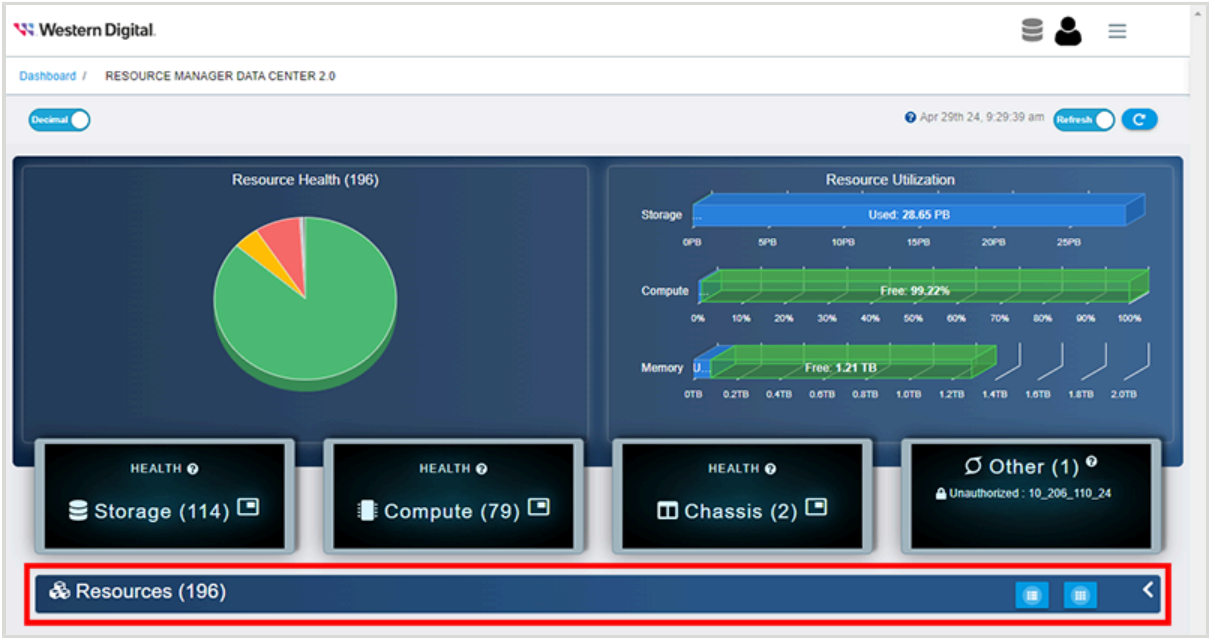
Figure 17: Health by Device Type



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:

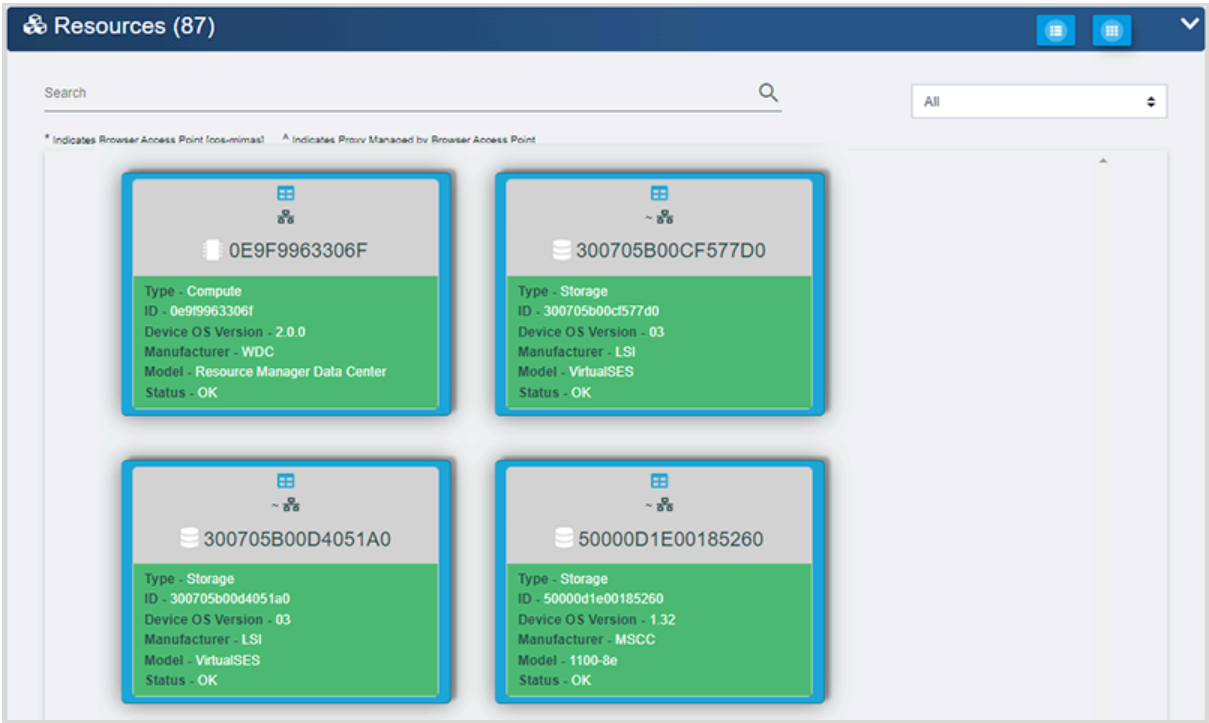
Figure 19: Resources

The screenshot shows the 'Resources (195)' list view. The table has the following columns: Status, Name, IP Address, Model, Version, and Type. The first row is 'Unknown' with IP 10.206.110.24. Subsequent rows show 'OK' status for various devices like 'Resource Manager Data Center', 'VirtualSES', and 'H4060-J'.

Status	Name	IP Address	Model	Version	Type
Unknown	10_206_110_24	10.206.110.24	Unknown	Unknown	Unknown
OK	0e9f9963306f	10.206.144.50	Resource Manager Data Center	2.0.0	Compute
OK	300705b00cf577d0 ~	10.202.238.60	VirtualSES	03	Storage
OK	300705b00d4051a0 ~	10.202.237.61	VirtualSES	03	Storage
OK	50000d1e00185260 ~	10.202.238.19	1100-8e	1.32	Storage
OK	5000ccab03000000 ~	10.206.137.125			
OK	5000ccab03000000 ~	10.206.137.144	H4060-J	4.0.30	Storage
OK	5000ccab04008600-A ~	10.206.137.38			
OK	5000ccab04008600-A ~	10.206.111.135	H4102-J	4.0.15	Storage
OK	5000ccab04008600-B ~	10.206.111.110	H4102-J	4.0.15	Storage
OK	5000ccab040bec00 ~	10.206.143.135	H4060-J	T4.0.86	Storage
OK	5000ccab040e5c80 ~	10.206.144.86	H4060-J	4.0.0	Storage

If desired, click the **Grid View** icon to display resources in a grid view:

Figure 20: Resources

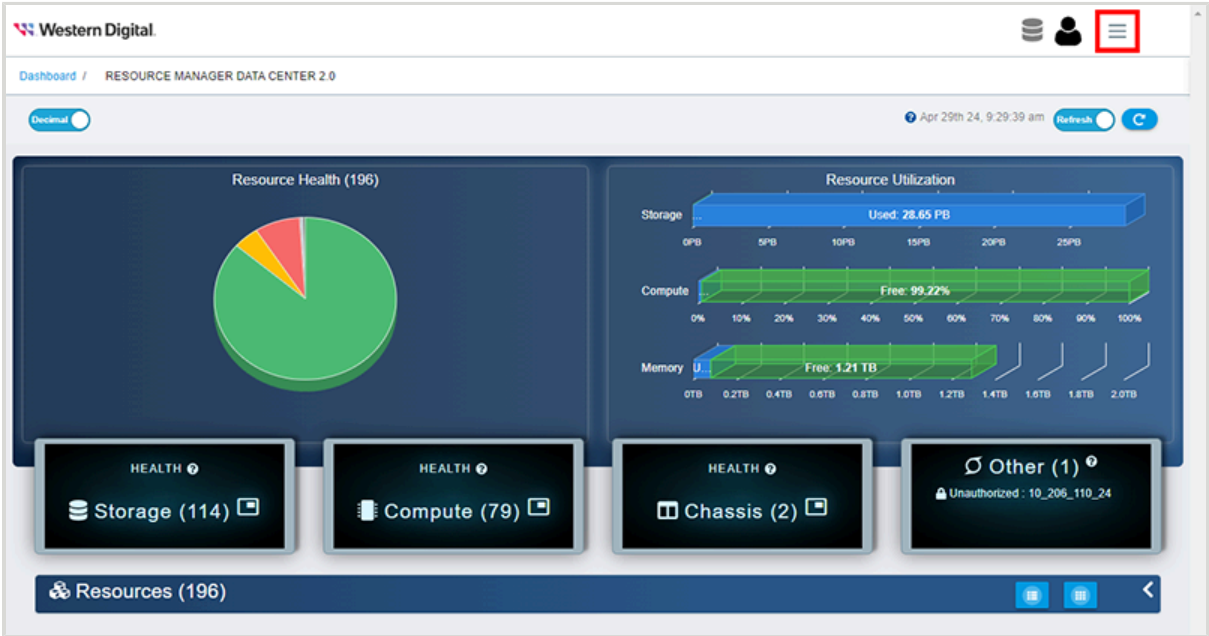


For more information on logging in to devices on the resource list, see [Navigating to a Management Server Dashboard \(page 44\)](#), [Navigating to an Enclosure Dashboard \(page 46\)](#), or [Navigating to an Enclosure Dashboard \(page 46\)](#).

Settings

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

Figure 21: The Settings Menu

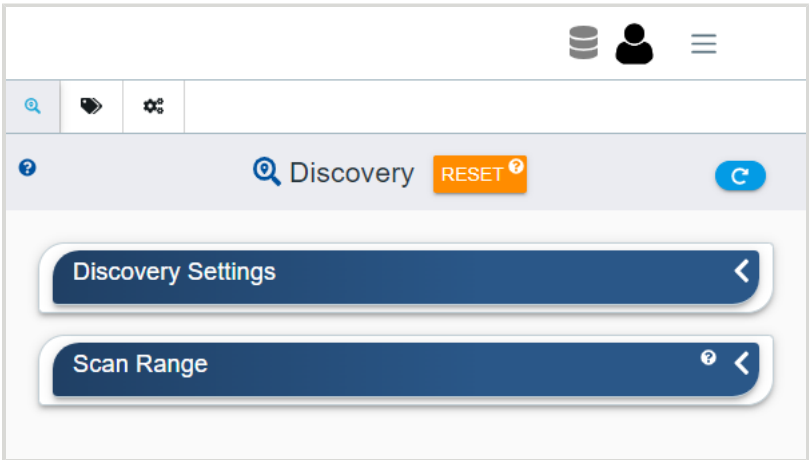


Clicking the **Settings** icon will expand the settings section, which contains tabs for **Discovery**, **Group Management**, and **Group Administration**.

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

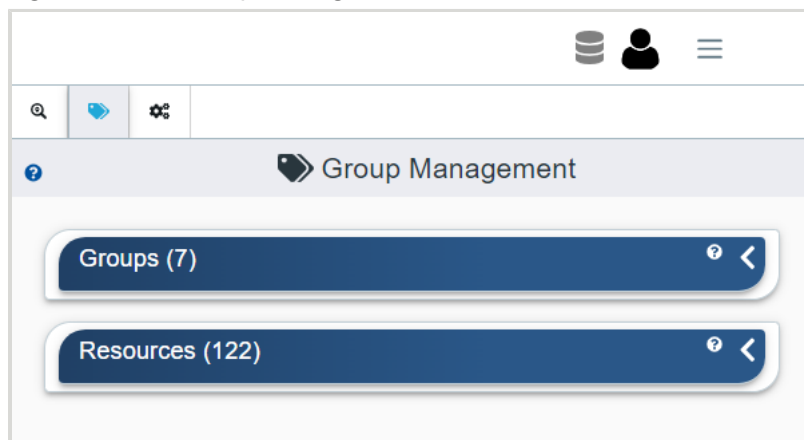


For more information on configuring discovery settings, see [Configuring Discovery Settings \(page 32\)](#).

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

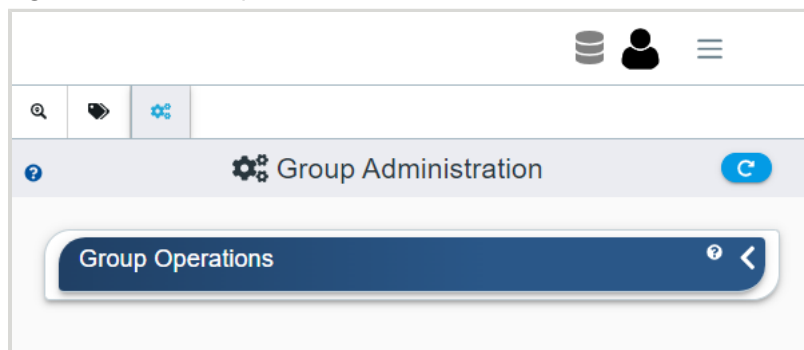


For more information on configuring group management settings, see [Creating a Management Group \(page 35\)](#).

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 \(page 40\)](#).

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 \(page 22\)](#).

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

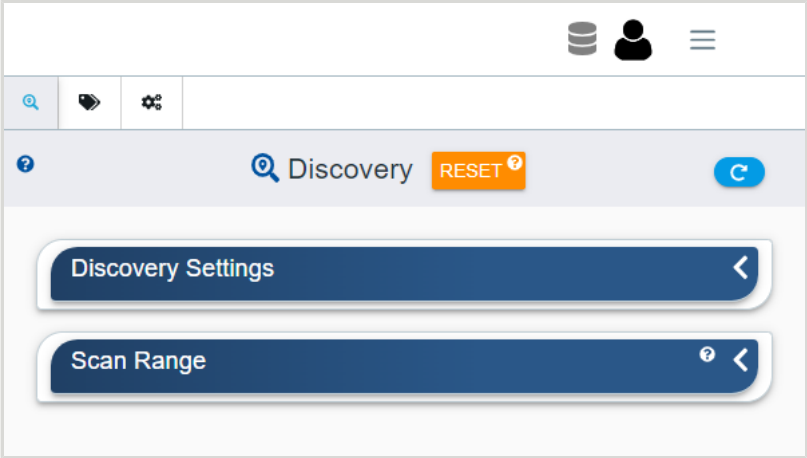
Figure 25: Settings Icon



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

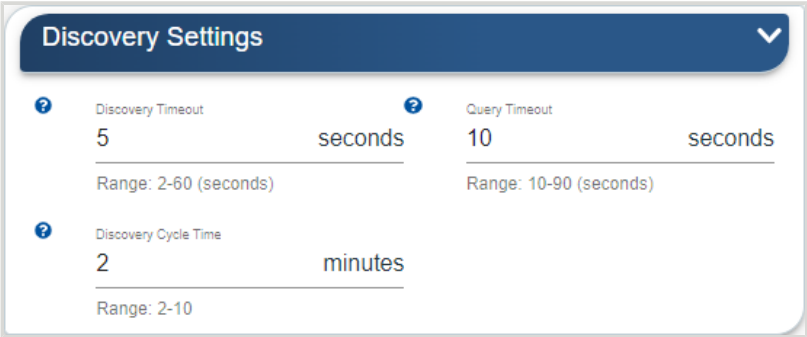
Step 2: If needed, click the **Discovery** tab to view the discovery settings.

Figure 26: Discovery Settings



Step 3: Click to expand the **Discovery Settings** section.

Figure 27: Discovery Settings



Step 4: Use the available fields as follows to configure the settings for the discovery scan:

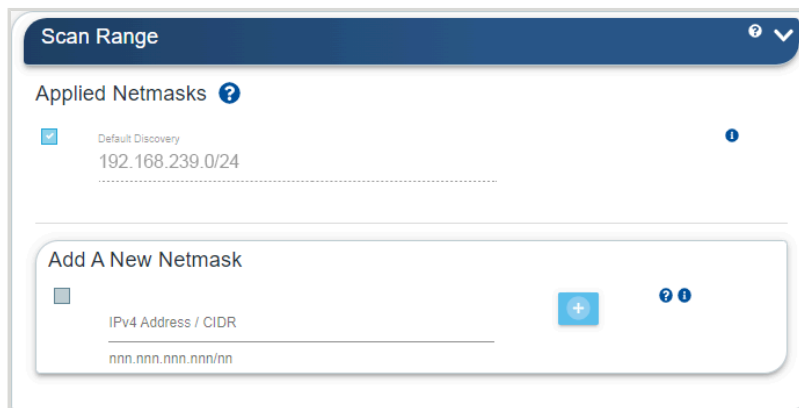
Discovery Timeout: This value determines the *ping* wait time allocated per discovery request to receive a positive response for each **Scan Range** entry. A higher value (longer time) is suggested when scanning across larger distance networks. Each positive result is captured and used for the query 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 higher value (longer time) 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 33) 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.

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



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

Figure 31: Minus Icon



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 \(page 22\)](#).

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

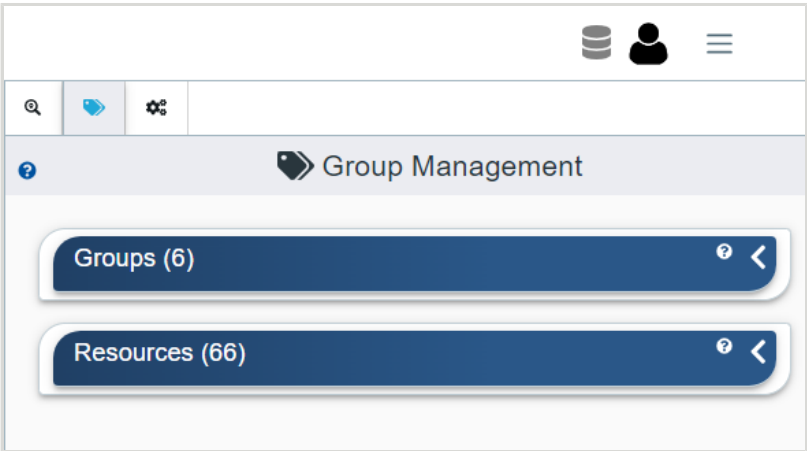
Figure 32: Settings Icon



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

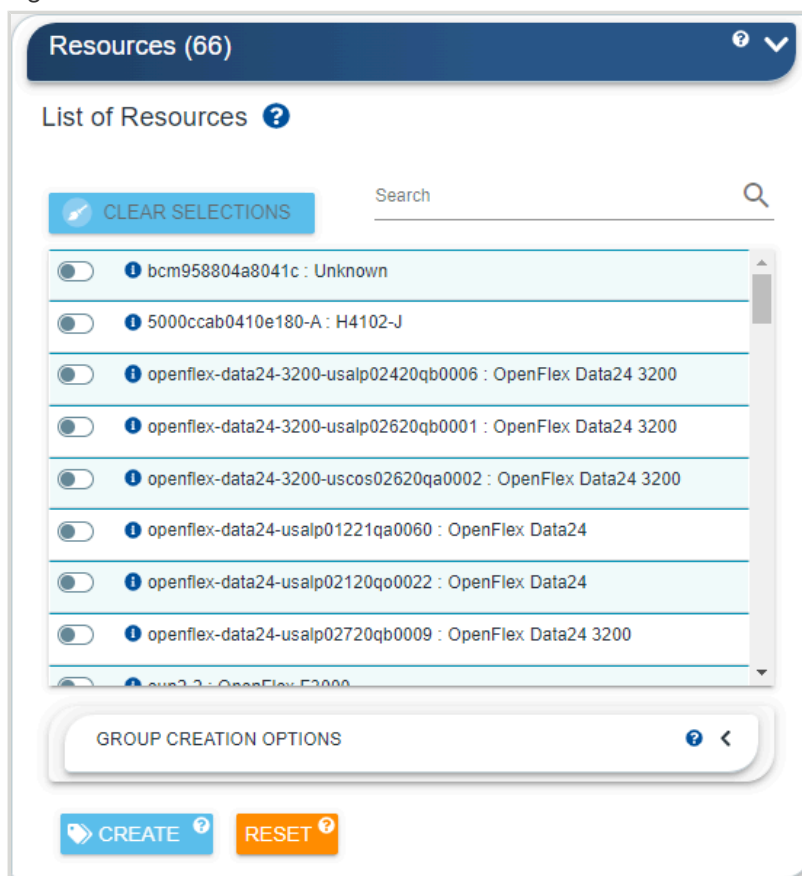
Step 2: If needed, click the **Group Management** tab to view the group management settings.

Figure 33: Group Management Settings



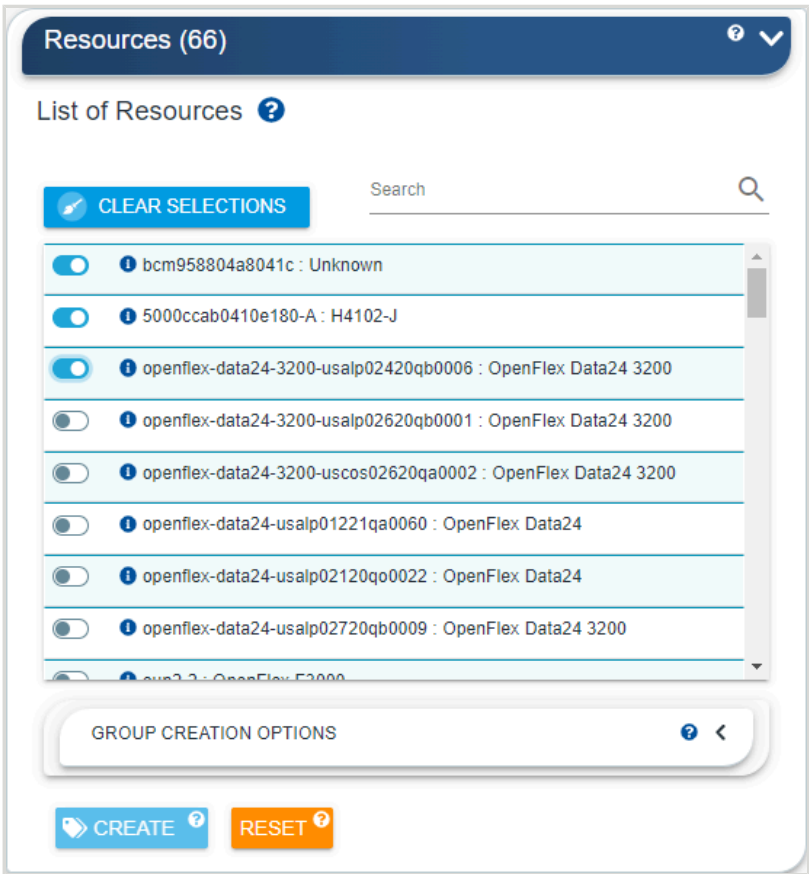
Step 3: Click to expand the **Resources** section.

Figure 34: Resources Section



Step 4: From the list of discovered resources, use the toggle switches to select which resources will be included in a group.

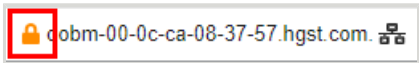
Figure 35: Selected Resources



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



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



Figure 37: Locked Resource Login Dialog Box

The dialog box has a title bar with the text "OOBM-00-0C-CA-08-37-57.HGST.COM." Below the title bar, it says "Use this dialog to Provide Credentials for this resource." There are two input fields: "Username" with a user icon and "Password" with a lock icon and a toggle eye icon. At the bottom, there are two buttons: "Provide Credentials" and "Cancel".

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

The dialog box is titled "GROUP CREATION OPTIONS" with a help icon and a dropdown arrow. It contains two text input fields. The first field is labeled "Test Group" and has a character count of "10 / 64". The second field contains the text "A test group of resources" and has a character count of "25 / 256". At the bottom, there are two buttons: "CREATE" and "RESET", both with help icons.

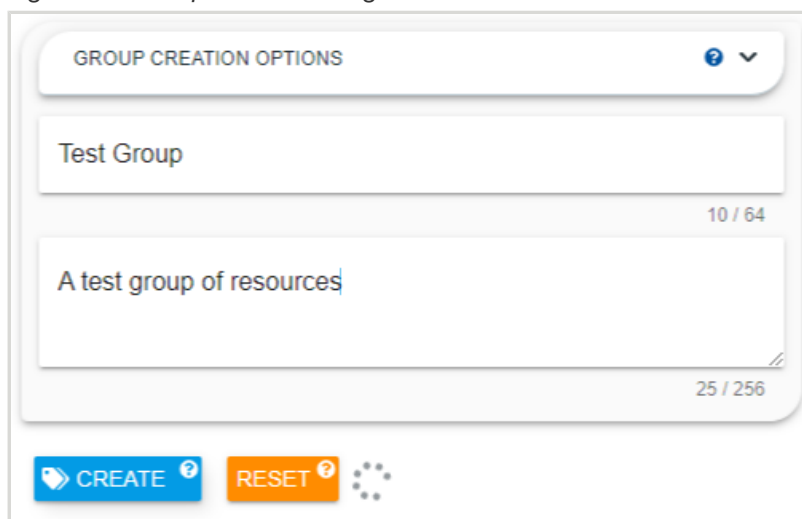
Step 6: Click the **Create** button.

Figure 39: Create Button



A progress icon will briefly appear while the group is being created. Afterward, the group will become a selectable option in the **Groups** section.

Figure 40: Group Creation Progress Icon



The screenshot shows the 'GROUP CREATION OPTIONS' dialog box. It contains a text input field with 'Test Group' and a character count '10 / 64'. Below it is a larger text area with 'A test group of resources' and a character count '25 / 256'. At the bottom, there are three buttons: a blue 'CREATE' button with a question mark icon, an orange 'RESET' button with a question mark icon, and a grey circular loading spinner.

Step 7: Click to expand the **Groups** section and verify that the new group is available.

Figure 41: Expanded Groups Section



The screenshot shows the 'Groups (7)' section expanded. It lists 'Existing Groups' with a scrollable list containing: '102-J', '60-J', 'Test Group' (highlighted with a red rectangle), and 'Data24 3200'. Below the list, the details for the 'Test Group' are shown: 'Name: Test Group', 'Created: 16-Aug-2023 15:14:39', and 'Resources: 3'. The resources are listed in a scrollable box: 'bcm958804a8041c.hgst.com', 'oobm-00-0c-ca-07-09-34.hgst.com', and 'openflex-data24-3200-usalp02420qb0006-ioma.sdcorp.global.sandisk.com'.

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 \(page 22\)](#)
2. Follow the instructions for [Creating a Management Group \(page 35\)](#)



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.

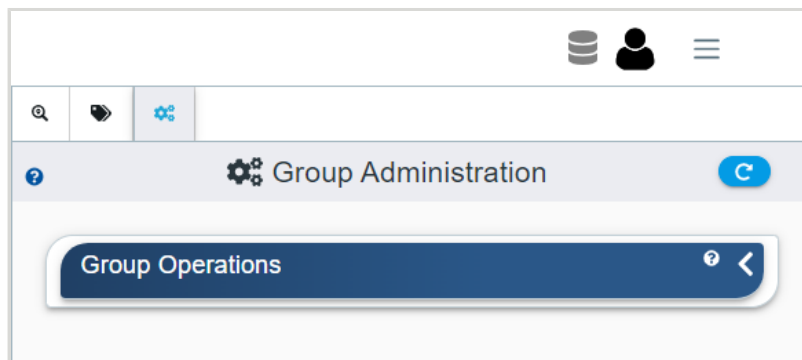
Figure 42: Settings Icon



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

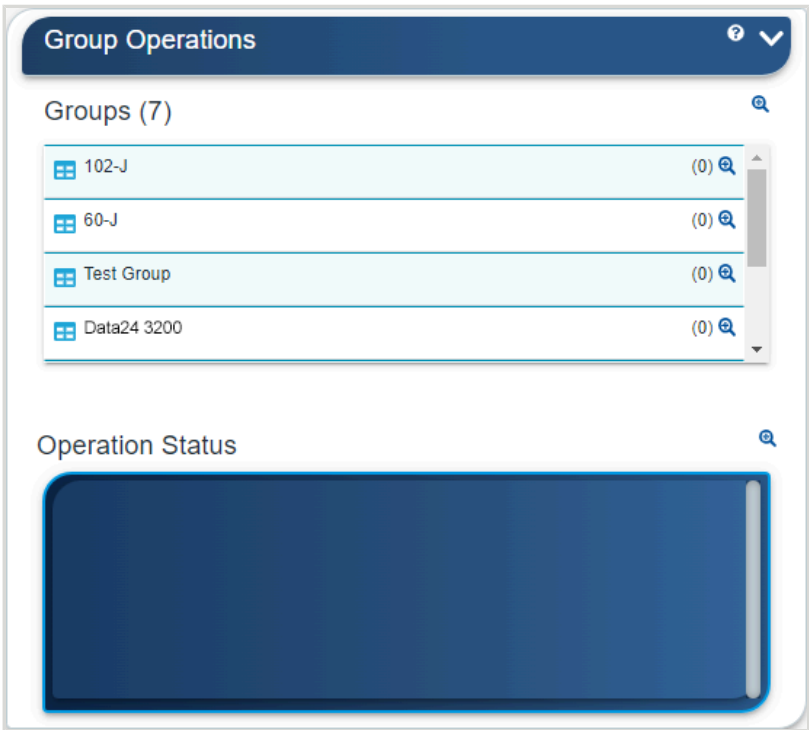
Step 2: If needed, click the **Group Administration** tab to view the group administration settings.

Figure 43: Group Administration Settings



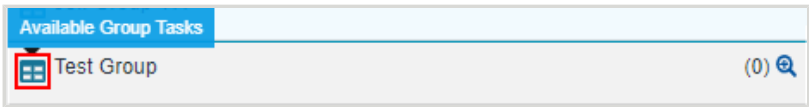
Step 3: Click to expand the **Group Operations** section.

Figure 44: Expanded Group Operations Section



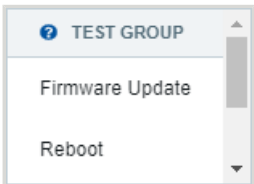
Step 4: Click the **Group Tasks** icon for the desired group.

Figure 45: Group Tasks Icon



A list of available tasks will be displayed.

Figure 46: Available Group Tasks



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).

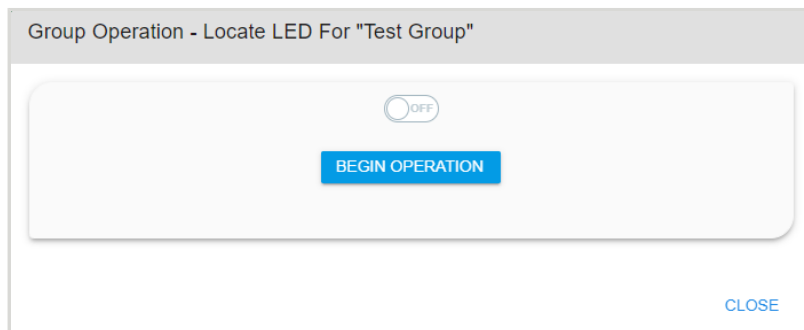


Important: Other options may be allowed even when devices in the group cannot comply with the request (i.e. enabling a locate LED on a device that is in sleep mode or whose LED is already enabled). In such instances, the request will be ignored by those devices.

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



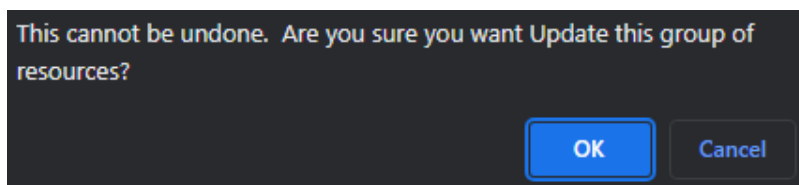
Step 6: Provide the required information (specific to the task), and click the **Begin Operation** button.

Figure 48: Begin Operation Button



The user will be prompted to confirm the operation:

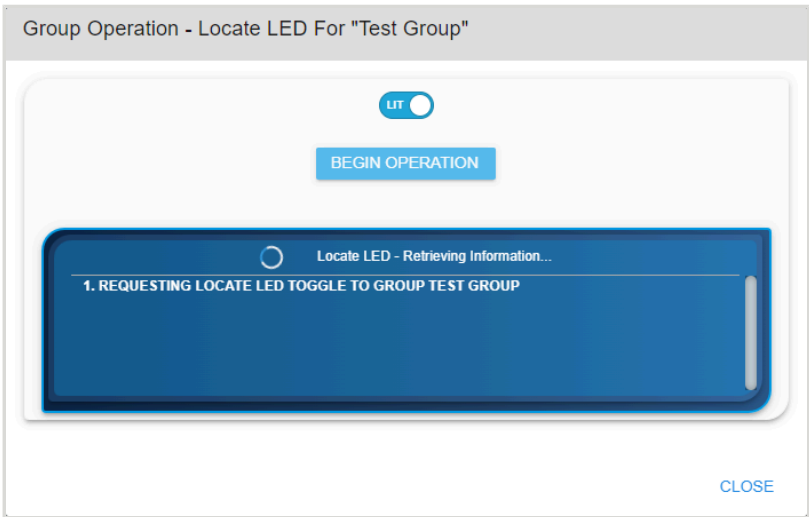
Figure 49: Confirm Operation



Step 7: Click the **OK** button to confirm the operation.

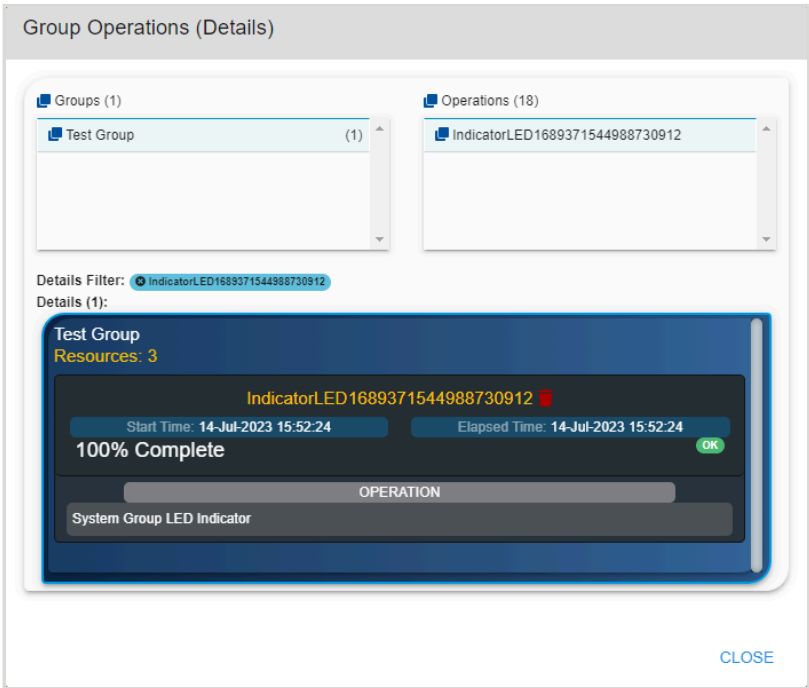
The **Group Operation** window will display the progress of the operation:

Figure 50: Group Operation In Progress



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

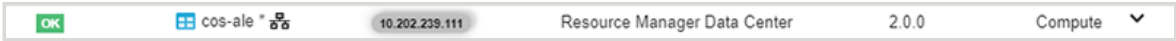
This procedure provides instructions for navigating to a central management server's dashboard.

Before you begin:

- Follow the instructions for [Logging in to the Network Dashboard \(page 22\)](#).

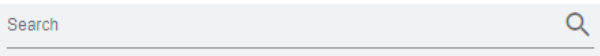
Step 1: From the **Resources** list, identify the resource (server) to be accessed.

Figure 52: Management Server Details



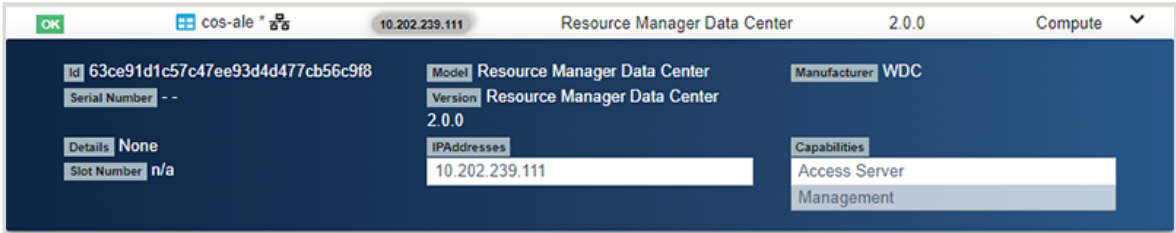
Tip: Enter the name of the server into the **Search** field to narrow down the **Resources** list for faster searching:

Figure 53: Search Field



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

Figure 54: Expanded Management Server Details



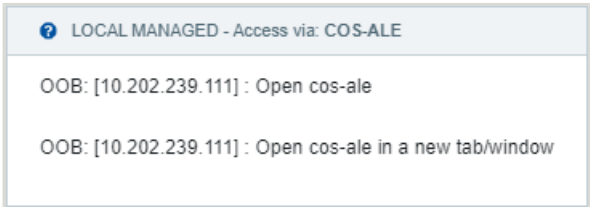
Step 3: Click the **Device Actions** icon.

Figure 55: Device Actions Icon



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

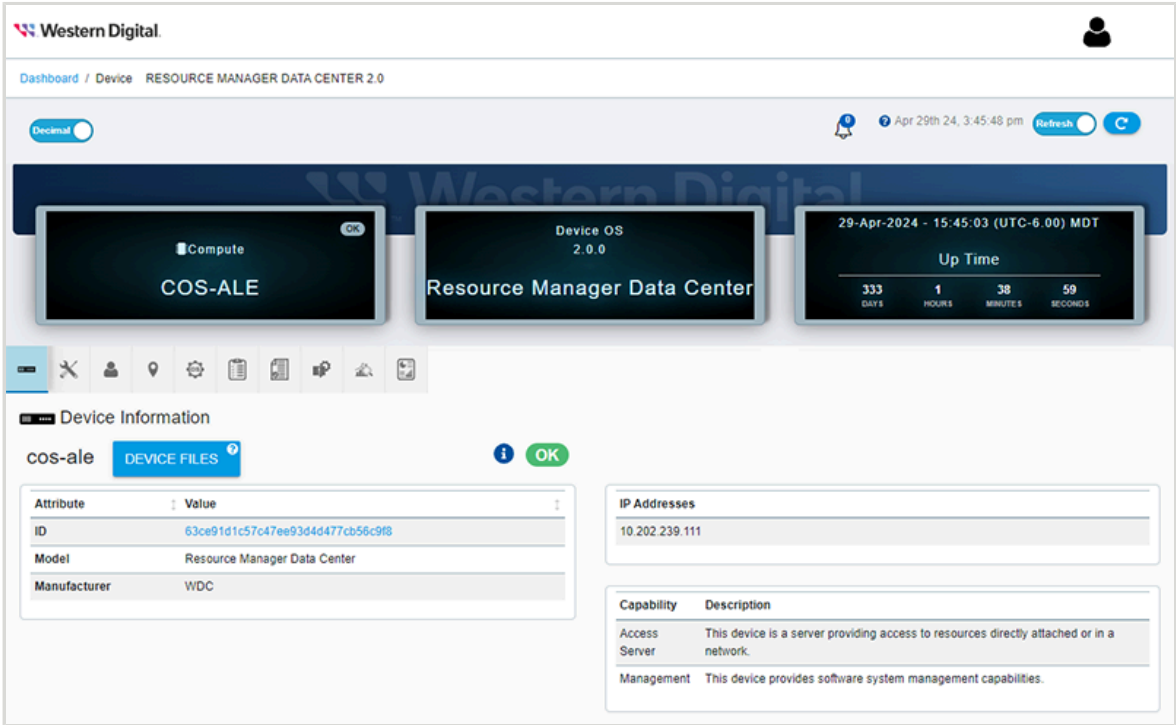
Figure 56: Device Actions Window



 **Note:** In this example, access to the management server is provided through its out-of-band management port, indicated by *OOB* preceding the IP address.

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 – Central Service \(page 48\)](#) or [Server Management – Compute Service \(page 236\)](#) for instructions on performing server-level management operations.

3.7 Navigating to an Enclosure Dashboard

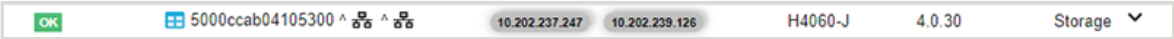
This procedure provides instructions for navigating to an enclosure's dashboard, as presented by a server running Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Logging in to the Network Dashboard \(page 22\)](#).

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



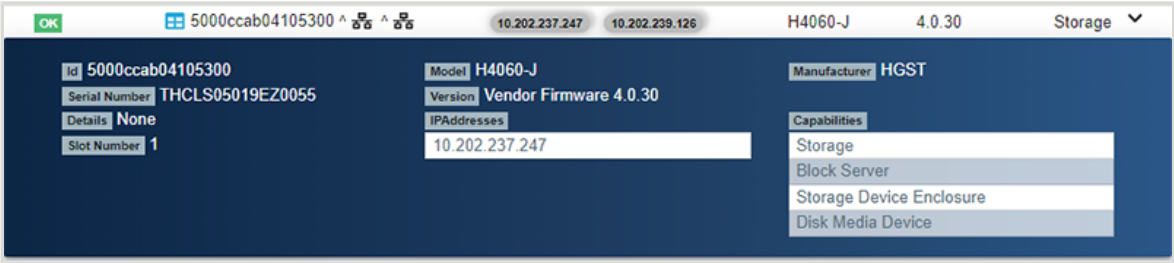
Tip: Enter the name of the enclosure into the **Search** field to narrow down the **Resources** list for faster searching:

Figure 59: Search Field



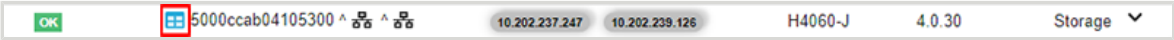
Step 2: If needed, click anywhere on the row to expand the enclosure details.

Figure 60: Expanded Enclosure Details



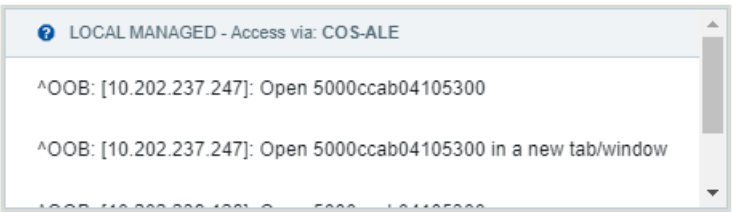
Step 3: Click the **Device Actions** icon.

Figure 61: Device Actions Icon



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

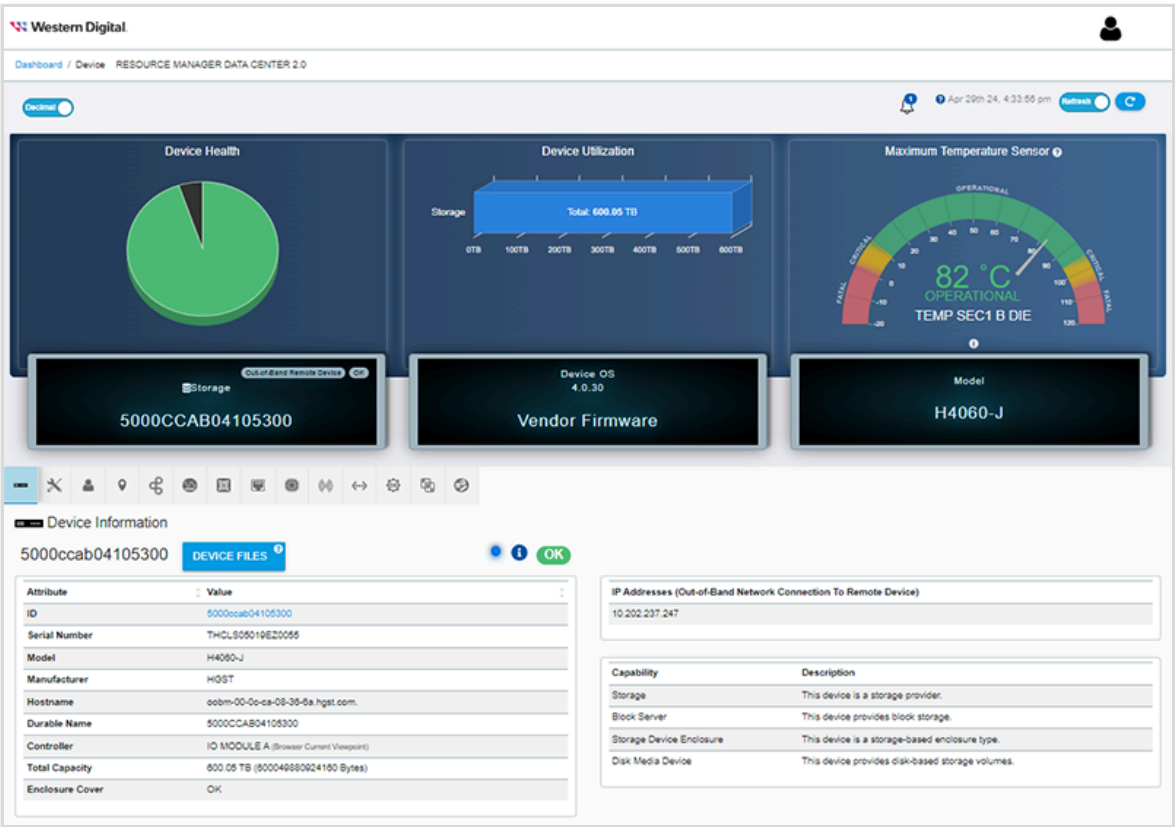
Figure 62: Device Actions Window



Note: In this example, access to the enclosure is provided through its out-of-band management port, indicated by **OOB** preceding the IP address. In addition, the ^ indicates the enclosure is proxy managed through the central management server's browser access point.

Step 4: Click to select your preferred option.
The enclosure's dashboard will appear.

Figure 63: Enclosure Dashboard



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

What to do next: Proceed to [OpenFlex Enclosure Management – Central Service \(page 129\)](#), [Ultrastar Enclosure Management – Central Service \(page 188\)](#) or [Ultrastar Enclosure Management – Compute Service \(page 293\)](#) for instructions on performing enclosure-level management operations for your platform type.



Server Management – Central Service

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

In This Chapter:

- Overview of Management Server Dashboard.....	49
- Device Information.....	50
- Administration.....	53
- Accounts.....	69
- Location.....	75
- Device OS.....	77
- Assets.....	78
- Policies.....	82
- Notifications.....	93
- Analytics.....	108
- Reports.....	119

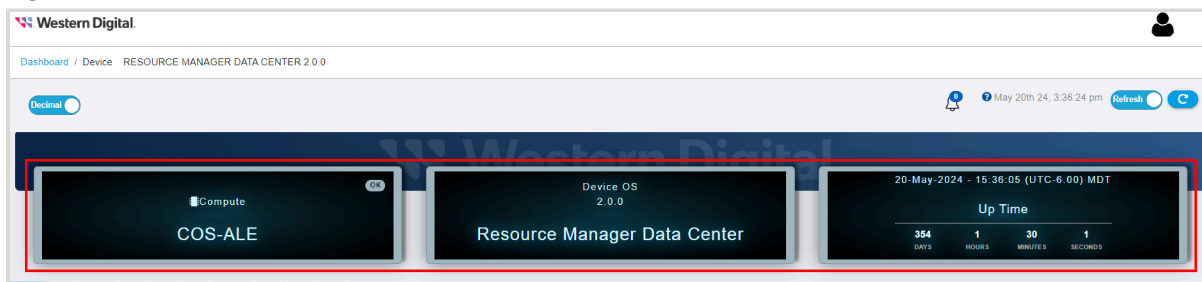
4.1 Overview of Management Server Dashboard

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

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 64: Server Information Panels



Server Management Controls

The bottom portion of the dashboard provides additional server information and management controls, which are organized into tabs. The following sections provide procedures for the most common management actions available from these tabs.

- [Device Information \(page 50\)](#)
- [Administration \(page 53\)](#)
- [Accounts \(page 69\)](#)
- [Location \(page 75\)](#)
- [Device OS \(page 77\)](#)
- [Assets \(page 78\)](#)
- [Policies \(page 82\)](#)
- [Notifications \(page 93\)](#)

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

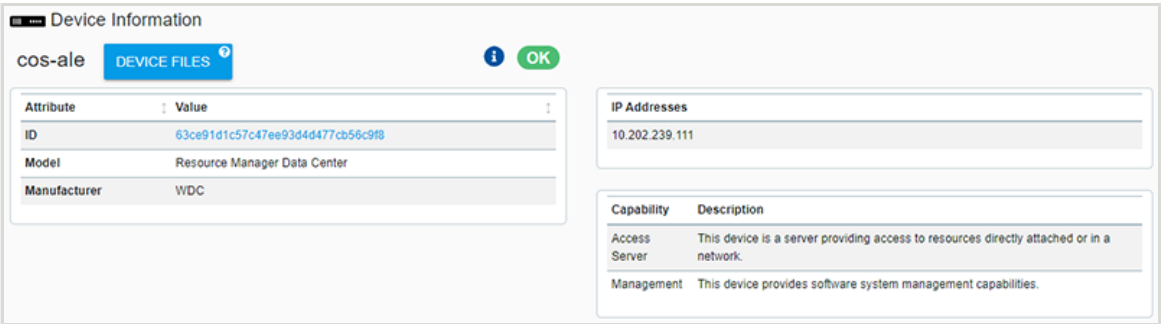
Step 1: From the server dashboard, click the **Device Information** tab.

Figure 65: Device Information Tab



The **Device Information** page will appear:

Figure 66: Device Information Page



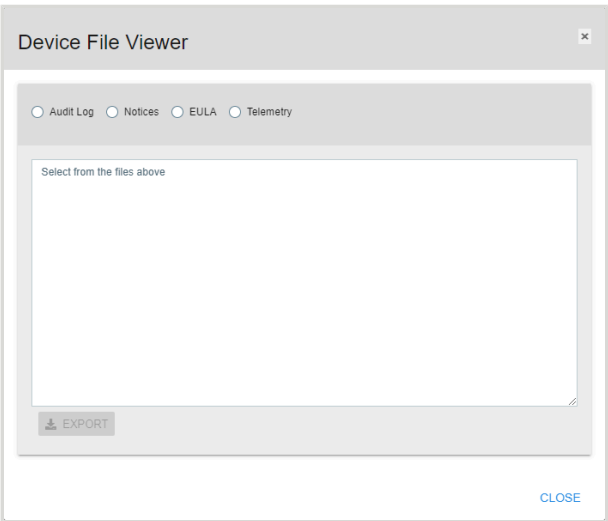
Step 2: Click the **Device Files** button.

Figure 67: Device Files Button



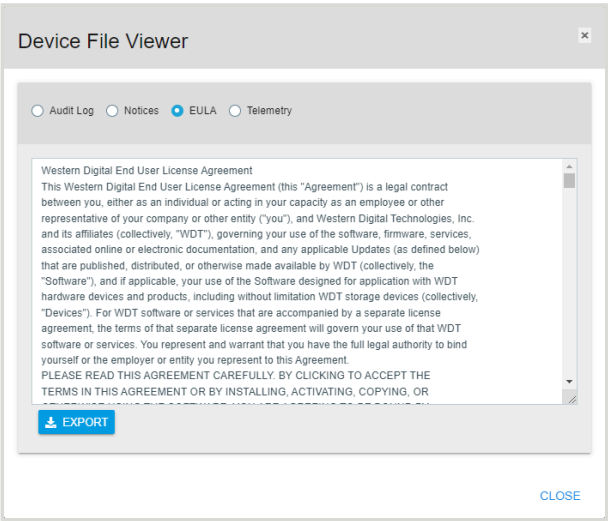
A **Device File Viewer** window will appear:

Figure 68: Device File Viewer



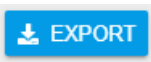
Step 3: Use the radio buttons at the top to select the audit logs, notices, EULA, or telemetry files to be viewed/downloaded. The Resource Manager Data Center Edition will retrieve the selected information.

Figure 69: Selecting Files



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

Figure 70: Export Button



The appropriate file type will be downloaded to your **Downloads** directory.

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 running on a management server.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

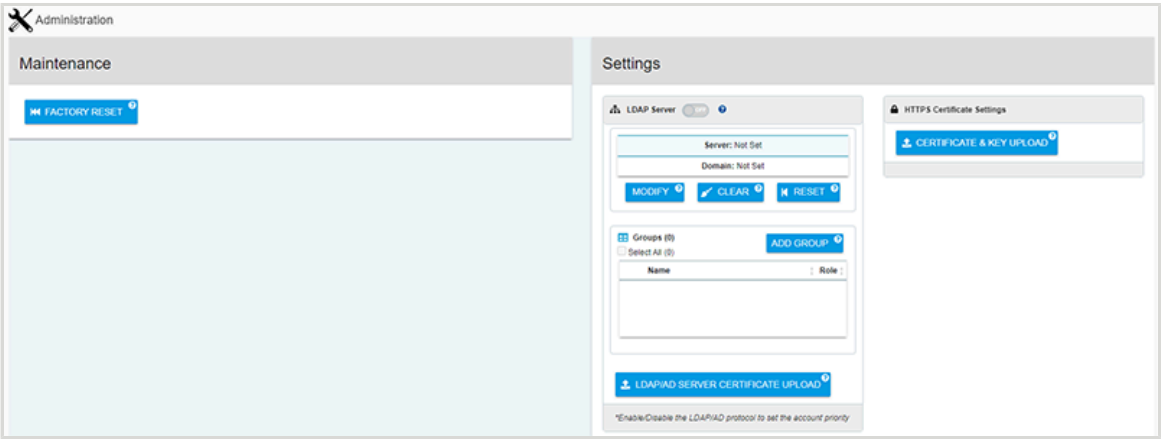
Step 1: From the server dashboard, click the **Administration** tab.

Figure 71: Administration Tab



The **Administration** page will appear:

Figure 72: 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 73: 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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

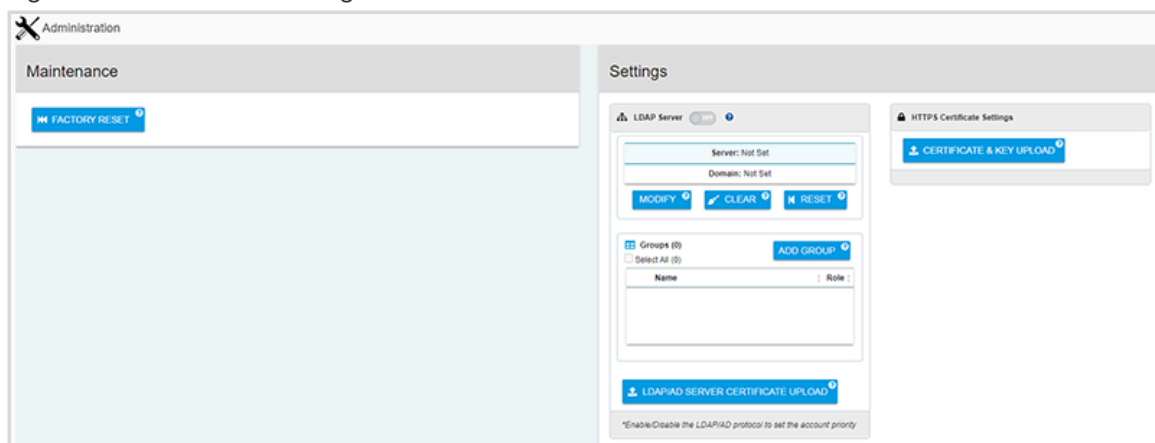
Step 1: From the server dashboard, click the **Administration** tab.

Figure 74: Administration Tab



The **Administration** page will appear:

Figure 75: Administration Page



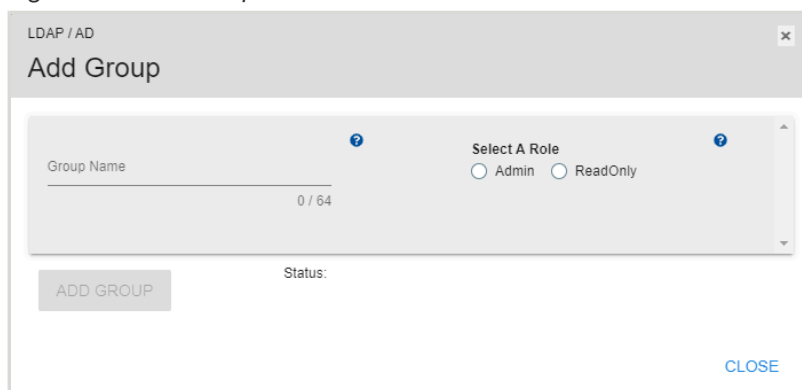
Step 2: In the **Settings** section, click the **Add Group** button.

Figure 76: Add Group Button



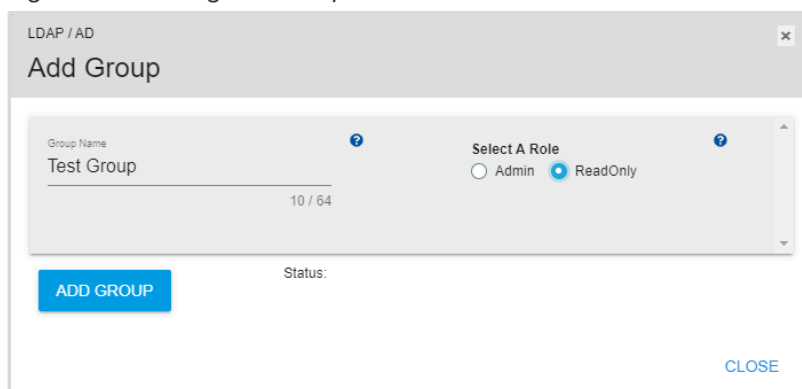
The **Add Group** window will appear:

Figure 77: Add Group Window



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

Figure 78: Naming the Group



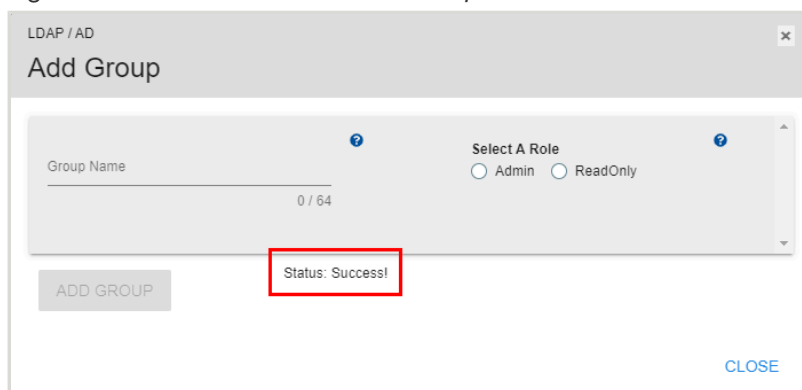
Step 4: Click the **Add Group** button.

Figure 79: Add Group Button



A success message will be displayed:

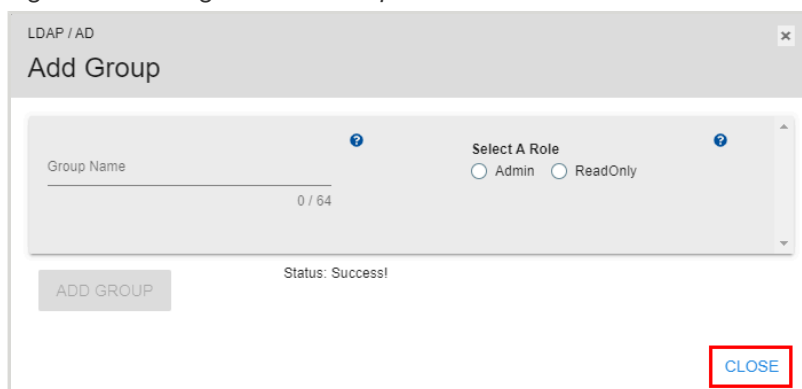
Figure 80: Successful Addition of Group



The screenshot shows a modal window titled "LDAP / AD" with the subtitle "Add Group". Inside the window, there is a text input field for "Group Name" with a character count "0 / 64". To the right of the input field is a "Select A Role" section with two radio buttons: "Admin" and "ReadOnly". Below the input field is a grey "ADD GROUP" button. A red rectangular box highlights the text "Status: Success!". In the bottom right corner of the window is a blue "CLOSE" link.

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

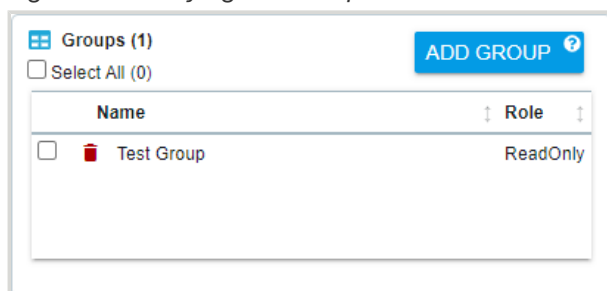
Figure 81: Closing the Add Group Window



This screenshot is identical to Figure 80, showing the "Add Group" dialog box with the "Status: Success!" message. In this image, a red rectangular box highlights the blue "CLOSE" link in the bottom right corner of the dialog.

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

Figure 82: Verifying the Group



The screenshot shows a "Groups (1)" section with a blue "ADD GROUP" button. Below the button is a "Select All (0)" checkbox. A table lists the groups with columns for "Name" and "Role". The table contains one entry: "Test Group" with a "ReadOnly" role. There is a checkbox and a red trash icon to the left of the group name.

	Name	Role
☐	Test Group	ReadOnly

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

1. Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).
2. Follow the instructions for [Adding an LDAP/AD Group \(page 54\)](#).

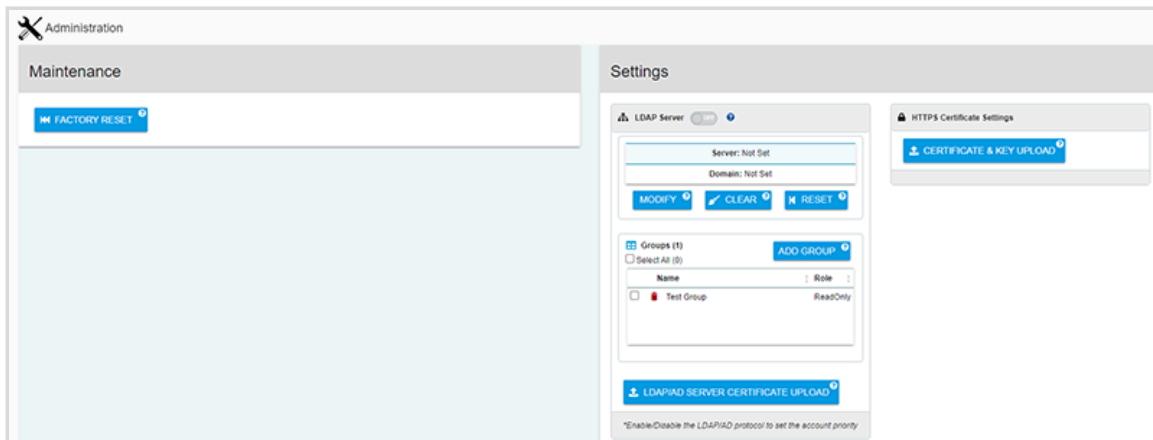
Step 1: From the server dashboard, click the **Administration** tab.

Figure 83: Administration Tab



The **Administration** page will appear:

Figure 84: Administration Page



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

Figure 85: Modify Button

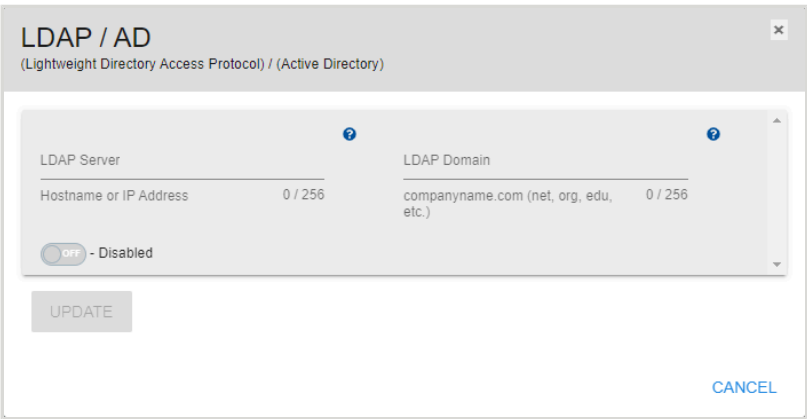


An **LDAP / AD** window will appear:



Note: The maximum LDAP groups are set to 100.

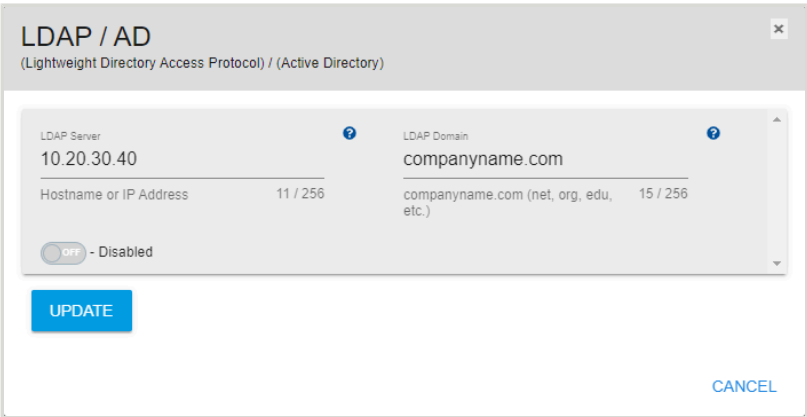
Figure 86: LDAP / AD Window



The image shows a window titled "LDAP / AD" with the subtitle "(Lightweight Directory Access Protocol) / (Active Directory)". Inside the window, there are two input fields: "LDAP Server" and "LDAP Domain". The "LDAP Server" field has a placeholder "Hostname or IP Address" and a character count "0 / 256". The "LDAP Domain" field has a placeholder "companyname.com (net, org, edu, etc.)" and a character count "0 / 256". Below these fields is a toggle switch labeled "OFF - Disabled". At the bottom of the window, there is a grey "UPDATE" button and a blue "CANCEL" link.

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.

Figure 87: Populated LDAP / AD Window



The image shows the same "LDAP / AD" window, but now the fields are populated. The "LDAP Server" field contains the text "10.20.30.40" and the character count is "11 / 256". The "LDAP Domain" field contains the text "companyname.com" and the character count is "15 / 256". The toggle switch remains "OFF - Disabled". The "UPDATE" button is now blue, and the "CANCEL" link is still blue.

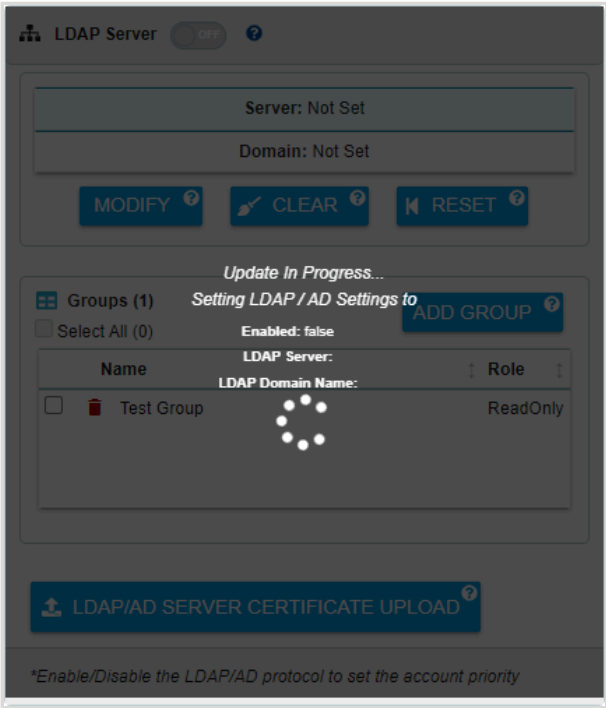
Step 4: Click the **Update** button to save the LDAP/AD configuration.

Figure 88: Update Button



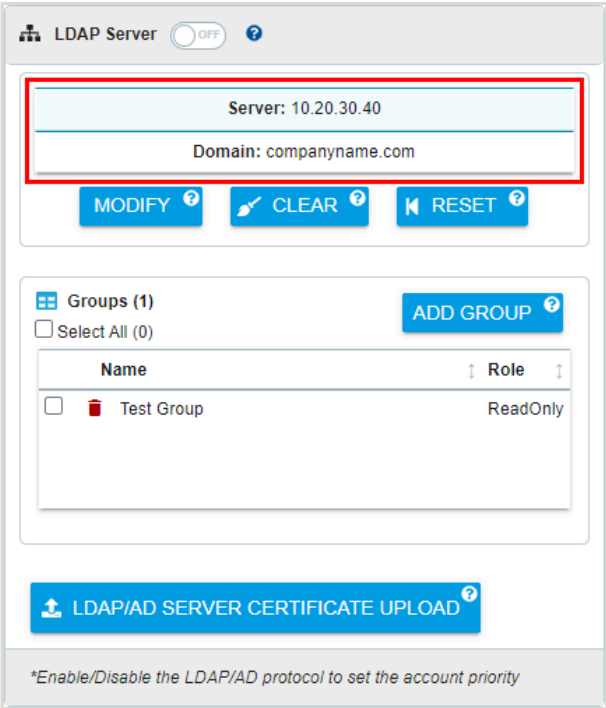
The **LDAP Server** section will be overlaid with a modal, showing that the update is in progress:

Figure 89: LDAP / AD Update Progress



When the update is complete, the **LDAP Server** section will display the new settings:

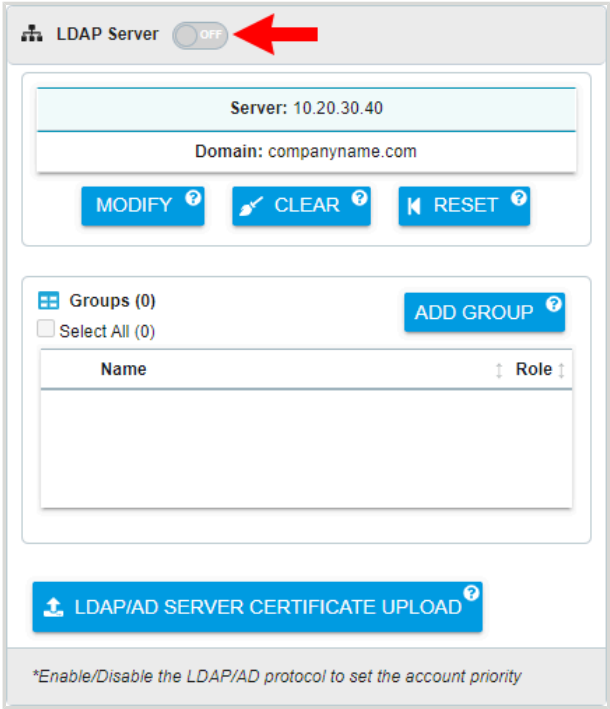
Figure 90: Updated LDAP / AD Settings



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.

Figure 91: Toggle Switch



The image shows a web-based configuration interface for an LDAP Server. At the top, there is a header bar with the text "LDAP Server" and a toggle switch set to "OFF". A red arrow points to the toggle switch. Below the header, there are two input fields: "Server: 10.20.30.40" and "Domain: companyname.com". Below these fields are three buttons: "MODIFY", "CLEAR", and "RESET". Below the buttons is a section titled "Groups (0)" with a sub-section "Select All (0)" and an "ADD GROUP" button. Below this is a table with two columns: "Name" and "Role". Below the table is a button labeled "LDAP/AD SERVER CERTIFICATE UPLOAD". At the bottom, there is a footer note: "*Enable/Disable the LDAP/AD protocol to set the account priority".

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- 1. Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

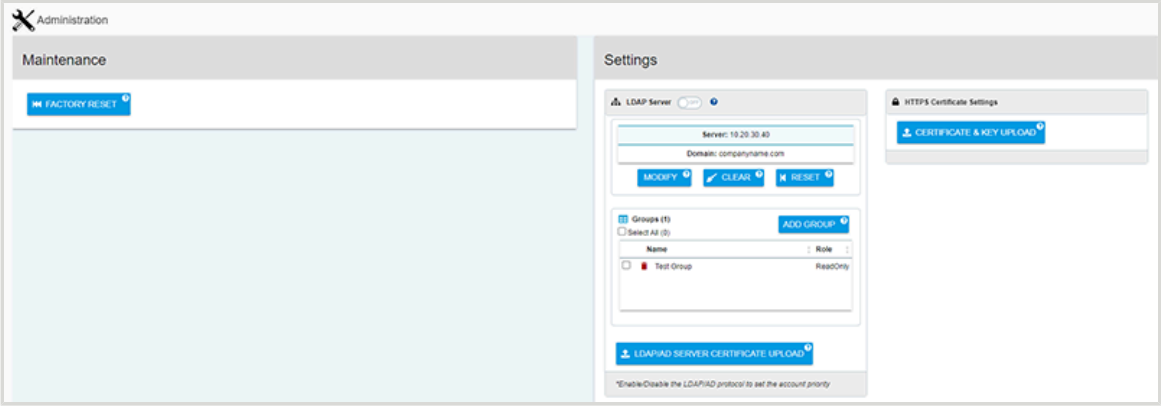
Step 1: From the server dashboard, click the **Administration** tab.

Figure 92: Administration Tab



The **Administration** page will appear:

Figure 93: Administration Page



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

Figure 94: LDAP/AD Server Certificate Upload Button



An **LDAP Server Certificate** window will appear, showing step 1 of 2:

Figure 95: LDAP / AD Window

The screenshot shows a window titled "LDAP Server Certificate" with a close button in the top right. It features a progress bar with two steps: "1 Browse & Select Certificate" (active) and "2 Upload LDAP Certificate". Below the progress bar is a large text input field labeled "Certificate File". To the left of this field is a blue button labeled "SELECT FILE". Below the input field is a grey button labeled "NEXT". In the bottom right corner of the window is a blue link labeled "CLOSE".

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.

Figure 96: Selected Certificate File

This screenshot shows the same "LDAP Server Certificate" window, but now the "Certificate File" field contains the text "cert.pem" and "0.81 KB". The "SELECT FILE" button is still present. Below the input field, a message states "Certificate File Staged Successfully; Ready for Upload". The "NEXT" button is now blue. The "CLOSE" link remains in the bottom right corner.

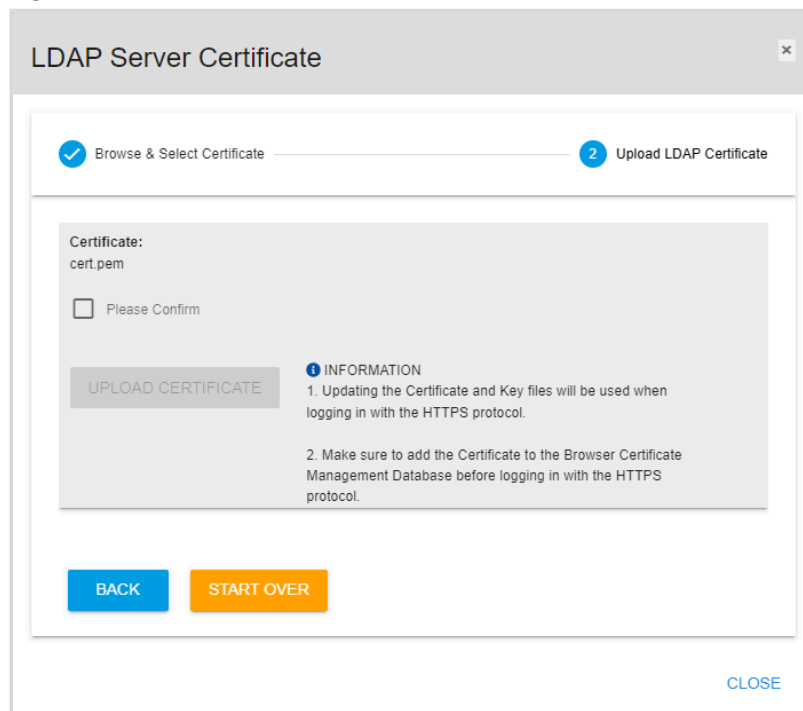
Step 4: Click the **Next** button.

Figure 97: Next Button

A blue rectangular button with the word "NEXT" in white capital letters.

The **LDAP Server Certificate** window will proceed to step 2:

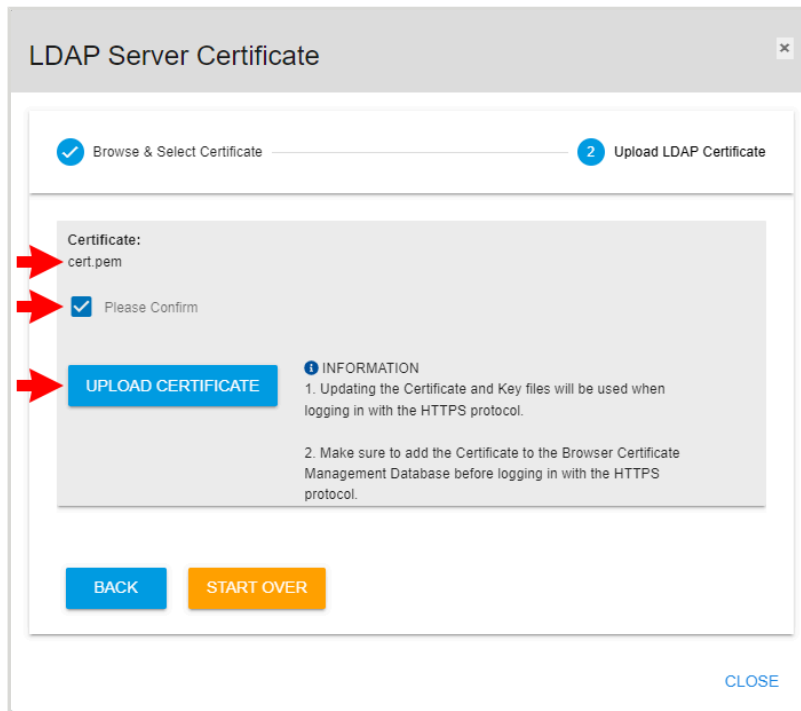
Figure 98: Confirm Certificate



The dialog box is titled "LDAP Server Certificate" and has a close button (X) in the top right corner. It features a progress bar with two steps: "1 Browse & Select Certificate" (completed, indicated by a checkmark) and "2 Upload LDAP Certificate" (current step, indicated by a question mark). The main content area shows "Certificate: cert.pem" and a "Please Confirm" checkbox. Below this is a grey button labeled "UPLOAD CERTIFICATE". To the right of the button is an "INFORMATION" section with two numbered points: "1. Updating the Certificate and Key files will be used when logging in with the HTTPS protocol." and "2. Make sure to add the Certificate to the Browser Certificate Management Database before logging in with the HTTPS protocol." At the bottom left are two buttons: "BACK" (blue) and "START OVER" (orange). At the bottom right is a "CLOSE" link in blue.

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.

Figure 99: Confirm Certificate Upload



The screenshot shows a web-based dialog titled "LDAP Server Certificate". At the top, there is a progress bar with two steps: "Browse & Select Certificate" (completed, marked with a checkmark) and "Upload LDAP Certificate" (current step, marked with a question mark). The main content area displays "Certificate: cert.pem" with a red arrow pointing to it. Below this is a checked checkbox labeled "Please Confirm", also with a red arrow. A blue "UPLOAD CERTIFICATE" button is highlighted with a red arrow. To the right of the button is an "INFORMATION" section with two numbered points: "1. Updating the Certificate and Key files will be used when logging in with the HTTPS protocol." and "2. Make sure to add the Certificate to the Browser Certificate Management Database before logging in with the HTTPS protocol." At the bottom left are "BACK" and "START OVER" buttons. At the bottom right is a "CLOSE" link.

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

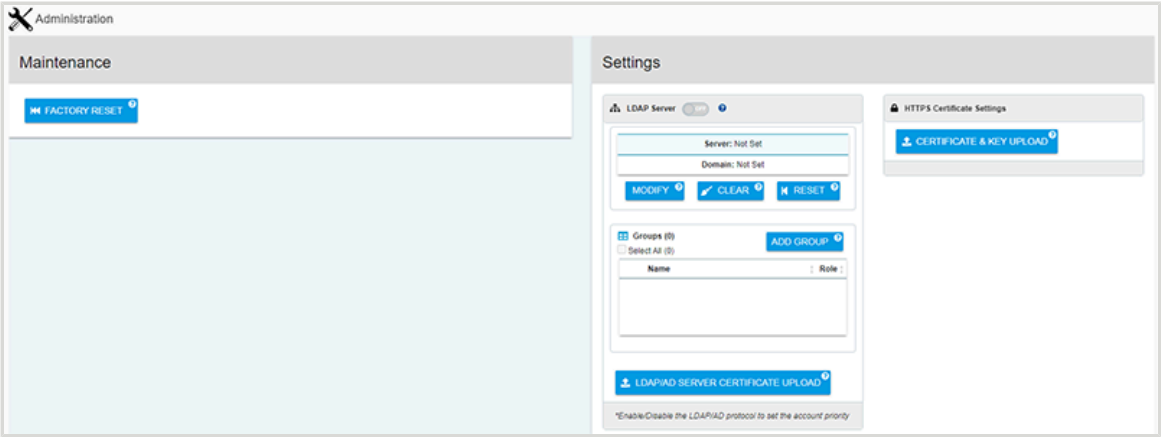
Step 1: From the server dashboard, click the **Administration** tab.

Figure 100: Administration Tab



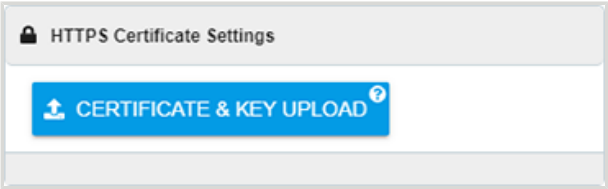
The **Administration** page will appear:

Figure 101: Administration Page



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

Figure 102: Certificate & Key Upload Button



A **TLS Certificate & Key Pair** window will appear, showing step 1 of the upload process:

Figure 103: TLS Certificate & Key Pair Window

The screenshot shows a window titled "TLS Certificate & Key Pair" with a close button (X) in the top right corner. The window contains two progress steps: "1 Browse & Select Certificate & Key Pair" (active) and "2 Upload TLS Certificate & Key Pair". Below the steps, there are two file selection sections. The first section is labeled "Certificate File" and contains a "SELECT FILE" button and an empty text input field. The second section is labeled "Key File" and contains a "SELECT FILE" button and an empty text input field. At the bottom left of the main content area is a "NEXT" button, and at the bottom right is a "CLOSE" link.

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

Figure 104: Certificate & Key Files Selected

The screenshot shows the same "TLS Certificate & Key Pair" window, but now the file selection fields are populated. The "Certificate File" section shows a "SELECT FILE" button, the filename "cert.pem", and the size "0.81 KB". Below this, it says "Certificate File Staged Successfully; Ready for Upload". The "Key File" section shows a "SELECT FILE" button, the filename "key.pem", and the size "0.23 KB". Below this, it says "Key File Staged Successfully; Ready for Upload". The "NEXT" button is now highlighted in blue, and the "CLOSE" link remains at the bottom right.

Step 4: Click the **Next** button.

Figure 105: Next Button



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

Figure 106: Confirm Certificate & Key Files

The screenshot shows a window titled "TLS Certificate & Key Pair" with a close button (X) in the top right corner. Inside the window, there is a progress bar with two steps: "1 Browse & Select Certificate & Key Pair" (marked with a blue checkmark) and "2 Upload TLS Certificate & Key Pair" (marked with a blue circle). Below the progress bar, there is a large gray area containing the following text:

Certificate:
cert.pem

Key:
key.pem

☐ Please Confirm

Below this text is a gray button labeled "UPLOAD CERTIFICATE". At the bottom of the window, there are two buttons: a blue "BACK" button and an orange "START OVER" button. In the bottom right corner of the window, there is a blue "CLOSE" link.

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.

Figure 107: Upload Certificate & Key Files

TLS Certificate & Key Pair

1 Browse & Select Certificate & Key Pair — 2 Upload TLS Certificate & Key Pair

Certificate:
cert.pem

Key:
key.pem

☒ Please Confirm

UPLOAD CERTIFICATE

BACK **START OVER**

[CLOSE](#)

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 a management server using Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

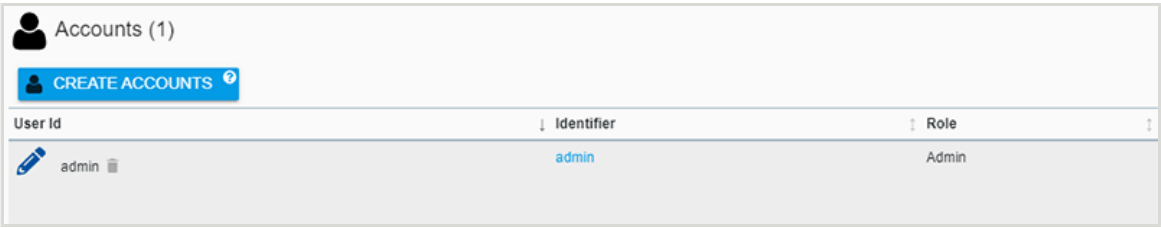
Step 1: From the server dashboard, click the **Accounts** tab.

Figure 108: Accounts Tab



The **Accounts** page will appear:

Figure 109: Accounts Page



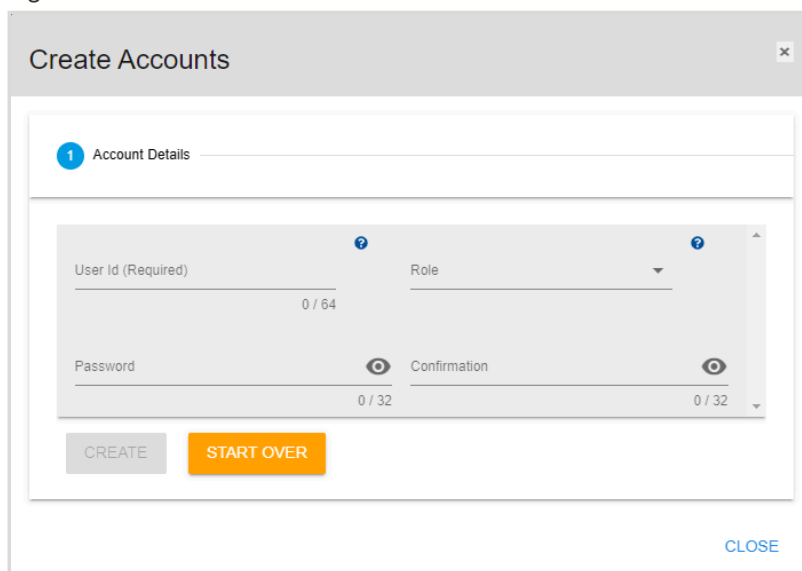
Step 2: Click the **Create Accounts** button.

Figure 110: Create Accounts Button



A **Create Accounts** window will appear:

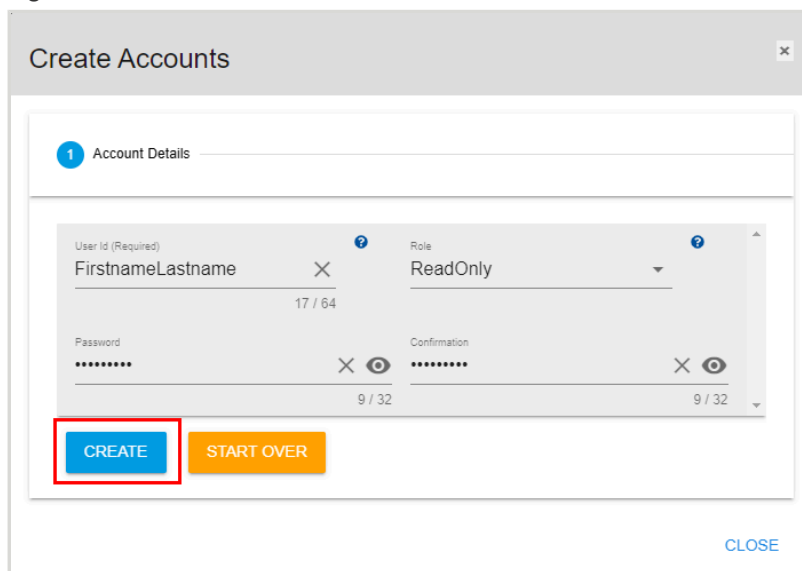
Figure 111: Create Accounts Window



The 'Create Accounts' window displays a form titled '1 Account Details'. The form contains four input fields: 'User Id (Required)' with a character count of '0 / 64', 'Role' with a dropdown arrow, 'Password' with a character count of '0 / 32' and an eye icon, and 'Confirmation' with a character count of '0 / 32' and an eye icon. Below the fields are two buttons: 'CREATE' (disabled) and 'START OVER' (active). A 'CLOSE' link is located at the bottom right of the window.

Step 3: Use the available fields to enter a user ID, role, and password. Then click the **Create** button.

Figure 112: Account Details



The 'Create Accounts' window shows the '1 Account Details' form with the following data entered: 'User Id (Required)' is 'FirstnameLastname' (17 / 64), 'Role' is 'ReadOnly', 'Password' is masked with dots (9 / 32), and 'Confirmation' is also masked with dots (9 / 32). The 'CREATE' button is now active and highlighted with a red box, while the 'START OVER' button remains active. The 'CLOSE' link is still at the bottom right.

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 a management server using Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 113: Accounts Tab



The **Accounts** page will appear:

Figure 114: Accounts Page

Accounts (3) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly
Test	Test	ReadOnly

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

Figure 115: Edit Icon

Accounts (3) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly
Test	Test	ReadOnly

An **Update Account** window will appear:

Figure 116: Update Account Window

The screenshot shows the 'Update Account' window with the 'Account Details' tab selected. The account name is 'Test'. The role is 'ReadOnly'. The password field is empty, and the confirmation field is also empty. The 'UPDATE' button is disabled, and the 'START OVER' button is active. A success message at the bottom reads: 'SUCCESS! CREATE ANOTHER OR CLOSE?'.

Step 3: Use the available fields to edit the account role or password. Then click the **Update** button.

Figure 117: Update Account Details

The screenshot shows the 'Update Account' window with the 'Account Details' tab selected. The account name is 'Test'. The role is 'Operator'. The password field is empty, and the confirmation field is also empty. The 'UPDATE' button is highlighted with a red box, and the 'START OVER' button is active. A success message at the bottom reads: 'SUCCESS! CREATE ANOTHER OR CLOSE?'.

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 from a management server using Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 118: Accounts Tab



The **Accounts** page will appear:

Figure 119: Accounts Page

Accounts (3) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly
Test	Test	ReadOnly

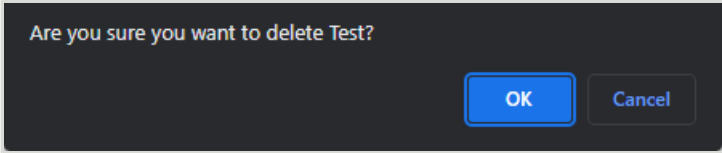
Step 2: Click the **Delete** icon for the account to be deleted.

Figure 120: Delete Icon

Accounts (3) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly
Test	Test	ReadOnly

A dialogue box will appear, prompting the user to confirm the deletion:

Figure 121: Confirm Account Deletion



Step 3: Click **OK**.

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

Figure 122: Remaining Accounts

 Accounts (2)		
 CREATE ACCOUNTS ?		
User Id	Identifier	Role
 admin 	admin	Admin
 B1 	B1	ReadOnly

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 123: Location Tab



The **Location** page will appear:

Figure 124: Location Page

Location

CLEAR ALL

Attribute	Value
Address 1	9950 Federal Drive
Address 2	Suite 100
Address 3	Click to Edit
Building	9950
City	Colorado Springs
Country	USA
Device	0
GPS Coords	Click to Edit
Item	Rack Units
Other Location Info	Click to Edit
Pod	1
Postal Code	80921
Rack	2
Room	159
Row	1
Shelf	17
Site Name	WDC Colorado Springs Lab 1
State	Colorado
Territory	Click to Edit

Step 2: To edit a location attribute, click the attribute's edit icon.

Figure 125: Edit Icon

 Location

CLEAR ALL

1

Attribute	Value
Address 1	9950 Federal Drive
Address 2	Suite 100
Address 3	Click to Edit
Building	9950
City	Colorado Springs
Country	USA
Device	0
GPS Coords	Click to Edit
Item	Rack Units
Other Location Info	Click to Edit
Pod	1
Postal Code	80921
Rack	2
Room	159
Row	1
Shelf	17
Site Name	WDC Colorado Springs Lab 1
State	Colorado
Territory	Click to Edit

A text field for that attribute will appear.

Step 3: Type a new value into the text field, and click the green checkmark to accept the value.

Figure 126: Edit Attribute

Address 1

New Address

11 / 256





Step 4: 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 a management server.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 127: Device OS Tab



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

Figure 128: Device OS Page

Device OS			
Attribute	Value	Attribute	Value
Name	Resource Manager Data Center	Version	2.0.0
Type	Linux		

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 discoverable resources 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 a Resource Manager Data Center Edition Central Service network scan.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 129: 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 130: Assets Page

 Assets (57)

Search 

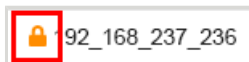
All 

Status	Name ↑	IP Address	Model	Version	Type
OK	5000ccab03000000	192.169.151.154	H4060-J	4.0.30	Storage
OK	5000ccab04000680	192.169.148.201	H4102-J	0.0.0	Storage
OK	5000ccab04008600-A	192.169.111.135	H4102-J	4.0.15	Storage
OK	5000ccab04008600-B	192.169.111.118	H4102-J	4.0.15	Storage
OK	5000ccab040e5c80	192.169.144.90	H4060-J	0.0.0	Storage
OK	5000ccab040e7880	192.169.151.192	H4060-J	2.3.8	Storage
OK	5000ccab040e7f80	192.168.238.66	H4060-J	3.1.11	Storage
OK	5000ccab04105300	192.169.238.143	H4060-J	3.1.11	Storage
OK	5000ccab04108100	192.169.144.167	H4102-J	4.0.30	Storage
OK	5000ccab0410a200-A	192.168.238.221	H4102-J	4.0.30	Storage
Critical failure	5000ccab0410e180-A	192.168.238.197	H4102-J	4.0.30	Storage
OK	5000ccab04110780-A	192.169.149.205	H4102-J	4.0.15	Storage
OK	5000ccab04110a00-A	192.168.238.210	H4102-J	4.0.13	Storage
OK	5000ccab04110a00-B	192.168.238.161	H4102-J	4.0.13	Storage
OK	5000ccab04113280	192.169.151.1	H4102-J	4.0.30	Storage
OK	5000ccab04113b80-A	192.169.149.233	H4102-J	4.0.31	Storage
OK	5000ccab0411f080	192.169.137.177	H4060-J	4.0.30	Storage
OK	5000ccab0411f00	192.169.111.127	H4060-J	3.1.11	Storage
OK	5000ccab05000480	192.169.144.24	H4102-J	4.0.10	Storage
OK	5000ccab050a0580	192.169.111.222	H4102-J	4.0.10	Storage
OK	5000ccab050e2700	192.169.137.38	H4060-J	4.0.30	Storage
OK	5000ccab050e2780	192.169.137.28	H4060-J	4.1.3	Storage
OK	5000ccab050e2a80	192.169.144.3	H4102-J	4.0.30	Storage
OK	e3000-09002e	192.169.238.78	OpenFlex E3000	2.0.5	Chassis



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 131: Lock Icon



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

Figure 132: Locked Asset Login Dialog Box

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.

Figure 133: Search Field

Assets (57)

Search 

All 

Status	Name ↑	IP Address	Model	Version	Type
OK	5000ccab03000000	192.169.151.154	H4060-J	4.0.30	Storage
OK	5000ccab04000680	192.169.148.201	H4102-J	0.0.0	Storage
OK	5000ccab04008600-A	192.169.111.135	H4102-J	4.0.15	Storage
OK	5000ccab04008600-B	192.169.111.118	H4102-J	4.0.15	Storage
OK	5000ccab040e5c80	192.169.144.90	H4060-J	0.0.0	Storage
OK	5000ccab040e7880	192.169.151.192	H4060-J	2.3.8	Storage
OK	5000ccab040e7f80	192.168.238.66	H4060-J	3.1.11	Storage
OK	5000ccab04105300	192.169.238.143	H4060-J	3.1.11	Storage
OK	5000ccab04108100	192.169.144.167	H4102-J	4.0.30	Storage
OK	5000ccab0410a200-A	192.169.238.221	H4102-J	4.0.30	Storage
Critical failure	5000ccab0410e180-A	192.168.239.197	H4102-J	4.0.30	Storage
OK	5000ccab04110780-A	192.169.149.205	H4102-J	4.0.15	Storage
OK	5000ccab04110a00-A	192.169.239.210	H4102-J	4.0.13	Storage
OK	5000ccab04110a00-B	192.169.239.161	H4102-J	4.0.13	Storage
OK	5000ccab04113280	192.169.151.1	H4102-J	4.0.30	Storage
OK	5000ccab04113b80-A	192.169.149.233	H4102-J	4.0.31	Storage
OK	5000ccab0411f080	192.169.137.177	H4060-J	4.0.30	Storage
OK	5000ccab0411f000	192.169.111.127	H4060-J	3.1.11	Storage
OK	5000ccab05000480	192.169.144.34	H4102-J	4.0.10	Storage
OK	5000ccab050a0580	192.169.111.222	H4102-J	4.0.10	Storage
OK	5000ccab050e2700	192.169.137.38	H4060-J	4.0.30	Storage
OK	5000ccab050e2780	192.169.137.28	H4060-J	4.1.3	Storage
OK	5000ccab050e2a80	192.169.144.3	H4102-J	4.0.30	Storage
OK	e3000-09002e	192.169.239.78	OpenFlex E3000	2.0.5	Chassis



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 \(page 80\)](#). 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 134: Additional Asset Info

Assets (55)

Search

All

Status	Name ↑	IP Address	Model	Version	Type
OK	5000ccab03000000	152.155.151.154	H4060-J	4.0.30	Storage

Counts Entries

Accounts (3)

Adapters (0)

Connectors (12)

Controllers (2)

Expanders (6)

Fans (8)

Media (60)

Ports (1)

PowerSupplies (2)

Sensors (102)

Values Entries

DurableName: 5000CCAB03000000

Hostname: oobm-00-0c-ca-08-3a-97.sdcorp.global.sandisk.com.

5000ccab03000000

Manufacturer: HGST

SerialNumber: USWSJ00220EA0000

TotalCapacity: 715.52 TB (715521840819200 Bytes)

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 135: Policies Tab



The **Policies** page will appear:

Figure 136: Policies Page

Policies (3)							
CREATE POLICY MC							
Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules	
Health Bruce Policy	dec7ad88-6d5e-0664-48f1-758f45d0d2c	ON	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3	
Health 2 Check	9be3eb2-01e9-43b5-9ae2-43239d82082f	ON	Policy to track health for openflex-data24-3200-usaip02120qp001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck	
Temperature Sensor Check	e945cc05-480e-d812-dac0-2e456e95c05f	ON	Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck	

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

Figure 137: Create Policy Button



A **Create Policy** window will be displayed, showing step 1:

Figure 138: Create Policy Window

The 'Create Policy' window displays a three-step process. Step 1 is active, showing input fields for 'Name (Required)' and 'Description (Optional)'. The 'Name' field has a character count of 0/64, and the 'Description' field has 0/256. An 'Enabled' toggle switch is currently turned on. A 'NEXT' button is located at the bottom left of the form area, and a 'CANCEL' link is at the bottom right.

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.

Figure 139: Create Policy Window

The 'Create Policy' window shows the same form as Figure 138, but now the 'Name' field contains 'Test Policy' (11/64) and the 'Description' field contains 'Test policy' (11/256). The 'Enabled' toggle remains turned on. The 'NEXT' button is now highlighted in blue, indicating it is the next action to take. The 'CANCEL' link remains at the bottom right.

Step 4: Click the **Next** button.

Figure 140: Next Button



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

Figure 141: 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.

Figure 142: Creating a Rule

Create Policy

Step 1 Step 2 Step 3 Confirmation

RULE: NAME & SALIENCE (REQUIRED)

Name (Required) CablePresent 12 / 64 X

Saliency (Required) 50 Range: 0-100 X

Action Methods (Required) SendMail X

RULE: CONDITIONS (REQUIRED)

RULE: DESCRIPTION & LOG (OPTIONAL)

BACK NEXT CANCEL

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 **Cable Present == false**.

Figure 143: Rule Conditions

Create Policy

Step 1 Step 2 Step 3 Confirmation

RULE: NAME & SALIENCE (REQUIRED)

RULE: CONDITIONS (REQUIRED)

Cable Present == false

RULE: DESCRIPTION & LOG (OPTIONAL)

BACK NEXT

CANCEL

Step 7: Click the plus icon to add the rule to the policy.

Figure 144: Rule Conditions

Create Policy

Step 1 Step 2 Step 3 Confirmation

RULE: NAME & SALIENCE (REQUIRED)

RULE: CONDITIONS (REQUIRED)

Cable Present == false

Cable Present == false

RULE: DESCRIPTION & LOG (OPTIONAL)

BACK NEXT

CANCEL

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 145: Rule Conditions

The screenshot shows the 'Create Policy' window at Step 2. The 'RULE: DESCRIPTION & LOG (OPTIONAL)' section is expanded, revealing two text input fields. The first field, labeled 'Description (Optional)', contains the text 'Rule for cable not present'. The second field, labeled 'Log (Optional)', contains the text '"Cable missing"'. Both fields have a character count on the right (26 / 256 and 15 / 256 respectively). At the bottom of the window are 'BACK' and 'NEXT' buttons, and a 'CANCEL' button at the bottom right.

Step 9: To add another rule to the policy, click the **Add Rule** button. Then repeat steps 5 (page 84) through 8 (page 87) to name the rule and define its conditions.

Figure 146: Add Rule Button



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

Figure 147: Next Button



The **Create Policy** window will proceed to step 3.

Figure 148: Confirm Policy

Create Policy

Step 1 Step 2 **3 Confirmation**

Name: Test Policy Enabled: true
Description: Test policy

Rules

Name	Saliency	Action Methods
<u>CablePresent</u>	<u>50</u>	<u>SendMail</u>

Conditions:

- Cable Present == false

Description: Rule for cable not present
Log: "Cable missing"

☐ Please Confirm

BACK **START OVER** **CREATE**

[CANCEL](#)

Step 11: Review the listed rule(s). If the information looks correct, click the **Please Confirm** checkbox and then click the **Create** button.

Figure 149: Create Policy

Create Policy

Step 1 Step 2 3 Confirmation

Name: Test Policy Enabled: true

Description: Test policy

Rules

Name: CablePresent Saliency: 50 Action Methods: SendMail

Conditions:

- Cable Present == false

Description: Rule for cable not present

Log: "Cable missing"

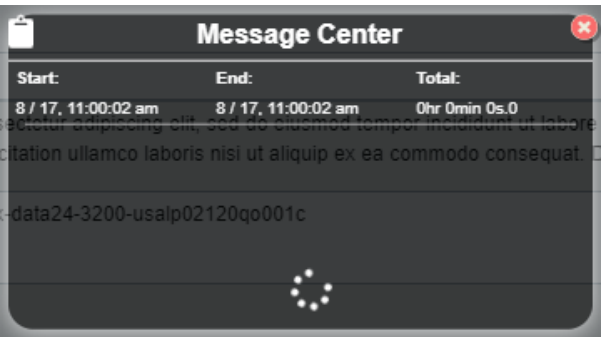
☒ Please Confirm

BACK START OVER CREATE

CANCEL

A popup window will appear, showing the progress of the policy creation.

Figure 150: 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.

Figure 151: New Policy

 Policies (4)

CREATE POLICY

MC

Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules
 Bruce Policy	dec7a0d8-665e-0664-48f1-75f8f45d9d2c		Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute iure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3
 Health 2 Check	9be3eb0e2-01e9-48fb-9ae2-43239d82062f		Policy to track health for openflex-data24-3200-usaip02120qo001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck
 Temperature	e945cc05-430e-d612-dac0-2e456e95c05f		Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck
 Test Policy	02399c50-e195-c5b1-d1b1-4022013a1a2b		Test policy	17-Aug-2023 11:00:02	17-Aug-2023 11:00:02	CablePresent

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 152: Policies Tab



The **Policies** page will appear:

Figure 153: Policies Page

Policies (4)							
CREATE POLICY MC							
Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules	
Bruce Policy Health	dec7ad85-655e-0664-48f1-75f8f45d8d2c	ON	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3	
Health 2 Check	90e3ebc2-01e9-48fb-9ae2-43239d62d62f	ON	Policy to track health for openflex-data24-3200-usalp02120qo001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck	
Temperature Sensor Check	e946cc05-480e-d512-dac0-2e456e95c05f	ON	Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck	
Test Policy	02399c5b-e195-cf0b-1d1b1-4022013a1a2b	ON	Test policy	17-Aug-2023 11:00:02	17-Aug-2023 11:00:02	CablePresent	

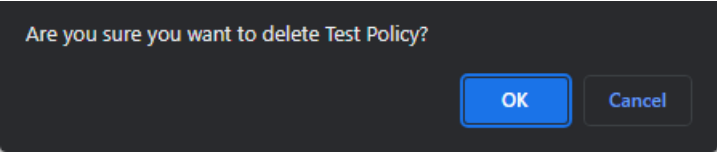
Step 2: Click the **Delete Policy** icon for the policy to be deleted.

Figure 154: Delete Policy Icon

Policies (4)							
CREATE POLICY MC							
Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules	
Bruce Policy Health	dec7ad85-655e-0664-48f1-75f8f45d8d2c	ON	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3	
Health 2 Check	90e3ebc2-01e9-48fb-9ae2-43239d62d62f	ON	Policy to track health for openflex-data24-3200-usalp02120qo001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck	
Temperature Sensor Check	e946cc05-480e-d512-dac0-2e456e95c05f	ON	Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck	
Test Policy	02399c5b-e195-cf0b-1d1b1-4022013a1a2b	ON	Test policy	17-Aug-2023 11:00:02	17-Aug-2023 11:00:02	CablePresent	

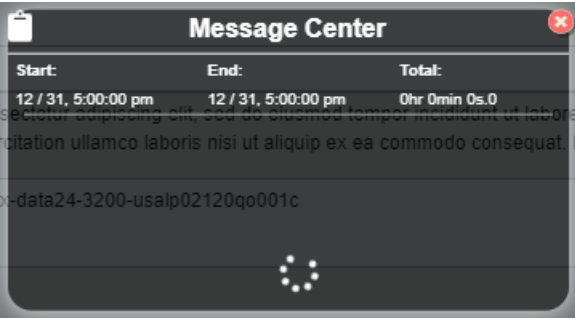
A popup window will prompt the user to confirm the deletion:

Figure 155: Delete Policy Icon



Step 3: Click the **OK** button.
A popup window will appear, showing the progress of the policy deletion.

Figure 156: 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 157: Policies Page

Policies (3)						
CREATE POLICY MC						
Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules
Bruce Policy Health	dec7ad58-685e-0664-48f1-75b945d6d2c	ON	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3
Health 2 Check	90e3ebc2-01e9-48b5-9ae2-43239d52d52f	ON	Policy to track health for openflex-data24-3200-usalp02120qo001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck
Temperature Sensor Check	e948cc05-480e-d612-dac0-2e456e95c05f	ON	Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 158: Notifications Tab



The **Notifications** page will appear:

Figure 159: Notifications Page

Notifications (2)						
CREATE NOTIFICATION						
Name	Identifier	Enabled	Type	Description	Create Date	Last Modified
RMDC Email Alert	b856483b-fa3b-4c2b-d7bf-e81ed70497ef		SMTPAlert	Resource Manager Data Center Email Alert	10-Aug-2023 10:40:11	10-Aug-2023 10:40:11
RMDC ESMP	e5965dc4-a300-9e79-d40a-f79edaca969f		SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	10-Aug-2023 10:22:06

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

Figure 160: Create Notification Button



A **Create Notification** window will appear, showing step 1:

Figure 161: Create Notification Window

The screenshot shows a 'Create Notification' window with a progress bar at the top indicating three steps: 1. Name, Type & Description (active), 2. SMTP/SNMP Settings, and 3. Confirmation. The main form area contains three fields: 'Name (Required)' with a character count of '0 / 64', 'Type (Required)' with a dropdown arrow, and a 'Description' text area with a character count of '0 / 256'. Each field has a blue question mark icon to its right. At the bottom left is a grey 'NEXT' button, and at the bottom right is a blue 'CANCEL' link.

Step 3: Use the available fields to select the **SMTP Alert** notification type, and input a name and description for the notification.

Figure 162: Notification Type

This screenshot shows the same 'Create Notification' window, but with data entered. The 'Name (Required)' field contains 'Test Alert' with a character count of '10 / 64'. The 'Type (Required)' dropdown is set to 'SMTPAlert'. The 'Description' text area contains 'Test SMTP Alert' with a character count of '15 / 256'. The 'NEXT' button is now blue, indicating it is clickable. The 'CANCEL' link remains blue. The progress bar at the top still shows the same three steps.

Step 4: Click the **Next** button.

Figure 163: Next Button



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

Figure 164: SMTP Settings

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

Figure 165: Populated SMTP Settings

Create Notification

1 Name, Type & Description

2 SMTP Settings

3 Distributions

4 Confirmation

Server (Required)
smtpserver.company.com

22 / 64

Port (Required)
25

Range: 0-65536

2

Subject (Required)
SMTP

4 / 64

From (Required)
smtpadmin@company.com

21 / 64

Username (Required)
admin

5 / 64

Password (Required)
••••

4 / 32

BACK

NEXT

CANCEL

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

Figure 166: Next Button



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

Figure 167: Distribution Settings

The screenshot shows the 'Create Notification' dialog box with a progress bar at the top indicating four steps: 1. Name, Type & Description, 2. SMTP Settings, 3. Distributions (current step), and 4. Confirmation. The main content area is divided into two sections. On the left, there is a text input field for 'Distributions Name (Required)' with a red error message 'This field is required.' and a character count '0 / 64'. On the right, there is a 'Recipients' section with a list box and a button to 'add recipients here...'. Below this is an 'Email address' input field with a user icon and the label 'Required'. At the bottom left are 'BACK' and 'NEXT' buttons, and at the bottom right is a 'CANCEL' link.

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.

Figure 168: Populated Distribution Settings

Create Notification

1 Name, Type & Description — 2 SMTP Settings — 3 Distributions — 4 Confirmation

Distributions Name (Required)

SMTP Alerts Group 17 / 64

Recipients

lastname.firstname@company.com

firstname.lastname@company.com

add recipients here...

Email address

Required

BACK NEXT CANCEL



Tip: Use the **Add Distribution** or **Remove Distribution** buttons to create additional email distribution groups or delete existing groups.

Figure 169: Add / Remove Distribution Buttons



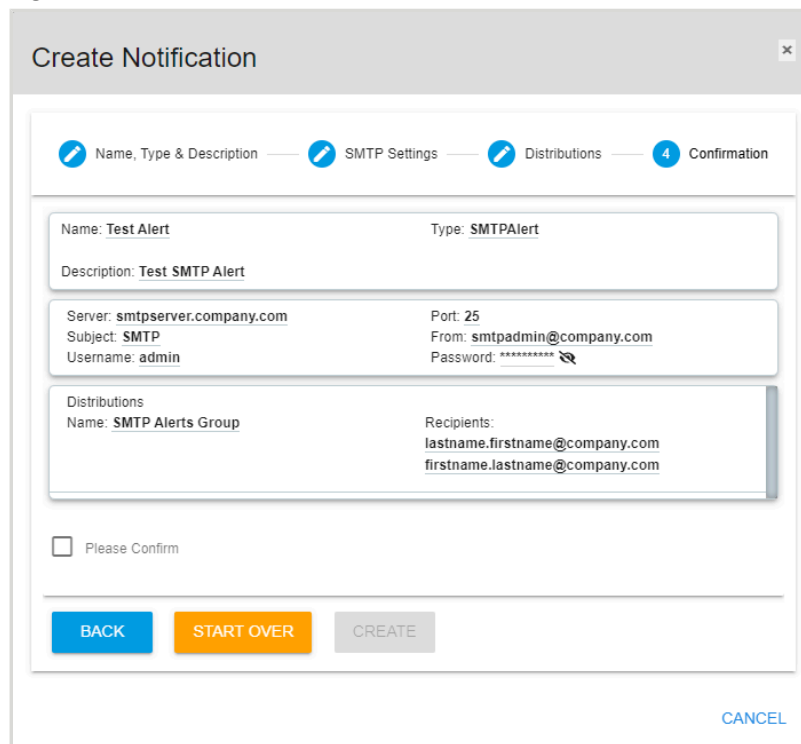
Step 8: Click the **Next** button.

Figure 170: Next Button



The **Create Notification** window will update to show step 4:

Figure 171: Notification Confirmation



The image shows a 'Create Notification' dialog box with a progress bar at the top indicating four steps: 1. Name, Type & Description (completed), 2. SMTP Settings (completed), 3. Distributions (completed), and 4. Confirmation (current step). The dialog contains three sections of information: a summary section with Name: Test Alert, Type: SMTPAlert, and Description: Test SMTP Alert; an SMTP configuration section with Server, Port, Subject, From, Username, and Password fields; and a Distributions section with Name and Recipients. At the bottom, there is a 'Please Confirm' checkbox and three buttons: BACK, START OVER, and CREATE. A CANCEL link is also present at the bottom right.

Create Notification

1 Name, Type & Description — 2 SMTP Settings — 3 Distributions — 4 Confirmation

Name: **Test Alert** Type: **SMTPAlert**

Description: **Test SMTP Alert**

Server: **smtpserver.company.com** Port: **25**

Subject: **SMTP** From: **smtpadmin@company.com**

Username: **admin** Password: *********

Distributions

Name: **SMTP Alerts Group** Recipients:

lastname.firstname@company.com

firstname.lastname@company.com

☐ Please Confirm

BACK **START OVER** **CREATE**

[CANCEL](#)

Step 9: Review the listed information. If correct, click the **Please Confirm** checkbox and then click the **Create** button.

Figure 172: Create SMTP Notification

Create Notification

Name, Type & Description

SMTP Settings

Distributions

4 Confirmation

Name: Test Alert

Type: SMTPAlert

Description: Test SMTP Alert

Server: smtpserver.company.com

Port: 25

Subject: SMTP

From: smtpadmin@company.com

Username: admin

Password: *****

Distributions

Name: SMTP Alerts Group

Recipients:

lastname.firstname@company.com

firstname.lastname@company.com

☒ Please Confirm

BACK

START OVER

CREATE

CANCEL

When the notification has been created, it will appear in the notifications list:

Figure 173: SMTP Notification Created

Notifications (3)

CREATE NOTIFICATION

Name	Identifier	Type	Description	Create Date	Last Modified
RMDC Email Alert	53acc64a-9a6e-415f-425b-8904b3d6863	SMTPAlert	Resource Manager Data Center Email Alert	03-Jul-2023 07:48:29	03-Jul-2023 07:48:29
RMDC Trap Alert	c69b6dca-a300-b970-d40a-f79ebaca999f	SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	03-Jul-2023 07:51:02
Test Alert	109598b1-2d44-8c88-4aa1-70adc0015cc3	SMTPAlert	Test SMTP Alert	02-Aug-2023 12:58:53	02-Aug-2023 12:58:53

Result: The SMTP notification has now been created on the management server.

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4.9.2 Creating an SNMP Trap

This procedure provides instructions for creating a Simple Network Management Protocol (SNMP) trap on a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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 174: Notifications Tab



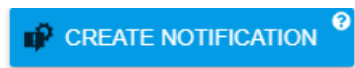
The **Notifications** page will appear:

Figure 175: Notifications Page

Notifications (2)						
CREATE NOTIFICATION						
Name	Identifier	Enabled	Type	Description	Create Date	Last Modified
RMDC Email Alert	b856483b-5a3b-4f2b-476f-ed1e070497ef		SMTPAlert	Resource Manager Data Center Email Alert	10-Aug-2023 10:40:11	10-Aug-2023 10:40:11
RMDC ESMP	c58b5dc4-a300-5e70-d40a-f79ebac9669f		SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	10-Aug-2023 10:22:06

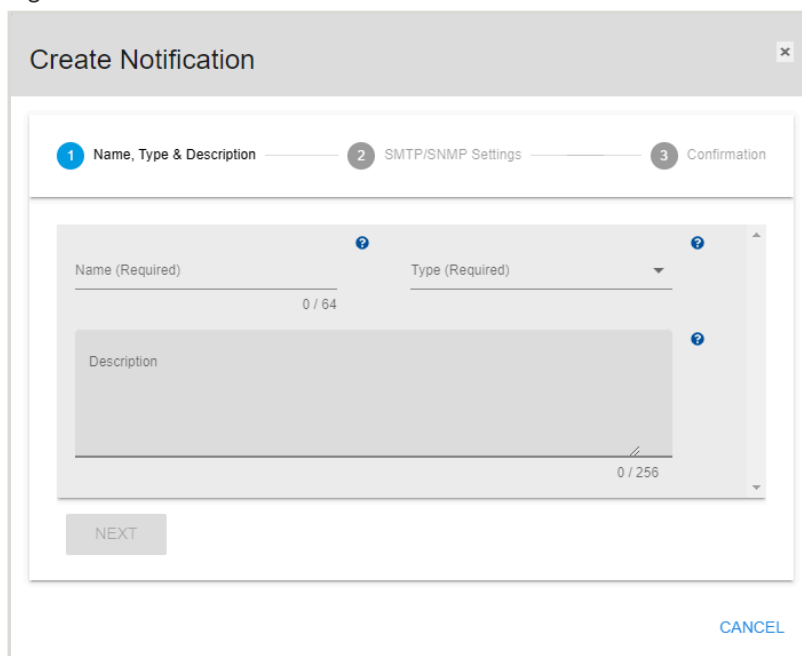
Step 2: Click the **Create Notification** button.

Figure 176: Create Notification Button



A **Create Notification** window will appear, showing step 1:

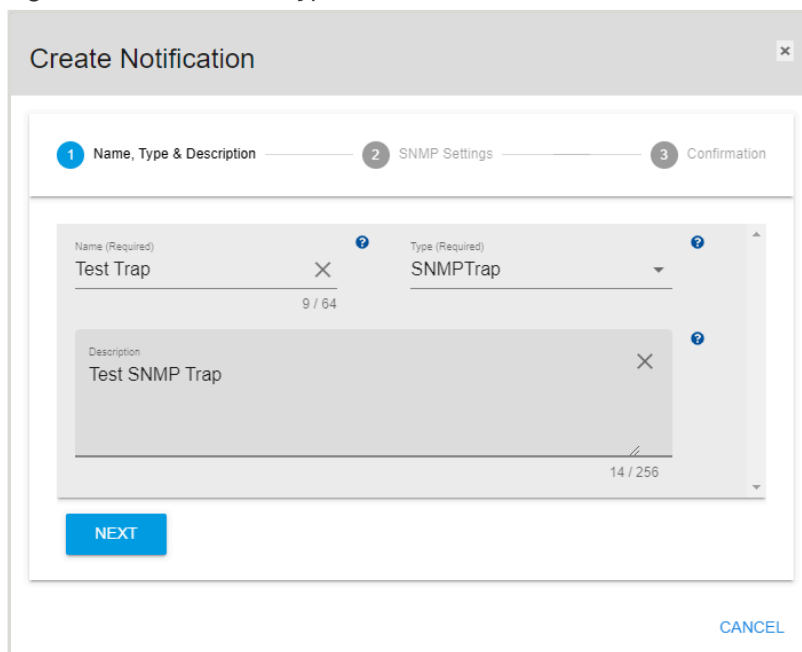
Figure 177: Create Notification Window



The 'Create Notification' window is shown at the first step of a three-step process. The steps are: 1. Name, Type & Description (active), 2. SMTP/SNMP Settings, and 3. Confirmation. The main form area contains three fields: 'Name (Required)' with a character count of '0 / 64', 'Type (Required)' with a dropdown arrow, and a 'Description' text area with a character count of '0 / 256'. Each field has a blue question mark icon to its right. A 'NEXT' button is located at the bottom left of the form area, and a 'CANCEL' link is at the bottom right of the window.

Step 3: Use the available fields to select the **SNMP Trap** notification type, and input a name and description for the notification.

Figure 178: Notification Type



The 'Create Notification' window is shown at the first step of a three-step process. The steps are: 1. Name, Type & Description (active), 2. SNMP Settings, and 3. Confirmation. The main form area contains three fields: 'Name (Required)' with the value 'Test Trap' and a character count of '9 / 64', 'Type (Required)' with the value 'SNMPTrap' and a dropdown arrow, and a 'Description' text area with the value 'Test SNMP Trap' and a character count of '14 / 256'. Each field has a blue question mark icon to its right. A 'NEXT' button is located at the bottom left of the form area, and a 'CANCEL' link is at the bottom right of the window.

Step 4: Click the **Next** button.

Figure 179: Next Button



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

Figure 180: SNMP Settings

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

Figure 181: Populated SNMP Settings

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

Figure 182: Next Button



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

Figure 183: SNMP Confirmation

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

Figure 184: Create SNMP Notification

When the notification has been created, it will appear in the notifications list:

Figure 185: SNMP Notification Created

Notifications (3)

CREATE NOTIFICATION

Name	Identifier	Type	Description	Create Date	Last Modified
RMDC Email Alert	53acc64a-9a6e-415f-425b-85048b3d8883	SMTPAlert	Resource Manager Data Center Email Alert	03-Jul-2023 07:48:29	03-Jul-2023 07:48:29
RMDC Trap Alert	c69e6dc4-a309-fa7b-d40a-f79e8aca969f	SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	03-Jul-2023 07:51:02
Test Trap	dc81dd8e-53c5-8000-7576-8bcb0faae8ad	SNMPTrap	Test SNMP Trap	02-Aug-2023 13:43:02	02-Aug-2023 13:43:02

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 a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 186: Notifications Tab



The **Notifications** page will appear:

Figure 187: Notifications Page

The Notifications page header shows 'Notifications (3)' and a 'CREATE NOTIFICATION' button. Below is a table with columns: Name, Identifier, Type, Description, Create Date, and Last Modified. The table contains three rows: 'RMDc Email Alert', 'RMDc Trap Alert', and 'Test Alert'. The 'Test Alert' row has a red square icon next to its name.

Name	Identifier	Type	Description	Create Date	Last Modified
RMDc Email Alert	53acc64a-9a6e-415f-425b-8504b3d8863	SMTPAlert	Resource Manager Data Center Email Alert	03-Jul-2023 07:48:29	03-Jul-2023 07:48:29
RMDc Trap Alert	c69b6dc4-a300-7e70-d40a-f79ebaca999f	SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	03-Jul-2023 07:51:02
Test Alert	f09598b1-2b44-8c88-4aa1-70adc0015cc3	SMTPAlert	Test SMTP Alert	02-Aug-2023 12:58:53	02-Aug-2023 12:58:53

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

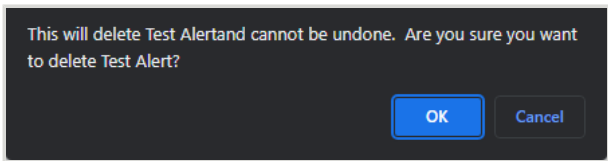
Figure 188: Delete Icon

This is the same table as in Figure 187, but with a red square icon (the delete icon) highlighted next to the 'Test Alert' row.

Name	Identifier	Type	Description	Create Date	Last Modified
RMDc Email Alert	53acc64a-9a6e-415f-425b-8504b3d8863	SMTPAlert	Resource Manager Data Center Email Alert	03-Jul-2023 07:48:29	03-Jul-2023 07:48:29
RMDc Trap Alert	c69b6dc4-a300-7e70-d40a-f79ebaca999f	SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	03-Jul-2023 07:51:02
Test Alert	f09598b1-2b44-8c88-4aa1-70adc0015cc3	SMTPAlert	Test SMTP Alert	02-Aug-2023 12:58:53	02-Aug-2023 12:58:53

A popup will prompt the user to confirm the deletion:

Figure 189: Confirm Deletion



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 190: Notification Removed

⚙ Notifications (2)

CREATE NOTIFICATION

Name	Identifier	Enabled	Type	Description	Create Date	Last Modified
RMDC Email Alert	b056483b-fa3b-42c8-d7bf-e81ed70497ef		SMTPAlert	Resource Manager Data Center Email Alert	10-Aug-2023 10:40:11	10-Aug-2023 10:40:11
RMDC ESMP	c59b6dc4-a300-9c79-d40a-f79efac9969f		SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	10-Aug-2023 10:22:06

Result: The notification has now been deleted from the management server.

4.10 Analytics

The management server's **Analytics** tab provides information and controls for configuring server analytics.

4.10.1 Creating Analytics

This procedure provides instructions for creating analytics on a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

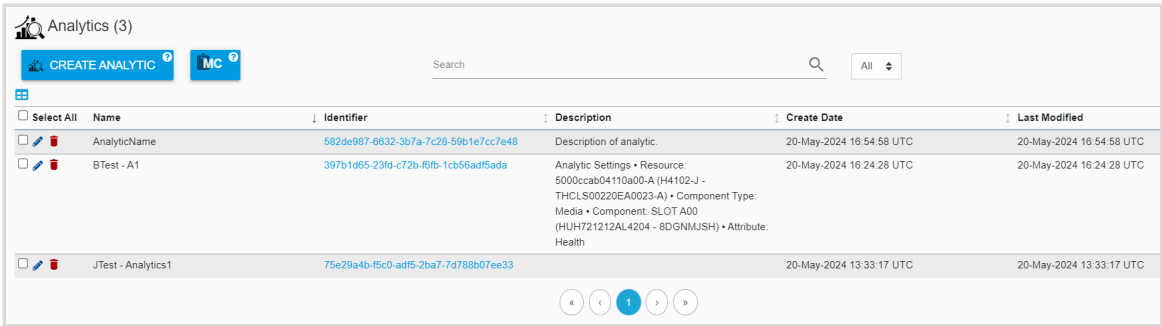
Step 1: From the server dashboard, click the **Analytics** tab.

Figure 191: Analytics Tab



The **Analytics** page will appear:

Figure 192: Analytics Page



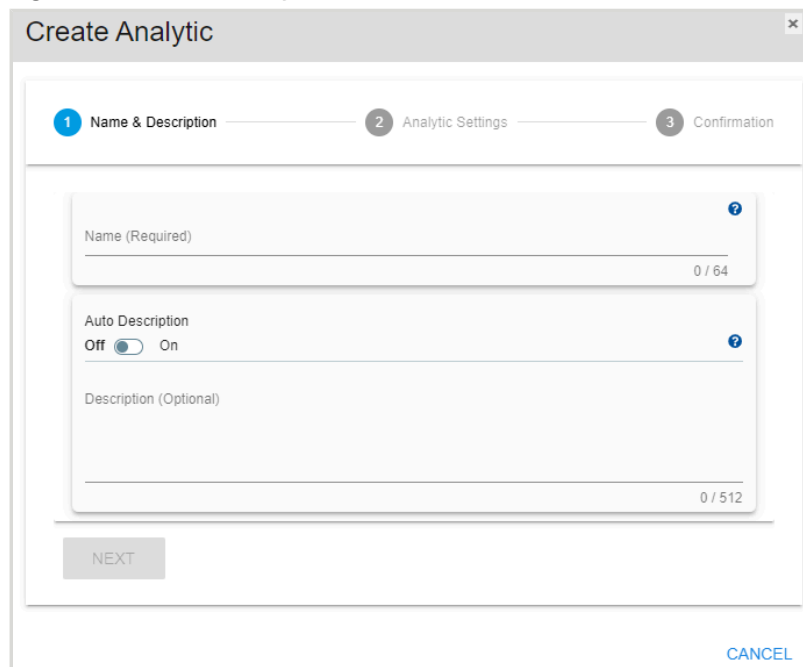
Step 2: Click the **Create Analytics** button.

Figure 193: Create Analytics Button



A **Create Analytics** window will appear:

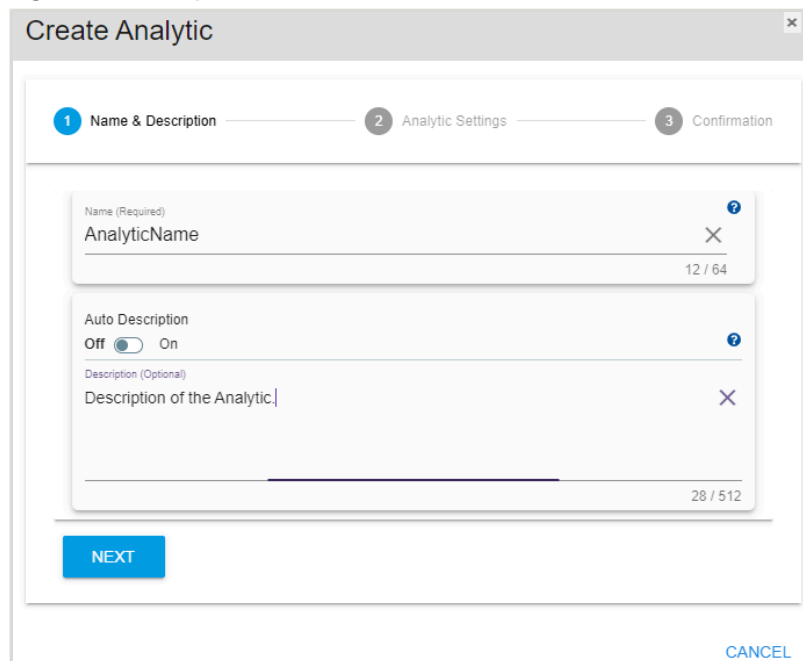
Figure 194: Create Analytics Window



The 'Create Analytics' window is shown in its initial state. It has a title bar with a close button. Below the title bar is a progress indicator with three steps: '1 Name & Description' (active), '2 Analytic Settings', and '3 Confirmation'. The main content area contains two text input fields. The first field is labeled 'Name (Required)' and has a character count of '0 / 64'. The second field is labeled 'Description (Optional)' and has a character count of '0 / 512'. Between these fields is a toggle switch for 'Auto Description' set to 'Off'. A 'NEXT' button is at the bottom left, and a 'CANCEL' link is at the bottom right.

Step 3: Use the available fields to complete the name and description of the analytic and click **Next**.

Figure 195: Analytic Details



The 'Create Analytics' window is shown with the 'Name & Description' step completed. The 'Name (Required)' field now contains the text 'AnalyticName' and has a character count of '12 / 64'. The 'Description (Optional)' field now contains the text 'Description of the Analytic.' and has a character count of '28 / 512'. The 'Auto Description' toggle switch remains 'Off'. The 'NEXT' button is now highlighted in blue, and the 'CANCEL' link remains at the bottom right.

The Analytics resources results will populate with details from the selection.

Step 4: Select a Resource from the list.

Figure 196: Resources Section

Create Analytic

1 Name & Description 2 Analytic Settings 3 Confirmation

Component Type Options For (6)
OFDATA24 4213-USCOS04023SB0001

Enclosure
Controllers
Media
Ports
PowerSupplies

Components ? <
Attributes ? <

BACK NEXT

CANCEL

The Component types section will populate with details from the selection.

Step 5: Select a Component type from the list.

Figure 197: Component Type Section

Create Analytic

1 Name & Description 2 Analytic Settings 3 Confirmation

Component Type Options For (6)
OFDATA24 4213-USCOS04023SB0001

Enclosure
Controllers
Media
Ports
PowerSupplies

Components ? <
Attributes ? <

BACK NEXT

CANCEL

The Attributes section will populate with details from the selection.

Step 6: Select an Attribute from the list and click **Next**.

Figure 198: Attribute Section

The screenshot shows the 'Create Analytic' dialog box with three steps: 1. Name & Description (checked), 2. Analytic Settings (active), and 3. Confirmation. In the 'Analytic Settings' step, there is a search bar, a 'Component Type' dropdown set to 'ENCLOSURE', and an 'Attribute Options For ENCLOSURE' dropdown. The attribute options list includes 'Health', 'PowerState', and 'TotalCapacity'. At the bottom, there are 'BACK' and 'NEXT' buttons, and a 'CANCEL' link in the bottom right corner.

The Confirm and Create Analytic will appear.

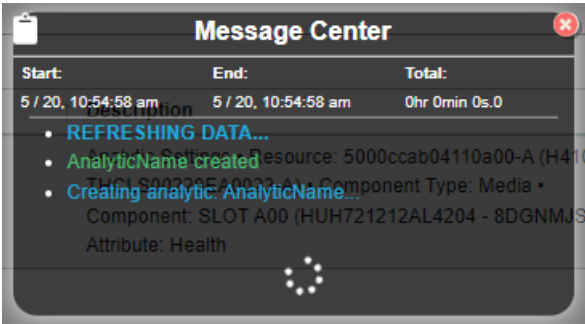
Step 7: Select the **Please Confirm** options and click **Create**.

Figure 199: Confirm and Create Analytic

The screenshot shows the 'Create Analytic' dialog box with three steps: 1. Name & Description (checked), 2. Analytic Settings (checked), and 3. Confirmation (active). In the 'Confirmation' step, there are input fields for 'Name: AnalyticName', 'Description: Description of analytic.', 'Resource: ofdata24-4213-usc0s04023sb0001', 'Component Type: Enclosure', and 'Attribute: Health'. Below these fields is a 'Please Confirm' checkbox which is checked. At the bottom, there are 'BACK', 'START OVER', and 'CREATE' buttons, and a 'CANCEL' link in the bottom right corner.

The Analytic will be created and message center notification will appear with the status of the Analytic.

Figure 200: Message Center Notification



Step 8: To check the status, once the Analytic has been created, click **MC** and review the details.

Figure 201: Message Center Button



Result: The Analytic has now been created on the management server.

4.10.2 Editing Analytics

This procedure provides instructions for editing analytics on a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

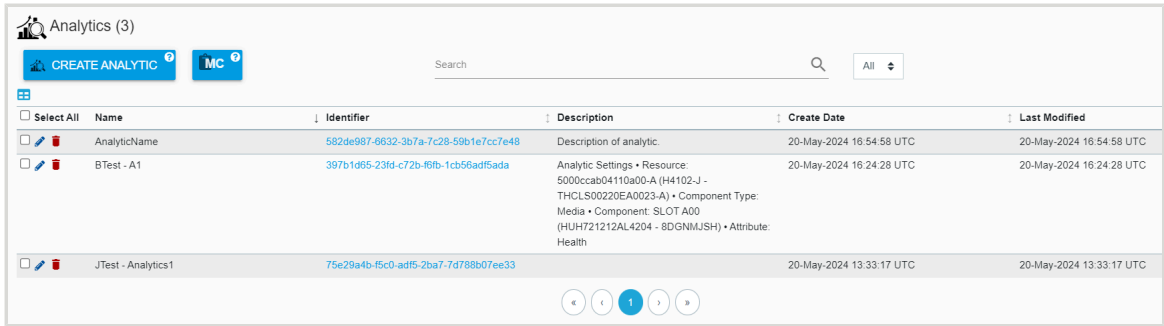
Step 1: From the server dashboard, click the **Analytics** tab.

Figure 202: Analytics Tab



The **Analytics** page will appear:

Figure 203: Analytics Page



Step 2: Click the **Edit Analytic** button.

Figure 204: Edit Analytics Button



A **Update Analytics** window will appear:

Step 3: Edit the available fields to complete the name and description of the analytic and click **Next**.

Figure 205: Analytic Details

Create Analytic

1 Name & Description 2 Analytic Settings 3 Confirmation

Name (Required)
AnalyticName 12 / 64

Auto Description
Off On

Description (Optional)
Description of the Analytic. 28 / 512

NEXT CANCEL

The Analytics resources results will populate with details from the selection.

Step 4: Edit the fields as necessary and click **Next**.

Figure 206: Update Analytic Details

Update Analytic

1 Name & Description 2 Analytic Settings 3 Confirmation

Resource
OFDATA24-4213-USCOS04023SB0001

Search

Component Type
ENCLOSURE

Attribute
HEALTH

BACK NEXT CANCEL

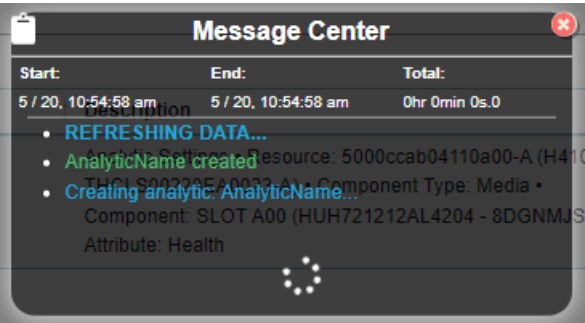
The Confirm and Update Analytic will appear.

Step 5: Select the **Please Confirm** options and click **Update**.

Figure 207: Confirm and Update Analytic

The Analytic will be updated and message center notification will appear with the status of the Analytic.

Figure 208: Message Center Notification



Step 6: To check the status, once the Analytic has been updated, click **MC** and review the details.

Figure 209: Message Center Button



Result: The Analytic has now been updated on the management server.

4.10.3 Deleting Analytics

This procedure provides instructions for deleting analytics from a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

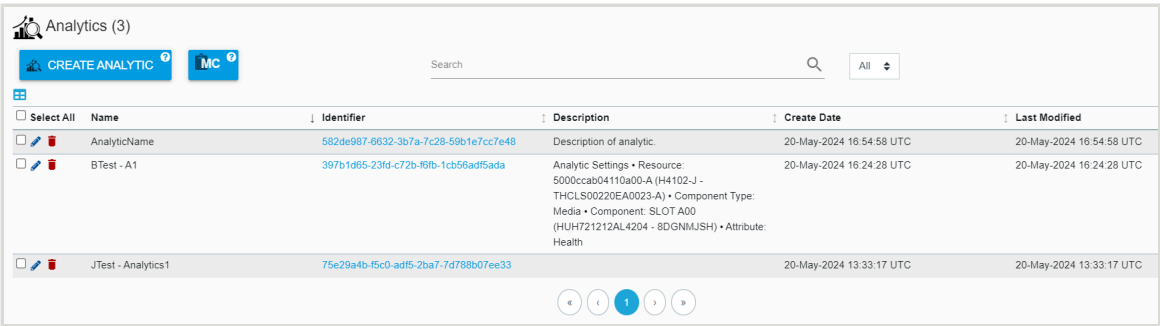
Step 1: From the server dashboard, click the **Analytics** tab.

Figure 210: Analytics Tab



The **Analytics** page will appear:

Figure 211: Analytics Page



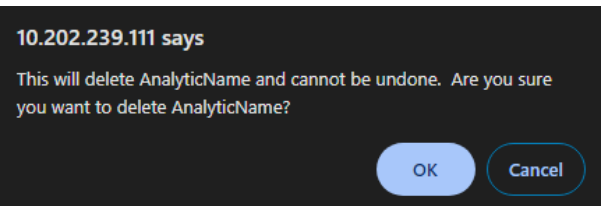
Step 2: Click the **Delete Analytic** button.

Figure 212: Delete Analytics Button



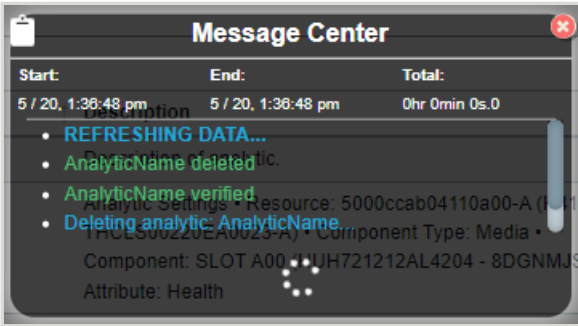
A **Delete Analytic** message will appear at the top of the browser.

Figure 213: Delete Analytic Message



Step 3: Click **OK** to delete the Analytic.

Figure 214: Delete Analytic Message Center



The Analytics resources results will populate with details from the selection.

Step 4: To check the status, once the Analytic has been updated, click **MC** and review the details.

Figure 215: Message Center Button



Result: The Analytic has now been deleted from the management server.

4.11 Reports

The management server's **Reports** tab provides information and controls for configuring server policies.

4.11.1 Creating a Report

This procedure provides instructions for creating a report on a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 216: Reports Tab



The **Reports** page will appear:

Figure 217: Report Page

Analytics (3)

CREATE ANALYTIC MC

Search

All

Select All	Name	Identifier	Description	Create Date	Last Modified
☐	AnalyticName	582de987-6632-3b7a-7c28-59b1e7cc7e48	Description of analytic.	20-May-2024 16:54:58 UTC	20-May-2024 16:54:58 UTC
☐	BTest - A1	397b1d95-23fd-c72b-46fb-1cb56adf5ada	Analytic Settings • Resource: 5000ccab04110a00-A (H4102-J - THCLS00220EA0023-A) • Component Type: Media • Component: SLOT A00 (HUH721212AL4204 - 8DGNMJSH) • Attribute: Health	20-May-2024 16:24:28 UTC	20-May-2024 16:24:28 UTC
☐	JTest - Analytics1	75e29a4b-f5c0-adf5-2ba7-7d788b07ee33		20-May-2024 13:33:17 UTC	20-May-2024 13:33:17 UTC

1

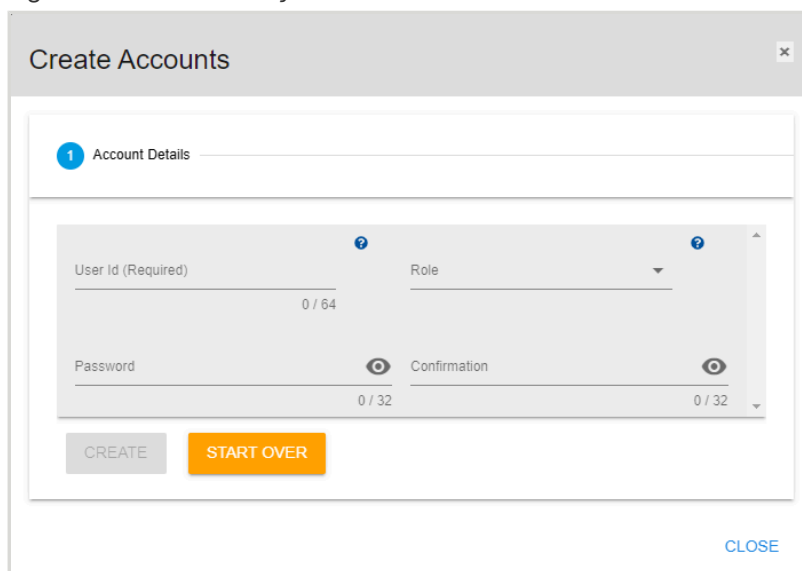
Step 2: Click the **Create Report** button.

Figure 218: Create Analytics Button



A **Create Analytics** window will appear:

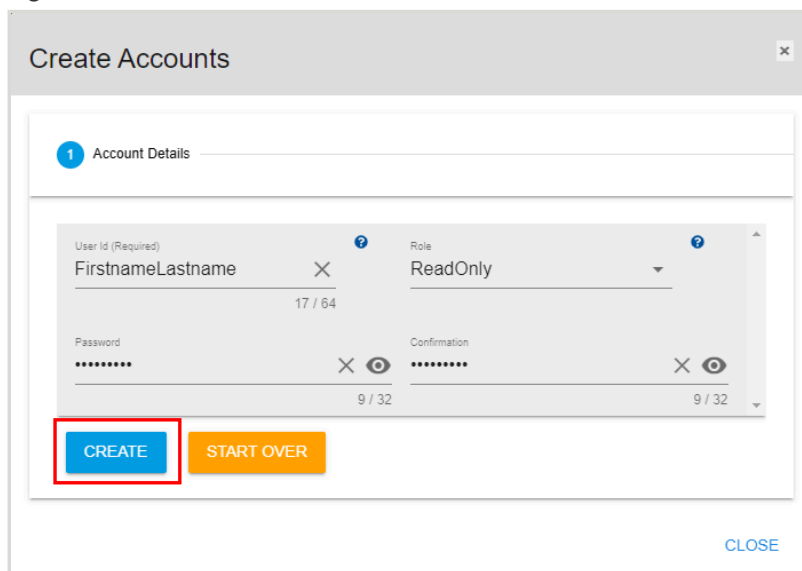
Figure 219: Create Analytics Window



The 'Create Accounts' window displays the 'Account Details' step. It contains four input fields: 'User Id (Required)' with a character count of 0 / 64, 'Role' with a dropdown arrow, 'Password' with a character count of 0 / 32 and an eye icon, and 'Confirmation' with a character count of 0 / 32 and an eye icon. At the bottom left are 'CREATE' and 'START OVER' buttons. At the bottom right is a 'CLOSE' link.

Step 3: Use the available fields to enter a user ID, role, and password. Then click the **Create** button.

Figure 220: Account Details



The 'Create Accounts' window shows the 'Account Details' step with the fields filled in: 'User Id (Required)' contains 'FirstnameLastname' (17 / 64), 'Role' is set to 'ReadOnly', 'Password' contains masked characters (9 / 32), and 'Confirmation' contains masked characters (9 / 32). The 'CREATE' button is highlighted with a red rectangle. The 'START OVER' button and 'CLOSE' link are also visible.

Result: The user account has now been created on the management server.

4.11.2 Editing a Report

This procedure provides instructions for editing a report on a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

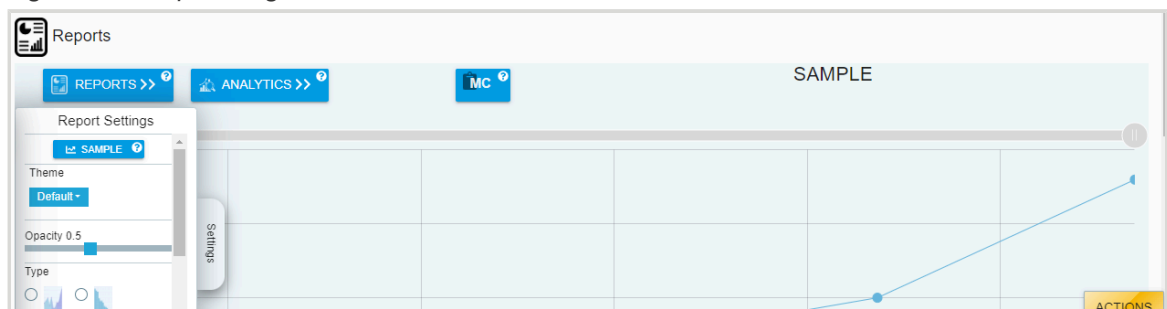
Step 1: From the server dashboard, click the **Reports** tab.

Figure 221: Reports Tab



The **Reports** page will appear:

Figure 222: Report Page



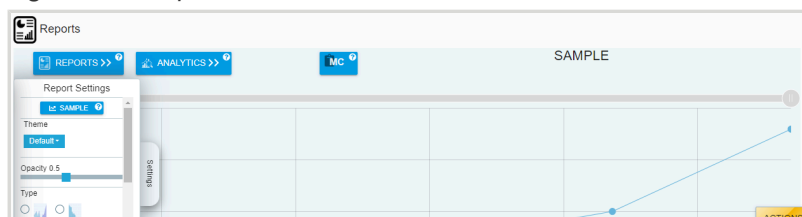
Step 2: Click the **Reports** button.

Figure 223: Reports Button



A **Reports** window will appear:

Figure 224: Reports Window



Step 3: Use the available options to select the necessary analytic. Then click the **Save as Report** button.

Figure 225: Reports Button



A **Create Report** window will appear:

Figure 226: Create Report Window

A "Create Report" window with a grey title bar and a close button. Below the title bar is a progress bar with four steps: 1. Name & Description (active), 2. Date/Time Settings, 3. Associated Analytics, and 4. Confirmation. The main content area contains three input fields: "Name (Required)" with a character count of 0 / 64, "Auto Description" with a toggle switch set to "Off" and a character count of 0 / 768, and "Description (Optional)". A "NEXT" button is at the bottom left, and a "CANCEL" link is at the bottom right.

Step 4: Complete the necessary information in the **Name & Description** section. The click **Next** button.

Figure 227: Name & Description Section

Create Report

1 Name & Description

2 Date/Time Settings

3 Associated Analytics

4 Confirmation

Name (Required)

SensorReport

12 / 64

Auto Description

Off ☒ On

Included Analytics

Sensors_Current reading

45 / 768

NEXT

CANCEL

Figure 228: Next Button

NEXT

Step 5: Verify the information in the **Date/Time Settings** section. The click **Next** button.

Figure 229: Name & Description Section

Create Report

✓ Name & Description

2 Date/Time Settings

3 Associated Analytics

4 Confirmation

Date Range Type

Dynamic ☒ Snapshot

MAX FROM NOW

CHART RANGE

MAX FROM CHART

Modify Beginning Date/Time

Begin Date/Time

Dynamic Sliding Window

Modify Ending Date/Time

End Date/Time

Dynamic Sliding Window

BACK

NEXT

CANCEL

Western Digital.

124

Figure 230: Next Button



Step 6: Adjust the Associated Analytics in the **Associated Analytics** section. The click **Next** button.

Figure 231: Name & Description Section

Create Report

✓ Name & Description

2 Date/Time Settings

3 Associated Analytics

4 Confirmation

Date Range Type

Dynamic

Snapshot

MAX FROM NOW

CHART RANGE

MAX FROM CHART

Modify Beginning Date/Time

Begin Date/Time

Dynamic Sliding Window

Modify Ending Date/Time

End Date/Time

Dynamic Sliding Window

BACK

NEXT

CANCEL

Figure 232: Next Button

Step 7: Confirm the report information and select the **Please Confirm** checkbox in the **Confirmation** section. The click **Create** button.

Figure 233: Name & Description Section

Create Report

✓ Name & Description

2 Date/Time Settings

3 Associated Analytics

4 Confirmation

Date Range Type

Dynamic

Snapshot

MAX FROM NOW

CHART RANGE

MAX FROM CHART

Modify Beginning Date/Time

Begin Date/Time

Dynamic Sliding Window

Modify Ending Date/Time

End Date/Time

Dynamic Sliding Window

BACK

NEXT

CANCEL

 Western Digital.

125

Figure 234: Create Button



Result: The report has now been created on the management server.

4.11.3 Deleting a Report

This procedure provides instructions for deleting a report from a management server using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

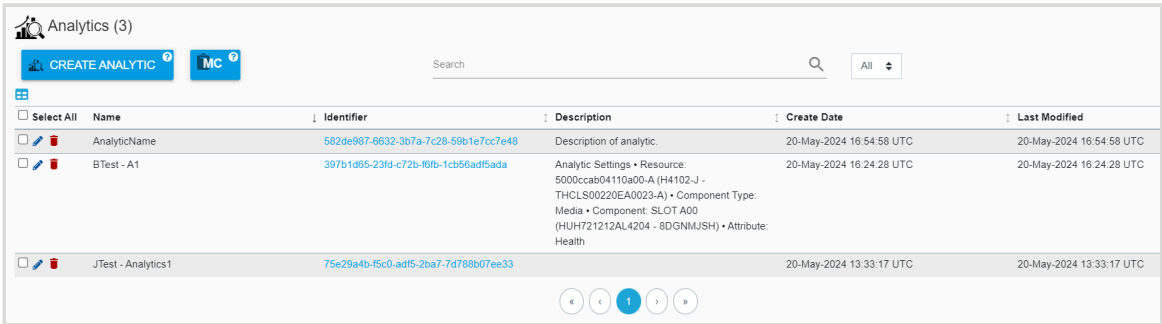
Step 1: From the server dashboard, click the **Reports** tab.

Figure 235: Reports Tab



The **Reports** page will appear:

Figure 236: Report Page



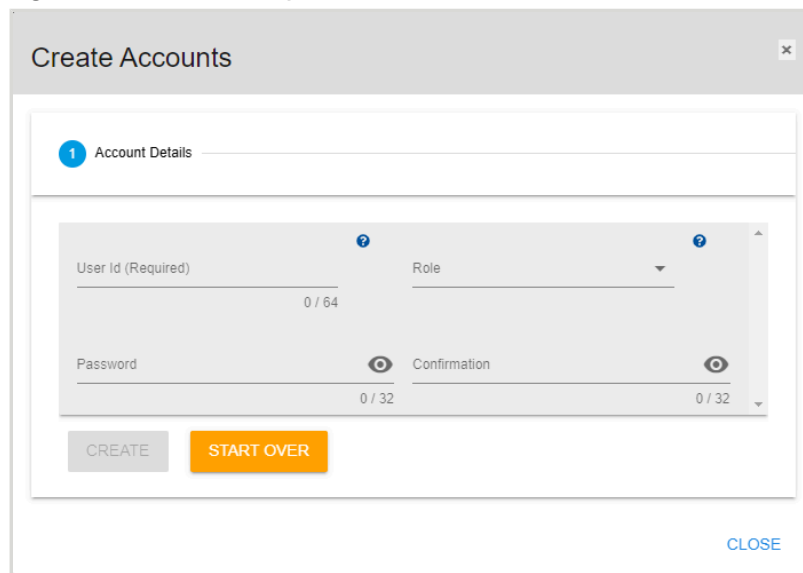
Step 2: Click the **Create Report** button.

Figure 237: Create Analytics Button



A **Create Analytics** window will appear:

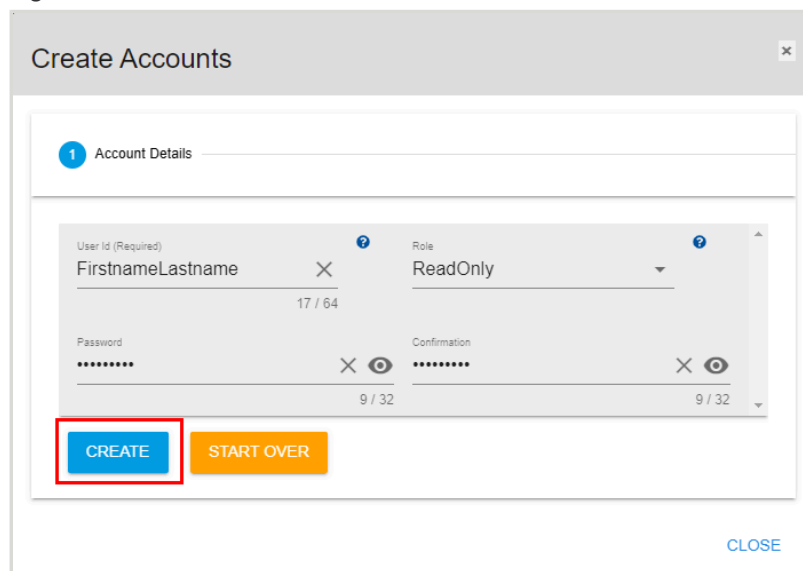
Figure 238: Create Analytics Window



The screenshot shows a 'Create Accounts' window with a tab labeled '1 Account Details'. Inside the tab, there are four input fields: 'User Id (Required)' with a character count of '0 / 64', 'Role' with a dropdown arrow, 'Password' with a character count of '0 / 32' and an eye icon, and 'Confirmation' with a character count of '0 / 32' and an eye icon. At the bottom left of the form are two buttons: 'CREATE' (disabled, grey) and 'START OVER' (active, orange). At the bottom right of the window is a 'CLOSE' link in blue.

Step 3: Use the available fields to enter a user ID, role, and password. Then click the **Create** button.

Figure 239: Account Details



The screenshot shows the same 'Create Accounts' window, but now the input fields are filled. 'User Id (Required)' contains 'FirstnameLastname' with a character count of '17 / 64'. 'Role' is set to 'ReadOnly'. 'Password' contains nine dots with a character count of '9 / 32'. 'Confirmation' also contains nine dots with a character count of '9 / 32'. The 'CREATE' button is now active (blue) and is highlighted with a red rectangle. The 'START OVER' button remains orange. The 'CLOSE' link is still at the bottom right.

Result: The user account has now been created on the management server.



OpenFlex Enclosure Management – Central Service

This section provides information and instructions for managing an OpenFlex storage enclosure through an out-of-band connection to a remote, central management server running Resource Manager Data Center Edition.

In This Chapter:

- Overview of OpenFlex Dashboard.....	130
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- Accounts.....	160
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- Controllers.....	170
- Power Supplies.....	171
- Fans.....	172
- Ports.....	173
- Sensors.....	178
- Device OS.....	180
- Media.....	185

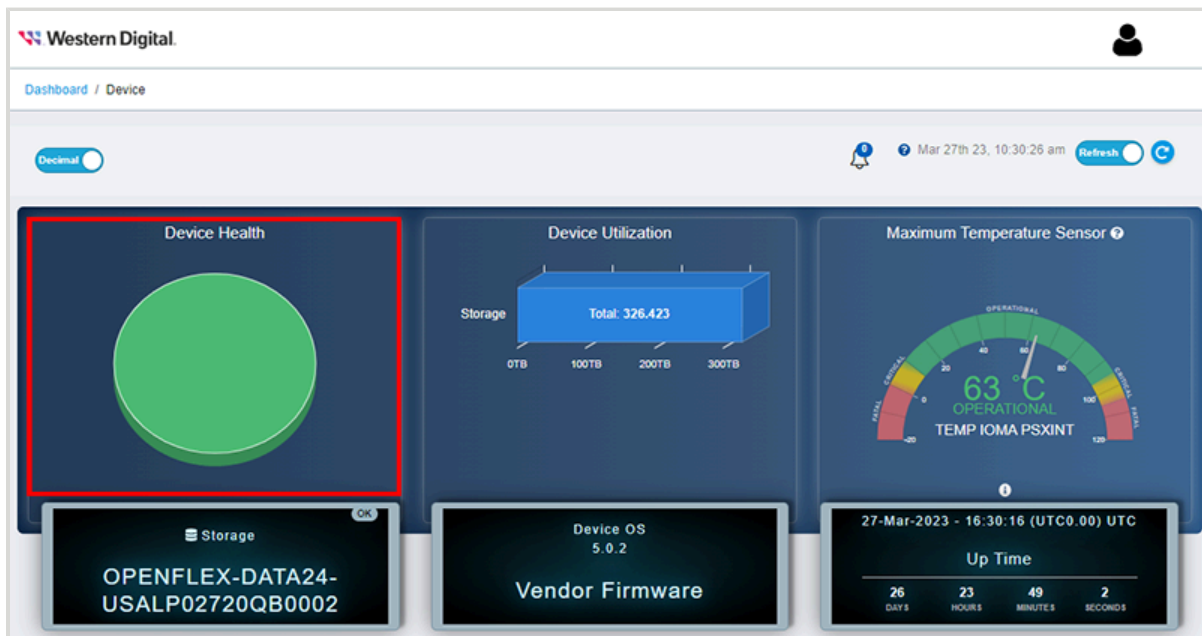
5.1 Overview of OpenFlex Dashboard

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

Device Health

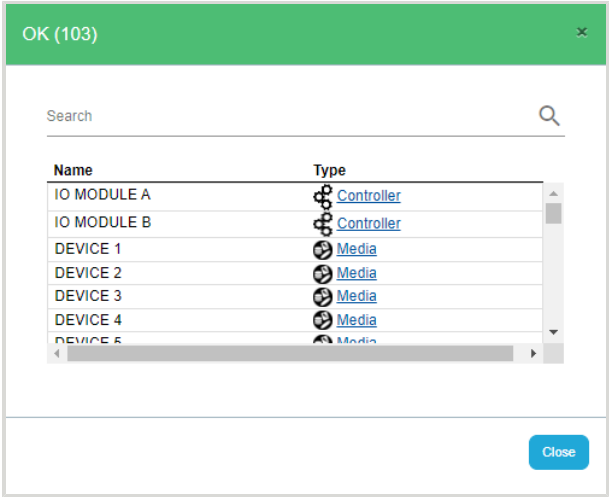
The **Device Health** section displays a pie chart that groups the health states of this enclosure's components, devices, and sensors into color-coded segments.

Figure 240: 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:

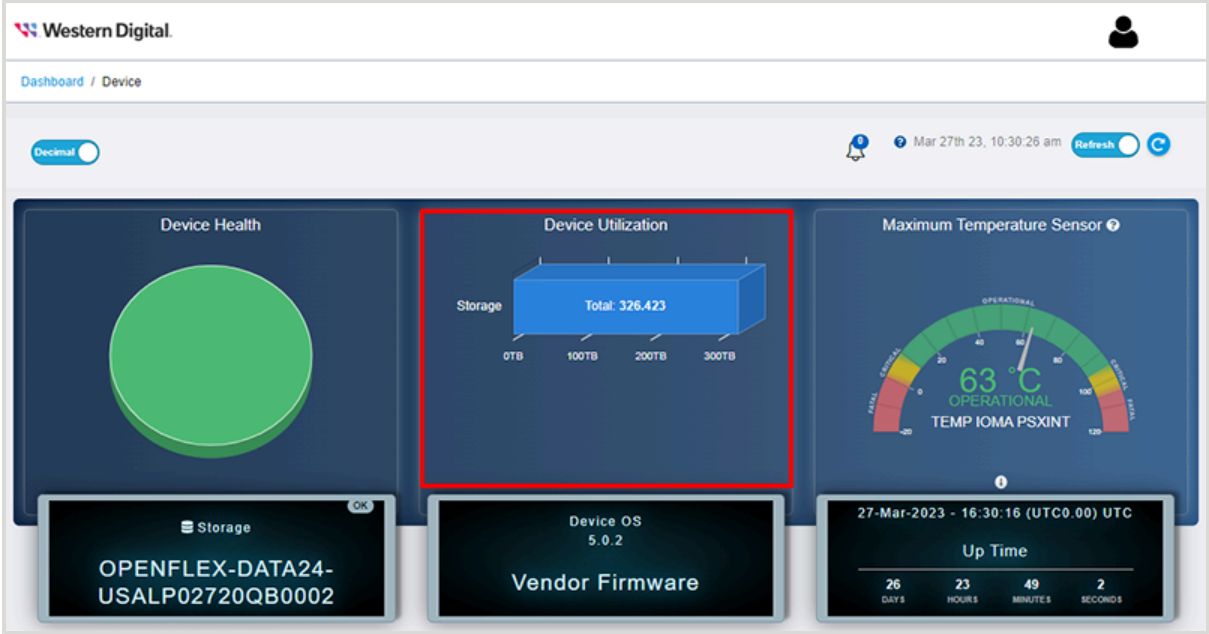
Figure 241: Components & Sensors Health Status



Device Utilization

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

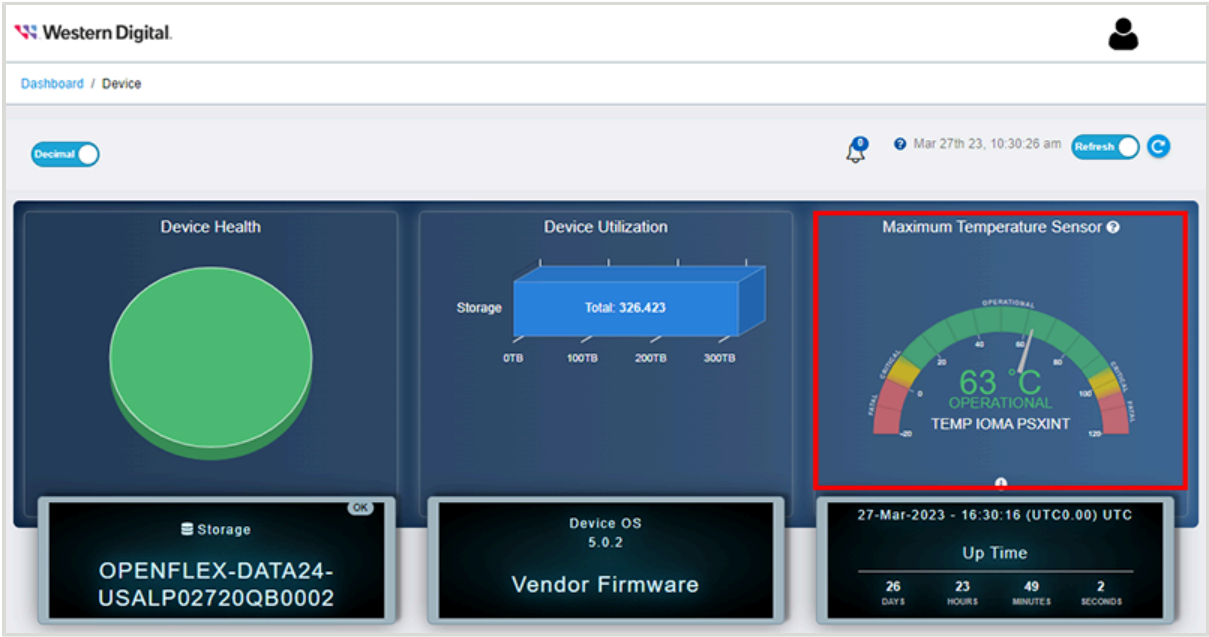
Figure 242: Device Utilization Chart



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 243: 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:

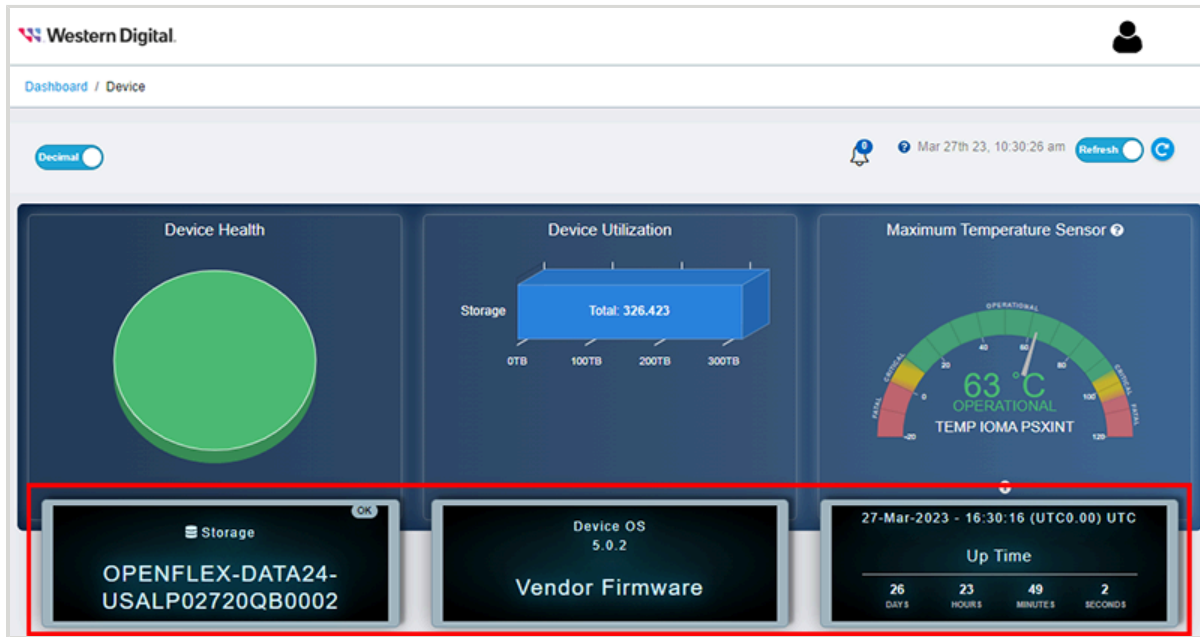
Figure 244: Sensor Temperature Thresholds

TEMP IOMA PSXINT	
HighThresholdFatal:	105
HighThresholdCritical:	100
LowThresholdCritical:	0
LowThresholdFatal:	0

Device Information

The panels in the middle section provide information about the enclosure, including the device ID, firmware version, and uptime/runtime.

Figure 245: Device Details



Device Management Controls

The bottom portion of the dashboard provides enclosure management information and controls, which are organized into tabs. The following sections provide procedures for the most common management actions available from these tabs.

- [Device Information \(page 135\)](#)
- [Administration \(page 139\)](#)
- [Accounts \(page 160\)](#)
- [Location \(page 167\)](#)
- [Controllers \(page 170\)](#)
- [Power Supplies \(page 171\)](#)
- [Fans \(page 172\)](#)
- [Ports \(page 173\)](#)
- [Sensors \(page 178\)](#)
- [Device OS \(page 180\)](#)
- [Media \(page 185\)](#)

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

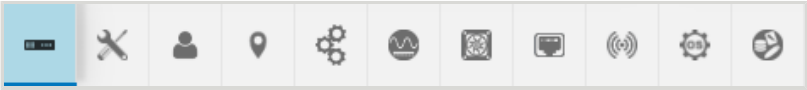
This procedure provides instructions for downloading logs, notices, firmware build information, and telemetry files from an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

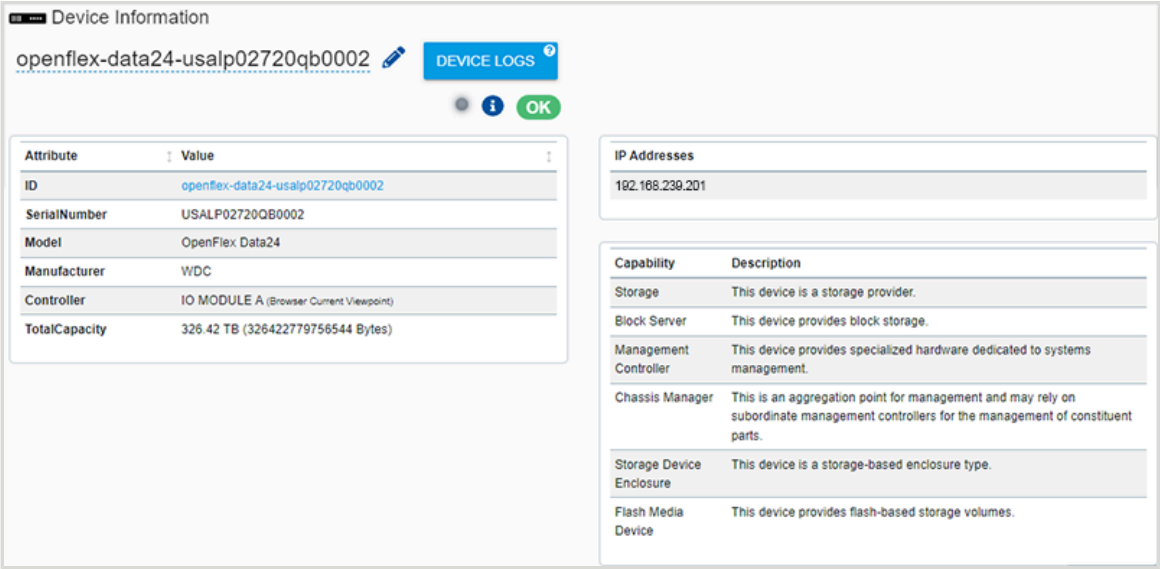
Step 1: From the enclosure dashboard, click the **Device Information** tab.

Figure 246: Device Information Tab



The **Device Information** page will appear:

Figure 247: Device Information Page



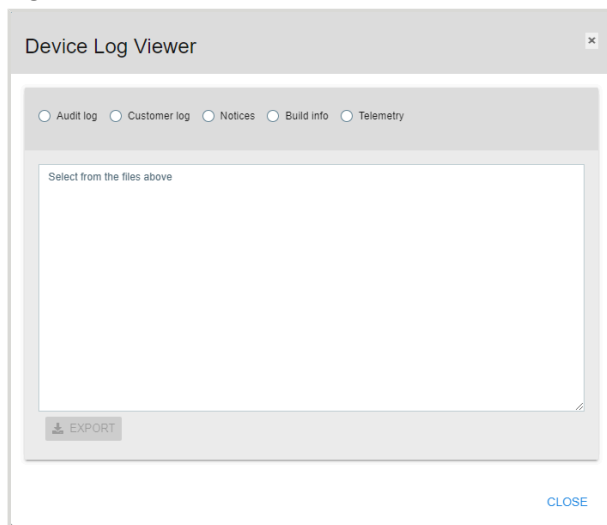
Step 2: Click the **Device Logs** button.

Figure 248: Device Logs Button



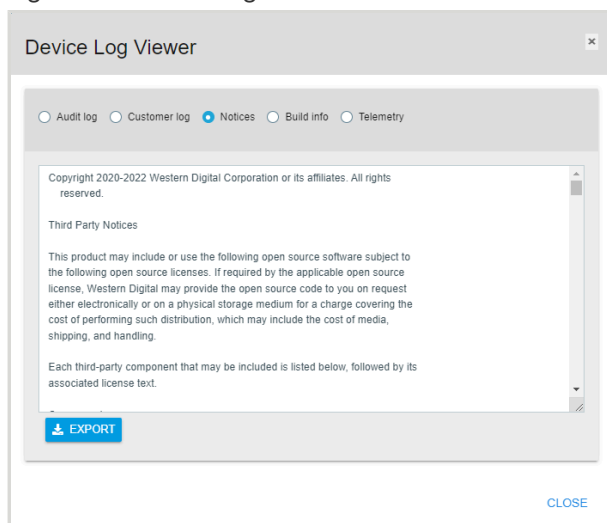
A **Device File Viewer** window will appear:

Figure 249: Device File Viewer



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.

Figure 250: Selecting Files



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

Figure 251: Export Button



The appropriate file type will be downloaded to your **Downloads** directory.

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

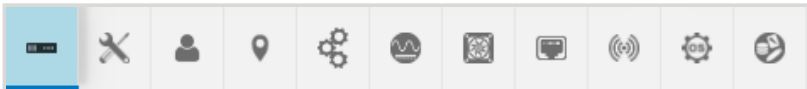
This procedure provides instructions for enabling the identification LED of an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

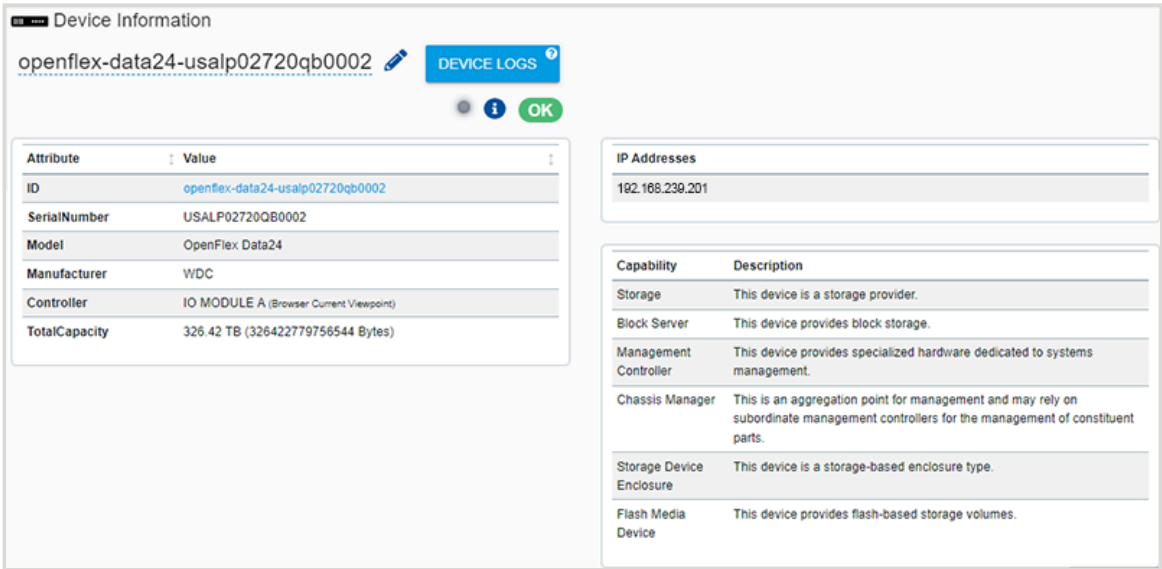
Step 1: From the enclosure dashboard, click the **Device Information** tab.

Figure 252: Device Information Tab



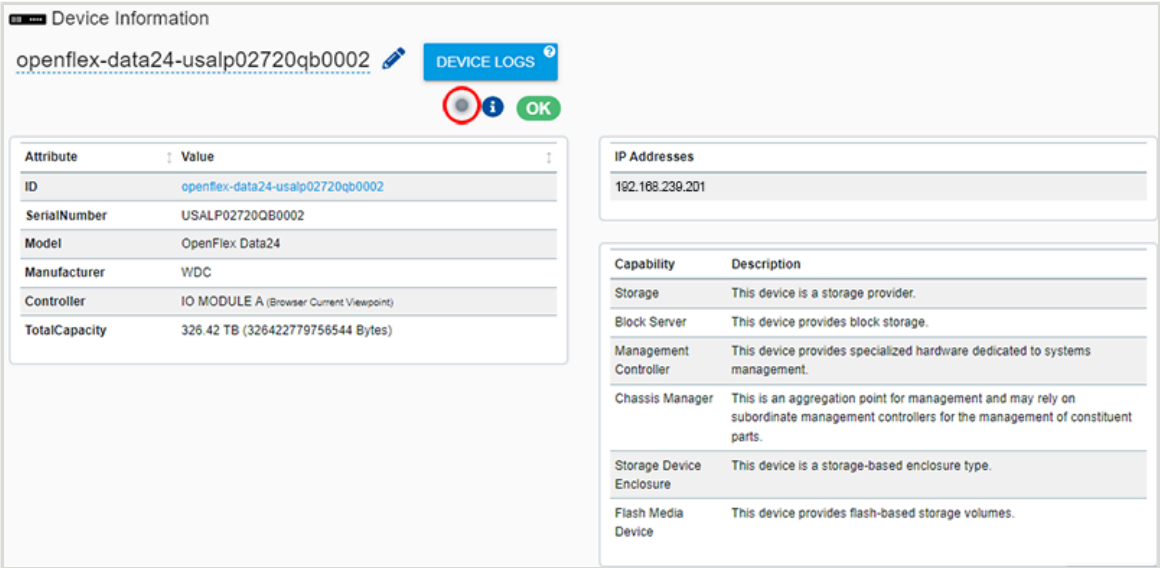
The **Device Information** page will appear:

Figure 253: Device Information Page



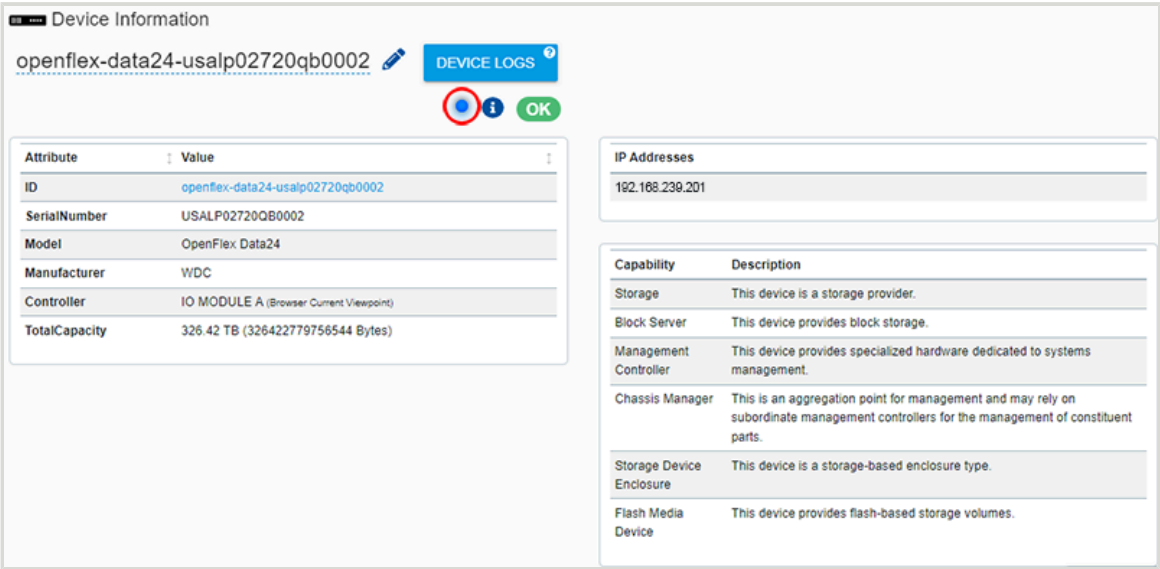
Step 2: Click the **Locator LED** button.

Figure 254: Locator LED Button



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

Figure 255: 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

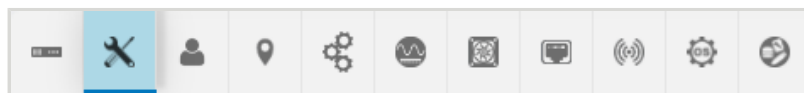
This procedure provides instructions for rebooting an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

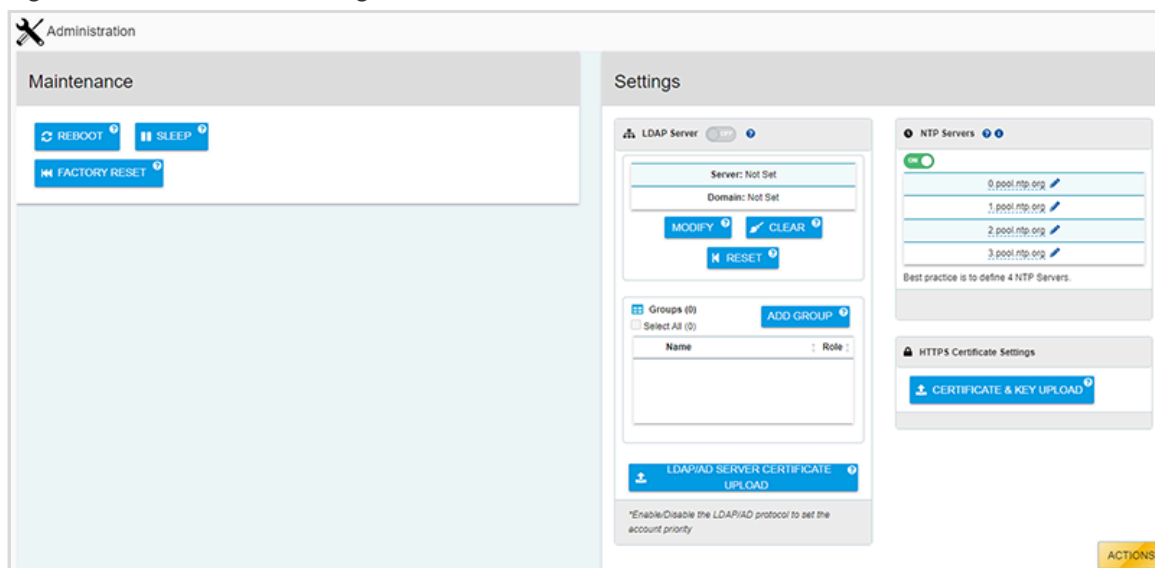
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 256: Administration Tab



The **Administration** page will appear:

Figure 257: 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.

Figure 258: Reboot Button



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

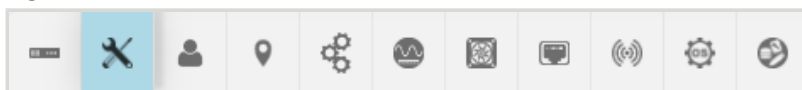
This procedure provides instructions for performing a factory reset of the OpenFlex enclosure using Resource Manager Data Center Edition software.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

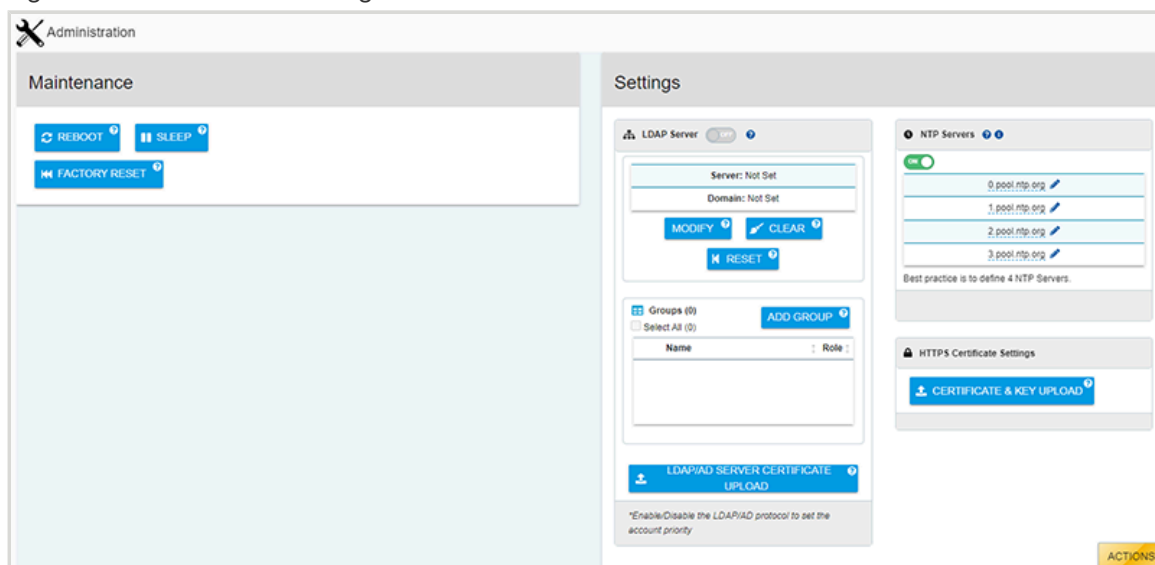
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 259: Administration Tab



The **Administration** page will appear:

Figure 260: Administration Page



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

Figure 261: Reset Button



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

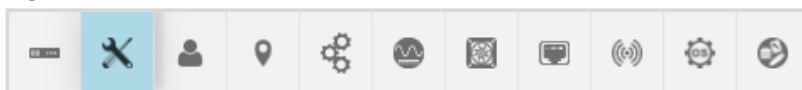
This procedure provides instructions for adding a Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) group to an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

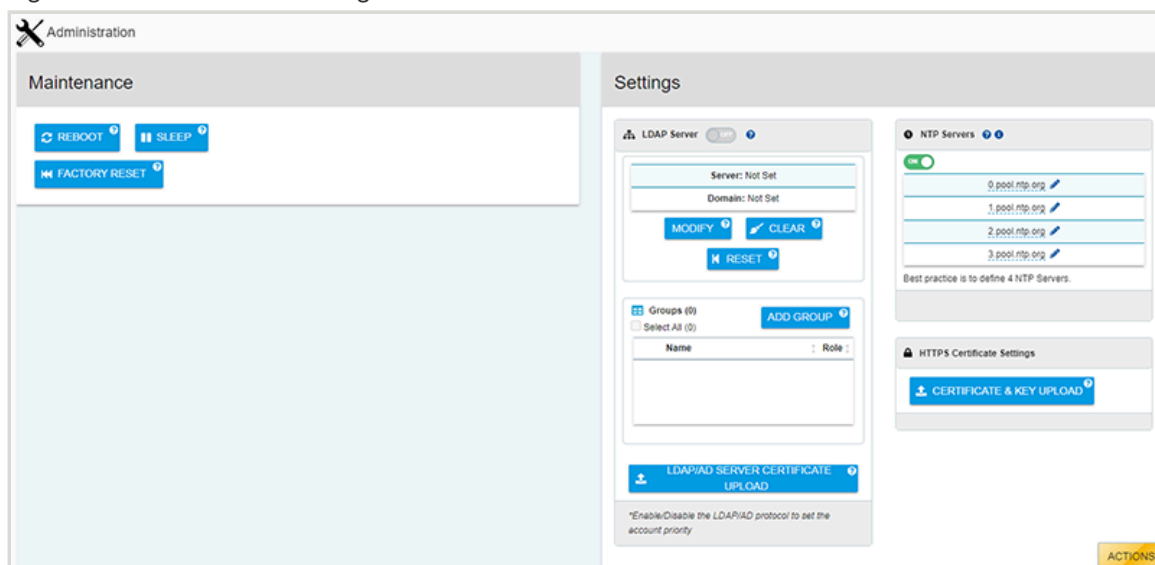
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 262: Administration Tab



The **Administration** page will appear:

Figure 263: Administration Page



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

Figure 264: Add Group Button



The **Add Group** window will appear:

Figure 265: Add Group Window

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

Figure 266: Naming the Group

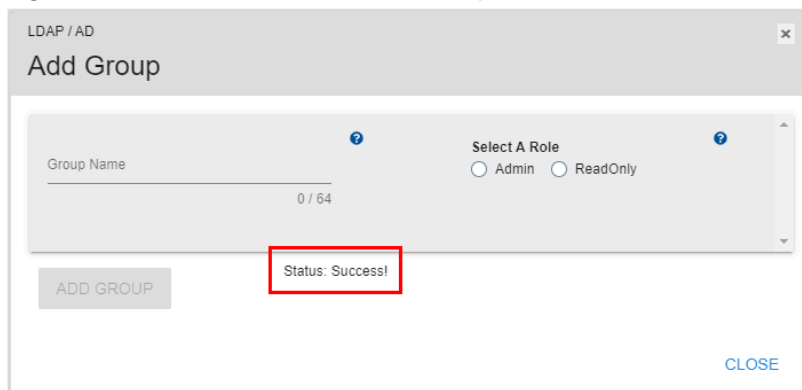
Step 4: Click the **Add Group** button.

Figure 267: Add Group Button



A success message will be displayed:

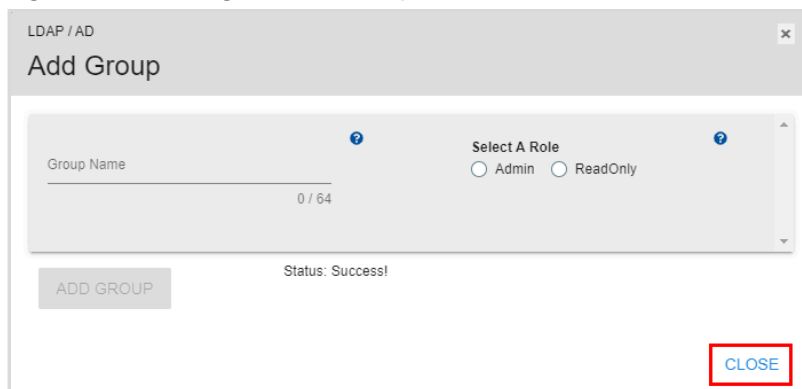
Figure 268: Successful Addition of Group



The screenshot shows a modal window titled "LDAP / AD" with a sub-header "Add Group". Inside the window, there is a text input field for "Group Name" with a character count "0 / 64". To the right, there is a "Select A Role" section with two radio buttons: "Admin" and "ReadOnly". Below the input fields, there is a grey "ADD GROUP" button. A red rectangular box highlights the text "Status: Success!". In the bottom right corner, there is a blue "CLOSE" link.

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

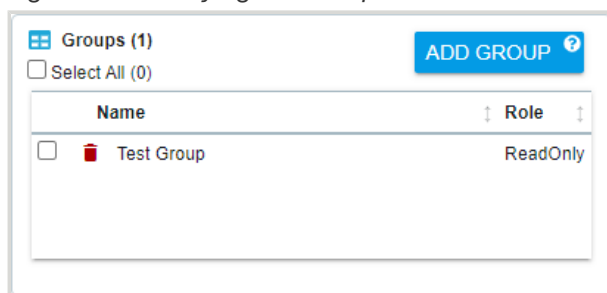
Figure 269: Closing the Add Group Window



This screenshot is identical to Figure 268, showing the "Add Group" dialog box with the "Status: Success!" message. However, in this image, the blue "CLOSE" link in the bottom right corner is highlighted with a red rectangular box.

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

Figure 270: Verifying the Group



The screenshot shows a table titled "Groups (1)". Above the table is a blue "ADD GROUP" button with a help icon. Below the title, there is a checkbox labeled "Select All (0)". The table has two columns: "Name" and "Role". There is one row in the table with a checkbox, a red trash icon, and the text "Test Group" in the "Name" column, and "ReadOnly" in the "Role" column.

	Name	Role
☐	 Test Group	ReadOnly

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 \(page 46\)](#).
2. Follow the instructions for [Adding an LDAP/AD Group \(page 142\)](#).

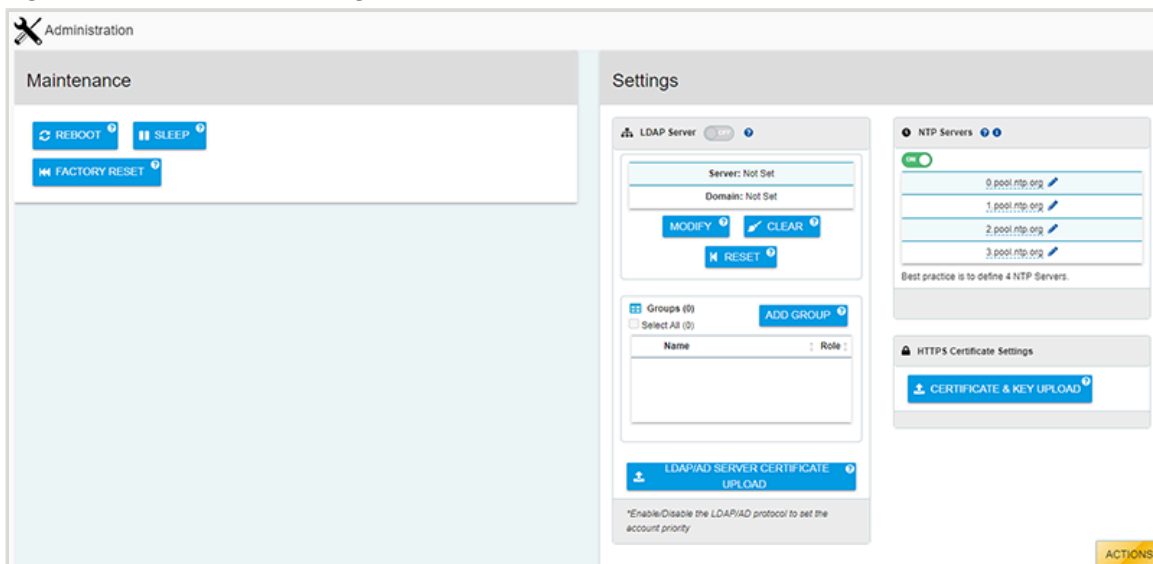
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 271: Administration Tab



The **Administration** page will appear:

Figure 272: Administration Page



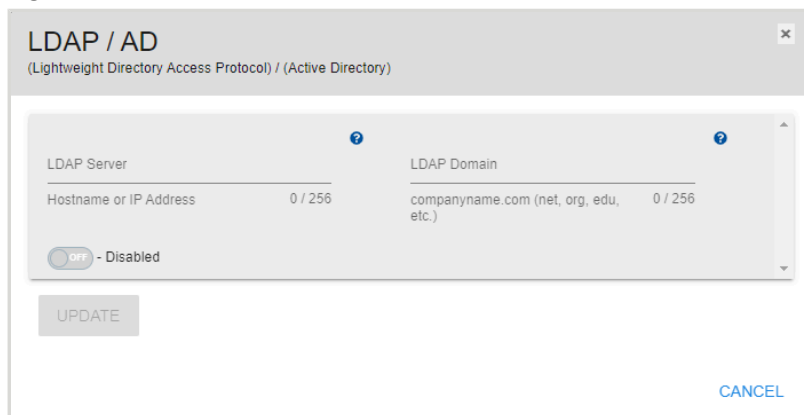
Step 2: In the **Settings** section, under **LDAP Server**, click the **Modify** button.

Figure 273: Modify Button



An **LDAP / AD** window will appear:

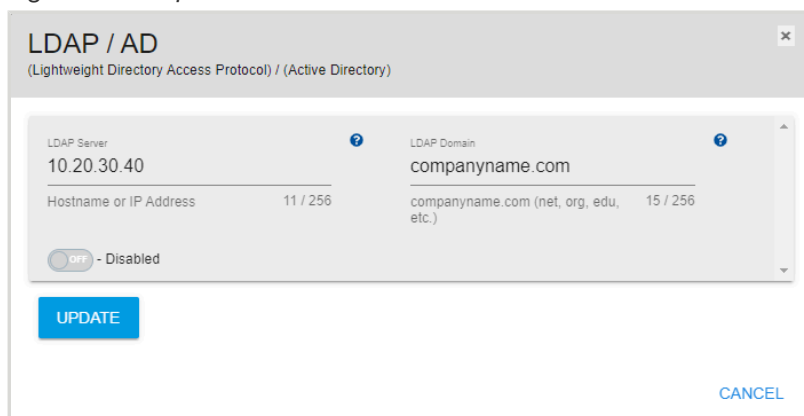
Figure 274: LDAP / AD Window



The screenshot shows the 'LDAP / AD' configuration window. The title bar reads 'LDAP / AD' with a subtitle '(Lightweight Directory Access Protocol) / (Active Directory)'. Inside, there are two input fields: 'LDAP Server' with the placeholder 'Hostname or IP Address' and a character count '0 / 256'; and 'LDAP Domain' with the placeholder 'companyname.com (net, org, edu, etc.)' and a character count '0 / 256'. Below these fields is a toggle switch labeled 'OFF - Disabled'. At the bottom left is a grey 'UPDATE' button, and at the bottom right is a blue 'CANCEL' link.

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.

Figure 275: Populated LDAP / AD Window



The screenshot shows the 'LDAP / AD' configuration window with the fields populated. The 'LDAP Server' field now contains '10.20.30.40' with a character count of '11 / 256'. The 'LDAP Domain' field now contains 'companyname.com' with a character count of '15 / 256'. The 'UPDATE' button is now blue and active.

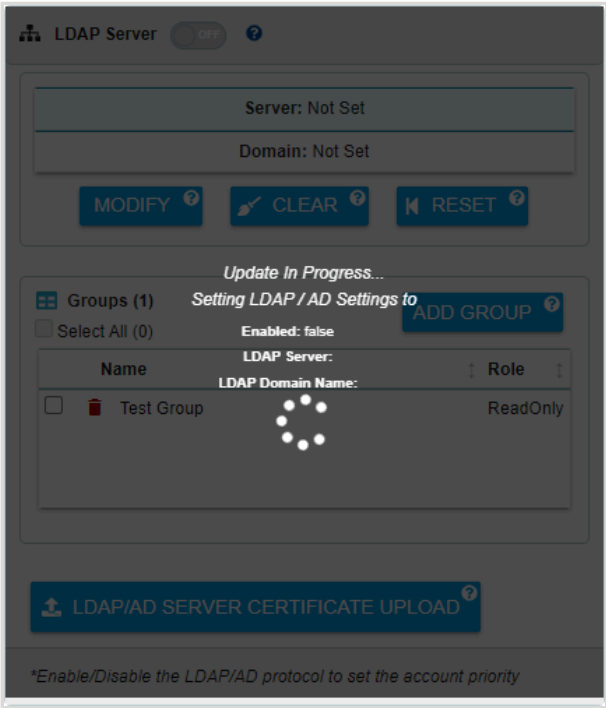
Step 4: Click the **Update** button to save the LDAP/AD configuration.

Figure 276: Update Button



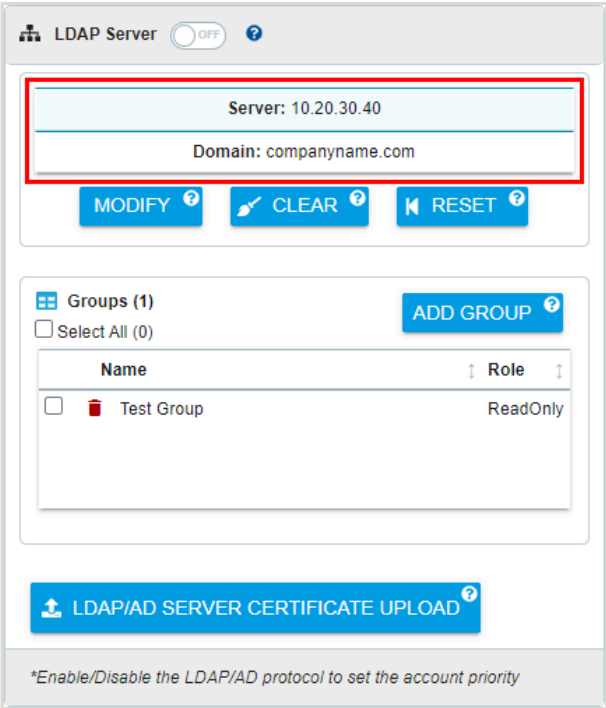
The **LDAP Server** section will be overlaid with a modal, showing that the update is in progress:

Figure 277: LDAP / AD Update Progress



When the update is complete, the **LDAP Server** section will display the new settings:

Figure 278: Updated LDAP / AD 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.

Figure 279: Toggle Switch

The screenshot shows the 'LDAP Server' configuration page. At the top, there is a toggle switch labeled 'LDAP Server' which is currently set to 'OFF'. A red arrow points to this toggle. Below the toggle, there are input fields for 'Server: 10.20.30.40' and 'Domain: companyname.com'. Under these fields are three buttons: 'MODIFY', 'CLEAR', and 'RESET'. Below these buttons is a section for 'Groups (0)' with a sub-section 'Select All (0)' and an 'ADD GROUP' button. A table with columns 'Name' and 'Role' is shown below the groups section. At the bottom of the form is a button labeled 'LDAP/AD SERVER CERTIFICATE UPLOAD'. A footer note reads: '*Enable/Disable the LDAP/AD protocol to set the account priority'.

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

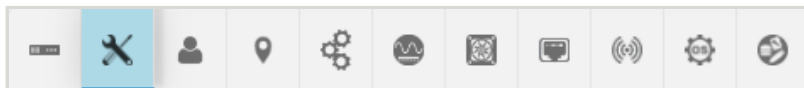
This procedure provides instructions for uploading a Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) certificate to an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

1. Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

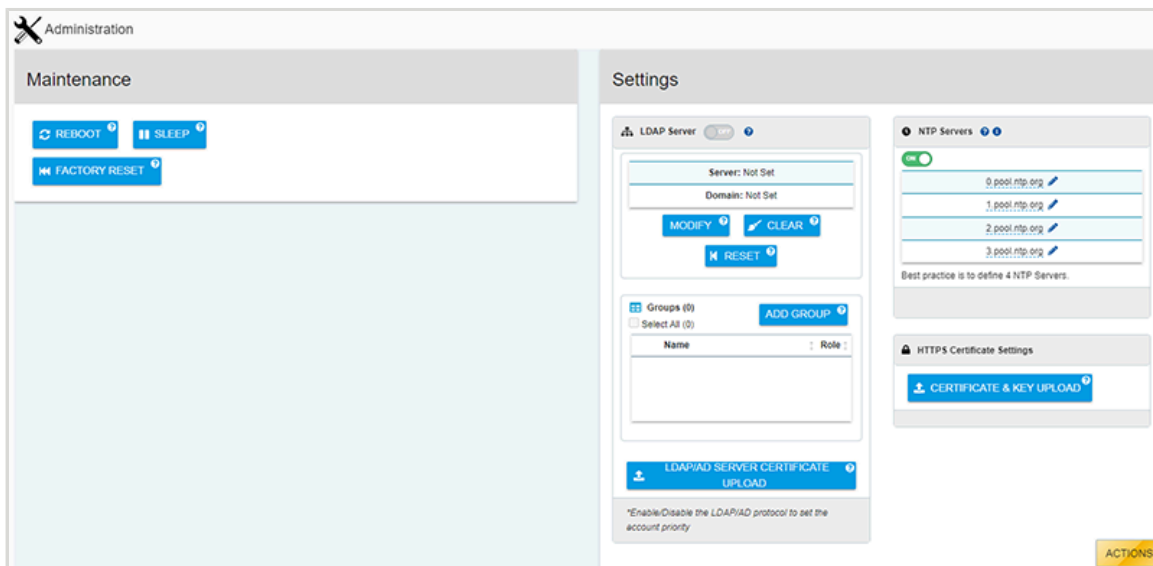
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 280: Administration Tab



The **Administration** page will appear:

Figure 281: Administration Page



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

Figure 282: LDAP/AD Server Certificate Upload Button



An **LDAP Server Certificate** window will appear, showing step 1 of 2:

Figure 283: LDAP / AD Window

The screenshot shows a window titled "LDAP Server Certificate" with a close button (X) in the top right corner. Inside the window, there are two steps: "1 Browse & Select Certificate" and "2 Upload LDAP Certificate". The first step is active. Below the steps, there is a "SELECT FILE" button and a "Certificate File" input field. A "NEXT" button is located at the bottom left, and a "CLOSE" link is at the bottom right.

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.

Figure 284: Selected Certificate File

The screenshot shows the same "LDAP Server Certificate" window. In the "Certificate File" field, the filename "cert.pem" is entered, and the file size "0.81 KB" is displayed to the right. Below the field, a message states "Certificate File Staged Successfully; Ready for Upload". The "NEXT" button is now highlighted in blue, and the "CLOSE" link remains at the bottom right.

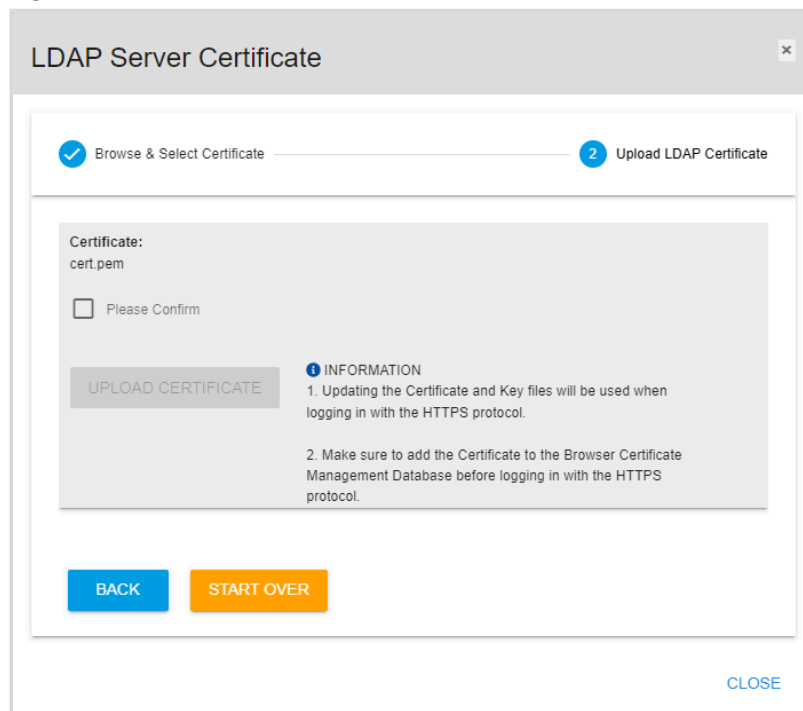
Step 4: Click the **Next** button.

Figure 285: Next Button



The **LDAP Server Certificate** window will proceed to step 2:

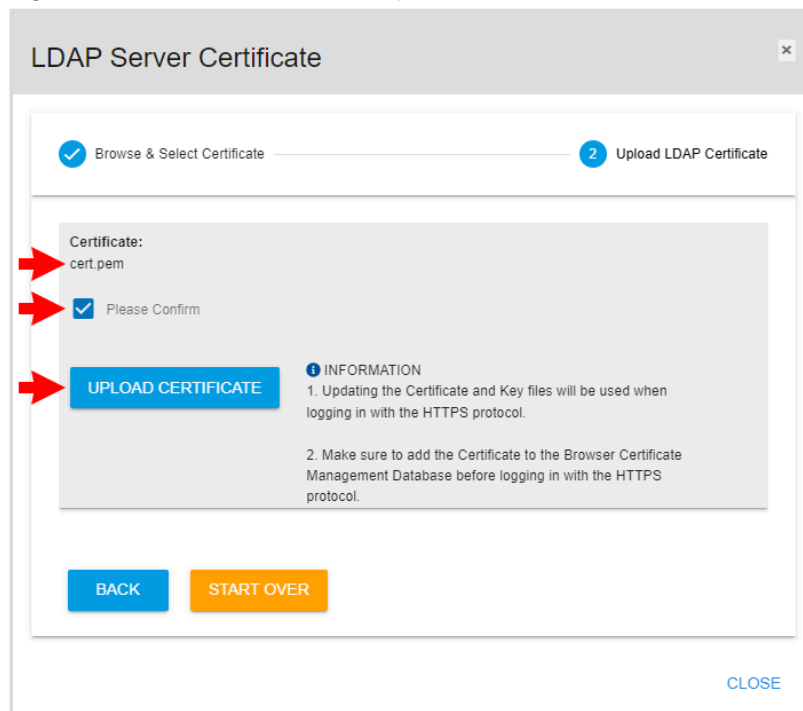
Figure 286: Confirm Certificate



The dialog box is titled "LDAP Server Certificate" and has a close button (X) in the top right corner. It features a progress bar with two steps: "Browse & Select Certificate" (completed, marked with a blue checkmark) and "Upload LDAP Certificate" (current step, marked with a blue question mark). The main content area displays "Certificate: cert.pem" and a "Please Confirm" checkbox. Below this is a grey button labeled "UPLOAD CERTIFICATE". To the right of the button is an "INFORMATION" section with two numbered points: "1. Updating the Certificate and Key files will be used when logging in with the HTTPS protocol." and "2. Make sure to add the Certificate to the Browser Certificate Management Database before logging in with the HTTPS protocol." At the bottom left are two buttons: "BACK" (blue) and "START OVER" (orange). A "CLOSE" link is located at the bottom right of the dialog box.

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.

Figure 287: Confirm Certificate Upload



The image shows a web-based dialog box titled "LDAP Server Certificate". At the top, there is a progress bar with two steps: "Browse & Select Certificate" (completed, marked with a blue checkmark) and "Upload LDAP Certificate" (current step, marked with a blue question mark). The main content area displays "Certificate: cert.pem" with a red arrow pointing to it. Below this is a checkbox labeled "Please Confirm" which is checked, also with a red arrow pointing to it. A blue button labeled "UPLOAD CERTIFICATE" is positioned below the checkbox, with a red arrow pointing to it. To the right of the button is an "INFORMATION" section with two numbered points: "1. Updating the Certificate and Key files will be used when logging in with the HTTPS protocol." and "2. Make sure to add the Certificate to the Browser Certificate Management Database before logging in with the HTTPS protocol." At the bottom of the dialog are two buttons: "BACK" (blue) and "START OVER" (orange). A "CLOSE" link is located at the bottom right of the dialog frame.

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

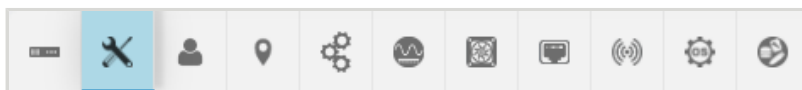
This procedure provides instructions for configuring network time protocol (NTP) settings on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

1. Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

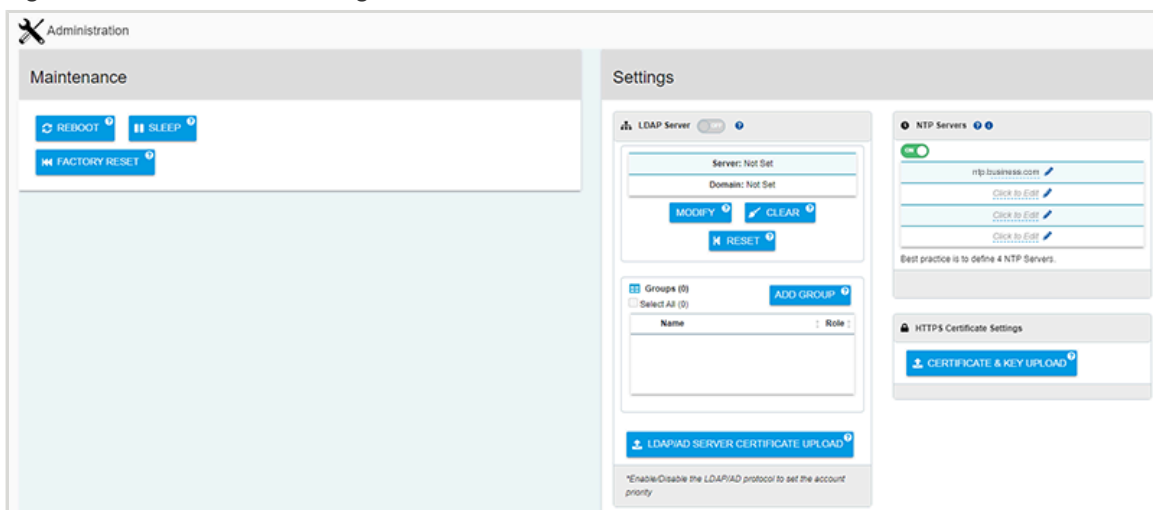
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 288: Administration Tab



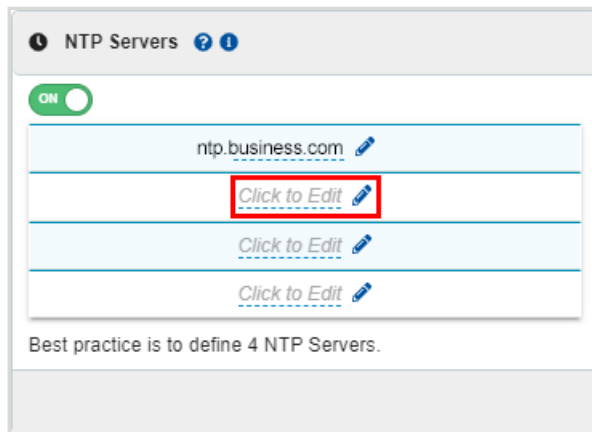
The **Administration** page will appear:

Figure 289: Administration Page



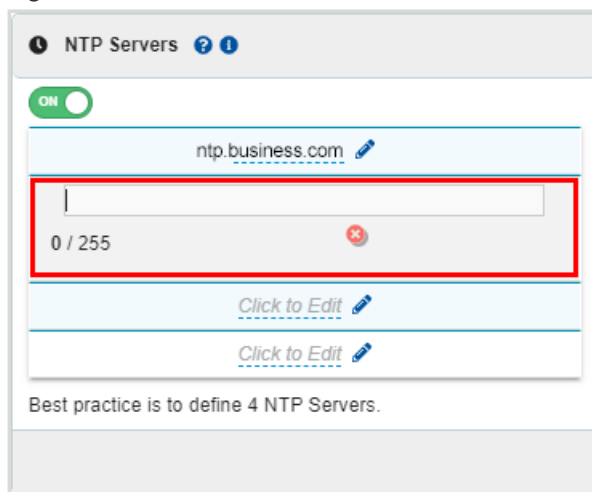
- Step 2:** In the **Settings** section, under **NTP Servers**, click the **Click to Edit** link or the **edit** icon for one of the available NTP server configurations.

Figure 290: Click to Edit



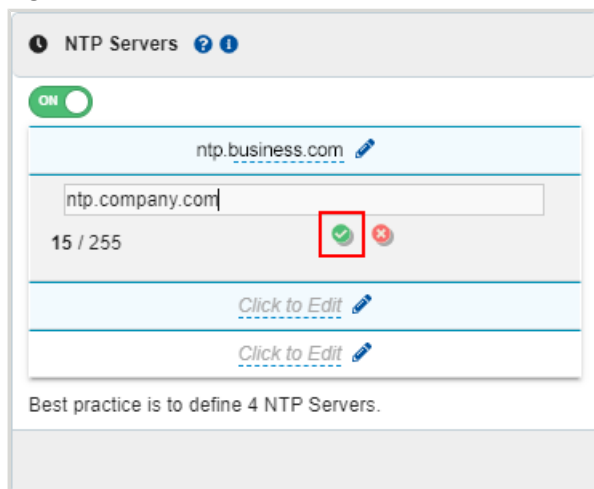
The section expands to provide a text field:

Figure 291: NTP Text Field



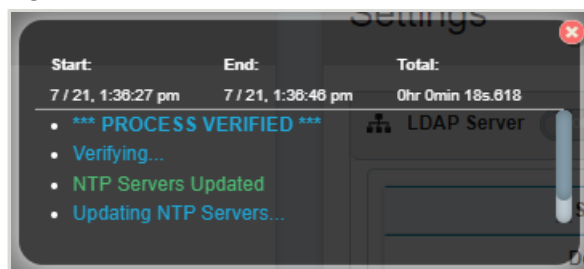
Step 3: Type the domain name of an NTP server into the text field, and then click the green checkmark.

Figure 292: NTP Domain



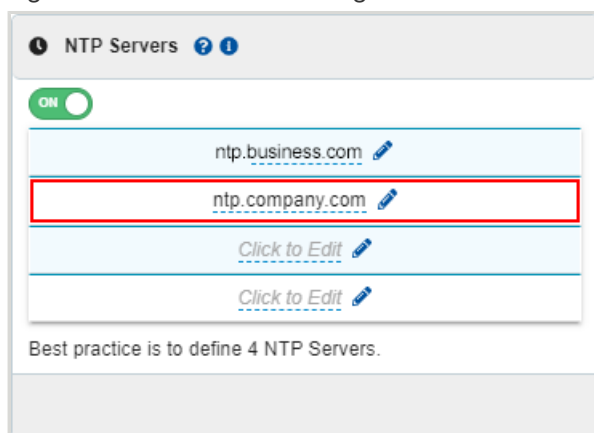
After the NTP server is verified, the enclosure's NTP configuration will be updated:

Figure 293: NTP Domain



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

Figure 294: NTP Server Configured



Result: The network time protocol (NTP) settings have now been configured on the enclosure.

5.3.7 Uploading an HTTPS Certificate & Key

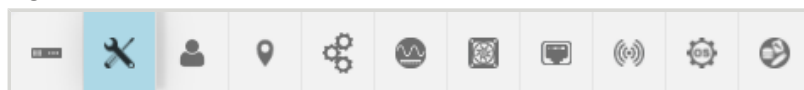
This procedure provides instructions for uploading an SSL/TLS certificate and key pair to an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

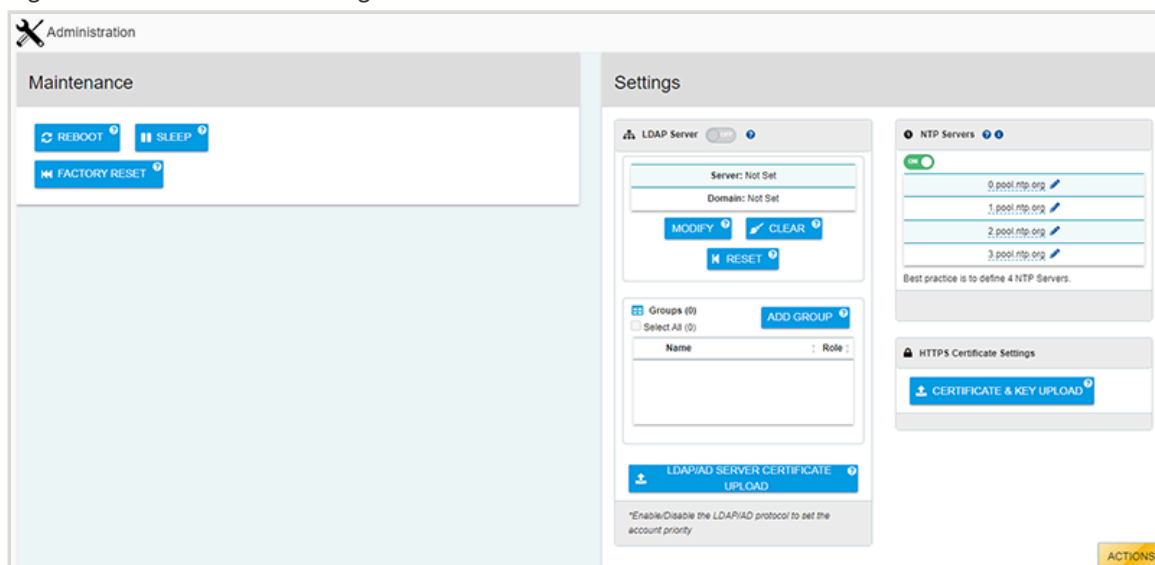
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 295: Administration Tab



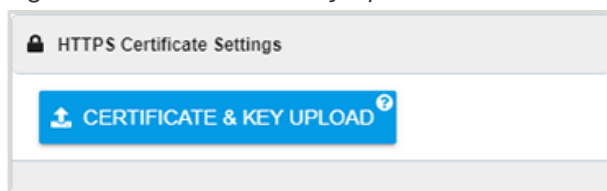
The **Administration** page will appear:

Figure 296: Administration Page



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

Figure 297: Certificate & Key Upload Button



A **TLS Certificate & Key Pair** window will appear, showing step 1 of the upload process:

Figure 298: TLS Certificate & Key Pair Window

The screenshot shows a window titled "TLS Certificate & Key Pair" with a close button (X) in the top right corner. Below the title bar, there are two steps: "1 Browse & Select Certificate & Key Pair" and "2 Upload TLS Certificate & Key Pair". The first step is active. The main area contains two "SELECT FILE" buttons, one for "Certificate File" and one for "Key File". Below these buttons is a "NEXT" button. A "CLOSE" link is located at the bottom right of the window.

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

Figure 299: Certificate & Key Files Selected

The screenshot shows the same "TLS Certificate & Key Pair" window, but now the "Certificate File" field displays "cert.pem" (0.81 KB) and the "Key File" field displays "key.pem" (0.23 KB). Below the file names, it states "Certificate File Staged Successfully; Ready for Upload" and "Key File Staged Successfully; Ready for Upload". The "NEXT" button is now highlighted in blue. The "CLOSE" link remains at the bottom right.

Step 4: Click the **Next** button.

Figure 300: Next Button



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

Figure 301: Confirm Certificate & Key Files

The screenshot shows a window titled "TLS Certificate & Key Pair" with a close button (X) in the top right corner. Inside the window, there is a progress bar with two steps: "1 Browse & Select Certificate & Key Pair" (marked with a blue checkmark) and "2 Upload TLS Certificate & Key Pair" (marked with a blue circle). Below the progress bar, there is a large light gray area containing the following text:

Certificate:
cert.pem

Key:
key.pem

☐ Please Confirm

Below this area is a gray button labeled "UPLOAD CERTIFICATE". At the bottom of the window, there are two buttons: a blue "BACK" button and an orange "START OVER" button. In the bottom right corner of the window, there is a blue "CLOSE" link.

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.

Figure 302: Upload Certificate & Key Files

TLS Certificate & Key Pair

1 Browse & Select Certificate & Key Pair — 2 Upload TLS Certificate & Key Pair

Certificate:
cert.pem

Key:
key.pem

☒ Please Confirm

UPLOAD CERTIFICATE

BACK **START OVER**

[CLOSE](#)

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

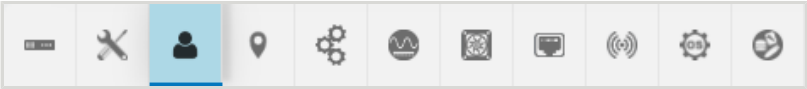
This procedure provides instructions for creating a user account on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

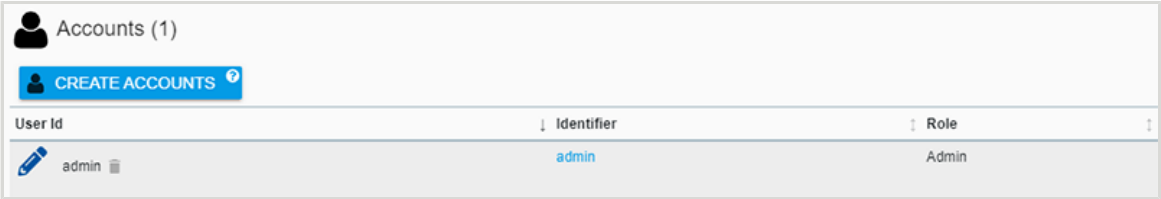
Step 1: From the enclosure dashboard, click the **Accounts** tab.

Figure 303: Accounts Tab



The **Accounts** page will appear:

Figure 304: Accounts Page



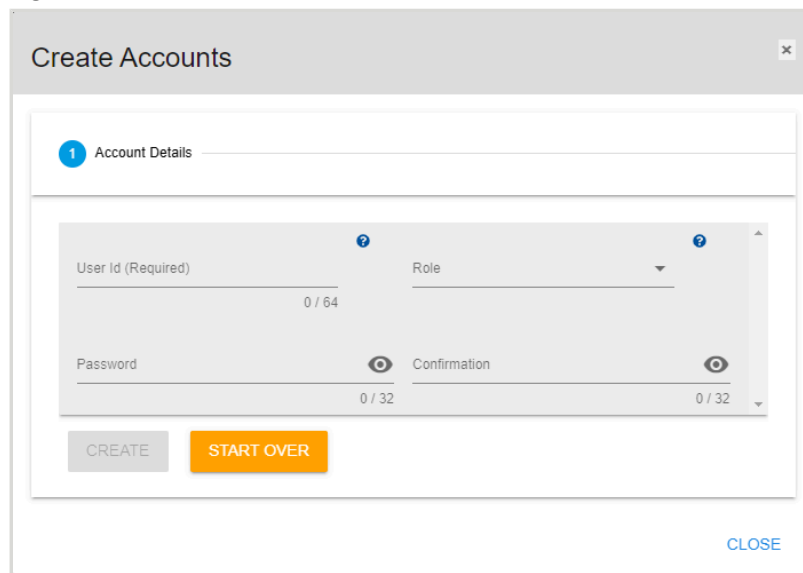
Step 2: Click the **Create Accounts** button.

Figure 305: Create Accounts Button



A **Create Accounts** window will appear:

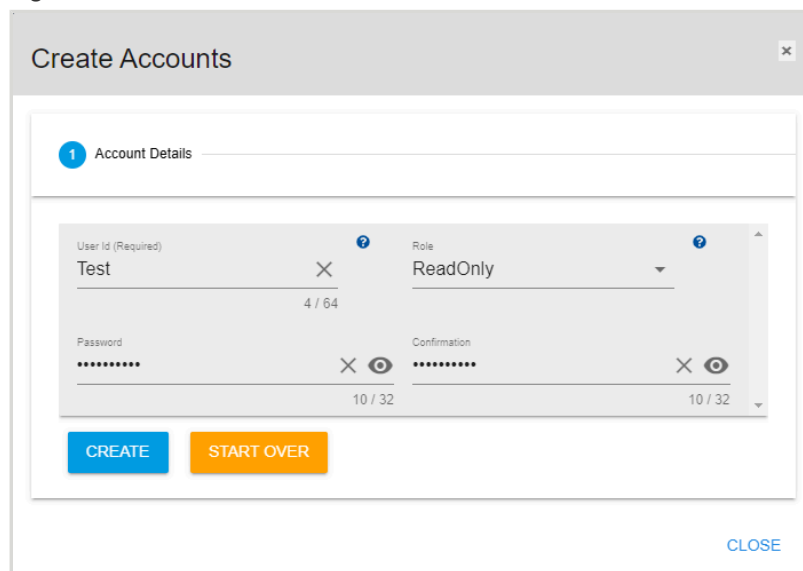
Figure 306: Create Accounts Window



The 'Create Accounts' window displays a form for creating a new account. The form is titled '1 Account Details' and contains four input fields: 'User Id (Required)' with a character count of '0 / 64', 'Role' with a dropdown arrow, 'Password' with a character count of '0 / 32' and an eye icon, and 'Confirmation' with a character count of '0 / 32' and an eye icon. Below the fields are two buttons: 'CREATE' (disabled) and 'START OVER' (active). A 'CLOSE' link is located at the bottom right of the window.

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

Figure 307: Account Details



The 'Create Accounts' window shows the 'Account Details' form with the following values entered: 'User Id (Required)' is 'Test' (4 / 64 characters), 'Role' is 'ReadOnly', 'Password' is masked with dots (10 / 32 characters), and 'Confirmation' is also masked with dots (10 / 32 characters). The 'CREATE' button is now active (blue), and the 'START OVER' button remains active (orange). The 'CLOSE' link is still present at the bottom right.

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

Figure 308: Updated Accounts Page

Accounts (2)



User Id	Identifier	Role
 admin 	admin	Admin
 Test 	Test	ReadOnly

Result: The user account has now been created on the OpenFlex enclosure.

5.4.2 Editing a User Account

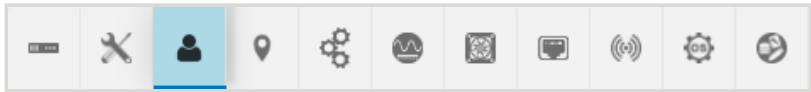
This procedure provides instructions for editing a user account on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 309: Accounts Tab



The **Accounts** page will appear:

Figure 310: Accounts Page

Accounts (2) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
Test	Test	ReadOnly

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

Figure 311: Edit Icon

Accounts (2) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
Test	Test	ReadOnly

An **Update Account** window will appear:

Figure 312: Update Account Window

Update Account

1 Account Details

Test

Role
ReadOnly

Password 0 / 32 Confirmation 0 / 32

UPDATE START OVER

SUCCESS! CREATE ANOTHER OR CLOSE?

Step 3: Use the available fields to edit the account **Role** or **Password**. Then click the **Update** button.

Figure 313: Update Account Details

Update Account

1 Account Details

Test

Role
ReadOnly

Password 10 / 32 Confirmation 10 / 32

UPDATE START OVER

SUCCESS! CREATE ANOTHER OR CLOSE?

Result: The user account has now been edited on the OpenFlex enclosure.

5.4.3 Deleting a User Account

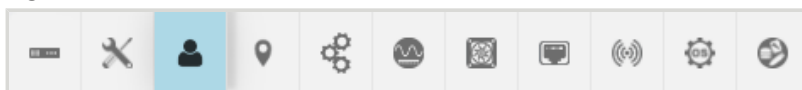
This procedure provides instructions for deleting a user account from an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 314: Accounts Tab



The **Accounts** page will appear:

Figure 315: Accounts Page

User Id	Identifier	Role
admin	admin	Admin
Test	Test	ReadOnly

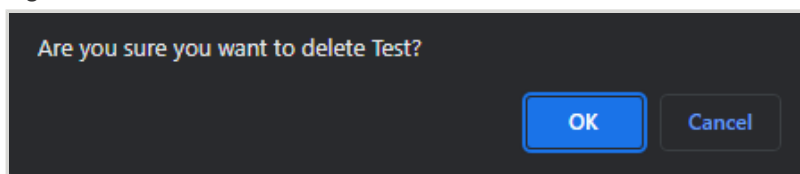
Step 2: Click the **Delete** icon for the account to be deleted.

Figure 316: Delete Icon

User Id	Identifier	Role
admin	admin	Admin
Test	Test	ReadOnly

The user will be prompted to confirm the account deletion:

Figure 317: Confirm Account Deletion



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

After the deletion is processed, the **Accounts** page will display the remaining accounts:

Figure 318: Remaining Accounts

Accounts (1)

CREATE ACCOUNTS ?

User Id	Identifier	Role
 admin 	admin	Admin

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

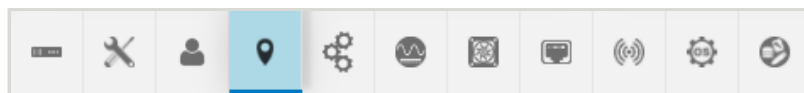
This procedure provides instructions for setting the location attributes of an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 319: Location Tab



The **Location** page will appear:

Figure 320: Location Page

 Location

CLEAR ALL

1

Attribute	Value
Address1	Click to Edit
Address2	Click to Edit
Address3	Click to Edit
Building	Click to Edit
City	Click to Edit
Country	Click to Edit
Device	Click to Edit
GPSCoords	Click to Edit
Item	Click to Edit
OtherLocationInfo	Click to Edit
Pod	Click to Edit
PostalCode	Click to Edit
Rack	Click to Edit
Room	Click to Edit
Row	Click to Edit
Shelf	Click to Edit
SiteName	Click to Edit
State	Click to Edit
Territory	Click to Edit

Step 2: To edit a location attribute, click the attribute's edit icon.

Figure 321: Edit Icon

 Location

CLEAR ALL

1

Attribute	Value
Address1	Click to Edit
Address2	Click to Edit
Address3	Click to Edit

A text field will be enabled, allowing up to 256 characters for the attribute.

Figure 322: Text Field

The screenshot shows a web interface for setting location attributes. At the top, there is a header 'Location' with a location pin icon. Below it is a blue 'CLEAR ALL' button with a question mark icon. A table below lists three attributes: Address1, Address2, and Address3. Address1 has a text input field with a character count '0 / 256' and a red error icon. Address2 and Address3 have 'Click to Edit' links with edit icons.

Attribute	Value
Address1	0 / 256
Address2	Click to Edit
Address3	Click to Edit

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

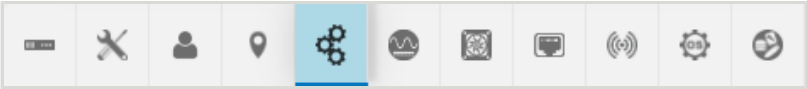
This procedure provides instructions for rebooting the I/O modules of an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 323: Controllers Tab



The **Controllers** page will appear:

Figure 324: Controllers Page

Controllers (2)									
Device Actions	Name	Identifier	Part Number	Serial Number	Host Name	DNS Server Addresses	DNS Search Domains	Health	Details
Browse to this Controller Viewpoint	IO MODULE A	1	1EA2302-001-01	USCOS02622QG0012	openflex-data24-3200-uscos02622qa000d-ioma				None
Browse Current Viewpoint	IO MODULE B	2	1EA2302-001-01	USCOS02622QG0011	openflex-data24-3200-uscos02622qa000d-iomb				None

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 325: 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

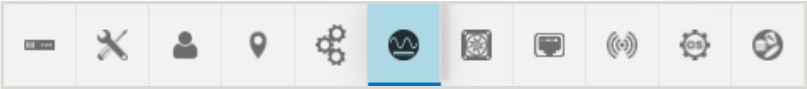
This procedure provides instructions for checking the health of power supplies for an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 326: Power Supplies Tab



The **Power Supplies** page will appear:

Figure 327: Power Supplies Page

Power Supplies (2)					
Name	Identifier	Part Number	Serial Number	Health	Details
POWER SUPPLY A	1	DPS-2000AB-2 D	JEUD2016000118	OK	None
POWER SUPPLY B	2	DPS-2000AB-2 D	JEUD2016000079	OK	None

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

Figure 328: PSU Health Indicators

Power Supplies (2)					
Name	Identifier	Part Number	Serial Number	Health	Details
POWER SUPPLY A	1	DPS-2000AB-2 D	JEUD2016000118	OK	None
POWER SUPPLY B	2	DPS-2000AB-2 D	JEUD2016000079	OK	None

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

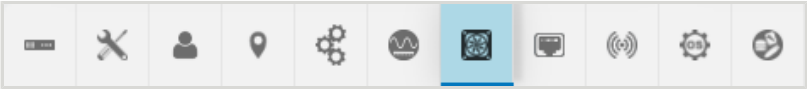
This procedure provides instructions for checking the health of fans for an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 329: Fans Tab



The **Fans** page will appear:

Figure 330: Fans Page

Cooling Devices (5)			
Name	Identifier	Health	Details
COOLING FRU A	1	OK	None
COOLING FRU B	2	OK	None
COOLING FRU C	3	OK	None
COOLING FRU D	4	OK	None
COOLING FRU E	5	OK	None

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

Figure 331: Fan Health Indicators

Cooling Devices (5)			
Name	Identifier	Health	Details
COOLING FRU A	1	OK	None
COOLING FRU B	2	OK	None
COOLING FRU C	3	OK	None
COOLING FRU D	4	OK	None
COOLING FRU E	5	OK	None

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

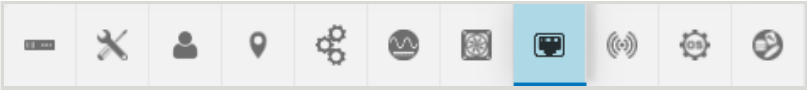
This procedure provides instructions for checking the health, connection status, link status, and link speed of ports on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 332: Ports Tab



The **Ports** page will appear:

Figure 333: Ports Page

Ports (2)									
Controllers: 2									
Adapter	Identifier	Health / Cable / Link / Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
IO MODULE A	00_0c_ca_11_00_5f_inet	OK / Connected / Up / 1 Gbps	None	1500	IPv4 Network	192.168.238.18/22	192.168.236.1	00:0c:ca:11:00:5f	DHCPv4
IO MODULE B	00_0c_ca_11_00_63_inet	OK / Connected / Up / 1 Gbps	None	1500	IPv4 Network	192.168.235.14/22	192.168.236.1	00:0c:ca:11:00:63	DHCPv4
Adapters: 0 [All Adapters Offline - Device in Low-Power Mode]									
Adapter	Identifier	Health / Cable / Link / Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin

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

Figure 334: Fan Health Indicators

Ports (2)									
Controllers: 2									
Adapter	Identifier	Health / Cable / Link / Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
IO MODULE A	00_0c_ca_11_00_5f_inet	OK / Connected / Up / 1 Gbps	None	1500	IPv4 Network	192.168.238.18/22	192.168.236.1	00:0c:ca:11:00:5f	DHCPv4
IO MODULE B	00_0c_ca_11_00_63_inet	OK / Connected / Up / 1 Gbps	None	1500	IPv4 Network	192.168.235.14/22	192.168.236.1	00:0c:ca:11:00:63	DHCPv4
Adapters: 0 [All Adapters Offline - Device in Low-Power Mode]									
Adapter	Identifier	Health / Cable / Link / Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin

Result: The status of the OpenFlex ports has now been checked.

5.9.2 Configuring Port Settings

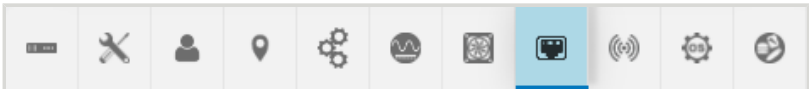
This procedure provides instructions for configuring port settings for an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

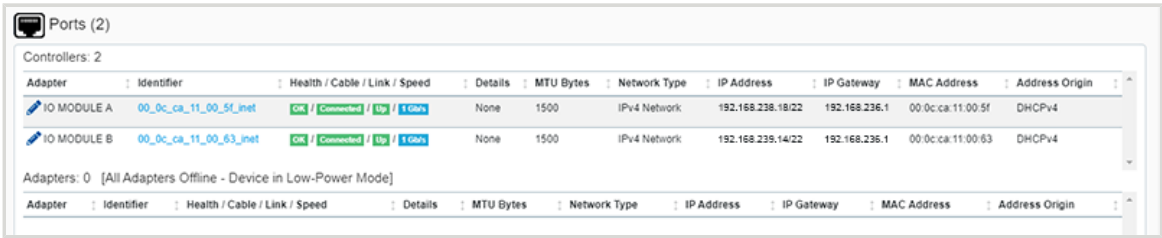
Step 1: From the enclosure dashboard, click the **Ports** tab.

Figure 335: Ports Tab



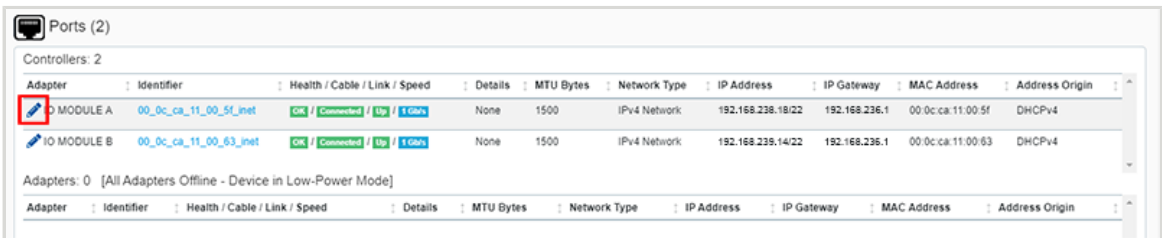
The **Ports** page will appear:

Figure 336: Ports Page



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

Figure 337: Edit Port Icon



An **Update Port** window will appear:

Figure 338: Update Port Window

The screenshot shows a window titled "Update Port: IO MODULE A" with a close button (X) in the top right corner. Below the title bar, there are two steps: "1 Address Type, IP, Gateway" and "2 Confirmation". The "1 Address Type, IP, Gateway" step is active. It contains a dropdown menu with "DHCPv4" selected. To the right of the dropdown, there are fields for "IPv4 Address / CIDR" (192.168.238.18/22), "Netmask: 255.255.252.0", and "IPv4 Gateway (optional)" (192.168.236.1). Below these fields, there is a "NEXT" button. At the bottom right of the window, there is a "CANCEL" button.

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.

Figure 339: Static Option

The screenshot shows a window titled "Update Port: IO MODULE A" with a close button (X) in the top right corner. Below the title bar, there are two steps: "1 Address Type, IP, Gateway" and "2 Confirmation". The "1 Address Type, IP, Gateway" step is active. It contains a dropdown menu with "STATIC" selected. To the right of the dropdown, there are fields for "IPv4 Address / CIDR" (192.168.238.18/22), "Netmask: 255.255.252.0", and "IPv4 Gateway (optional)" (192.168.236.1). Below these fields, there is a "NEXT" button. At the bottom right of the window, there is a "CANCEL" button.

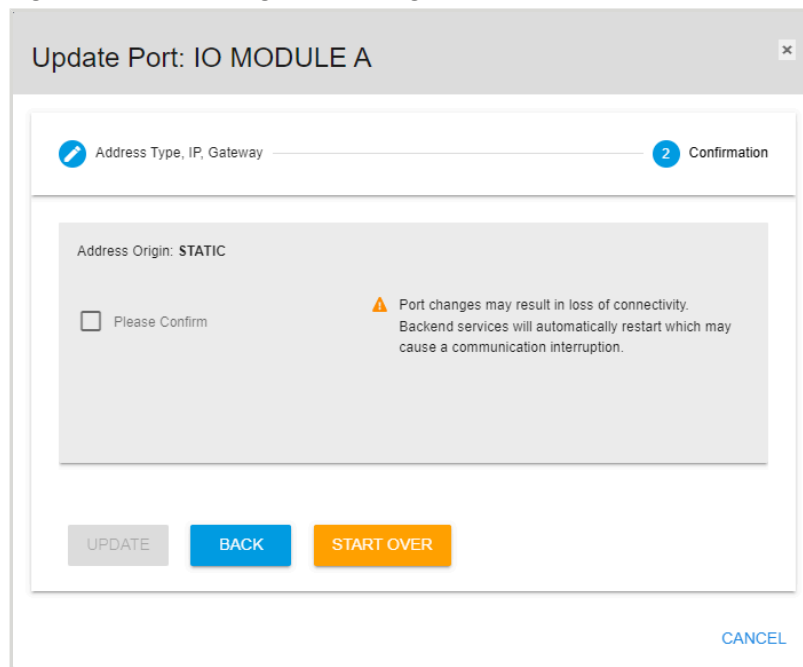
Step 4: Click the **Next** button.

Figure 340: Next Button



The **Update Port** window proceeds to the confirmation step:

Figure 341: Confirming Port Settings



The screenshot shows a window titled "Update Port: IO MODULE A". At the top, there is a progress bar with two steps: "1 Address Type, IP, Gateway" (completed) and "2 Confirmation" (active). Below the progress bar, the "Address Origin" is set to "STATIC". A checkbox labeled "Please Confirm" is present and unchecked. To the right of the checkbox is a warning icon (yellow triangle with an exclamation mark) and a message: "Port changes may result in loss of connectivity. Backend services will automatically restart which may cause a communication interruption." At the bottom of the window, there are three buttons: "UPDATE" (disabled, grey), "BACK" (blue), and "START OVER" (orange). A "CANCEL" link is located at the bottom right of the window.

Step 5: To complete the changes to the port settings, click the **Please Confirm** checkbox and then click the **Update** button.

Figure 342: Complete Port Setting Changes

The screenshot shows a dialog box titled "Update Port: IO MODULE A". At the top, there is a progress bar with two steps: "1 Address Type, IP, Gateway" and "2 Confirmation". The "2 Confirmation" step is currently active. Below the progress bar, the text "Address Origin: STATIC" is displayed. A checkbox labeled "Please Confirm" is checked and highlighted with a red rectangle. To the right of the checkbox, a warning icon (yellow triangle) is followed by the text: "Port changes may result in loss of connectivity. Backend services will automatically restart which may cause a communication interruption." At the bottom of the dialog, there are three buttons: "UPDATE" (highlighted with a red rectangle), "BACK", and "START OVER". A "CANCEL" link is located at the bottom right of the dialog box.

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

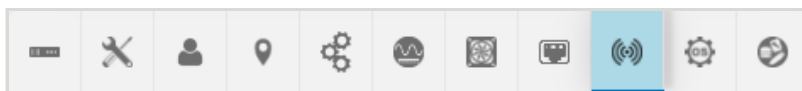
This procedure provides instructions for checking the health of sensors in an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 343: Sensors Tab



The **Sensors** page will appear:

Figure 344: Sensors Page

Sensors (62)					
Name	Identifier	Type	Current Reading	Health	Details
TEMP DRIVE 01	TEMP_DRIVE_01_2_1	Temperature	32 Degrees C	OK	None
TEMP DRIVE 02	TEMP_DRIVE_02_2_2	Temperature	32 Degrees C	OK	None
TEMP DRIVE 03	TEMP_DRIVE_03_2_3	Temperature	29 Degrees C	OK	None
TEMP DRIVE 04	TEMP_DRIVE_04_2_4	Temperature	29 Degrees C	OK	None
TEMP DRIVE 05	TEMP_DRIVE_05_2_5	Temperature	32 Degrees C	OK	None
TEMP DRIVE 06	TEMP_DRIVE_06_2_6	Temperature	31 Degrees C	OK	None
TEMP DRIVE 07	TEMP_DRIVE_07_2_7	Temperature	30 Degrees C	OK	None
TEMP DRIVE 08	TEMP_DRIVE_08_2_8	Temperature	31 Degrees C	OK	None
TEMP DRIVE 09	TEMP_DRIVE_09_2_9	Temperature	30 Degrees C	OK	None
TEMP DRIVE 10	TEMP_DRIVE_10_2_10	Temperature	30 Degrees C	OK	None
TEMP DRIVE 11	TEMP_DRIVE_11_2_11	Temperature	29 Degrees C	OK	None
TEMP DRIVE 12	TEMP_DRIVE_12_2_12	Temperature	29 Degrees C	OK	None
TEMP DRIVE 13	TEMP_DRIVE_13_2_13	Temperature	29 Degrees C	OK	None
TEMP DRIVE 14	TEMP_DRIVE_14_2_14	Temperature	31 Degrees C	OK	None
TEMP DRIVE 15	TEMP_DRIVE_15_2_15	Temperature	31 Degrees C	OK	None
TEMP DRIVE 16	TEMP_DRIVE_16_2_16	Temperature	31 Degrees C	OK	None
TEMP DRIVE 17	TEMP_DRIVE_17_2_17	Temperature	29 Degrees C	OK	None
TEMP DRIVE 18	TEMP_DRIVE_18_2_18	Temperature	31 Degrees C	OK	None
TEMP DRIVE 19	TEMP_DRIVE_19_2_19	Temperature	32 Degrees C	OK	None
TEMP DRIVE 20	TEMP_DRIVE_20_2_20	Temperature	32 Degrees C	OK	None
TEMP DRIVE 21	TEMP_DRIVE_21_2_21	Temperature	32 Degrees C	OK	None
TEMP DRIVE 22	TEMP_DRIVE_22_2_22	Temperature	31 Degrees C	OK	None

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

Figure 345: Sensor Health Indicators

 Sensors (62)

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

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 346: Sensor Thresholds

 Sensors (62)

Name	Identifier	Type	Current Reading	Health	Details
TEMP DRIVE 01	TEMP_DRIVE_01_2_1	Temperature	  32 Degrees C		None
TEMP DRIVE 02	TEMP_DRIVE_02_2_2	Temperature	  Degrees C		None
TEMP DRIVE 03	TEMP_DRIVE_03_2_3	Temperature	  Degrees C		None
TEMP DRIVE 04	TEMP_DRIVE_04_2_4	Temperature	  Degrees C		None
TEMP DRIVE 05	TEMP_DRIVE_05_2_5	Temperature	  Degrees C		None

Sensor: TEMP_DRIVE_01_2_1
 HighThresholdFatal: 70 Degrees C
 HighThresholdCritical: 65 Degrees C
 LowThresholdCritical: 0 Degrees C
 LowThresholdFatal: 0 Degrees C

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

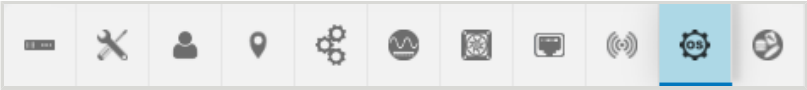
This procedure provides instructions for updating the firmware on an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 347: Device OS Tab



The **Device OS** page will appear:

Figure 348: Device OS Page



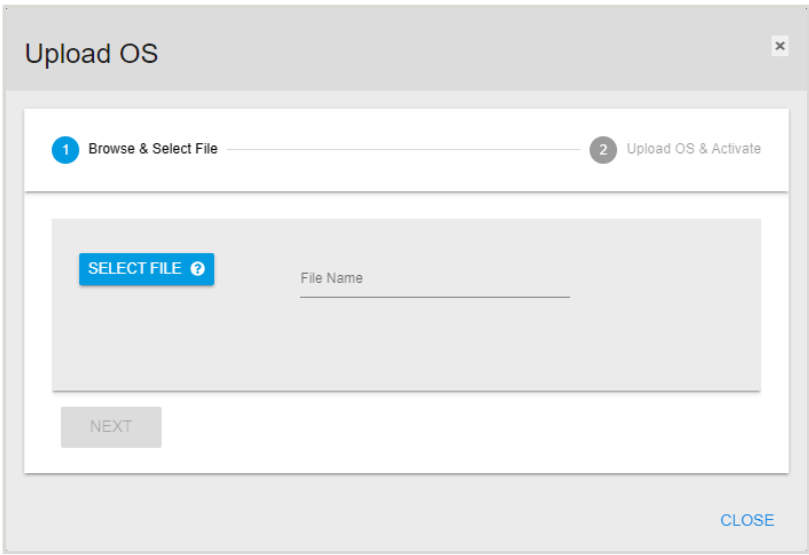
Step 2: Click the **Update OS** button.

Figure 349: Update OS Button



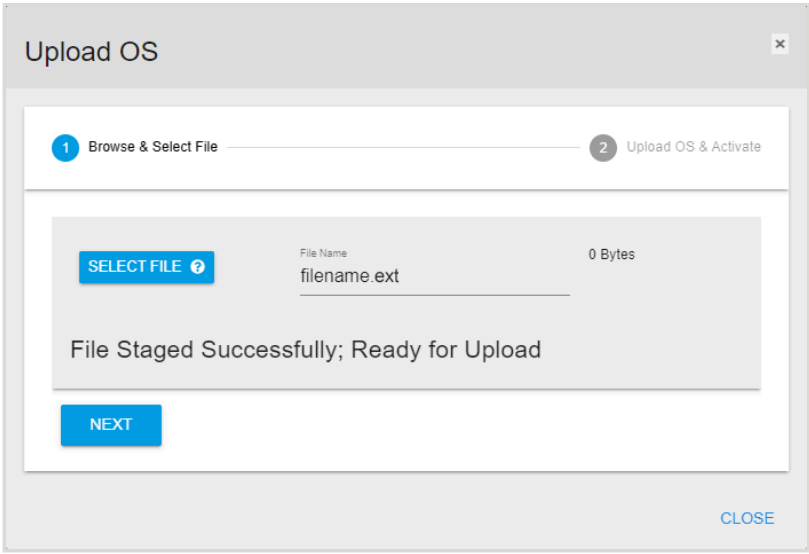
An **Update OS** window will appear:

Figure 350: Update OS Window



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

Figure 351: Selected FW File



Step 4: Click the **Next** button.

Figure 352: Next Button



The **Update OS** window will proceed to the confirmation step:

Figure 353: Confirm OS Update

The screenshot shows a dialog box titled "Upload OS" with a close button (X) in the top right corner. Inside the dialog, there is a progress bar with two steps: "Browse & Select File" (marked with a blue checkmark) and "Upload OS & Activate" (marked with a blue "2"). Below the progress bar, there is a section with a file name "File: filename.ext" and a "Status" label with a question mark icon. Underneath, there is a checkbox labeled "Please Confirm" which is currently unchecked. Below that is a button labeled "UPLOAD" with an upward arrow icon. At the bottom of this section is another checkbox labeled "Auto Activate" with a question mark icon, which is also unchecked. At the very bottom of the dialog, there are two buttons: "BACK" (blue) and "START OVER" (orange). A "CLOSE" link is located at the bottom right of the dialog.

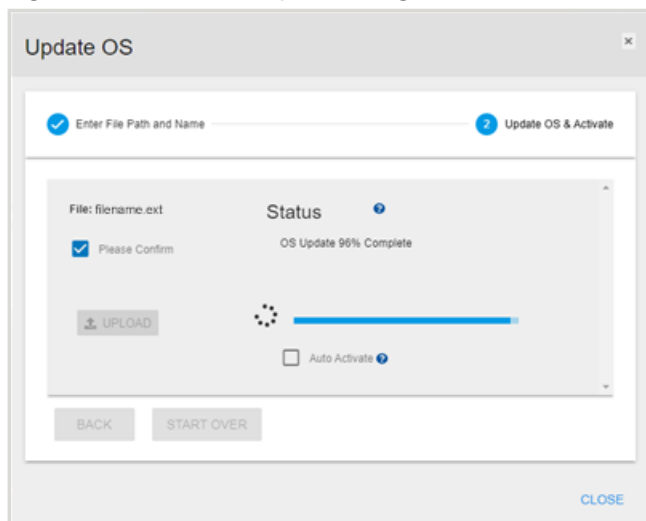
Step 5: Review the listed filename. If correct, click the **Please Confirm** checkbox to confirm the file. To auto-activate the firmware after uploading, click the **Auto Activate** checkbox. When all selections have been made, click the **Upload** button to upload the firmware to the enclosure.

Figure 354: Confirm OS Update

This screenshot is identical to Figure 353, but with red arrows highlighting the actions to be taken. A red arrow points to the file name "File: filename.ext". Another red arrow points to the "Please Confirm" checkbox, which is now checked. A third red arrow points to the "UPLOAD" button. A fourth red arrow points to the "Auto Activate" checkbox, which remains unchecked. The "BACK" and "START OVER" buttons are still visible at the bottom, along with the "CLOSE" link.

After the file is uploaded, a window will appear to show the firmware update progress:

Figure 355: Firmware Update Progress

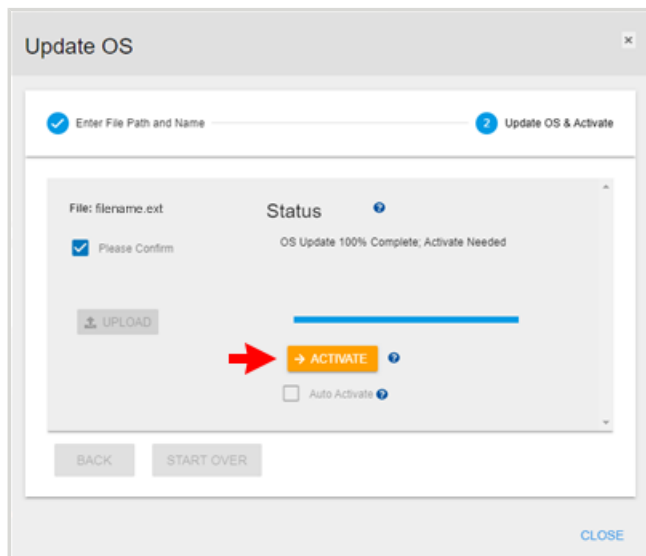


Step 6: If you did **not** select the **Auto Activate** checkbox in step 5 (page 182), an **Activate** button will appear after the enclosure firmware has been updated. Click the **Activate** button to activate the firmware.

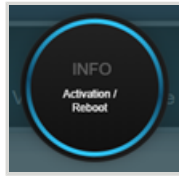


Caution: Activating the firmware will cause the enclosure to reboot.

Figure 356: Activate Firmware



The enclosure will reboot to activate the firmware:

Figure 357: Activation / Reboot

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

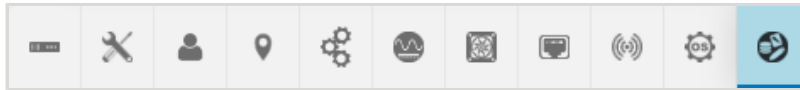
This procedure provides instructions for checking the health status of drives in an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 358: Media Tab



The **Media** page will appear:

Figure 359: Media Page

Media (24)										
Total Capacity: 92.18 TB										
Name	Identifier	Manufacturer	Model	Capacity	Protocol	Version	Serial Number	Durable Name	Power State	Health
DEVICE 1	1	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0C0E	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.1	On	OK
DEVICE 2	2	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0C0C	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.2	On	OK
DEVICE 3	3	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E11	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.3	On	OK
DEVICE 4	4	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0C4C	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.4	On	OK
DEVICE 5	5	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0C55	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.5	On	OK
DEVICE 6	6	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E16	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.6	On	OK
DEVICE 7	7	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E15	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.7	On	OK
DEVICE 8	8	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0C07	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.8	On	OK
DEVICE 9	9	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0C53	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.9	On	OK
DEVICE 10	10	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0A0F	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.10	On	OK
DEVICE 11	11	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0EA7	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.11	On	OK
DEVICE 12	12	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0A49	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.12	On	OK
DEVICE 13	13	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0FA4	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.13	On	OK
DEVICE 14	14	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0F78	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.14	On	OK
DEVICE 15	15	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E11	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.15	On	OK
DEVICE 16	16	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E13	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.16	On	OK
DEVICE 17	17	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0FF	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.17	On	OK
DEVICE 18	18	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E1E	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.18	On	OK
DEVICE 19	19	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E7E	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.19	On	OK
DEVICE 20	20	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E1D	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.20	On	OK
DEVICE 21	21	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0F45	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.21	On	OK
DEVICE 22	22	WesternDigital	WU54BA1300SP3X1	3.84 TB	NVMe	R2210B01	A062D0E9C	ngn.1992-05.com.wdc.openflex-data24-3200-vcvcs02622qa0004.name.22	On	OK

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

Figure 360: Drive Health Indicators

Media (24)

Total Capacity: 92.18 TB

Name	Identifier	Manufacturer	Model	Capacity	Protocol	Version	Serial Number	Durable Name	Power State	Health	Details
DEVICE 1	1	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0CE	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.1			None
DEVICE 2	2	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0AC	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.2			None
DEVICE 3	3	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0E1	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.3			None
DEVICE 4	4	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0AC	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.4			None
DEVICE 5	5	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0C5	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.5			None
DEVICE 6	6	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0E6	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.6			None
DEVICE 7	7	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0E5	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.7			None
DEVICE 8	8	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0C7	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.8			None
DEVICE 9	9	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0C5	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.9			None
DEVICE 10	10	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0AF	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.10			None
DEVICE 11	11	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0A7	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.11			None
DEVICE 12	12	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0A9	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.12			None
DEVICE 13	13	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0FA	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.13			None
DEVICE 14	14	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0F8	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.14			None
DEVICE 15	15	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0E1	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.15			None
DEVICE 16	16	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0B3	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.16			None
DEVICE 17	17	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0F9	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.17			None
DEVICE 18	18	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0E1	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.18			None
DEVICE 19	19	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0E7	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.19			None
DEVICE 20	20	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0E0	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.20			None
DEVICE 21	21	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0F5	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.21			None
DEVICE 22	22	WesternDigital	WU54BA130D9P3X1	3.84 TB	NVMe	R2210801	A062D0C6	ngn.1992-05.com.wdc.openflex-data24-3200-ucvcs02622qa0004.numa.22			None

Result: The health status the OpenFlex enclosure's drives has now been checked.

5.12.2 Powering Off a Drive

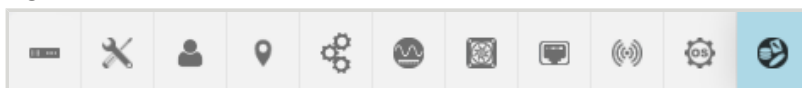
This procedure provides instructions for powering off a drive in an OpenFlex enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 361: Media Tab



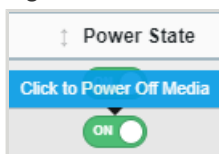
The **Media** page will appear:

Figure 362: Media Page

Media (24)										
Total Capacity: 92.18 TB										
Name	Identifier	Manufacturer	Model	Capacity	Protocol	Version	Serial Number	Drive Name	Power State	Health
DEVICE 1	1	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0CE	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.1	On	OK
DEVICE 2	2	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D04C	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.2	On	OK
DEVICE 3	3	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0E1	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.3	On	OK
DEVICE 4	4	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0AC	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.4	On	OK
DEVICE 5	5	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0C5	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.5	On	OK
DEVICE 6	6	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0E6	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.6	On	OK
DEVICE 7	7	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0E15	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.7	On	OK
DEVICE 8	8	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0C7	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.8	On	OK
DEVICE 9	9	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0C53	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.9	On	OK
DEVICE 10	10	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0AF	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.10	On	OK
DEVICE 11	11	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0A7	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.11	On	OK
DEVICE 12	12	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D049	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.12	On	OK
DEVICE 13	13	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0F44	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.13	On	OK
DEVICE 14	14	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0F78	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.14	On	OK
DEVICE 15	15	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062E261	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.15	On	OK
DEVICE 16	16	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062E283	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.16	On	OK
DEVICE 17	17	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062E1FF	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.17	On	OK
DEVICE 18	18	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062E21E	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.18	On	OK
DEVICE 19	19	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062E27E	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.19	On	OK
DEVICE 20	20	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062E1E0	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.20	On	OK
DEVICE 21	21	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062D0F45	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.21	On	OK
DEVICE 22	22	WesternDigital	WU54BA130SP3X1	3.84 TB	NVMe	R2210801	A062E29C	ngn.1992-05.com.wdc.openflex-data24-3200-vcce030222u0004.nmme.22	On	OK

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

Figure 363: Drive Power State Toggle Switch



Result: The OpenFlex enclosure's drive has now been powered off.



Ultrastar Enclosure Management – Central Service

This section provides information and instructions for managing an Ultrastar storage enclosure through an out-of-band connection to a remote, central management server running Resource Manager Data Center Edition.

In This Chapter:

- Overview of Ultrastar Out-of-Band Dashboard.....	189
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- Administration.....	198
- Accounts.....	199
- Location.....	207
- Controllers.....	209
- Power Supplies.....	211
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- Expanders.....	219
- Sensors.....	220
- Connectors.....	222
- Device OS.....	223
- Zone Sets.....	228
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6.1 Overview of Ultrastar Out-of-Band Dashboard

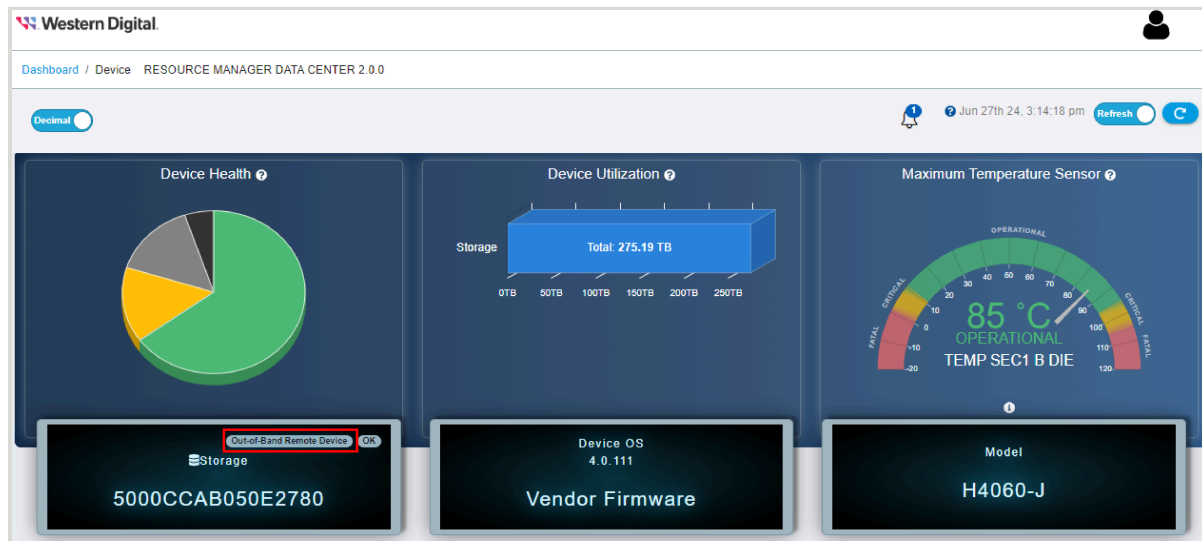
Management Connection Method

The dashboard of an Ultrastar storage enclosure will present several differences, depending on whether it is accessed from a "local" server or a "remote" server:

- **Local Server:** directly attached to the enclosure, and able to manage the enclosure in-band over the data path using the Resource Manager Data Center Edition Compute Service
- **Remote Server:** remotely attached to the enclosure over a network, and able to manage the enclosure out-of-band over the management path using the Resource Manager Data Center Edition Central Service

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:

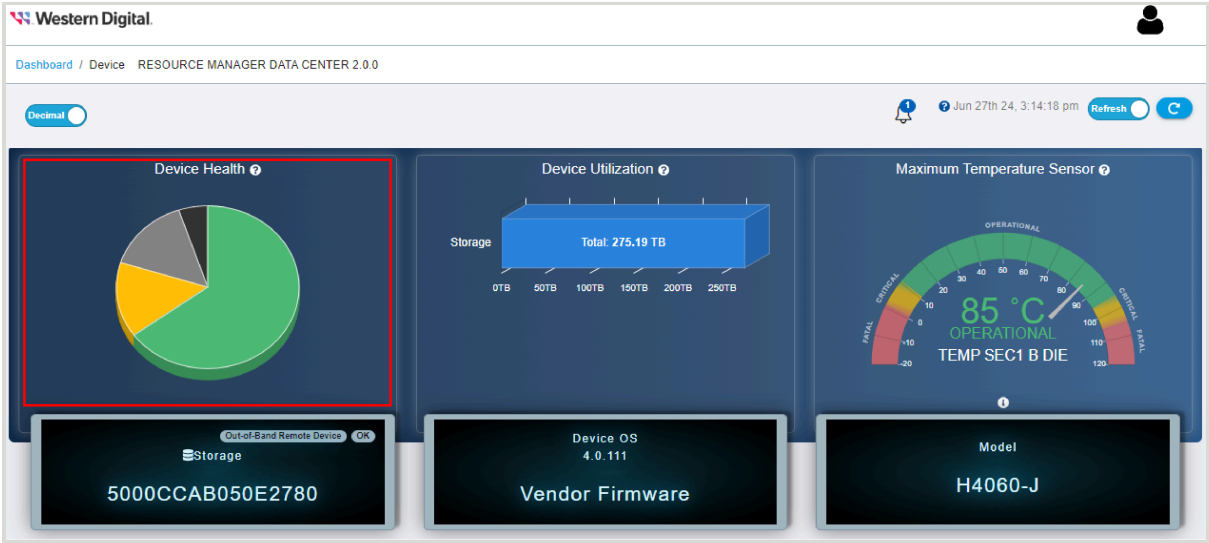
Figure 364: Out-of-Band Remote Device Designation



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 365: 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 366: Components & Sensors Health Status

The screenshot shows a window titled "OK (186)" with a search bar and a table of components and sensors. The table has two columns: "Name" and "Type".

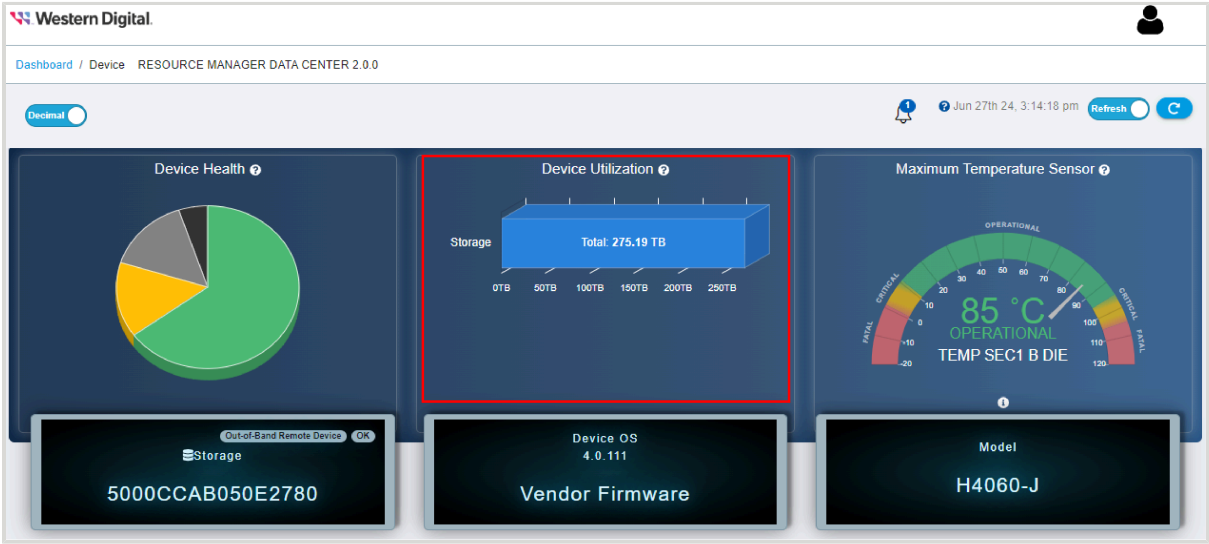
Name	Type
CONN HOST 02	Connector
CONN HOST 04	Connector
CONN HOST 08	Connector
CONN HOST 10	Connector
IOModuleAFRU	Controller
IOModuleBFRU	Controller
EVD IOMA 0	Expander

At the bottom right of the window is a "Close" button.

Device Utilization

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

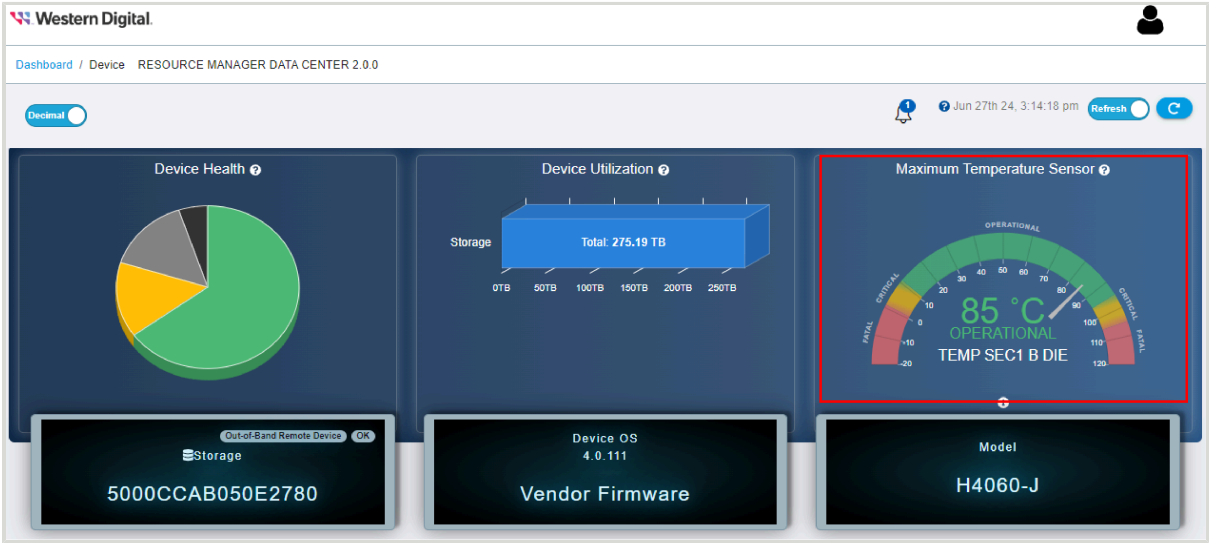
Figure 367: Device Utilization Chart



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 368: 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:

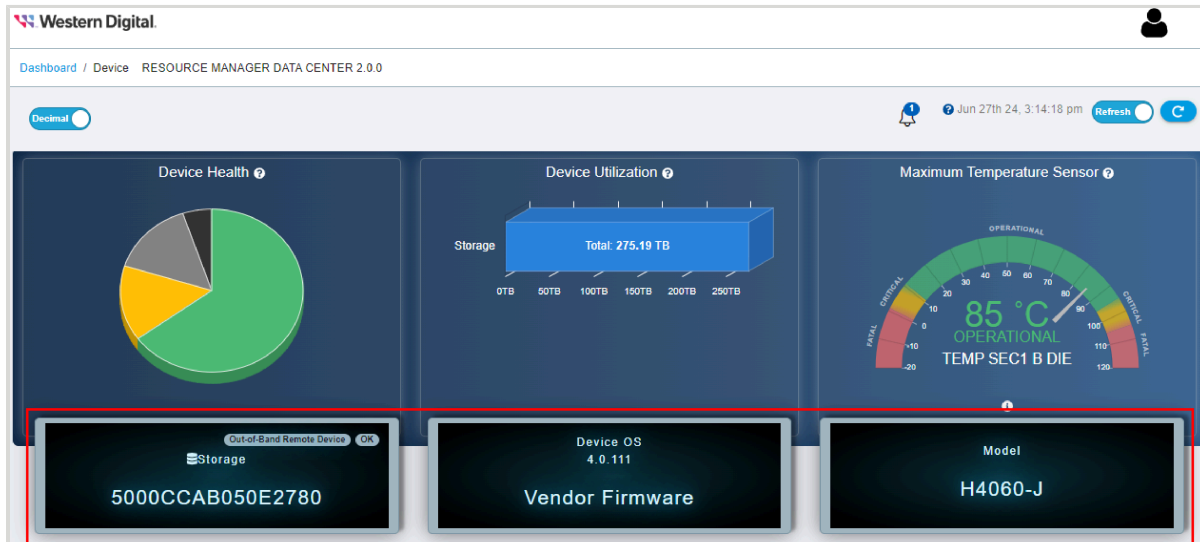
Figure 369: Sensor Temperature Thresholds

TEMP SEC1 B DIE	
HighThresholdFatal:	105
HighThresholdCritical:	95
LowThresholdCritical:	5
LowThresholdFatal:	1

Device Information

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

Figure 370: Device Details



Device Management Controls

The bottom portion of the dashboard provides enclosure management information and controls, which are organized into tabs. The following sections provide procedures for the most common management actions available from these tabs.

- [Device Information \(page 194\)](#)
- [Administration \(page 198\)](#)
- [Accounts \(page 199\)](#)
- [Location \(page 207\)](#)
- [Controllers \(page 209\)](#)
- [Power Supplies \(page 211\)](#)
- [Fans \(page 212\)](#)
- [Ports \(page 214\)](#)
- [Expanders \(page 219\)](#)
- [Sensors \(page 220\)](#)
- [Connectors \(page 222\)](#)
- [Device OS \(page 223\)](#)
- [Zone Sets \(page 228\)](#)
- [Media \(page 230\)](#)

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

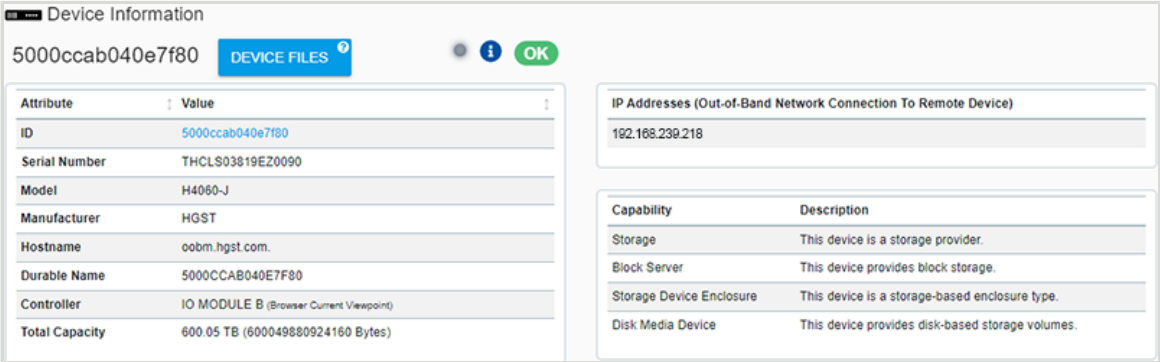
Step 1: From the enclosure dashboard, click the **Device Information** tab.

Figure 371: Device Information Tab



The **Device Information** page will appear:

Figure 372: Device Information Page



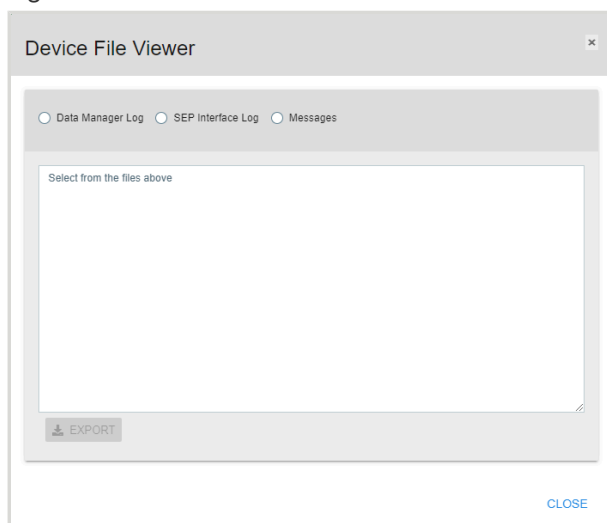
Step 2: Click the **Device Files** button.

Figure 373: Device Files Button



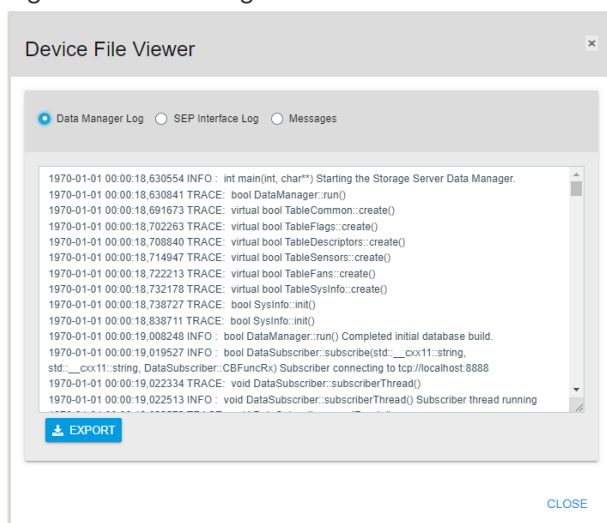
A **Device File Viewer** window will appear:

Figure 374: Device File Viewer



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.

Figure 375: Selecting Files



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

Figure 376: Export Button



The appropriate file type will be downloaded to your **Downloads** directory.

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

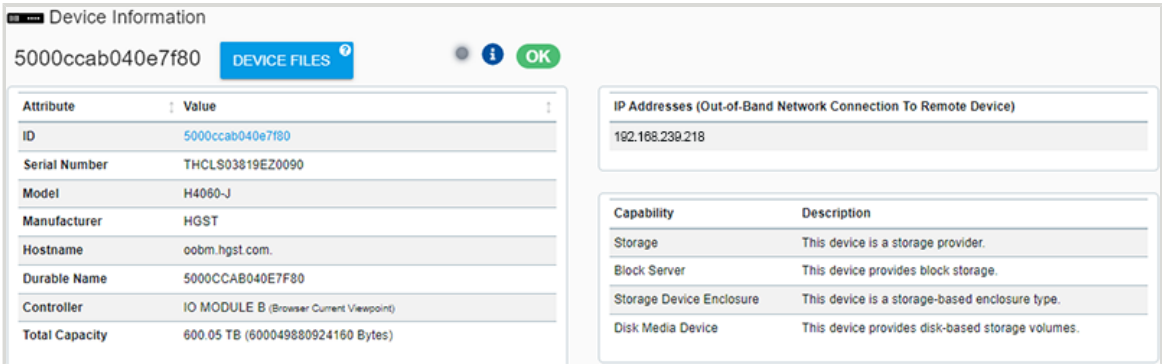
Step 1: From the enclosure dashboard, click the **Device Information** tab.

Figure 377: Device Information Tab



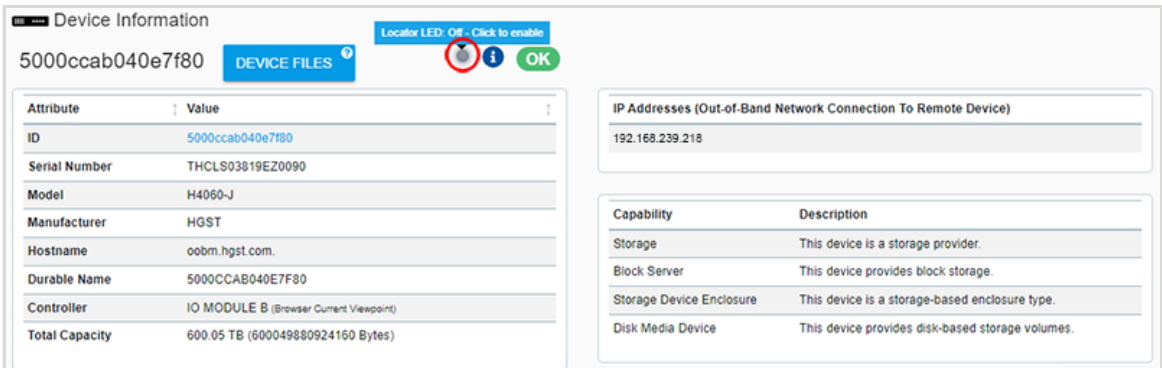
The **Device Information** page will appear:

Figure 378: Device Information Page



Step 2: Click the **Locator LED** button.

Figure 379: Locator LED Button



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

Figure 380: Identification LED Enabled

Device Information

5000ccab040e7f80

DEVICE FILES

i

OK

Attribute	Value
ID	5000ccab040e7f80
Serial Number	THCLS03819EZ0090
Model	H4060-J
Manufacturer	HGST
Hostname	oobm.hgst.com
Durable Name	5000CCAB040E7F80
Controller	IO MODULE 8 (Browser Current Viewpoint)
Total Capacity	600.05 TB (600049880924160 Bytes)

IP Addresses (Out-of-Band Network Connection To Remote Device)

192.168.239.218

Capability	Description
Storage	This device is a storage provider.
Block Server	This device provides block storage.
Storage Device Enclosure	This device is a storage-based enclosure type.
Disk Media Device	This device provides disk-based storage volumes.

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

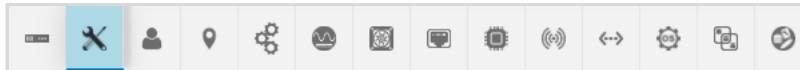
This procedure provides instructions for rebooting an Ultrastar enclosure using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

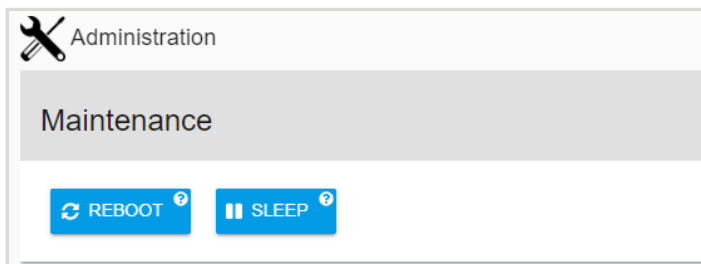
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 381: Administration Tab



The **Administration** page will appear:

Figure 382: 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.

Figure 383: 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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 384: Accounts Tab



The **Accounts** page will appear:

Figure 385: Accounts Page

Accounts (3) CREATE ACCOUNTS ?		
User Id	Identifier	Role
admin	admin	Admin
operator	operator	Operator
readonly	readonly	ReadOnly

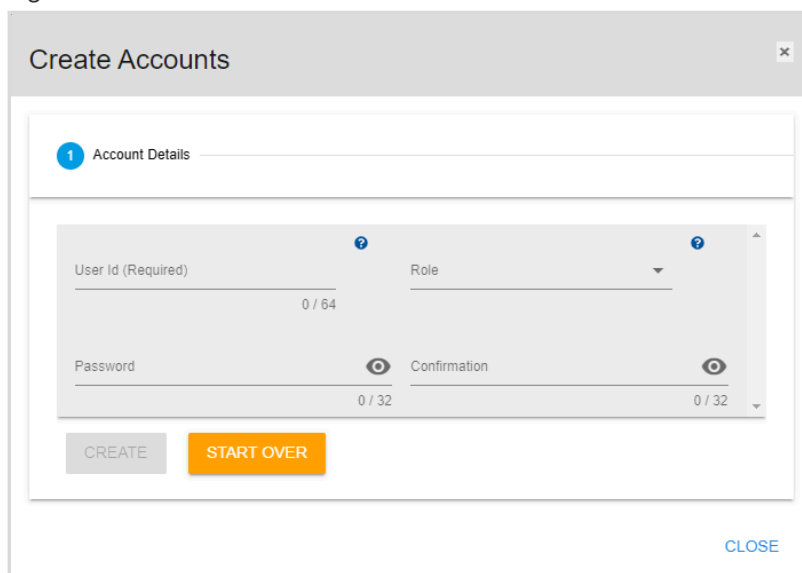
Step 2: Click the **Create Accounts** button.

Figure 386: Create Accounts Button



A **Create Accounts** window will appear:

Figure 387: Create Accounts Window



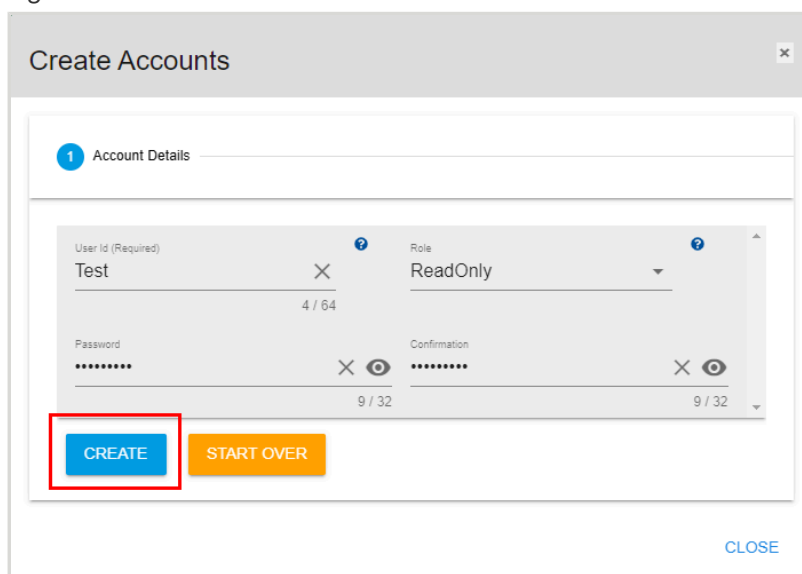
The 'Create Accounts' window displays a form for creating a new account. The form is titled '1 Account Details' and contains the following fields:

- User Id (Required):** A text input field with a character count of 0 / 64.
- Role:** A dropdown menu with a character count of 0 / 32.
- Password:** A text input field with a character count of 0 / 32.
- Confirmation:** A text input field with a character count of 0 / 32.

Below the form are two buttons: 'CREATE' (disabled) and 'START OVER' (active). A 'CLOSE' button is located at the bottom right of the window.

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

Figure 388: Create Accounts Button



The 'Create Accounts' window displays the same form as Figure 387, but with the following values entered:

- User Id (Required):** 'Test' (4 / 64)
- Role:** 'ReadOnly' (0 / 32)
- Password:** '*****' (9 / 32)
- Confirmation:** '*****' (9 / 32)

The 'CREATE' button is now active and highlighted with a red box. The 'START OVER' button remains active. The 'CLOSE' button is still at the bottom right.

After the creation is processed, the **Accounts** page will display the new account.

Figure 389: Updated Accounts Page

Accounts (4)



User Id	Identifier	Role
 admin 	admin	Admin
 operator 	operator	Operator
 readonly 	readonly	ReadOnly
 Test 	Test	ReadOnly

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 390: Accounts Tab



The **Accounts** page will appear:

Figure 391: Accounts Page

Accounts (4) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
operator	operator	Operator
readonly	readonly	ReadOnly
Test	Test	ReadOnly

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

Figure 392: Edit Icon

Accounts (4) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
operator	operator	Operator
readonly	readonly	ReadOnly
Test	Test	ReadOnly

An **Update Account** window will appear:

Figure 393: Update Account Window

Update Account

1 Account Details

Test

Role: ReadOnly

Password: 0 / 32

Confirmation: 0 / 32

UPDATE START OVER

SUCCESS! CREATE ANOTHER OR CLOSE?

Step 3: Use the available fields to update the **Password** for the account. Then click the **Update** button.

Figure 394: Update Account Button

Update Account

1 Account Details

Test

Role: ReadOnly

Password: 9 / 32

Confirmation: 9 / 32

UPDATE START OVER

SUCCESS! CREATE ANOTHER OR CLOSE?

After the update is processed, the **Accounts** page is displayed again.

Figure 395: Accounts Page

Accounts (4)



User Id	Identifier	Role
 admin 	admin	Admin
 operator 	operator	Operator
 readonly 	readonly	ReadOnly
 Test 	Test	ReadOnly

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 396: Accounts Tab



The **Accounts** page will appear:

Figure 397: Accounts Page

Accounts (4) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
operator	operator	Operator
readonly	readonly	ReadOnly
Test	Test	ReadOnly

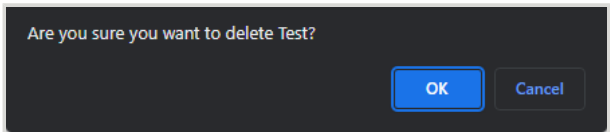
Step 2: Click the **Delete** icon for the account to be deleted.

Figure 398: Delete Icon

Accounts (4) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
operator	operator	Operator
readonly	readonly	ReadOnly
Test	Test	ReadOnly

The user will be prompted to confirm the account deletion:

Figure 399: Confirm Account Deletion



- Step 3:** Click the **OK** button.
- After the deletion is processed, the **Accounts** page will update to show the remaining accounts:

Figure 400: Updated Accounts Page



The screenshot shows a web interface for managing accounts. At the top, there is a header 'Accounts (3)' with a user icon. Below it is a blue button labeled 'CREATE ACCOUNTS' with a plus icon. The main content is a table with three columns: 'User Id', 'Identifier', and 'Role'. Each row represents an account and includes a pencil icon for editing. The 'admin' account has a grey status icon, 'operator' has a red status icon, and 'readonly' has a red status icon.

User Id	Identifier	Role
 admin 	admin	Admin
 operator 	operator	Operator
 readonly 	readonly	ReadOnly

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 401: Location Tab



The **Location** page will appear:

Figure 402: Location Page

Location

CLEAR ALL

1

Attribute	Value
Address 1	Click to Edit
Address 2	Click to Edit
Address 3	Click to Edit
Building	Click to Edit
City	Click to Edit
Country	Click to Edit
Device	Click to Edit
GPS Coords	Click to Edit
Item	Click to Edit
Other Location Info	Click to Edit
Pod	Click to Edit
Postal Code	Click to Edit
Rack	Click to Edit
Room	Click to Edit
Row	Click to Edit
Shelf	Click to Edit
Site Name	Click to Edit
State	Click to Edit
Territory	Click to Edit

Step 2: To edit a location attribute, click the attribute's edit icon.

Figure 403: Edit Icon

The screenshot shows a 'Location' management interface. At the top, there is a 'Location' header with a location pin icon, a 'CLEAR ALL' button, and an information icon. Below this is a table with two columns: 'Attribute' and 'Value'. The 'Attribute' column lists various location attributes, each with a question mark icon. The 'Value' column contains a 'Click to Edit' link and a pencil icon for each attribute. The 'Address 1' row is highlighted, and its pencil icon is circled in red.

Attribute	Value
Address 1 ?	Click to Edit 
Address 2 ?	Click to Edit 
Address 3 ?	Click to Edit 
Building ?	Click to Edit 
City ?	Click to Edit 
Country ?	Click to Edit 
Device ?	Click to Edit 
GPS Coords ?	Click to Edit 
Item ?	Click to Edit 
Other Location Info ?	Click to Edit 
Pod ?	Click to Edit 
Postal Code ?	Click to Edit 
Rack ?	Click to Edit 
Room ?	Click to Edit 
Row ?	Click to Edit 
Shelf ?	Click to Edit 
Site Name ?	Click to Edit 
State ?	Click to Edit 
Territory ?	Click to Edit 

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

Figure 404: Attribute Text Field

The screenshot shows the 'Location' management interface with the 'Address 1' attribute selected. The 'Value' column now contains a text input field. Below the input field, the text '0 / 256' and a red 'X' icon are visible, indicating the character limit.

Attribute	Value
Address 1 ?	

0 / 256 

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

Figure 405: Saving Attribute Information

The screenshot shows the 'Location' management interface with the 'Address 1' attribute selected. The 'Value' column now contains the text 'Test'. Below the input field, the text '4 / 256' and a green checkmark icon are visible, indicating the information has been saved.

Attribute	Value
Address 1 ?	Test

4 / 256 

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 406: Controllers Tab



The **Controllers** page will appear:

Figure 407: Controllers Page

Controllers (2)										
Name	Identifier	Manufacturer	Part Number	Serial Number	Host Name	Version	Locator LED	Health	Details	
IOModuleAFRU	IOModuleAFRU	HGST	1EB1049-A2	THCLS03719EG0095	oobm-00-0c-ca-08-30-d8	3.1.11			None	
IOModuleBFRU	IOModuleBFRU	HGST	1EB1049-A2	THCLS03719EG006B	oobm-00-0c-ca-08-30-e0	3.1.11			None	

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

Figure 408: IOM Health Indicators

Controllers (2)										
Name	Identifier	Manufacturer	Part Number	Serial Number	Host Name	Version	Locator LED	Health	Details	
IOModuleAFRU	IOModuleAFRU	HGST	1EB1049-A2	THCLS03719EG0095	oobm-00-0c-ca-08-30-d8	3.1.11			None	
IOModuleBFRU	IOModuleBFRU	HGST	1EB1049-A2	THCLS03719EG006B	oobm-00-0c-ca-08-30-e0	3.1.11			None	

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 409: Controllers Tab



The **Controllers** page will appear:

Figure 410: Controllers Page

Controllers (2)										
Name	Identifier	Manufacturer	Part Number	Serial Number	Host Name	Version	Locator LED	Health	Details	
IOModuleAFRU	IOModuleAFRU	HGST	1EB1049-A2	THCLS03719EG0095	oobm-00-0c-ca-08-30-d8	3.1.11			None	
IOModuleBFRU	IOModuleBFRU	HGST	1EB1049-A2	THCLS03719EG006B	oobm-00-0c-ca-08-30-e0	3.1.11			None	

Step 2: Click the **Reboot** button.



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

Figure 411: 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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 412: Power Supplies Tab



The **Power Supplies** page will appear:

Figure 413: Power Supplies Page

Power Supplies (2)							
Name	Identifier	Part Number	Serial Number	Total Output Power (Watts)	Indicator LED	Health	Details
PSU A	PowerSupplyAFRU	DPS-1600AB-12	IQHD1930005981	1600		OK	None
PSU B	PowerSupplyBFRU	DPS-1600AB-12	IQHD1930005959	1600		OK	None

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

Figure 414: PSU Health Indicators

Power Supplies (2)							
Name	Identifier	Part Number	Serial Number	Total Output Power (Watts)	Indicator LED	Health	Details
PSU A	PowerSupplyAFRU	DPS-1600AB-12	IQHD1930005981	1600		OK	None
PSU B	PowerSupplyBFRU	DPS-1600AB-12	IQHD1930005959	1600		OK	None

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 the system fans for an Ultrastar enclosure using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 415: Fans Tab



The **Fans** page will appear:

Figure 416: Fans Page

Fans (8)			
Name	Identifier	Current Speed	Health
FAN ENCL 1	FanExternalFRU1	25 %	OK
FAN ENCL 2	FanExternalFRU2	25 %	OK
FAN ENCL 3	FanExternalFRU3	25 %	OK
FAN ENCL 4	FanExternalFRU4	25 %	OK
FAN IOM 1	5	92 %	OK
FAN IOM 2	6	92 %	OK
FAN PSU A	7	100 %	OK
FAN PSU B	8	100 %	OK
			ACTIONS

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

Figure 417: Fan Health Indicators

Fans (8)			
Name	Identifier	Current Speed	Health
FAN ENCL 1	FanExternalFRU1	25 %	OK
FAN ENCL 2	FanExternalFRU2	25 %	OK
FAN ENCL 3	FanExternalFRU3	25 %	OK
FAN ENCL 4	FanExternalFRU4	25 %	OK
FAN IOM 1	5	92 %	OK
FAN IOM 2	6	92 %	OK
FAN PSU A	7	100 %	OK
FAN PSU B	8	100 %	OK
			ACTIONS

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 418: Ports Tab



The **Ports** page will appear:

Figure 419: Ports Page

Ports

Controllers: 2

Adapter	Identifier	Health / Cable / Link / Speed				Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
IOModuleAFRU	00_0c_ca_08_36_6a_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	192.168.239.206/22	192.168.236.1	00:0c:ca:08:36:6a	DHCPv4
IOModuleBFRU	00_0c_ca_08_35_9e_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	192.168.237.156/22	192.168.236.1	00:0c:ca:08:35:9e	DHCPv4

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

Figure 420: Fan Health Indicators

Ports

Controllers: 2

Adapter	Identifier	Health / Cable / Link / Speed				Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
IOModuleAFRU	00_0c_ca_08_36_6a_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	192.168.239.206/22	192.168.236.1	00:0c:ca:08:36:6a	DHCPv4
IOModuleBFRU	00_0c_ca_08_35_9e_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	192.168.237.156/22	192.168.236.1	00:0c:ca:08:35:9e	DHCPv4

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 Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 421: Ports Tab



The **Ports** page will appear:

Figure 422: Ports Page

Ports

Controllers: 2

Adapter	Identifier	Health	Cable / Link	Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
 IOModuleAFRU	00_0c_ca_08_36_6a_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	192.168.239.206/22	192.168.236.1	00:0c:ca:08:36:6a DHCPv4
 IOModuleBFRU	00_0c_ca_08_35_9e_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	192.168.237.156/22	192.168.236.1	00:0c:ca:08:35:9e DHCPv4

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

Figure 423: Edit Port Icon

Ports

Controllers: 2

Adapter	Identifier	Health	Cable / Link	Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
 IOModuleAFRU	00_0c_ca_08_36_6a_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	192.168.239.206/22	192.168.236.1	00:0c:ca:08:36:6a DHCPv4
 IOModuleBFRU	00_0c_ca_08_35_9e_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	192.168.237.156/22	192.168.236.1	00:0c:ca:08:35:9e DHCPv4

An **Update Port** window will appear:

Figure 424: Update Port Window

The screenshot shows a window titled "Update Port: IOModuleAFRU" with a close button (X) in the top right corner. The window has a progress bar at the top with two steps: "1 Address Type, IP, Gateway" (active) and "2 Confirmation". The main content area is divided into two columns. On the left, there is a dropdown menu with "DHCPv4" selected, a text field for "MTU Bytes" with the value "1500", and a note "Management Port setting is fixed". On the right, there is a text field for "IPv4 Address / CIDR" with the value "192.168.239.206/22", a text field for "Netmask" with the value "255.255.252.0", and a text field for "IPv4 Gateway (optional)" with the value "192.168.236.1". There are question mark icons next to the "IPv4 Address / CIDR" and "IPv4 Gateway (optional)" fields. A "NEXT" button is at the bottom left, and a "CANCEL" button is at the bottom right.

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.

Figure 425: Static Option

The screenshot shows the same window as Figure 424, but with the "STATIC" option selected in the dropdown menu. The "NEXT" button is now highlighted in blue, indicating it is clickable. The "CANCEL" button remains at the bottom right.

Step 4: Click the **Next** button.

Figure 426: Next Button



The **Update Port** window proceeds to the confirmation step:

Figure 427: Confirming Port Settings

The screenshot shows a window titled "Update Port: IOModuleAFRU". At the top, there is a progress bar with two steps: "1 Address Type, IP, Gateway" (completed) and "2 Confirmation" (active). Below the progress bar, the "Address Origin" is set to "STATIC". A checkbox labeled "Please Confirm" is present. To the right of the checkbox is a warning icon (yellow triangle) and a message: "Port changes can result in new/different IP addresses. Backend services will automatically restart which may cause a communication interruption." At the bottom of the window, there are three buttons: "UPDATE" (disabled), "BACK" (blue), and "START OVER" (orange). A "CANCEL" link is located at the bottom right of the window.

Step 5: To complete the changes to the port settings, click the **Please Confirm** checkbox and then click the **Update** button.

Figure 428: Complete Port Setting Changes

The screenshot shows a dialog box titled "Update Port: IOModuleAFRU". At the top, there is a progress bar with two steps: "1 Address Type, IP, Gateway" and "2 Confirmation". The "2 Confirmation" step is currently active. Below the progress bar, the text "Address Origin: STATIC" is displayed. A red box highlights a checkbox labeled "Please Confirm", which is checked. To the right of the checkbox, a warning icon (yellow triangle) is followed by the text: "Port changes can result in new/different IP addresses. Backend services will automatically restart which may cause a communication interruption." At the bottom of the dialog, there are three buttons: "UPDATE" (highlighted with a red box), "BACK", and "START OVER". A "CANCEL" link is located at the bottom right of the dialog.

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

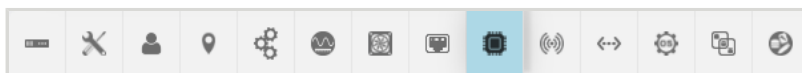
This procedure provides instructions for checking the health of the expanders of an Ultrastar enclosure using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 429: Expanders Tab



The **Expanders** page will appear:

Figure 430: Expanders Page

Name	Identifier	Durable Name	Version	Health	Details
EXP IOMA 0	PrimaryA	5000CCAB0410533D	3010-007	OK	None
EXP IOMA 1	Sec1A	5000CCAB0410533F	3010-007	OK	None
EXP IOMA 2	Sec2A	5000CCAB0410537F	3010-007	OK	None
EXP IOMB 0	PrimaryB	5000CCAB0410537D	3010-007	OK	None
EXP IOMB 1	Sec1B	5000CCAB04105379	3010-007	OK	None
EXP IOMB 2	Sec2B	5000CCAB0410537B	3010-007	OK	None

ACTIONS

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

Figure 431: Expander Health Indicators

Name	Identifier	Durable Name	Version	Health	Details
EXP IOMA 0	PrimaryA	5000CCAB0410533D	3010-007	OK	None
EXP IOMA 1	Sec1A	5000CCAB0410533F	3010-007	OK	None
EXP IOMA 2	Sec2A	5000CCAB0410537F	3010-007	OK	None
EXP IOMB 0	PrimaryB	5000CCAB0410537D	3010-007	OK	None
EXP IOMB 1	Sec1B	5000CCAB04105379	3010-007	OK	None
EXP IOMB 2	Sec2B	5000CCAB0410537B	3010-007	OK	None

ACTIONS

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

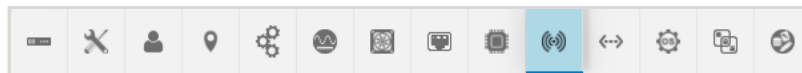
This procedure provides instructions for checking the health of sensors in an Ultrastar enclosure using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 432: Sensors Tab



The **Sensors** page will appear:

Figure 433: Sensors Page

Name	Identifier	Type	Current Reading	Health	Details
TEMP SLOT 00	TEMP_SLOT_00	Temperature	 26 Degrees C	OK	None
TEMP SLOT 01	TEMP_SLOT_01	Temperature	 26 Degrees C	OK	None
TEMP SLOT 02	TEMP_SLOT_02	Temperature	 27 Degrees C	OK	None
TEMP SLOT 03	TEMP_SLOT_03	Temperature	 26 Degrees C	OK	None
TEMP SLOT 04	TEMP_SLOT_04	Temperature	 26 Degrees C	OK	None
TEMP SLOT 05	TEMP_SLOT_05	Temperature	 27 Degrees C	OK	None
TEMP SLOT 06	TEMP_SLOT_06	Temperature	 26 Degrees C	OK	None
TEMP SLOT 07	TEMP_SLOT_07	Temperature	 27 Degrees C	OK	None
TEMP SLOT 08	TEMP_SLOT_08	Temperature	 26 Degrees C	OK	None
TEMP SLOT 09	TEMP_SLOT_09	Temperature	 26 Degrees C	OK	None
TEMP SLOT 10	TEMP_SLOT_10	Temperature	 26 Degrees C	OK	None
TEMP SLOT 11	TEMP_SLOT_11	Temperature	 26 Degrees C	OK	None
TEMP SLOT 12	TEMP_SLOT_12	Temperature	 34 Degrees C	OK	None
TEMP SLOT 13	TEMP_SLOT_13	Temperature	 34 Degrees C	OK	None
TEMP SLOT 14	TEMP_SLOT_14	Temperature	 34 Degrees C	OK	None
TEMP SLOT 15	TEMP_SLOT_15	Temperature	 34 Degrees C	OK	None
TEMP SLOT 16	TEMP_SLOT_16	Temperature	 33 Degrees C	OK	None
TEMP SLOT 17	TEMP_SLOT_17	Temperature	 32 Degrees C	OK	None
TEMP SLOT 18	TEMP_SLOT_18	Temperature	 31 Degrees C	OK	None
TEMP SLOT 19	TEMP_SLOT_19	Temperature	 32 Degrees C	OK	None
TEMP SLOT 20	TEMP_SLOT_20	Temperature	 33 Degrees C	OK	None

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

Figure 434: Sensor Health Indicators

Name	Identifier	Type	Current Reading	Health	Details
TEMP SLOT 00	TEMP_SLOT_00	Temperature	  26 Degrees C		None
TEMP SLOT 01	TEMP_SLOT_01	Temperature	  26 Degrees C		None
TEMP SLOT 02	TEMP_SLOT_02	Temperature	  27 Degrees C		None
TEMP SLOT 03	TEMP_SLOT_03	Temperature	  26 Degrees C		None
TEMP SLOT 04	TEMP_SLOT_04	Temperature	  26 Degrees C		None
TEMP SLOT 05	TEMP_SLOT_05	Temperature	  27 Degrees C		None
TEMP SLOT 06	TEMP_SLOT_06	Temperature	  26 Degrees C		None
TEMP SLOT 07	TEMP_SLOT_07	Temperature	  27 Degrees C		None
TEMP SLOT 08	TEMP_SLOT_08	Temperature	  26 Degrees C		None
TEMP SLOT 09	TEMP_SLOT_09	Temperature	  26 Degrees C		None
TEMP SLOT 10	TEMP_SLOT_10	Temperature	  26 Degrees C		None
TEMP SLOT 11	TEMP_SLOT_11	Temperature	  26 Degrees C		None
TEMP SLOT 12	TEMP_SLOT_12	Temperature	  34 Degrees C		None
TEMP SLOT 13	TEMP_SLOT_13	Temperature	  34 Degrees C		None
TEMP SLOT 14	TEMP_SLOT_14	Temperature	  34 Degrees C		None
TEMP SLOT 15	TEMP_SLOT_15	Temperature	  34 Degrees C		None
TEMP SLOT 16	TEMP_SLOT_16	Temperature	  33 Degrees C		None
TEMP SLOT 17	TEMP_SLOT_17	Temperature	  32 Degrees C		None
TEMP SLOT 18	TEMP_SLOT_18	Temperature	  31 Degrees C		None
TEMP SLOT 19	TEMP_SLOT_19	Temperature	  32 Degrees C		None
TEMP SLOT 20	TEMP_SLOT_20	Temperature	  33 Degrees C		None

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 435: Sensor Thresholds

Name	Identifier	Type	Current Reading	Health	Details
TEMP SLOT 00	TEMP_SLOT_00	Temperature	  27 Degrees C		None
TEMP SLOT 01	TEMP_SLOT_01	Temperature	  28 Degrees C		None
TEMP SLOT 02	TEMP_SLOT_02	Temperature	  28 Degrees C		None
TEMP SLOT 03	TEMP_SLOT_03	Temperature	  27 Degrees C		None
TEMP SLOT 04	TEMP_SLOT_04	Temperature	  27 Degrees C		None

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

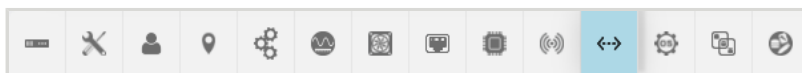
This procedure provides instructions for checking the health and connection status of data cables on an Ultrastar enclosure using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 436: Connectors Tab



The **Connectors** page will appear:

Figure 437: Connectors Page

Connectors (12)				
Name	Identifier	Cable	Health	Details
CONN HOST 00	1	Disconnected	Not installed	None
CONN HOST 01	2	Disconnected	Not installed	None
CONN HOST 02	3	Connected	OK	None
CONN HOST 03	4	Disconnected	Not installed	None
CONN HOST 04	5	Disconnected	Not installed	None
CONN HOST 05	6	Disconnected	Not installed	None
CONN HOST 06	7	Disconnected	Not installed	None
CONN HOST 07	8	Disconnected	Not installed	None
CONN HOST 08	9	Connected	OK	None
CONN HOST 09	10	Disconnected	Not installed	None
CONN HOST 10	11	Disconnected	Not installed	None
CONN HOST 11	12	Disconnected	Not installed	None
				ACTIONS

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 Central Service.

Before you begin:

-  **Caution:** Updating firmware requires rebooting the Ultrastar enclosure.
- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

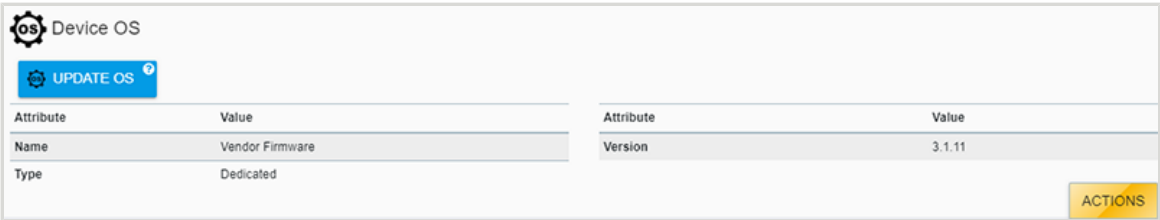
Step 1: From the enclosure dashboard, click the **Device OS** tab.

Figure 438: Device OS Tab



The **Device OS** page will appear:

Figure 439: Device OS Page



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 440: Starting Firmware Version



Step 3: Click the **Update OS** button.

Figure 441: Update OS Button

An **Update OS** window will appear:

*Figure 442: Update OS Window*A screenshot of the 'Update OS' window. The window has a title bar with 'Update OS' and a close button. Inside, there are two steps: '1 Enter File Path and Name' (active) and '2 Update OS & Activate'. Below the steps is a large text input field containing the placeholder text 'http://path/to/file/filename.ext'. At the bottom left of the input area is a grey 'NEXT' button. At the bottom right of the window is a blue 'CLOSE' link.

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

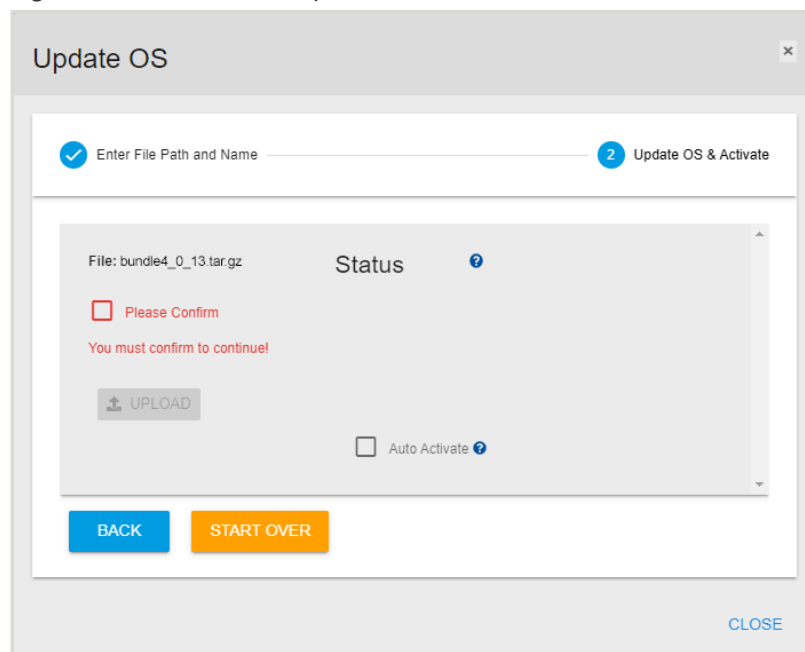
*Figure 443: Path to FW File*A screenshot of the 'Update OS' window, similar to Figure 442. The text input field now contains the full path 'http://fw_files/bundle4_0_13.tar.gz'. The 'NEXT' button is now blue, indicating it is clickable. The 'CLOSE' link remains blue.

Step 5: Click the **Next** button.

Figure 444: Next Button

The **Update OS** window will proceed to the confirmation step:

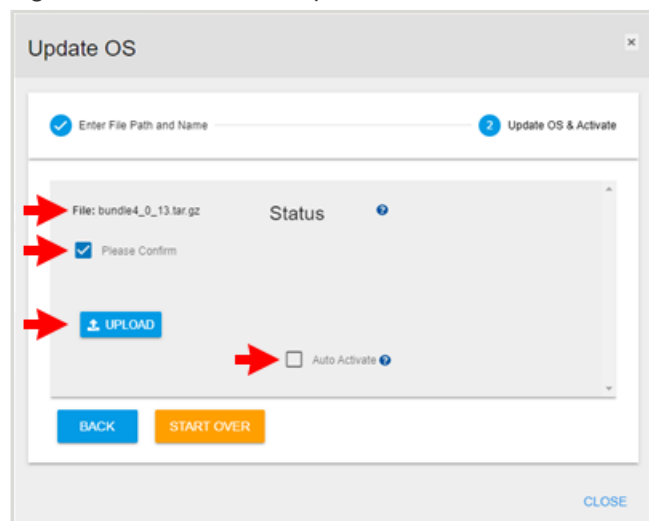
Figure 445: Confirm OS Update



The screenshot shows the 'Update OS' window with a progress bar at the top. The first step, 'Enter File Path and Name', is completed with a blue checkmark. The second step, 'Update OS & Activate', is active and highlighted with a blue circle and the number '2'. Below the progress bar, the file path 'File: bundle4_0_13.tar.gz' is displayed. To the right of the file path is the word 'Status' followed by a blue question mark icon. Below the file path, there is a red checkbox labeled 'Please Confirm' and a red message 'You must confirm to continue!'. Below this message is a grey 'UPLOAD' button. At the bottom right of the main content area, there is an unchecked checkbox labeled 'Auto Activate' followed by a blue question mark icon. At the bottom of the window, there are two buttons: 'BACK' (blue) and 'START OVER' (orange). A 'CLOSE' link is located at the bottom right corner of the window.

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.

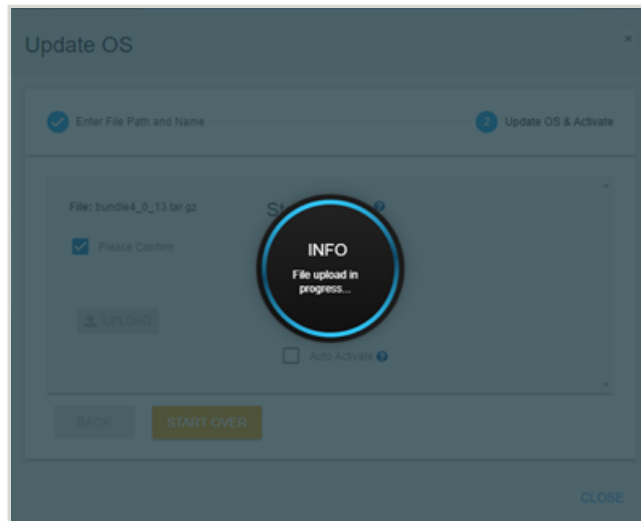
Figure 446: Confirm OS Update



This screenshot is identical to Figure 445, but with red arrows highlighting the elements to be interacted with in Step 6. Four red arrows point to the 'File: bundle4_0_13.tar.gz' text, the 'Please Confirm' checkbox (which is now checked with a blue checkmark), the 'UPLOAD' button, and the 'Auto Activate' checkbox. The 'Auto Activate' checkbox remains unchecked.

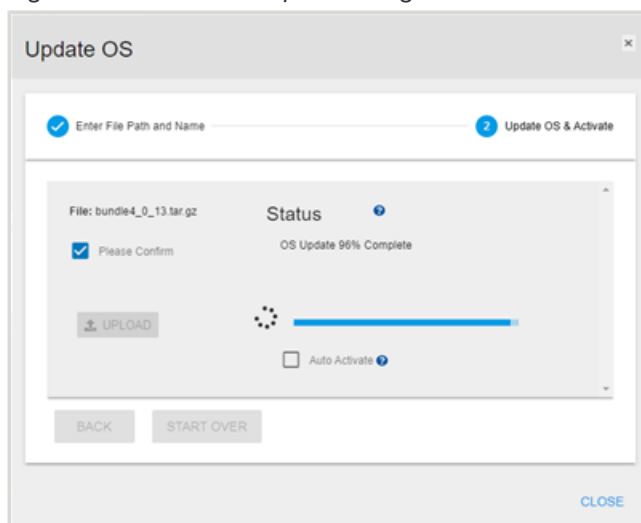
A window will appear to show the file upload progress:

Figure 447: File Upload Progress



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

Figure 448: Firmware Update Progress

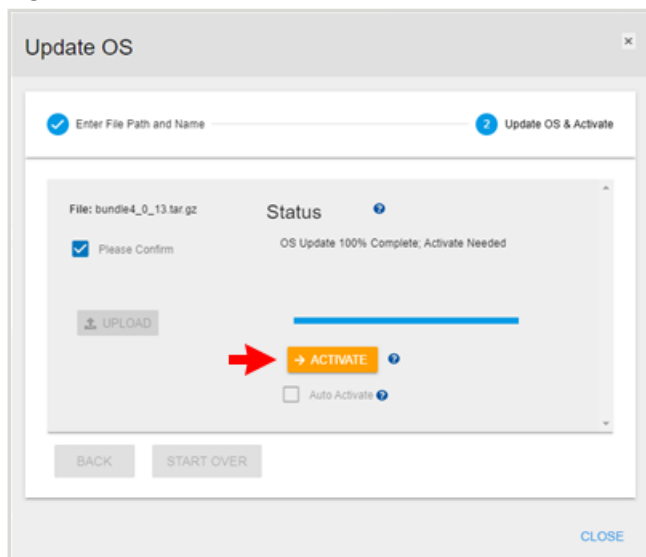


Step 7: If you did **not** select the **Auto Activate** checkbox in step 6 (page 225), an **Activate** button will appear after the enclosure firmware has been updated. Click the **Activate** button to activate the firmware.



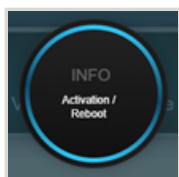
Caution: Activating the firmware will cause the enclosure to reboot.

Figure 449: Activate Firmware



The enclosure will reboot to activate the firmware:

Figure 450: 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 451: 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 Central Service.

Before you begin:

-  **Caution:** Activating a different zoning configuration requires rebooting the Ultrastar enclosure.
- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 452: Zone Sets Tab



The **Zone Sets** page will appear:

Figure 453: Zone Sets Page

Zone Sets (4)						
Name	Identifier	Description	Active	Number of Zones Per Zone Set	Number of Media Members Per Zone	Zones
Zone Set 0	0	Configuration 0	☒	1	102	Host Connectors: [1 - 12] : Media: [1 - 102]
Zone Set 1	1	Configuration 1	☐	6	17	Host Connectors: [1, 7] : Media: [1 - 17] Host Connectors: [2, 8] : Media: [18 - 34] Host Connectors: [3, 9] : Media: [35 - 51] Host Connectors: [4, 10] : Media: [52 - 68] Host Connectors: [5, 11] : Media: [69 - 85] Host Connectors: [6, 12] : Media: [86 - 102]
Zone Set 2	2	Configuration 2	☐	3	34	Host Connectors: [1, 2, 7, 8] : Media: [1 - 34] Host Connectors: [3, 4, 9, 10] : Media: [35 - 68] Host Connectors: [5, 6, 11, 12] : Media: [69 - 102]
Zone Set 3	3	Configuration 3	☐	2	51	Host Connectors: [1, 2, 3, 7, 8, 9] : Media: [1 - 51] Host Connectors: [4, 5, 6, 10, 11, 12] : Media: [52 - 102]
						ACTIONS

 **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.

Figure 454: Activate Switch - OFF Position



Figure 455: Activate Switch – ON Position



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

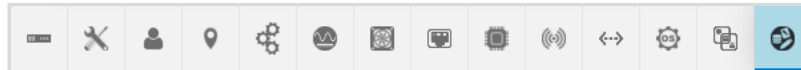
This procedure provides instructions for checking the health status of drives in an Ultrastar enclosure using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 456: Media Tab



The **Media** page will appear:

Figure 457: Media Page

Media (60)													
Total Capacity: 600.05 TB													
Name	Identifier	Manufacturer	Model	Capacity	Protocol	Disk Type	Version	Serial Number	Durable Name	Power State	Locator LED	Health	Details
SLOT 00	1	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBZV7G	5000CCA251BEE98D	ON		OK	None
SLOT 01	2	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV7Y7G	5000CCA2662FBDD	ON		OK	None
SLOT 02	3	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV83RG	5000CCA2662FC085	ON		OK	None
SLOT 03	4	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PGKZ9AG	5000CCA25120B039	ON		OK	None
SLOT 04	5	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKAKBKG	5000CCA251BC4DC1	ON		OK	None
SLOT 05	6	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGPMRTG	5000CCA266275781	ON		OK	None
SLOT 06	7	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKAKMKG	5000CCA251BC51A1	ON		OK	None
SLOT 07	8	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBT2TG	5000CCA251BE8419	ON		OK	None
SLOT 08	9	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBZDVG	5000CCA251BEE311	ON		OK	None
SLOT 09	10	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7GJNUA8K	5000CCA258969615	ON		OK	None
SLOT 10	11	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU6K2G	5000CCA2662D779	ON		OK	None
SLOT 11	12	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU68GG	5000CCA2662D34D	ON		OK	None
SLOT 12	13	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGURB3G	5000CCA2662EC4D5	ON		OK	None
SLOT 13	14	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PK955MG	5000CCA251BAD37D	ON		OK	None
SLOT 14	15	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV7YEG	5000CCA2662FBD5	ON		OK	None
SLOT 15	16	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGUBD2G	5000CCA2662E2021	ON		OK	None
SLOT 16	17	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGPMMMG	5000CCA2662755F9	ON		OK	None
SLOT 17	18	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGTS2JK	5000CCA2662CFC35	ON		OK	None
SLOT 18	19	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGURPRG	5000CCA2662EC9F9	ON		OK	None
SLOT 19	20	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU63SG	5000CCA2662DD105	ON		OK	None

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

Figure 458: Drive Health Indicators

 Media (60)

Total Capacity: 600.05 TB

Name	Identifier	Manufacturer	Model	Capacity	Protocol	Disk Type	Version	Serial Number	Durable Name	Power State	Locator LED	Health	Details
SLOT 00	1	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBZV7G	5000CCA251BEE98D	ON		OK	None
SLOT 01	2	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV7Y7G	5000CCA2662FBDD	ON		OK	None
SLOT 02	3	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV83RG	5000CCA2662FC085	ON		OK	None
SLOT 03	4	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PGKZ9AG	5000CCA25120B039	ON		OK	None
SLOT 04	5	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKAKBKG	5000CCA251BC4DC1	ON		OK	None
SLOT 05	6	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGPMRTG	5000CCA266275781	ON		OK	None
SLOT 06	7	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKAKMKG	5000CCA251BC51A1	ON		OK	None
SLOT 07	8	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBT2TG	5000CCA251BE8419	ON		OK	None
SLOT 08	9	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBZDVG	5000CCA251BEE311	ON		OK	None
SLOT 09	10	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7GJNUA8K	5000CCA256969615	ON		OK	None
SLOT 10	11	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU6K2G	5000CCA2662DD779	ON		OK	None
SLOT 11	12	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU68GG	5000CCA2662DD34D	ON		OK	None
SLOT 12	13	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGURB3G	5000CCA2662EC4D5	ON		OK	None
SLOT 13	14	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PK9S5MG	5000CCA251BAD37D	ON		OK	None
SLOT 14	15	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV7YEG	5000CCA2662FBDF5	ON		OK	None
SLOT 15	16	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGUBD2G	5000CCA2662E2021	ON		OK	None
SLOT 16	17	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGPMMMG	5000CCA2662755F9	ON		OK	None
SLOT 17	18	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGTS2JK	5000CCA2662CFE35	ON		OK	None
SLOT 18	19	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGURPRG	5000CCA2662EC9F9	ON		OK	None
SLOT 19	20	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU63SG	5000CCA2662DD105	ON		OK	None

Result: The health status the Ultrastar enclosure's drives has now been checked.

6.15.2 Enabling a Drive Ident LED

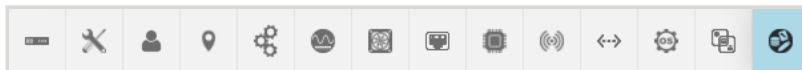
This procedure provides instructions for enabling the identification LED of a drive in an Ultrastar enclosure using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 459: Media Tab



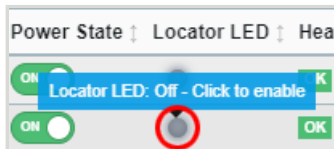
The **Media** page will appear:

Figure 460: Media Page

Media (60)													
Total Capacity: 600.05 TB													
Name	Identifier	Manufacturer	Model	Capacity	Protocol	Disk Type	Version	Serial Number	Durable Name	Power State	Locator LED	Health	Details
SLOT 00	1	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBZV7G	5000CCA251BEE98D	ON		OK	None
SLOT 01	2	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV7Y7G	5000CCA2662FBD0D	ON		OK	None
SLOT 02	3	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV83RG	5000CCA2662FC085	ON		OK	None
SLOT 03	4	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PGKZ9AG	5000CCA25120B039	ON		OK	None
SLOT 04	5	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKAKBKG	5000CCA251BC4DC1	ON		OK	None
SLOT 05	6	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGPMRTG	5000CCA266275781	ON		OK	None
SLOT 06	7	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKAKMKG	5000CCA251BC51A1	ON		OK	None
SLOT 07	8	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBT2TG	5000CCA251BE8419	ON		OK	None
SLOT 08	9	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBZDVG	5000CCA251BEE311	ON		OK	None
SLOT 09	10	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7GJNUA8K	5000CCA256969615	ON		OK	None
SLOT 10	11	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU6K2G	5000CCA2662DD779	ON		OK	None
SLOT 11	12	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU68GG	5000CCA2662DD34D	ON		OK	None
SLOT 12	13	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGURB3G	5000CCA2662EC4D5	ON		OK	None
SLOT 13	14	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PK9S5MG	5000CCA251BAD37D	ON		OK	None
SLOT 14	15	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV7YEG	5000CCA2662FBD5F5	ON		OK	None
SLOT 15	16	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGUBD2G	5000CCA2662E2021	ON		OK	None
SLOT 16	17	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGPMMMG	5000CCA2662755F9	ON		OK	None
SLOT 17	18	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGTS2JK	5000CCA2662CFE35	ON		OK	None
SLOT 18	19	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGURPRG	5000CCA2662EC9F9	ON		OK	None
SLOT 19	20	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU63SG	5000CCA2662DD105	ON		OK	None

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

Figure 461: Drive Locator LED



Result: The Ultrastar enclosure's drive identification LED has now been enabled.

6.15.3 Powering Off a Drive

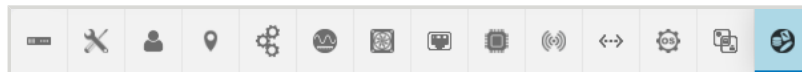
This procedure provides instructions for powering off a drive in an Ultrastar enclosure using the Resource Manager Data Center Edition Central Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 462: Media Tab



The **Media** page will appear:

Figure 463: Media Page

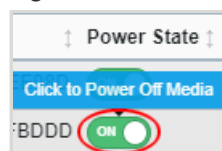
Media (60)

Total Capacity: 600.05 TB

Name	Identifier	Manufacturer	Model	Capacity	Protocol	Disk Type	Version	Serial Number	Durable Name	Power State	Locator LED	Health	Details
SLOT 00	1	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBZV7G	5000CCA251BEE98D	ON		OK	None
SLOT 01	2	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV7Y7G	5000CCA2662FBDD	ON		OK	None
SLOT 02	3	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV83RG	5000CCA2662FC085	ON		OK	None
SLOT 03	4	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PGKZ9AG	5000CCA25120B039	ON		OK	None
SLOT 04	5	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKAKBKG	5000CCA251BC4DC1	ON		OK	None
SLOT 05	6	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGPMRTG	5000CCA266275781	ON		OK	None
SLOT 06	7	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKAKMKG	5000CCA251BC51A1	ON		OK	None
SLOT 07	8	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBT2TG	5000CCA251BE8419	ON		OK	None
SLOT 08	9	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PKBZDVG	5000CCA251BEE311	ON		OK	None
SLOT 09	10	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7GJNUA8K	5000CCA256999615	ON		OK	None
SLOT 10	11	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU6K2G	5000CCA2662DD779	ON		OK	None
SLOT 11	12	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU68GG	5000CCA2662DD34D	ON		OK	None
SLOT 12	13	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGURB3G	5000CCA2662EC4D5	ON		OK	None
SLOT 13	14	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7PK9S5MG	5000CCA251BAD37D	ON		OK	None
SLOT 14	15	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGV7YEG	5000CCA2662FBD5	ON		OK	None
SLOT 15	16	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGUBD2G	5000CCA2662E2021	ON		OK	None
SLOT 16	17	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGPMMMG	5000CCA2662755F9	ON		OK	None
SLOT 17	18	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGTS2JK	5000CCA2662CFE35	ON		OK	None
SLOT 18	19	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGURPRG	5000CCA2662EC9F9	ON		OK	None
SLOT 19	20	HGST	HUH721010AL4200	10.00 TB	SAS	HDD	A9G0	7JGU63SG	5000CCA2662DD105	ON		OK	None

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

Figure 464: Drive Power State Toggle Switch



Result: The Ultrastar enclosure's drive has now been powered off.



Server Management – Compute Service

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

In This Chapter:

- Overview of Management Server Dashboard.....	237
- Device Information.....	237
- Administration.....	239
- Accounts.....	255
- Location.....	261
- Device OS.....	263
- Assets.....	264
- Policies.....	267
- Notifications.....	278

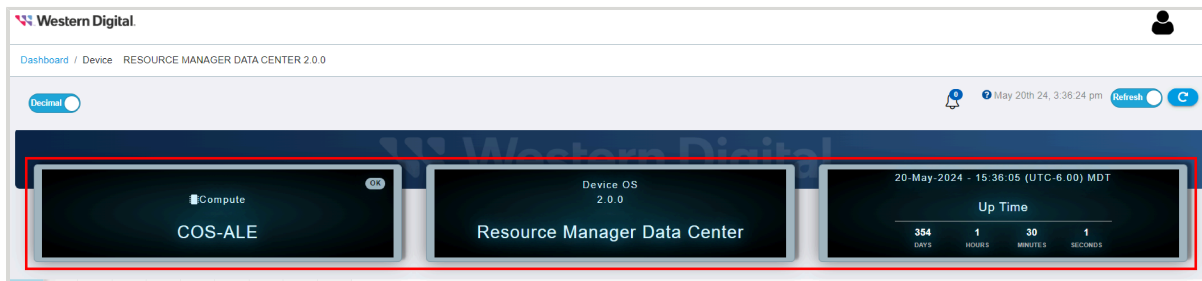
7.1 Overview of Management Server Dashboard

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

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 465: Server Information Panels



Server Management Controls

The bottom portion of the dashboard provides additional server information and management controls, which are organized into tabs. The following sections provide procedures for the most common management actions available from these tabs.

- [Device Information \(page 50\)](#)
- [Administration \(page 53\)](#)
- [Accounts \(page 69\)](#)
- [Location \(page 75\)](#)
- [Device OS \(page 77\)](#)
- [Assets \(page 78\)](#)
- [Policies \(page 82\)](#)
- [Notifications \(page 93\)](#)

7.2 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.

7.2.1 Viewing & Downloading Logs & Notices

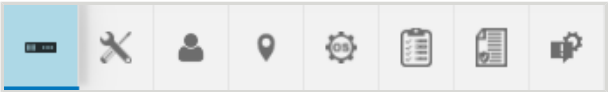
This procedure provides instructions for downloading logs and notices from the management server using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

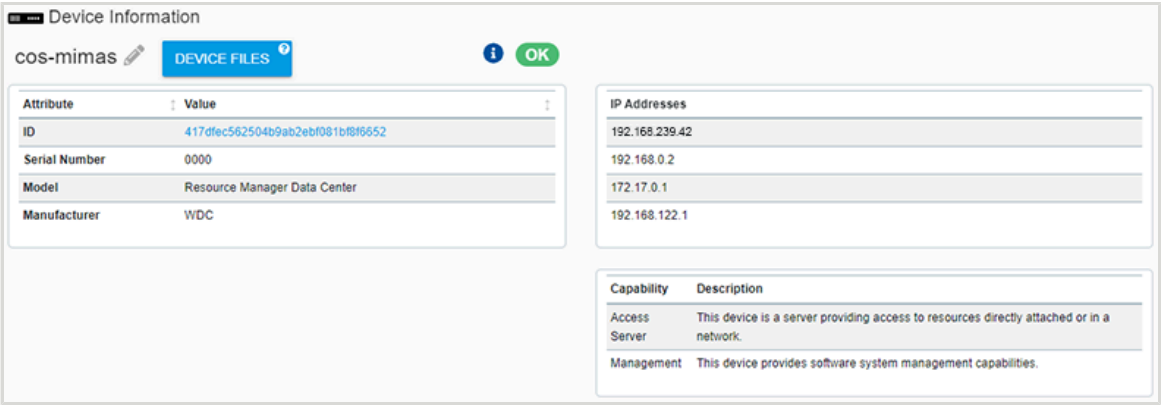
Step 1: From the server dashboard, click the **Device Information** tab.

Figure 466: Device Information Tab



The **Device Information** page will appear:

Figure 467: Device Information Page



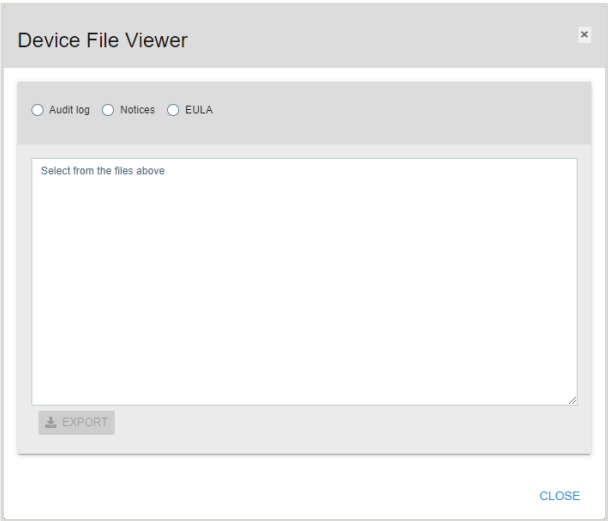
Step 2: Click the **Device Files** button.

Figure 468: Device Files Button



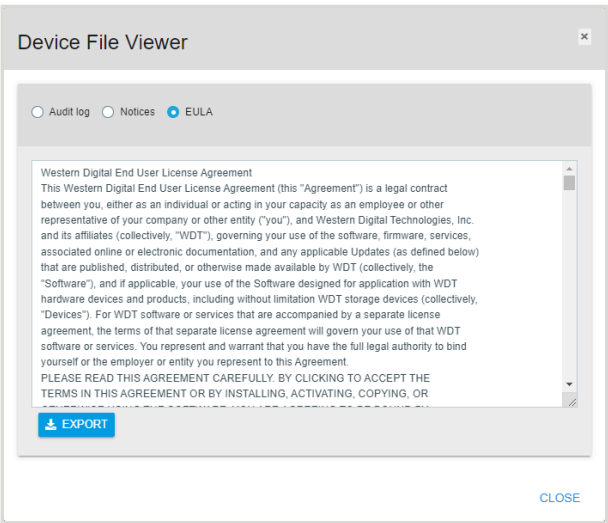
A **Device File Viewer** window will appear:

Figure 469: Device File Viewer



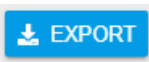
Step 3: Use the radio buttons at the top to select the audit logs, notices, or the EULA to be viewed/downloaded. The Resource Manager Data Center Edition will retrieve the selected information.

Figure 470: Selecting Files



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

Figure 471: Export Button



The appropriate file type will be downloaded to your **Downloads** directory.

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.

7.3 Administration

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

7.3.1 Software Factory Reset

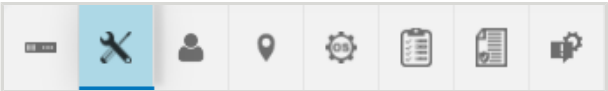
This procedure provides instructions for performing a factory reset of the Resource Manager Data Center Edition software.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

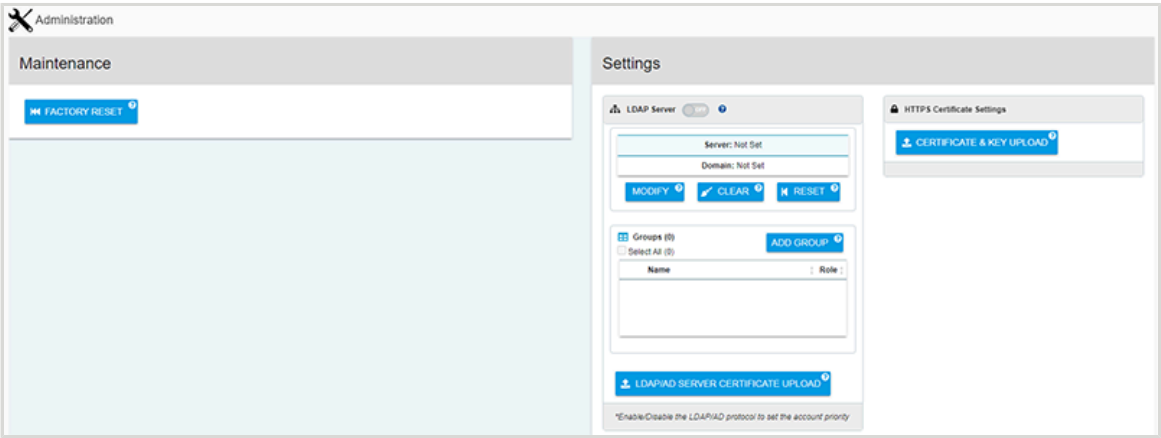
Step 1: From the server dashboard, click the **Administration** tab.

Figure 472: Administration Tab



The **Administration** page will appear:

Figure 473: 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 474: Reset Button



Result: The Resource Manager Data Center Edition has now been returned to factory settings.

7.3.2 Adding an LDAP/AD Group

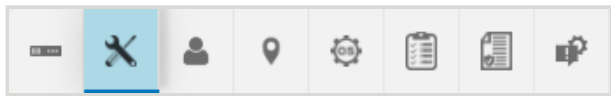
This procedure provides instructions for adding a Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) group to the management server using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

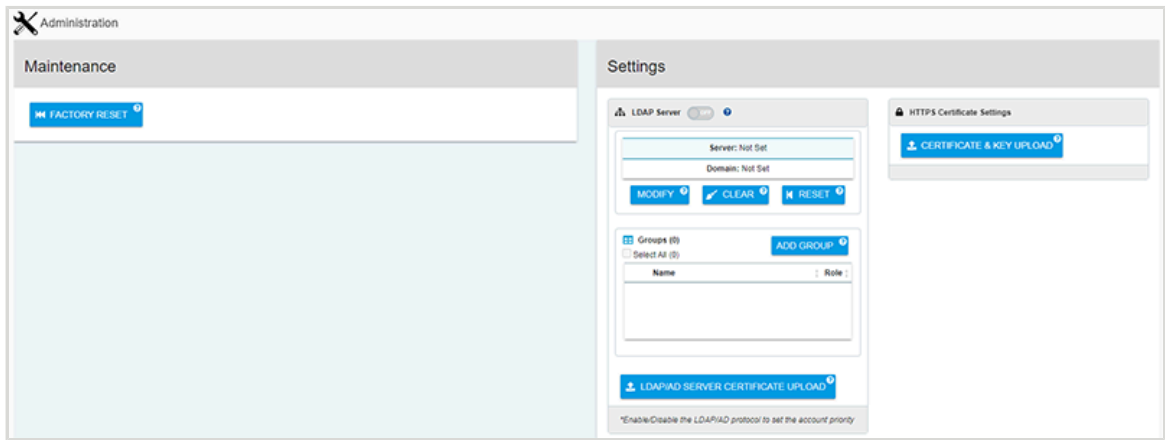
Step 1: From the server dashboard, click the **Administration** tab.

Figure 475: Administration Tab



The **Administration** page will appear:

Figure 476: Administration Page



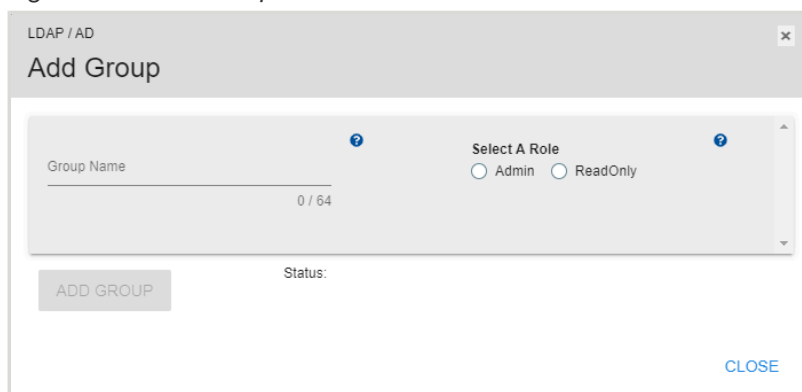
Step 2: In the **Settings** section, click the **Add Group** button.

Figure 477: Add Group Button



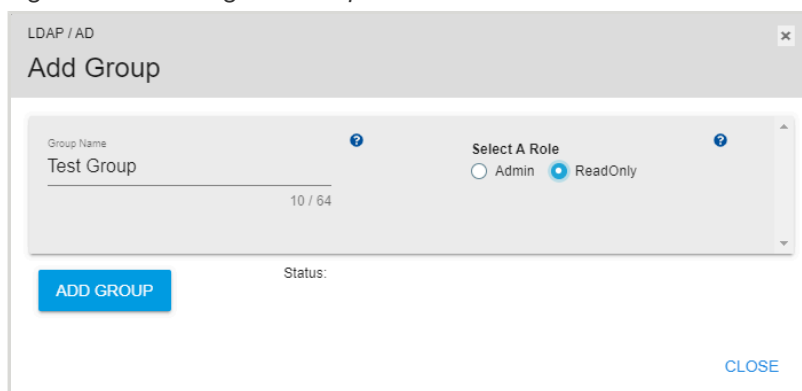
The **Add Group** window will appear:

Figure 478: Add Group Window



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

Figure 479: Naming the Group



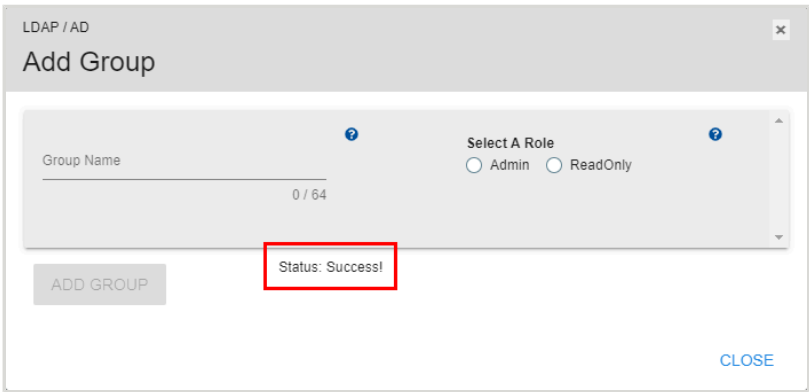
Step 4: Click the **Add Group** button.

Figure 480: Add Group Button



A success message will be displayed:

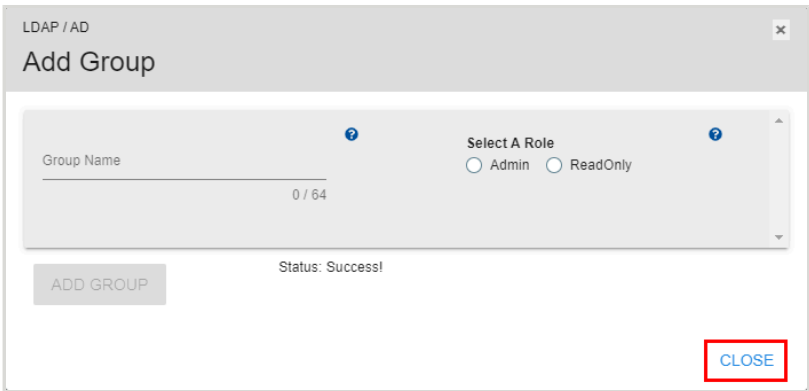
Figure 481: Successful Addition of Group



The screenshot shows a modal window titled "LDAP / AD" with a sub-header "Add Group". It contains a "Group Name" input field with a character count "0 / 64" and a "Select A Role" section with radio buttons for "Admin" and "ReadOnly". A red box highlights the "Status: Success!" message. At the bottom, there is an "ADD GROUP" button and a "CLOSE" link.

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

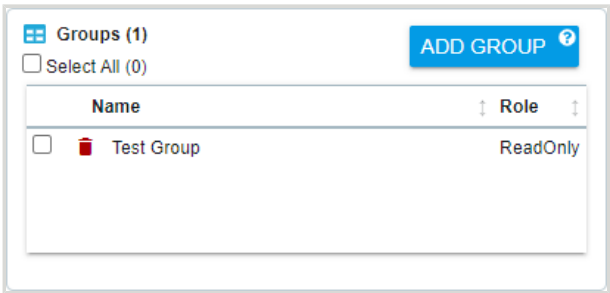
Figure 482: Closing the Add Group Window



This screenshot is identical to Figure 481, showing the "Add Group" dialog box with the "Status: Success!" message. A red box highlights the "CLOSE" link at the bottom right of the dialog.

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

Figure 483: Verifying the Group



The screenshot shows a table titled "Groups (1)" with a "Select All (0)" checkbox and an "ADD GROUP" button. The table has two columns: "Name" and "Role". One group is listed: "Test Group" with the role "ReadOnly".

	Name	Role
☐	Test Group	ReadOnly

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

7.3.3 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 \(page 44\)](#).
2. Follow the instructions for [Adding an LDAP/AD Group \(page 241\)](#).

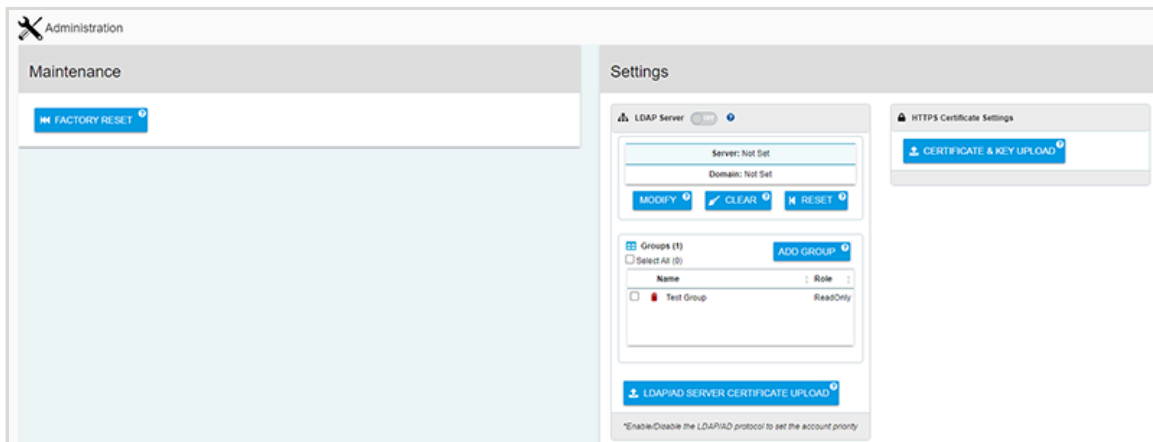
Step 1: From the server dashboard, click the **Administration** tab.

Figure 484: Administration Tab



The **Administration** page will appear:

Figure 485: Administration Page



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

Figure 486: Modify Button



An **LDAP / AD** window will appear:

Figure 487: LDAP / AD Window

The screenshot shows the 'LDAP / AD' configuration window. The title bar reads 'LDAP / AD' with a subtitle '(Lightweight Directory Access Protocol) / (Active Directory)'. Inside the window, there are two main input sections. The 'LDAP Server' section has a label 'LDAP Server' with a help icon, a text input field containing 'Hostname or IP Address', a character count '0 / 256', and a toggle switch labeled 'OFF - Disabled'. The 'LDAP Domain' section has a label 'LDAP Domain' with a help icon, a text input field containing 'companyname.com (net, org, edu, etc.)', and a character count '0 / 256'. At the bottom left is a grey 'UPDATE' button, and at the bottom right is a blue 'CANCEL' link.

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.

Figure 488: Populated LDAP / AD Window

This screenshot shows the same 'LDAP / AD' configuration window, but now the fields are populated. The 'LDAP Server' text input field contains '10.20.30.40' and the character count is '11 / 256'. The 'LDAP Domain' text input field contains 'companyname.com' and the character count is '15 / 256'. The 'UPDATE' button is now highlighted in blue, and the 'CANCEL' link remains blue.

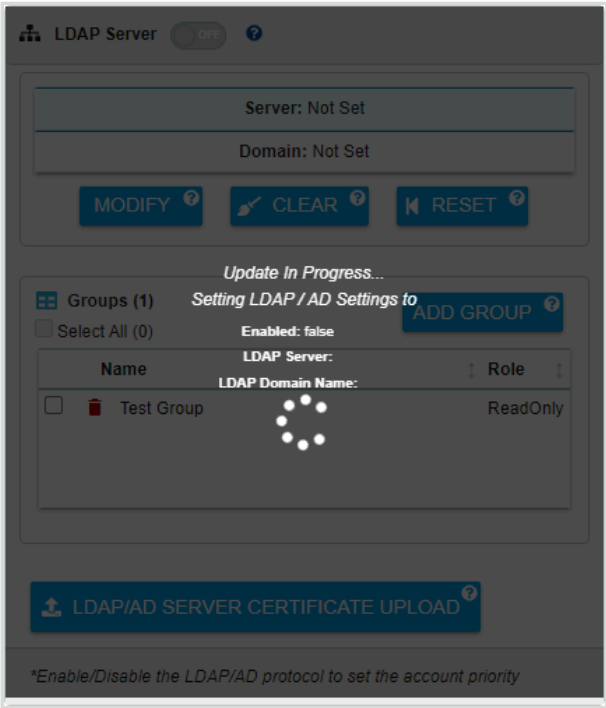
Step 4: Click the **Update** button to save the LDAP/AD configuration.

Figure 489: Update Button



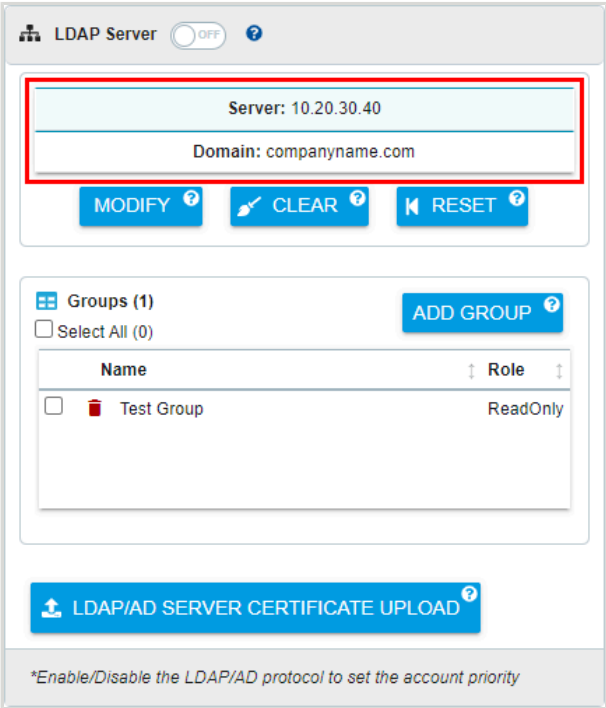
The **LDAP Server** section will be overlaid with a modal, showing that the update is in progress:

Figure 490: LDAP / AD Update Progress



When the update is complete, the **LDAP Server** section will display the new settings:

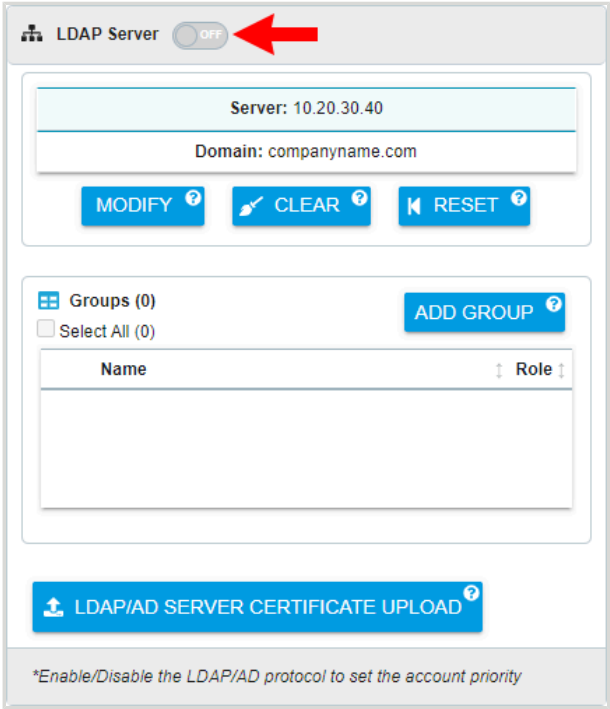
Figure 491: Updated LDAP / AD Settings



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.

Figure 492: Toggle Switch



The image shows a web-based configuration interface for an LDAP Server. At the top, there is a header bar with the text "LDAP Server" and a toggle switch labeled "OFF". A red arrow points to the toggle switch. Below the header, there is a section for server configuration with two input fields: "Server: 10.20.30.40" and "Domain: companyname.com". Below these fields are three buttons: "MODIFY", "CLEAR", and "RESET". Below the server configuration section, there is a section for groups. It starts with a header "Groups (0)" and a button "ADD GROUP". Below this is a checkbox labeled "Select All (0)". Below the checkbox is a table with two columns: "Name" and "Role". The table is currently empty. Below the table is a button labeled "LDAP/AD SERVER CERTIFICATE UPLOAD". At the bottom of the interface, there is a footer note: "*Enable/Disable the LDAP/AD protocol to set the account priority".

Result: The Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) connection settings have now been configured.

7.3.4 Uploading an LDAP/AD Certificate

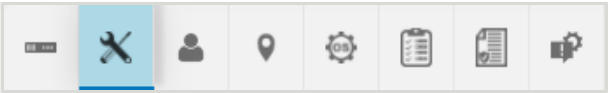
This procedure provides instructions for uploading a Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) certificate to the management server using the Resource Manager Data Center Edition.

Before you begin:

1. Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

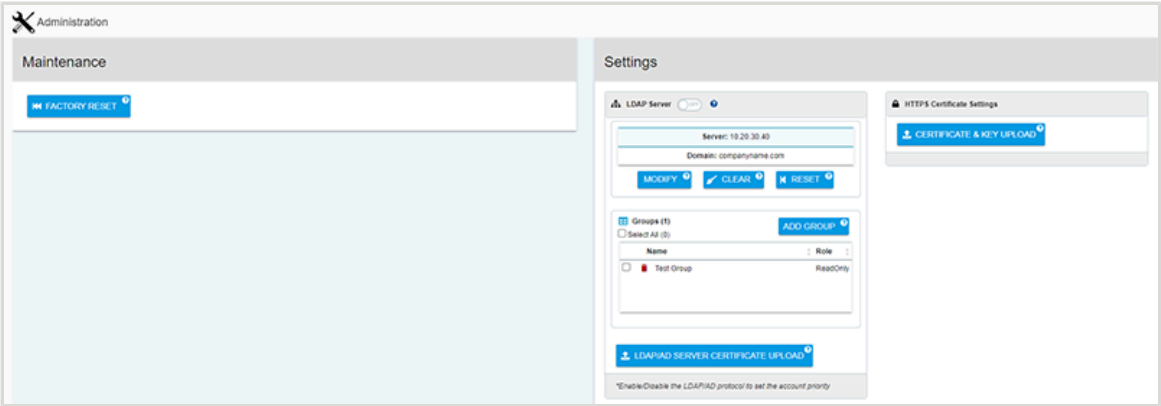
Step 1: From the server dashboard, click the **Administration** tab.

Figure 493: Administration Tab



The **Administration** page will appear:

Figure 494: Administration Page



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

Figure 495: LDAP/AD Server Certificate Upload Button



An **LDAP Server Certificate** window will appear, showing step 1 of 2:

Figure 496: LDAP / AD Window

The screenshot shows a window titled "LDAP Server Certificate" with a close button in the top right. It features a progress bar with two steps: "1 Browse & Select Certificate" (active) and "2 Upload LDAP Certificate". Below the progress bar is a large text input field labeled "Certificate File". To the left of this field is a blue button labeled "SELECT FILE". Below the input field is a grey button labeled "NEXT". In the bottom right corner of the window is a blue link labeled "CLOSE".

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.

Figure 497: Selected Certificate File

This screenshot shows the same "LDAP Server Certificate" window as Figure 496, but now the "Certificate File" field contains the text "cert.pem" and "0.81 KB". The "SELECT FILE" button is still present. Below the input field, the text "Certificate File Staged Successfully; Ready for Upload" is displayed. The "NEXT" button is now blue. The "CLOSE" link remains in the bottom right corner.

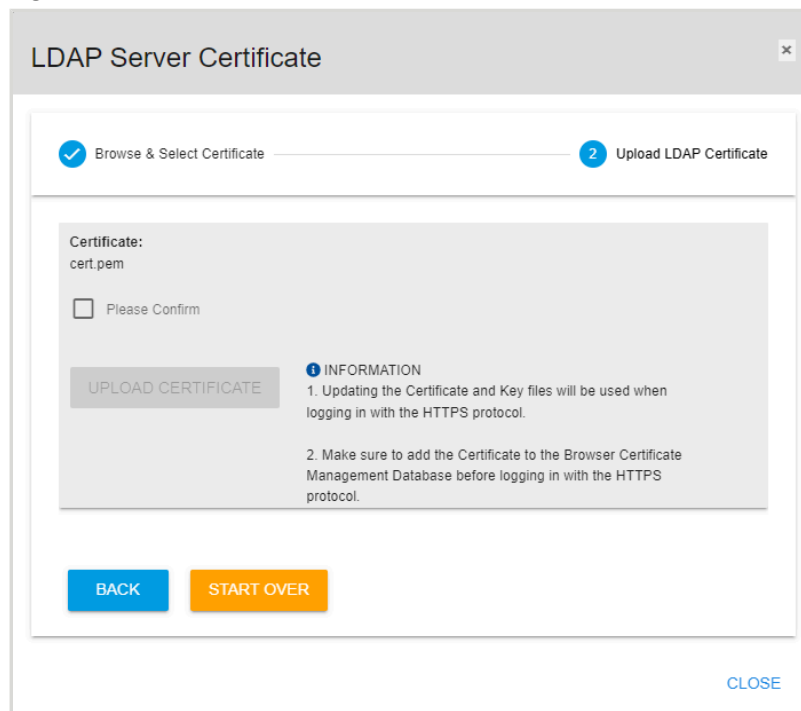
Step 4: Click the **Next** button.

Figure 498: Next Button

A blue rectangular button with the word "NEXT" in white capital letters.

The **LDAP Server Certificate** window will proceed to step 2:

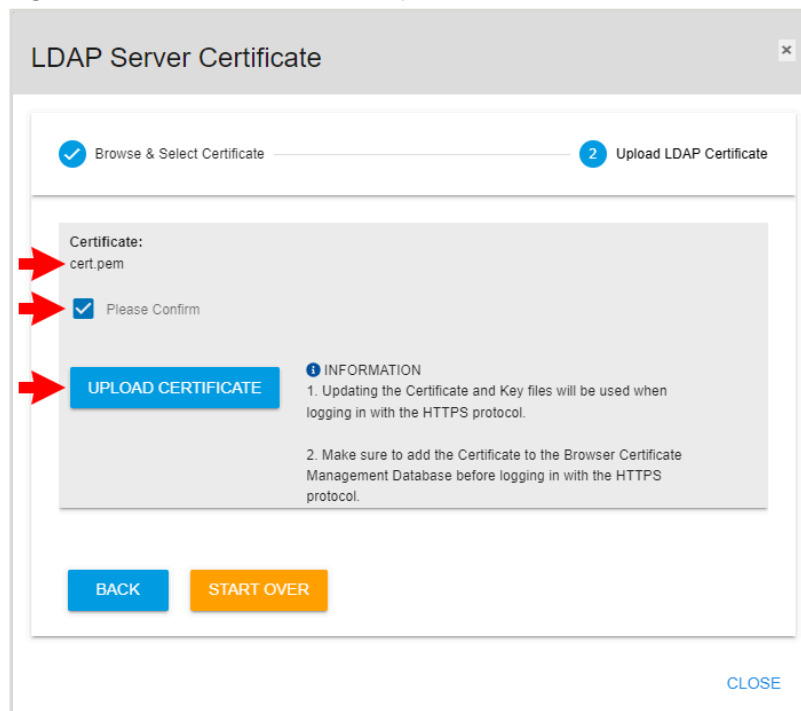
Figure 499: Confirm Certificate



The dialog box is titled "LDAP Server Certificate" and has a close button (X) in the top right corner. It features a progress bar with two steps: "1 Browse & Select Certificate" (completed, indicated by a blue checkmark) and "2 Upload LDAP Certificate" (current step, indicated by a blue question mark). The main content area displays "Certificate: cert.pem" and a "Please Confirm" checkbox. Below this is a grey button labeled "UPLOAD CERTIFICATE". To the right of the button is an "INFORMATION" section with two numbered points: "1. Updating the Certificate and Key files will be used when logging in with the HTTPS protocol." and "2. Make sure to add the Certificate to the Browser Certificate Management Database before logging in with the HTTPS protocol." At the bottom left are two buttons: "BACK" (blue) and "START OVER" (orange). At the bottom right is a "CLOSE" link in blue text.

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.

Figure 500: Confirm Certificate Upload



The screenshot shows a web-based dialog titled "LDAP Server Certificate" with a close button (X) in the top right corner. The dialog has a progress bar at the top with two steps: "1 Browse & Select Certificate" (completed, marked with a checkmark) and "2 Upload LDAP Certificate" (current step, marked with a question mark). The main content area displays "Certificate: cert.pem" with a red arrow pointing to it. Below this is a checked checkbox labeled "Please Confirm" with a red arrow pointing to it. A blue "UPLOAD CERTIFICATE" button is highlighted with a red arrow. To the right of the button is an "INFORMATION" section with two numbered points: "1. Updating the Certificate and Key files will be used when logging in with the HTTPS protocol." and "2. Make sure to add the Certificate to the Browser Certificate Management Database before logging in with the HTTPS protocol." At the bottom of the dialog are two buttons: "BACK" (blue) and "START OVER" (orange). A "CLOSE" link is located at the bottom right of the dialog frame.

Result: The Lightweight Directory Access Protocol (LDAP) or Active Directory (AD) certificate has now been uploaded to the management server.

7.3.5 Uploading an HTTPS Certificate & Key

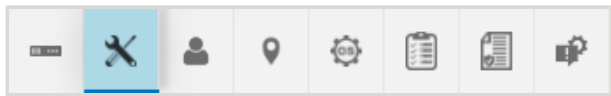
This procedure provides instructions for uploading an SSL/TLS certificate and key pair to the management server using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

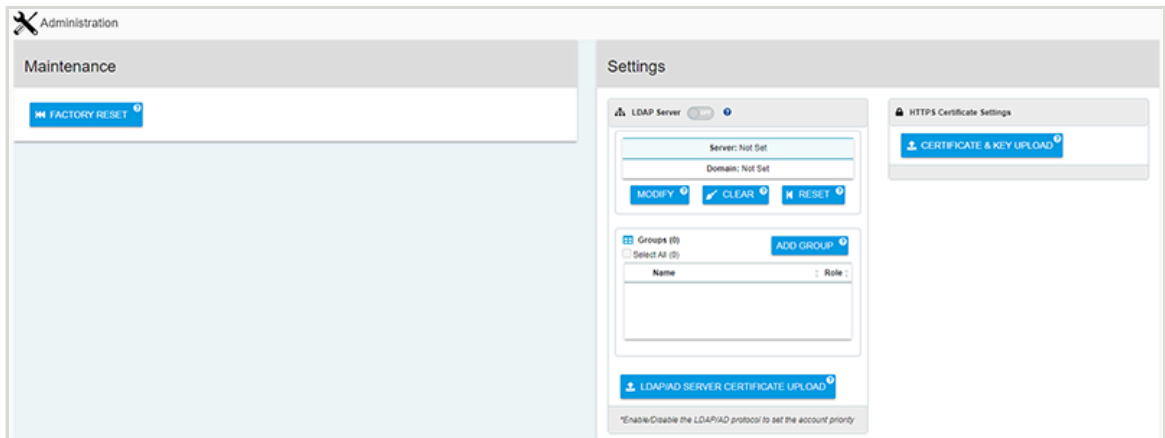
Step 1: From the server dashboard, click the **Administration** tab.

Figure 501: Administration Tab



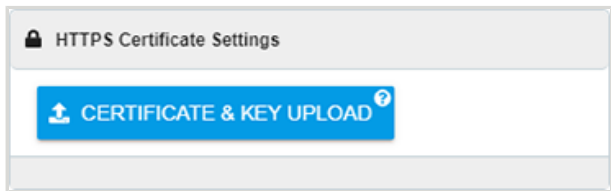
The **Administration** page will appear:

Figure 502: Administration Page



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

Figure 503: Certificate & Key Upload Button



A **TLS Certificate & Key Pair** window will appear, showing step 1 of the upload process:

Figure 504: TLS Certificate & Key Pair Window

The screenshot shows a window titled "TLS Certificate & Key Pair" with a close button (X) in the top right corner. Below the title bar, there are two steps: "1 Browse & Select Certificate & Key Pair" (active) and "2 Upload TLS Certificate & Key Pair". The main area contains two file selection fields. The first field is labeled "Certificate File" and has a blue "SELECT FILE" button to its left. The second field is labeled "Key File" and also has a blue "SELECT FILE" button to its left. Below these fields is a grey "NEXT" button. In the bottom right corner of the window is a blue "CLOSE" link.

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

Figure 505: Certificate & Key Files Selected

The screenshot shows the same "TLS Certificate & Key Pair" window, but now the file selection fields are populated. The "Certificate File" field shows "cert.pem" with a size of "0.81 KB" and a blue "SELECT FILE" button to its left. Below this field, it says "Certificate File Staged Successfully; Ready for Upload". The "Key File" field shows "key.pem" with a size of "0.23 KB" and a blue "SELECT FILE" button to its left. Below this field, it says "Key File Staged Successfully; Ready for Upload". The "NEXT" button is now blue. The "CLOSE" link remains in the bottom right corner.

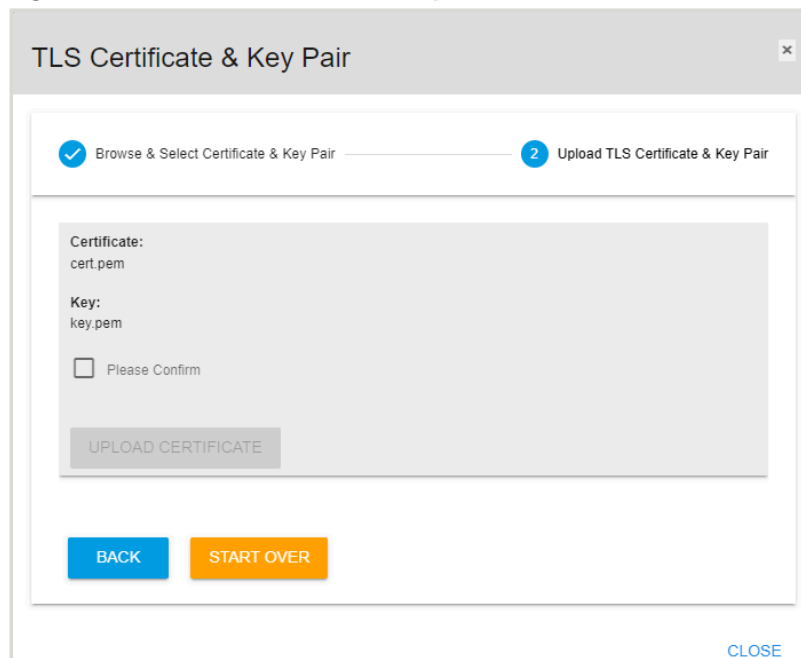
Step 4: Click the **Next** button.

Figure 506: Next Button



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

Figure 507: Confirm Certificate & Key Files



The screenshot shows a window titled "TLS Certificate & Key Pair" with a close button (X) in the top right corner. Inside the window, there is a progress bar with two steps: "1 Browse & Select Certificate & Key Pair" (marked with a blue checkmark) and "2 Upload TLS Certificate & Key Pair" (marked with a blue circle). Below the progress bar, there is a large gray area containing the following text:

Certificate:
cert.pem

Key:
key.pem

☐ Please Confirm

Below this text is a gray button labeled "UPLOAD CERTIFICATE". At the bottom of the window, there are two buttons: "BACK" (blue) and "START OVER" (orange). In the bottom right corner of the window, there is a blue link labeled "CLOSE".

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.

Figure 508: Upload Certificate & Key Files

TLS Certificate & Key Pair

1 Browse & Select Certificate & Key Pair — 2 Upload TLS Certificate & Key Pair

Certificate:
cert.pem

Key:
key.pem

☒ Please Confirm

UPLOAD CERTIFICATE

BACK START OVER

CLOSE

Result: The SSL/TLS certificate and key pair have now been uploaded to the management server.

7.4 Accounts

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

7.4.1 Creating a User Account

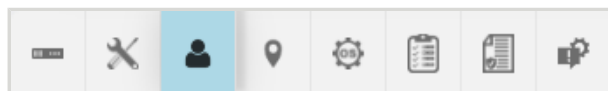
This procedure provides instructions for creating a user account on the management server using Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

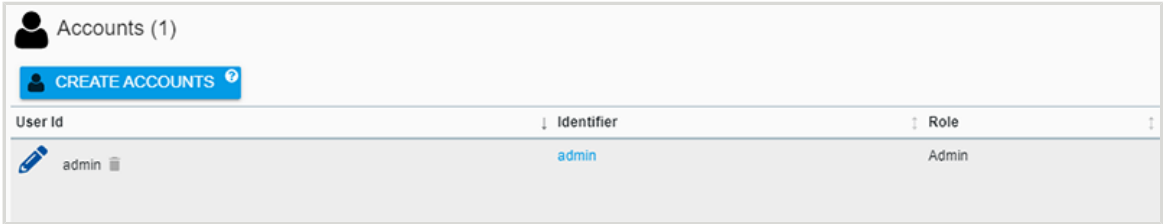
Step 1: From the server dashboard, click the **Accounts** tab.

Figure 509: Accounts Tab



The **Accounts** page will appear:

Figure 510: Accounts Page



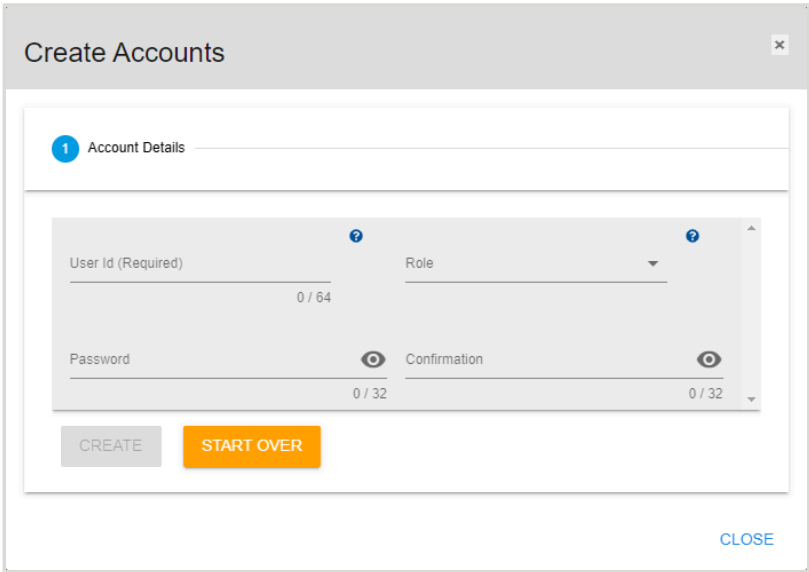
Step 2: Click the **Create Accounts** button.

Figure 511: Create Accounts Button



A **Create Accounts** window will appear:

Figure 512: Create Accounts Window



Step 3: Use the available fields to enter a user ID, role, and password. Then click the **Create** button.

Figure 513: Account Details

The screenshot shows a 'Create Accounts' dialog box with a close button (X) in the top right corner. The dialog has a tab labeled '1 Account Details'. Inside the tab, there is a form with the following fields:

- User Id (Required):** A text input field containing 'FirstnameLastname' and a character count '17 / 64'.
- Role:** A dropdown menu showing 'ReadOnly'.
- Password:** A password input field with a character count '9 / 32'.
- Confirmation:** A confirmation password input field with a character count '9 / 32'.

At the bottom of the form, there are two buttons: a blue 'CREATE' button (highlighted with a red box) and an orange 'START OVER' button. A 'CLOSE' link is located at the bottom right of the dialog box.

Result: The user account has now been created on the management server.

7.4.2 Editing a User Account

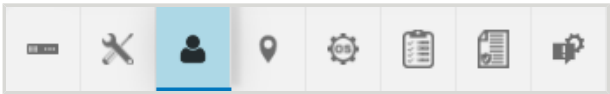
This procedure provides instructions for editing a user account on the management server using Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 514: Accounts Tab



The **Accounts** page will appear:

Figure 515: Accounts Page

Accounts (3) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly
Test	Test	ReadOnly

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

Figure 516: Edit Icon

Accounts (3) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly
Test	Test	ReadOnly

An **Update Account** window will appear:

Figure 517: Update Account Window

The screenshot shows a window titled "Update Account" with a close button (X) in the top right corner. Below the title bar is a tab labeled "1 Account Details". The main content area contains a form for updating an account. At the top left of the form is a green circular icon with a white person silhouette and the text "Test". To its right is a "Role" dropdown menu currently set to "ReadOnly". Below these are two password fields: "Password" and "Confirmation", both with "0 / 32" characters remaining. The "UPDATE" button is disabled (grey), and the "START OVER" button is active (orange). At the bottom right of the window, a blue link reads "SUCCESS! CREATE ANOTHER OR CLOSE?".

Step 3: Use the available fields to edit the account role or password. Then click the **Update** button.

Figure 518: Update Account Details

This screenshot is similar to Figure 517, but the "Role" dropdown menu is now set to "Operator". The "UPDATE" button, which was previously disabled, is now active and highlighted with a red rectangular box. The "START OVER" button remains active (orange). The success message at the bottom is still "SUCCESS! CREATE ANOTHER OR CLOSE?".

Result: The management server's user account has now been edited.

7.4.3 Deleting a User Account

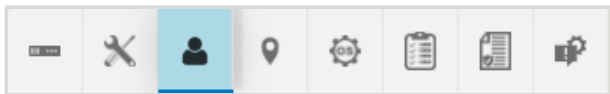
This procedure provides instructions for deleting a user account on the management server using Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 519: Accounts Tab



The **Accounts** page will appear:

Figure 520: Accounts Page

Accounts (3) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly
Test	Test	ReadOnly

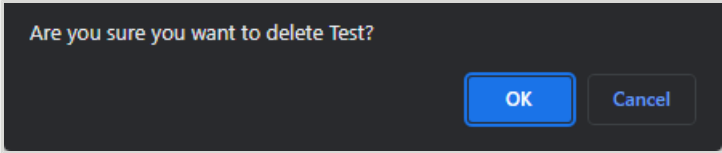
Step 2: Click the **Delete** icon for the account to be deleted.

Figure 521: Delete Icon

Accounts (3) CREATE ACCOUNTS		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly
Test	Test	ReadOnly

A dialogue box will appear, prompting the user to confirm the deletion:

Figure 522: Confirm Account Deletion



Step 3: Click **OK**.
After the deletion is processed, the **Accounts** page will refresh to show the remaining accounts:

Figure 523: Remaining Accounts

Accounts (2)		
CREATE ACCOUNTS ?		
User Id	Identifier	Role
admin	admin	Admin
B1	B1	ReadOnly

Result: The management server's user account has now been deleted.

7.5 Location

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

7.5.1 Setting Location Attributes

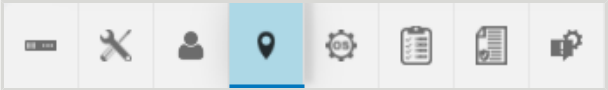
This procedure provides instructions for setting/modifying the location attributes of the management server using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 524: Location Tab



The **Location** page will appear:

Figure 525: Location Page

 Location

 CLEAR ALL

1

Attribute	Value
Address 1 	9950 Federal Drive 
Address 2 	Suite 100 
Address 3 	Click to Edit 
Building 	9950 
City 	Colorado Springs 
Country 	USA 
Device 	0 
GPS Coords 	Click to Edit 
Item 	Rack Units 
Other Location Info 	Click to Edit 
Pod 	1 
Postal Code 	80921 
Rack 	2 
Room 	159 
Row 	1 
Shelf 	17 
Site Name 	WDC Colorado Springs Lab 1 
State 	Colorado 
Territory 	Click to Edit 

Step 2: To edit a location attribute, click the attribute's edit icon.

Figure 526: Edit Icon

 Location

 CLEAR ALL 

Attribute	Value
Address 1 	9950 Federal Drive 
Address 2 	Suite 100 
Address 3 	Click to Edit 
Building 	9950 
City 	Colorado Springs 
Country 	USA 
Device 	0 
GPS Coords 	Click to Edit 
Item 	Rack Units 
Other Location Info 	Click to Edit 
Pod 	1 
Postal Code 	80921 
Rack 	2 
Room 	159 
Row 	1 
Shelf 	17 
Site Name 	WDC Colorado Springs Lab 1 
State 	Colorado 
Territory 	Click to Edit 

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

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

7.6 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.

7.6.1 Checking the Resource Manager Software Version

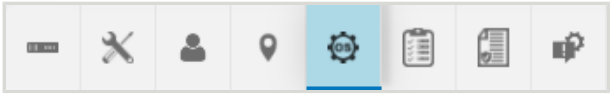
This procedure provides instructions for checking the version of the Resource Manager Data Center Edition software on the management server.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 527: Device OS Tab



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

Figure 528: Device OS Page

Device OS			
Attribute	Value	Attribute	Value
Name	Resource Manager Data Center	Version	1.0.0
Type	Linux		

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

7.7 Assets

The management server's **Assets** tab provides searchable information about discoverable resources on the same network as the server.

7.7.1 Checking the Status of Assets

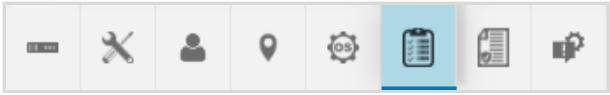
This procedure provides instructions for checking the status of assets (or resources) discovered by the network scan.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 529: 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 530: Assets Page



Assets (57)

Search 

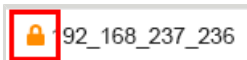
All 

Status	Name ↑	IP Address	Model	Version	Type
OK	5000ccab03000000	192.169.151.154	H4060-J	4.0.30	Storage
OK	5000ccab04000680	192.169.148.201	H4102-J	0.0.0	Storage
OK	5000ccab04008600-A	192.169.111.135	H4102-J	4.0.15	Storage
OK	5000ccab04008600-B	192.169.111.118	H4102-J	4.0.15	Storage
OK	5000ccab040e5c80	192.169.144.90	H4060-J	0.0.0	Storage
OK	5000ccab040e7880	192.169.151.192	H4060-J	2.3.8	Storage
OK	5000ccab040e7f80	192.168.238.66	H4060-J	3.1.11	Storage
OK	5000ccab04105300	192.168.238.143	H4060-J	3.1.11	Storage
OK	5000ccab04108100	192.169.144.167	H4102-J	4.0.30	Storage
OK	5000ccab0410a200-A	192.169.238.221	H4102-J	4.0.30	Storage
Critical failure	5000ccab0410e180-A	192.168.239.197	H4102-J	4.0.30	Storage
OK	5000ccab04110780-A	192.169.149.205	H4102-J	4.0.15	Storage
OK	5000ccab04110a00-A	192.169.239.210	H4102-J	4.0.13	Storage
OK	5000ccab04110a00-B	192.169.239.161	H4102-J	4.0.13	Storage
OK	5000ccab04113280	192.169.151.1	H4102-J	4.0.30	Storage
OK	5000ccab04113b80-A	192.169.149.233	H4102-J	4.0.31	Storage
OK	5000ccab0411f080	192.169.137.177	H4060-J	4.0.30	Storage
OK	5000ccab0411f00	192.169.111.127	H4060-J	3.1.11	Storage
OK	5000ccab05000480	192.169.144.34	H4102-J	4.0.10	Storage
OK	5000ccab050a0580	192.169.111.222	H4102-J	4.0.10	Storage
OK	5000ccab050e2700	192.169.137.38	H4060-J	4.0.30	Storage
OK	5000ccab050e2780	192.169.137.28	H4060-J	4.1.3	Storage
OK	5000ccab050e2a80	192.169.144.3	H4102-J	4.0.30	Storage
OK	e3000-09002e	192.169.239.78	OpenFlex E3000	2.0.5	Chassis



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 531: Lock Icon



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



Figure 532: Locked Asset Login Dialog Box

192_168_237_236

Use this dialog to Provide Credentials for this resource.

Username

Password

Provide Credentials

Cancel

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.

Figure 533: Search Field

Assets (57)

Search

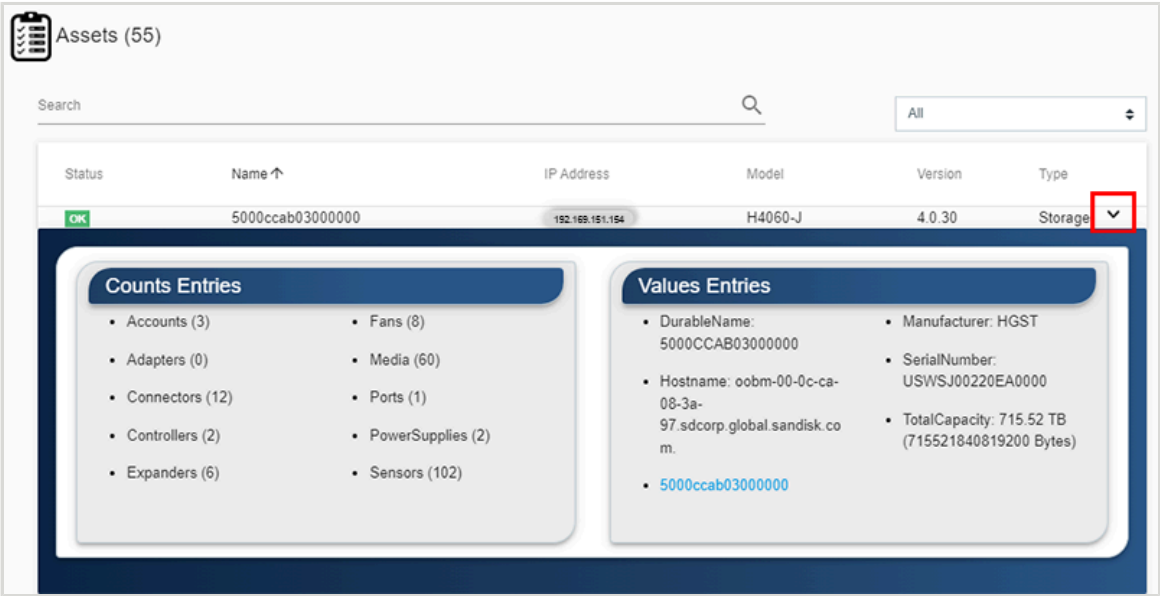
All

Status	Name ↑	IP Address	Model	Version	Type
OK	5000ccab03000000	192.169.151.154	H4060-J	4.0.30	Storage
OK	5000ccab04000680	192.169.148.201	H4102-J	0.0.0	Storage
OK	5000ccab04008600-A	192.169.111.135	H4102-J	4.0.15	Storage
OK	5000ccab04008600-B	192.169.111.118	H4102-J	4.0.15	Storage
OK	5000ccab040e5c80	192.169.144.90	H4060-J	0.0.0	Storage
OK	5000ccab040e7880	192.169.151.192	H4060-J	2.3.8	Storage
OK	5000ccab040e7f80	192.168.238.66	H4060-J	3.1.11	Storage
OK	5000ccab04105300	192.168.238.143	H4060-J	3.1.11	Storage
OK	5000ccab04108100	192.169.144.167	H4102-J	4.0.30	Storage
OK	5000ccab0410a200-A	192.168.238.221	H4102-J	4.0.30	Storage
Critical failure	5000ccab0410e180-A	192.168.238.197	H4102-J	4.0.30	Storage
OK	5000ccab04110780-A	192.169.149.205	H4102-J	4.0.15	Storage
OK	5000ccab04110a00-A	192.168.239.210	H4102-J	4.0.13	Storage
OK	5000ccab04110a00-B	192.168.238.161	H4102-J	4.0.13	Storage
OK	5000ccab04113280	192.169.151.1	H4102-J	4.0.30	Storage
OK	5000ccab04113b80-A	192.169.149.233	H4102-J	4.0.31	Storage
OK	5000ccab0411f080	192.169.137.177	H4060-J	4.0.30	Storage
OK	5000ccab0411f00	192.169.111.127	H4060-J	3.1.11	Storage
OK	5000ccab05000480	192.169.144.24	H4102-J	4.0.10	Storage
OK	5000ccab050a0580	192.169.111.222	H4102-J	4.0.10	Storage
OK	5000ccab050e2700	192.169.137.38	H4060-J	4.0.30	Storage
OK	5000ccab050e2780	192.169.137.28	H4060-J	4.1.3	Storage
OK	5000ccab050e2a80	192.169.144.3	H4102-J	4.0.30	Storage
OK	e3000-09002e	192.168.239.76	OpenFlex E3000	2.0.5	Chassis

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 267). 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 534: Additional Asset Info



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

7.8 Policies

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

7.8.1 Creating a Policy

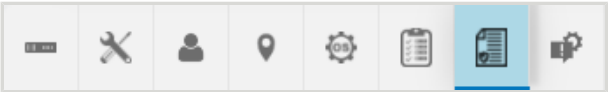
This procedure provides instructions for creating a policy on the management server.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 535: Policies Tab



The **Policies** page will appear:

Figure 536: Policies Page

Policies (3)						
CREATE POLICY MC						
Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules
Bruce Policy Health	6ec7a038-605e-0064-43f1-758f45d62c		Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3
Health 2 Check	90e3eb42-01e9-485b-9ae2-43239d62d62f		Policy to track health for openflex-data24-3200-usalp02120qp001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck
Temperature Sensor Check	e946cc05-480e-d612-dac0-2e456e95c05f		Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck

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

Figure 537: Create Policy Button



A **Create Policy** window will be displayed, showing step 1:

Figure 538: Create Policy Window

Create Policy

1 Step 1

2 Step 2

3 Confirmation

Name (Required)

0 / 64

Description (Optional)

0 / 256

Enabled

NEXT

CANCEL

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.

Figure 539: Create Policy Window

Step 4: Click the **Next** button.

Figure 540: Next Button



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

Figure 541: Create Policy Window

The screenshot shows a 'Create Policy' window with a three-step progress bar at the top: Step 1 (pencil icon), Step 2 (active, blue circle), and Step 3 (Confirmation, grey circle). The main content area is divided into three sections: 'RULE: NAME & SALIENCE (REQUIRED)' (dark blue header), 'RULE: CONDITIONS (REQUIRED)' (orange header), and 'RULE: DESCRIPTION & LOG (OPTIONAL)' (light grey header). The 'NAME & SALIENCE' section contains three input fields: 'Name (Required)' with a character count '0 / 64', 'Saliency (Required)' with a range 'Range: 0-100', and 'Action Methods (Required)' with a dropdown arrow. The 'CONDITIONS' and 'DESCRIPTION & LOG' sections are currently empty. At the bottom, there are 'BACK' and 'NEXT' buttons, and a 'CANCEL' link in the bottom right corner.

Step 5: In the **Rule: Name & Saliency** section, use the available fields to input a rule name, saliency, and the action to be taken. This creates a rule within the policy.

Figure 542: Creating a Rule

The screenshot shows the 'Create Policy' dialog box in a three-step process. Step 2, 'Rule Name & Saliency', is the active step. It contains a table with three columns: Name (Required), Saliency (Required), and Action Methods (Required). The first row has 'CablePresent' for Name, '50' for Saliency, and 'SendMail' for Action Methods. Below the table are sections for 'RULE: CONDITIONS (REQUIRED)' and 'RULE: DESCRIPTION & LOG (OPTIONAL)'. At the bottom are 'BACK', 'NEXT', and 'CANCEL' buttons.

Name (Required)	Saliency (Required)	Action Methods (Required)
CablePresent	50	SendMail

12 / 64 Range: 0-100

RULE: NAME & SALIENCE (REQUIRED)

RULE: CONDITIONS (REQUIRED)

RULE: DESCRIPTION & LOG (OPTIONAL)

BACK NEXT CANCEL

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 **Cable Present == false**.

Figure 543: Rule Conditions

Step 7: Click the plus icon to add the rule to the policy.

Figure 544: Rule Conditions

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 545: Rule Conditions

Step 9: To add another rule to the policy, click the **Add Rule** button. Then repeat steps 5 (page 270) through 8 (page 273) to name the rule and define its conditions.

Figure 546: Add Rule Button



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

Figure 547: Next Button



The **Create Policy** window will proceed to step 3.

Figure 548: Confirm Policy

Create Policy

Step 1 Step 2 **3 Confirmation**

Name: Test Policy Enabled: true
Description: Test policy

Rules

Name	Saliency	Action Methods
<u>CablePresent</u>	<u>50</u>	<u>SendMail</u>

Conditions:

- Cable Present == false

Description: Rule for cable not present
Log: "Cable missing"

☐ Please Confirm

BACK **START OVER** **CREATE**

[CANCEL](#)

Step 11: Review the listed rule(s). If the information looks correct, click the **Please Confirm** checkbox and then click the **Create** button.

Figure 549: Create Policy

Create Policy

Step 1 Step 2 3 Confirmation

Name: Test Policy Enabled: true

Description: Test policy

Rules

Name	Saliency	Action Methods
CablePresent	50	SendMail

Conditions:

- Cable Present == false

Description: Rule for cable not present

Log: "Cable missing"

☒ Please Confirm

BACK START OVER CREATE CANCEL

A popup window will appear, showing the progress of the policy creation.

Figure 550: Policy Creation Progress

Message Center

Start:	End:	Total:
8 / 17, 11:00:02 am	8 / 17, 11:00:02 am	0hr 0min 0s.0

data24-3200-usalp02120qo001c

Step 12: When the progress window disappears, check the table on the **Policies** page to ensure that the newly created policy is displayed.

Figure 551: New Policy

 Policies (4)

CREATE POLICY

MC

Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules
 Bruce Policy	dec7a0d8-665e-0664-48f1-75f8f45d9d2c		Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute iure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3
 Health 2 Check	9be3ebc2-01e9-48fb-9ae2-43239d82062f		Policy to track health for openflex-data24-3200-usaip02120qo001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck
 Temperature Sensor Check	e946cc05-480e-d612-dac0-2e456e95c05f		Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck
 Test Policy	02399c5e-e195-c6b1-d1b1-4022013a1a2b		Test policy	17-Aug-2023 11:00:02	17-Aug-2023 11:00:02	CablePresent

Result: The policy has now been created on the management server.

7.8.2 Deleting a Policy

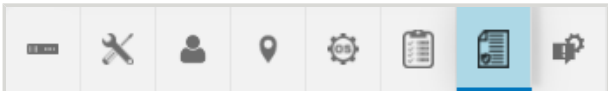
This procedure provides instructions for deleting a policy from the management server.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 552: Policies Tab



The **Policies** page will appear:

Figure 553: Policies Page

The Policies page interface. At the top, it says 'Policies (4)' and has buttons for 'CREATE POLICY' and 'MC'. Below is a table with columns: Name, Identifier, Enabled, Description, Create Date, Last Modified, and Rules. There are four rows of policies: Bruce Policy, Health 2 Check, Temperature Sensor Check, and Test Policy. The 'Test Policy' row has a red square icon next to its name.

Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules
Bruce Policy Health	dec7ad58-665e-0664-48f1-758f45d9d2c	ON	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute iure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3
Health 2 Check	90e3ab02-01e9-48b-9ae2-43239d020e2f	ON	Policy to track health for openflex-data24-3200-usalp02120qe001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck
Temperature Sensor Check	e946cc05-480e-d512-dac0-2e456e95c05f	ON	Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck
Test Policy	02399c5b-e195-cdb1-d1b1-4022013a1a2b	ON	Test policy	17-Aug-2023 11:00:02	17-Aug-2023 11:00:02	CablePresent

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

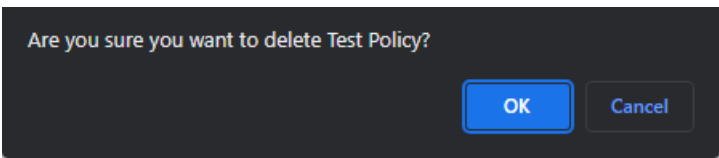
Figure 554: Delete Policy Icon

The same Policies page as in Figure 553, but with a red square highlighting the delete icon (a trash can) next to the 'Test Policy' row.

Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules
Bruce Policy Health	dec7ad58-665e-0664-48f1-758f45d9d2c	ON	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute iure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3
Health 2 Check	90e3ab02-01e9-48b-9ae2-43239d020e2f	ON	Policy to track health for openflex-data24-3200-usalp02120qe001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck
Temperature Sensor Check	e946cc05-480e-d512-dac0-2e456e95c05f	ON	Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck
Test Policy	02399c5b-e195-cdb1-d1b1-4022013a1a2b	ON	Test policy	17-Aug-2023 11:00:02	17-Aug-2023 11:00:02	CablePresent

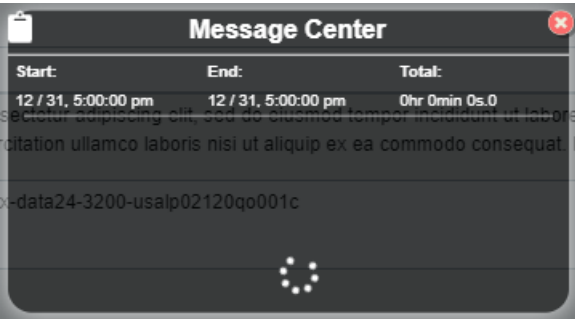
A popup window will prompt the user to confirm the deletion:

Figure 555: Delete Policy Icon



- Step 3:** Click the **OK** button.
- A popup window will appear, showing the progress of the policy deletion.

Figure 556: 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 557: Policies Page

A screenshot of the 'Policies (3)' page. It features a table with columns: Name, Identifier, Enabled, Description, Create Date, Last Modified, and Rules. There are three rows of policies listed. The first row is 'Bruce Policy' with identifier 'dec7ad88-665e-0664-48f1-758f45682c' and is enabled. The second row is 'Health 2 Check' with identifier '9be3eb2-01e9-48b5-9ae2-43239d82082f' and is enabled. The third row is 'Temperature Sensor Check' with identifier 'e945cc05-480e-d812-dac0-2e456e95c05f' and is enabled. The table also includes a 'CREATE POLICY' button and an 'MC' button at the top left.

Name	Identifier	Enabled	Description	Create Date	Last Modified	Rules
Bruce Policy	dec7ad88-665e-0664-48f1-758f45682c	ON	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in	07-Aug-2023 01:43:19	10-Aug-2023 01:31:07	MyRule, MyRule1, MyRule3
Health 2 Check	9be3eb2-01e9-48b5-9ae2-43239d82082f	ON	Policy to track health for openflex-data24-3200-usalp02120q001c	06-Aug-2023 08:34:26	09-Aug-2023 23:45:22	HealthNotOKCheck
Temperature Sensor Check	e945cc05-480e-d812-dac0-2e456e95c05f	ON	Policy to track temperature	05-Aug-2023 20:36:34	09-Aug-2023 23:52:23	TempCheck

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

7.9 Notifications

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

7.9.1 Creating an SMTP Alert

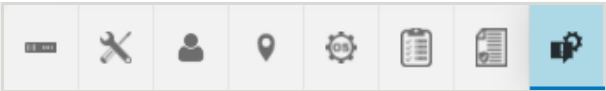
This procedure provides instructions for creating a Simple Mail Transfer Protocol (SMTP) alert on the management server.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

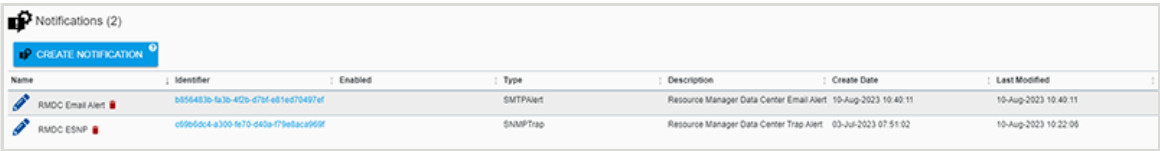
- Step 1:** From the server dashboard, click the **Notifications** tab.

Figure 558: Notifications Tab



The **Notifications** page will appear:

Figure 559: Notifications Page



Name	Identifier	Enabled	Type	Description	Create Date	Last Modified
RMDC Email Alert	b056483b-fa3b-4d29-d7bf-ed1e070497ef		SMTPAlert	Resource Manager Data Center Email Alert	10-Aug-2023 10:40:11	10-Aug-2023 10:40:11
RMDC ESMP	c59e6dc4-a300-f679-d40a-f79efac6969f		SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	10-Aug-2023 10:22:06

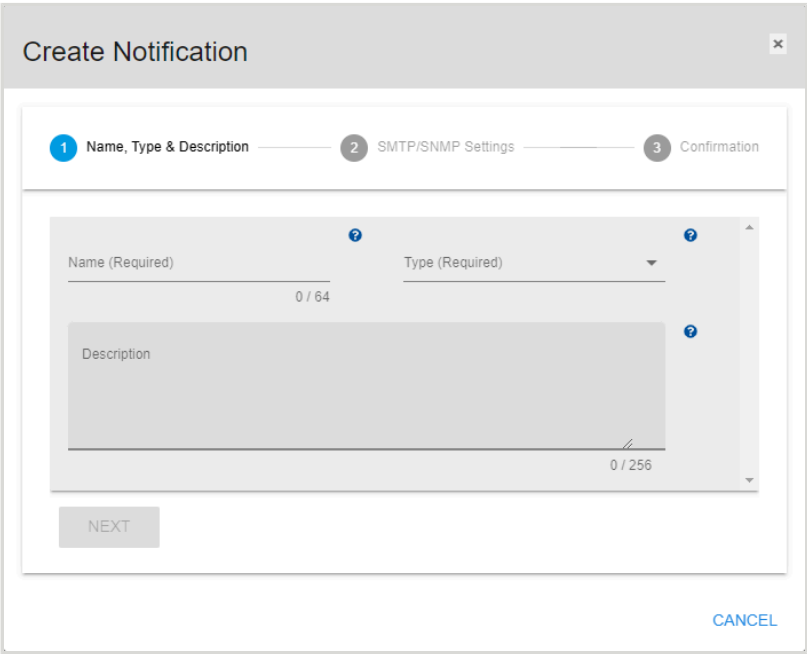
Step 2: Click the **Create Notification** button.

Figure 560: Create Notification Button



A **Create Notification** window will appear, showing step 1:

Figure 561: Create Notification Window



Step 3: Use the available fields to select the **SMTP Alert** notification type, and input a name and description for the notification.

Figure 562: Notification Type

The screenshot shows a 'Create Notification' window with a progress bar at the top indicating four steps: 1. Name, Type & Description (active), 2. SMTP Settings, 3. Distributions, and 4. Confirmation. The main content area contains three input fields: 'Name (Required)' with the value 'Test Alert' and a character count of '10 / 64'; 'Type (Required)' with a dropdown menu showing 'SMTPAlert'; and 'Description' with the value 'Test SMTP Alert' and a character count of '15 / 256'. Each field has a blue question mark icon to its right. At the bottom left is a blue 'NEXT' button, and at the bottom right is a blue 'CANCEL' link.

Step 4: Click the **Next** button.

Figure 563: Next Button



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

Figure 564: SMTP Settings

Create Notification

1 Name, Type & Description — 2 SMTP Settings — 3 Distributions — 4 Confirmation

Server (Required) 0 / 64

Port (Required) 25 Range: 0-65536 2

Subject (Required) 0 / 64

From (Required) 0 / 64

Username (Required) 0 / 64

Password (Required) 0 / 32

BACK NEXT

CANCEL

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

Figure 565: Populated SMTP Settings

Create Notification

1 Name, Type & Description — 2 SMTP Settings — 3 Distributions — 4 Confirmation

Server (Required) smtpserver.company.com 22 / 64

Port (Required) 25 Range: 0-65536 2

Subject (Required) SMTP 4 / 64

From (Required) smtpadmin@company.com 21 / 64

Username (Required) admin 5 / 64

Password (Required) **** 4 / 32

BACK NEXT

CANCEL

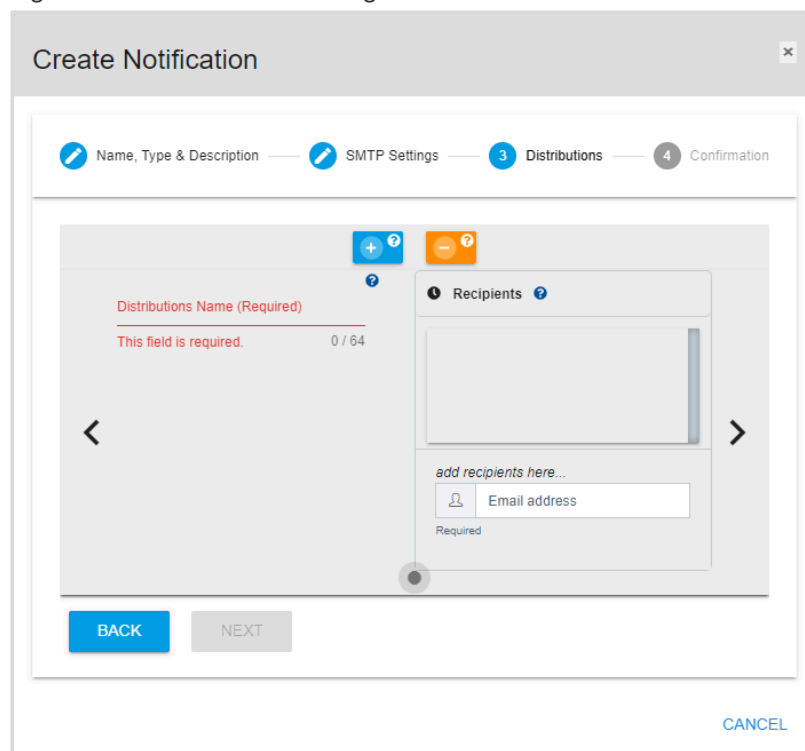
Step 6: Click the **Next** button.

Figure 566: Next Button



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

Figure 567: Distribution Settings



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.

Figure 568: Populated Distribution Settings



Tip: Use the **Add Distribution** or **Remove Distribution** buttons to create additional email distribution groups or delete existing groups.

Figure 569: Add / Remove Distribution Buttons



Step 8: Click the **Next** button.

Figure 570: Next Button



The **Create Notification** window will update to show step 4:

Figure 571: Notification Confirmation

Create Notification

Progress: 1 Name, Type & Description — 2 SMTP Settings — 3 Distributions — **4 Confirmation**

Name: **Test Alert** Type: **SMTPAlert**

Description: **Test SMTP Alert**

Server: **smtpserver.company.com** Port: **25**

Subject: **SMTP** From: **smtpadmin@company.com**

Username: **admin** Password: *********

Distributions

Name: **SMTP Alerts Group** Recipients:

lastname.firstname@company.com

firstname.lastname@company.com

☐ Please Confirm

BACK **START OVER** **CREATE**

[CANCEL](#)

Step 9: Review the listed information. If correct, click the **Please Confirm** checkbox and then click the **Create** button.

Figure 572: Create SMTP Notification

Create Notification

Name, Type & Description

SMTP Settings

Distributions

4 Confirmation

Name: Test Alert

Type: SMTPAlert

Description: Test SMTP Alert

Server: smtpserver.company.com

Port: 25

Subject: SMTP

From: smtpadmin@company.com

Username: admin

Password: *****

Distributions

Name: SMTP Alerts Group

Recipients:

lastname.firstname@company.com

firstname.lastname@company.com

☒ Please Confirm

BACK

START OVER

CREATE

CANCEL

When the notification has been created, it will appear in the notifications list:

Figure 573: SMTP Notification Created

Notifications (3)

CREATE NOTIFICATION

Name	Identifier	Type	Description	Create Date	Last Modified
RMDC Email Alert	53acc64a-9a6e-415f-425b-8004b3d6863	SMTPAlert	Resource Manager Data Center Email Alert	03-Jul-2023 07:48:29	03-Jul-2023 07:48:29
RMDC Trap Alert	c69b6dc4-a300-b970-d40a-f79ebaca999f	SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	03-Jul-2023 07:51:02
Test Alert	109598b1-2d64-8c88-4aa1-70adc0015cc3	SMTPAlert	Test SMTP Alert	02-Aug-2023 12:58:53	02-Aug-2023 12:58:53

Result: The SMTP notification has now been created on the management server.

7.9.2 Creating an SNMP Trap

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

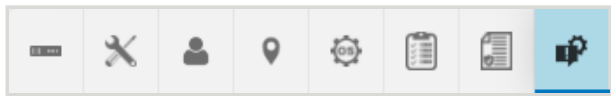
Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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 574: Notifications Tab



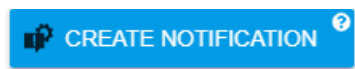
The **Notifications** page will appear:

Figure 575: Notifications Page

Notifications (2)						
CREATE NOTIFICATION						
Name	Identifier	Enabled	Type	Description	Create Date	Last Modified
RMDC Email Alert	b556483b-5a3b-42b-d7bf-e51ed70497ef		SMTPAlert	Resource Manager Data Center Email Alert	10-Aug-2023 10:40:11	10-Aug-2023 10:40:11
RMDC ESMP	c59b6dc4-a300-4e70-d4ba-f79ebac969f		SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	10-Aug-2023 10:22:06

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

Figure 576: Create Notification Button



A **Create Notification** window will appear, showing step 1:

Figure 577: Create Notification Window

The 'Create Notification' window is shown at Step 1 of a three-step process. The steps are: 1. Name, Type & Description; 2. SMTP/SNMP Settings; 3. Confirmation. The first step is active. It contains three input fields: 'Name (Required)' with a character count of 0 / 64, 'Type (Required)' which is a dropdown menu, and a 'Description' text area with a character count of 0 / 256. Each field has a blue question mark icon to its right. A grey 'NEXT' button is located below the input fields, and a blue 'CANCEL' link is at the bottom right of the window.

Step 3: Use the available fields to select the **SNMP Trap** notification type, and input a name and description for the notification.

Figure 578: Notification Type

The 'Create Notification' window is shown at Step 1 with the following data entered: 'Name (Required)' is 'Test Trap' (9 / 64 characters), 'Type (Required)' is 'SNMPTrap', and 'Description' is 'Test SNMP Trap' (14 / 256 characters). Each field has a blue question mark icon to its right. The 'NEXT' button is now blue, indicating it is clickable. The 'CANCEL' link remains at the bottom right.

Step 4: Click the **Next** button.

Figure 579: Next Button



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

Figure 580: SNMP Settings

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

Figure 581: Populated SNMP Settings

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

Figure 582: Next Button



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

Figure 583: SNMP Confirmation

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

Figure 584: Create SNMP Notification

When the notification has been created, it will appear in the notifications list:

Figure 585: SNMP Notification Created

Notifications (3)
[CREATE NOTIFICATION](#)

Name	Identifier	Type	Description	Create Date	Last Modified
RMDC Email Alert	53acc64a-9a6e-415f-425b-b5d48b3d8863	SMTPAlert	Resource Manager Data Center Email Alert	03-Jul-2023 07:48:29	03-Jul-2023 07:48:29
RMDC Trap Alert	c69e6dc4-a309-fa7b-d40a-f79e8aca969f	SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	03-Jul-2023 07:51:02
Test Trap	dc81dd8e-53c5-8000-7576-8bcbf0aae8ad	SNMPTrap	Test SNMP Trap	02-Aug-2023 13:43:02	02-Aug-2023 13:43:02

Result: The SNMP trap has now been created on the management server.

7.9.3 Deleting a Notification

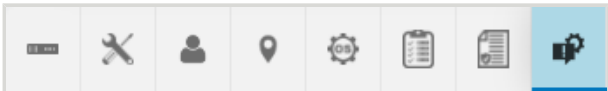
This procedure provides instructions for deleting a notification from the management server.

Before you begin:

- Follow the instructions for [Navigating to a Management Server Dashboard \(page 44\)](#).

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

Figure 586: Notifications Tab



The **Notifications** page will appear:

Figure 587: Notifications Page

The screenshot shows the 'Notifications (3)' page. At the top is a 'CREATE NOTIFICATION' button. Below it is a table with columns: Name, Identifier, Type, Description, Create Date, and Last Modified. There are three rows of notifications: 'RMDC Email Alert', 'RMDC Trap Alert', and 'Test Alert'. Each row has a delete icon (a red square with a white 'X') next to the 'Name' column.

Name	Identifier	Type	Description	Create Date	Last Modified
RMDC Email Alert	53acc64a-9a5e-415f-425b-8504b3d8863	SMTPAlert	Resource Manager Data Center Email Alert	03-Jul-2023 07:48:29	03-Jul-2023 07:48:29
RMDC Trap Alert	c69b6dc4-a300-4e70-d40a-479e8aca999f	SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	03-Jul-2023 07:51:02
Test Alert	8095f8b1-2b14-8c88-4aa1-70ad0015cc3	SMTPAlert	Test SMTP Alert	02-Aug-2023 12:58:53	02-Aug-2023 12:58:53

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

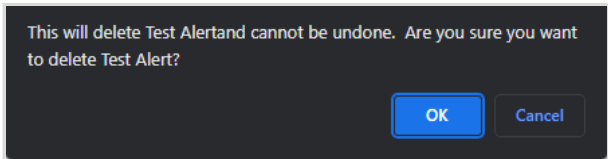
Figure 588: Delete Icon

This screenshot is identical to Figure 587, but with a red square highlighting the delete icon (a red square with a white 'X') next to the 'Test Alert' row in the table.

Name	Identifier	Type	Description	Create Date	Last Modified
RMDC Email Alert	53acc64a-9a5e-415f-425b-8504b3d8863	SMTPAlert	Resource Manager Data Center Email Alert	03-Jul-2023 07:48:29	03-Jul-2023 07:48:29
RMDC Trap Alert	c69b6dc4-a300-4e70-d40a-479e8aca999f	SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	03-Jul-2023 07:51:02
Test Alert	8095f8b1-2b14-8c88-4aa1-70ad0015cc3	SMTPAlert	Test SMTP Alert	02-Aug-2023 12:58:53	02-Aug-2023 12:58:53

A popup will prompt the user to confirm the deletion:

Figure 589: Confirm Deletion



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 590: Notification Removed

⚙ Notifications (2)

CREATE NOTIFICATION

Name	Identifier	Enabled	Type	Description	Create Date	Last Modified
RMDC Email Alert	b056483b-fa3b-42c8-d7bf-e81ed70497ef		SMTPAlert	Resource Manager Data Center Email Alert	10-Aug-2023 10:40:11	10-Aug-2023 10:40:11
RMDC ESMP	c59b6dc4-a300-9c79-d40a-f79efac9969f		SNMPTrap	Resource Manager Data Center Trap Alert	03-Jul-2023 07:51:02	10-Aug-2023 10:22:06

Result: The notification has now been deleted from the management server.



Ultrastar Enclosure Management – Compute Service

This section provides information and instructions for managing an Ultrastar storage enclosure through an in-band connection to a directly attached compute server running Resource Manager Data Center Edition.

In This Chapter:

- Overview of Ultrastar In-Band Dashboard.....	294
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- Administration.....	303
- Location.....	304
- Controllers.....	306
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- Sensors.....	316
- Slots.....	318
- Connectors.....	320
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- Media.....	326

8.1 Overview of Ultrastar In-Band Dashboard

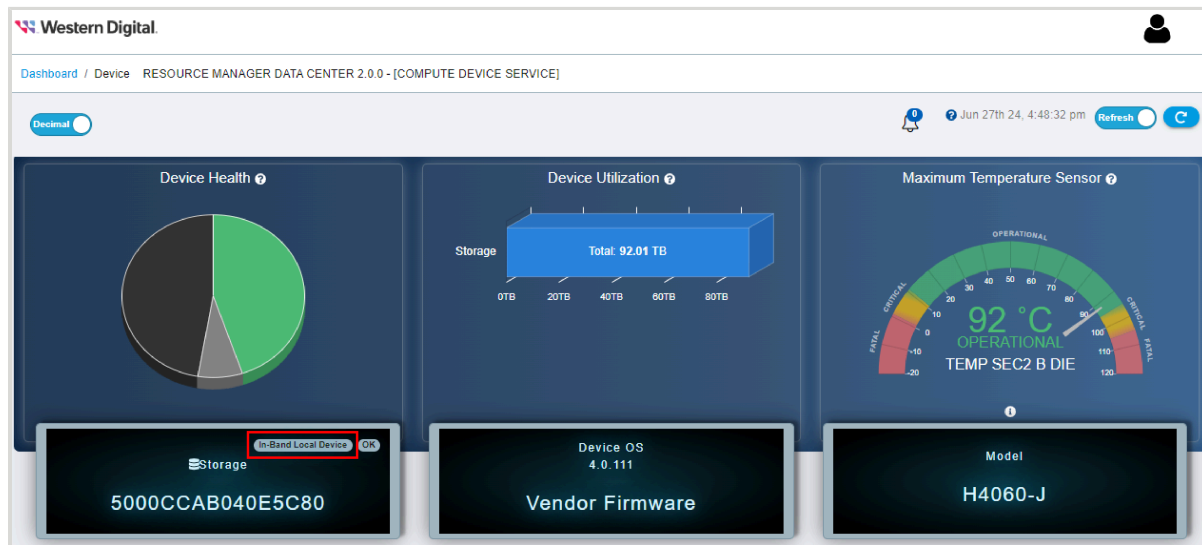
Management Connection Method

The dashboard of an Ultrastar storage enclosure will present several differences, depending on whether it is accessed from a "local" server or a "remote" server:

- **Local Server:** directly attached to the enclosure, and able to manage the enclosure in-band over the data path using the Resource Manager Data Center Edition Compute Service
- **Remote Server:** remotely attached to the enclosure over a network, and able to manage the enclosure out-of-band over the management path using the Resource Manager Data Center Edition Central Service

The topics in this section cover in-band management capabilities from a local server. The in-band, local nature of the connection is indicated by the **In-Band Local Device** designation that appears on the dashboard:

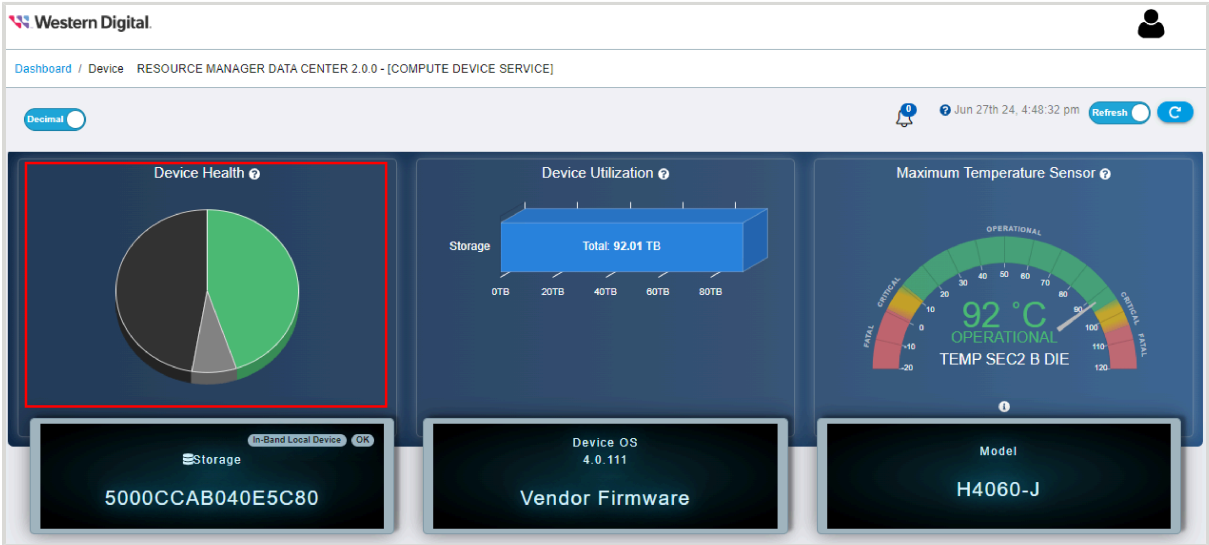
Figure 591: In-Band Local Device Designation



Device Health

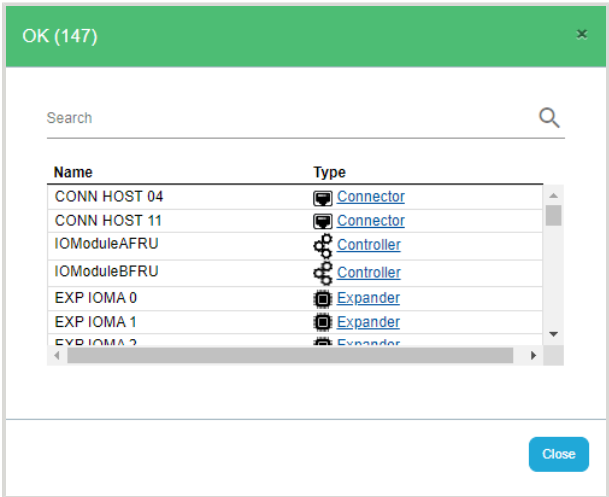
The **Device Health** section displays a pie chart that groups the health states of this enclosure's components and sensors into color-coded segments.

Figure 592: 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:

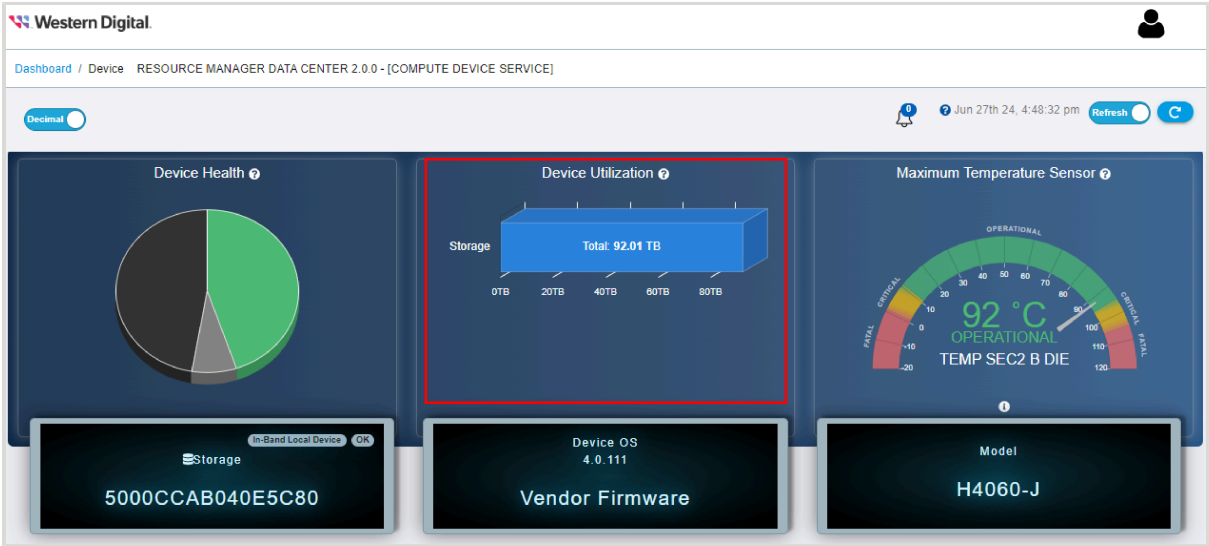
Figure 593: Components & Sensors Health Status



Device Utilization

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

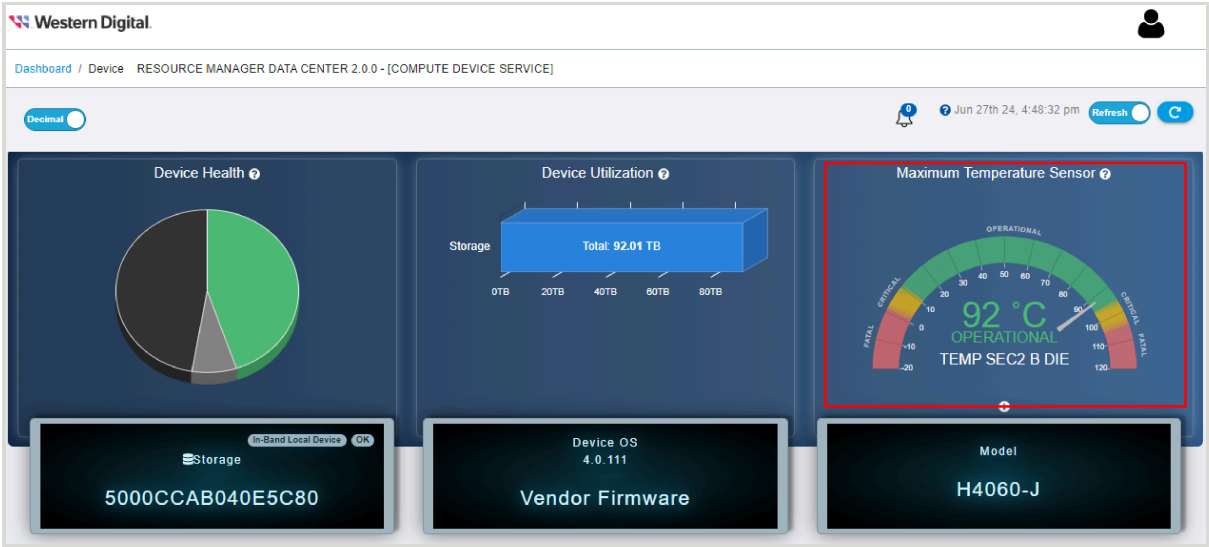
Figure 594: Device Utilization Chart



Maximum Temperature Sensor

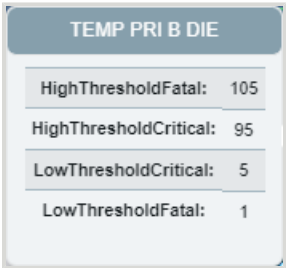
The **Maximum Temperature Sensor** section of the dashboard displays a temperature scale for the sensor with the highest temperature in the enclosure.

Figure 595: 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:

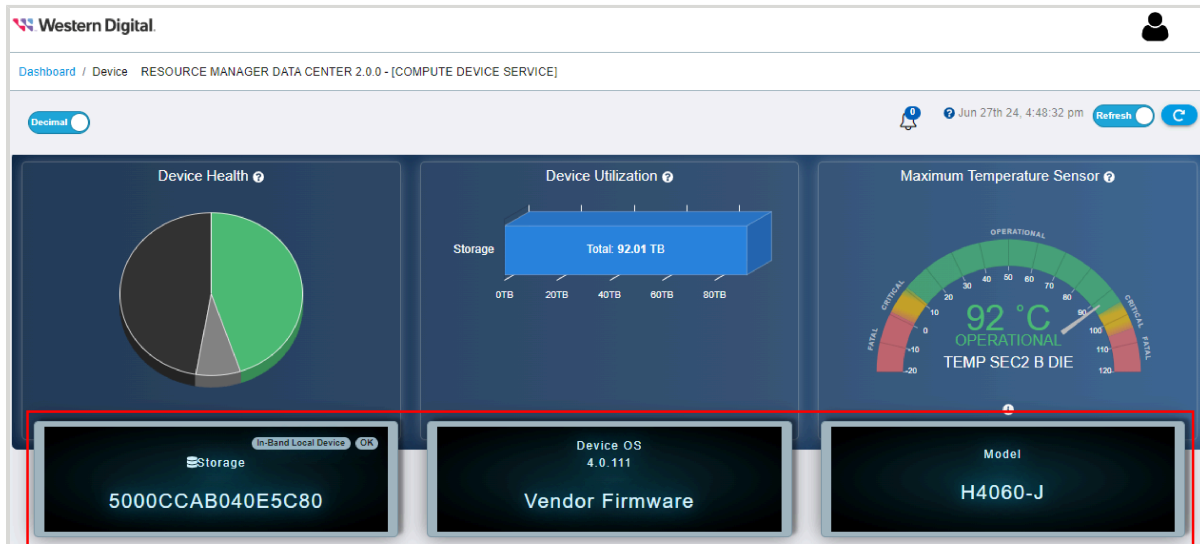
Figure 596: Sensor Temperature Thresholds



Device Information

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

Figure 597: Device Details



Device Management Controls

The bottom portion of the dashboard provides enclosure management information and controls, which are organized into tabs. The following sections provide procedures for the most common management actions available from these tabs.

- [Device Information \(page 299\)](#)
- [Administration \(page 303\)](#)
- [Location \(page 304\)](#)
- [Controllers \(page 306\)](#)
- [Power Supplies \(page 308\)](#)
- [Fans \(page 212\)](#)
- [Ports \(page 310\)](#)
- [Expanders \(page 219\)](#)
- [Sensors \(page 316\)](#)
- [Slots \(page 318\)](#)
- [Connectors \(page 320\)](#)
- [Device OS \(page 321\)](#)
- [Media \(page 326\)](#)

8.2 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.

8.2.1 Enabling the Enclosure Ident LED

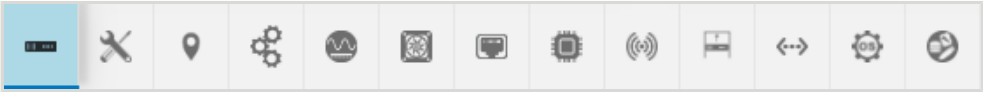
This procedure provides instructions for enabling the identification LED of an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

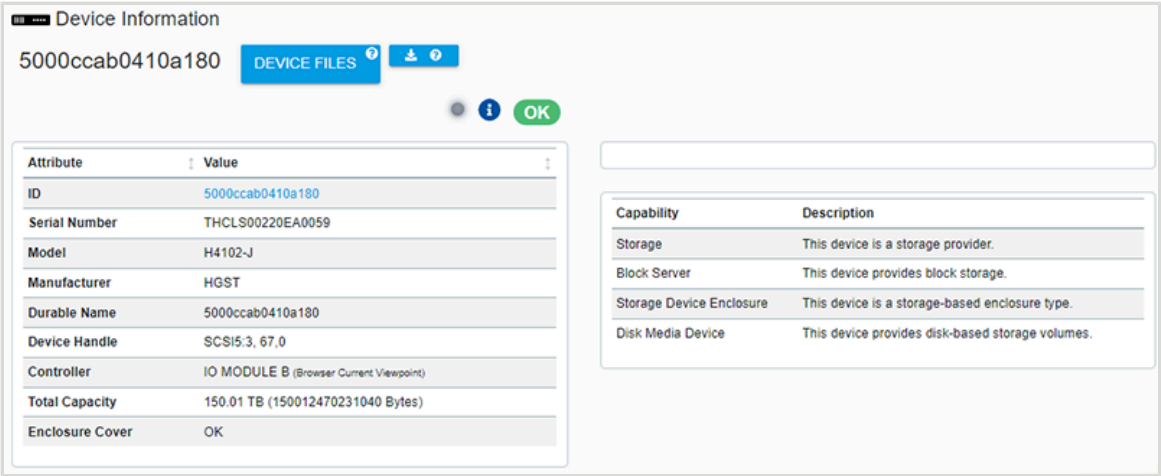
Step 1: From the enclosure dashboard, click the **Device Information** tab.

Figure 598: Device Information Tab



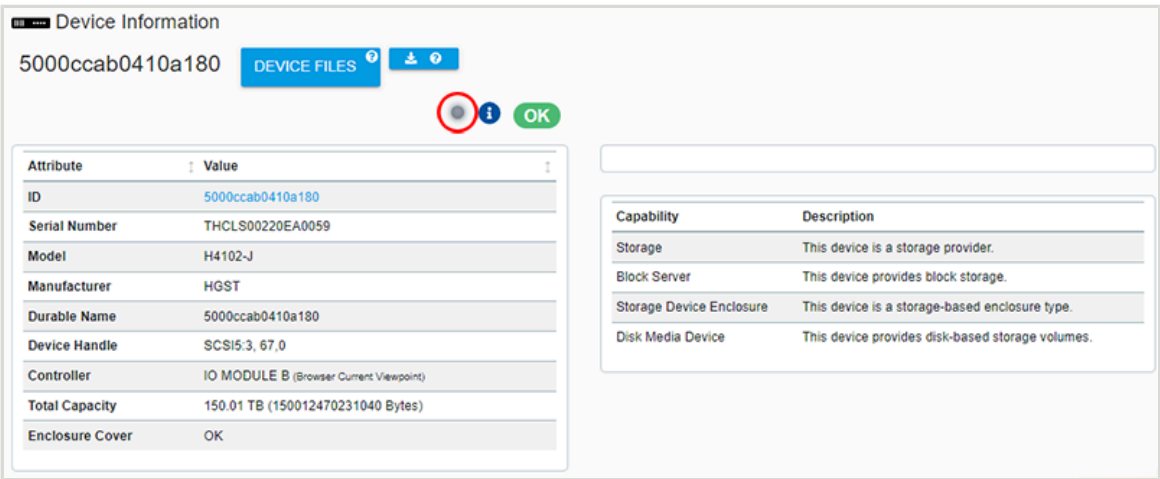
The **Device Information** page will appear:

Figure 599: Device Information Page



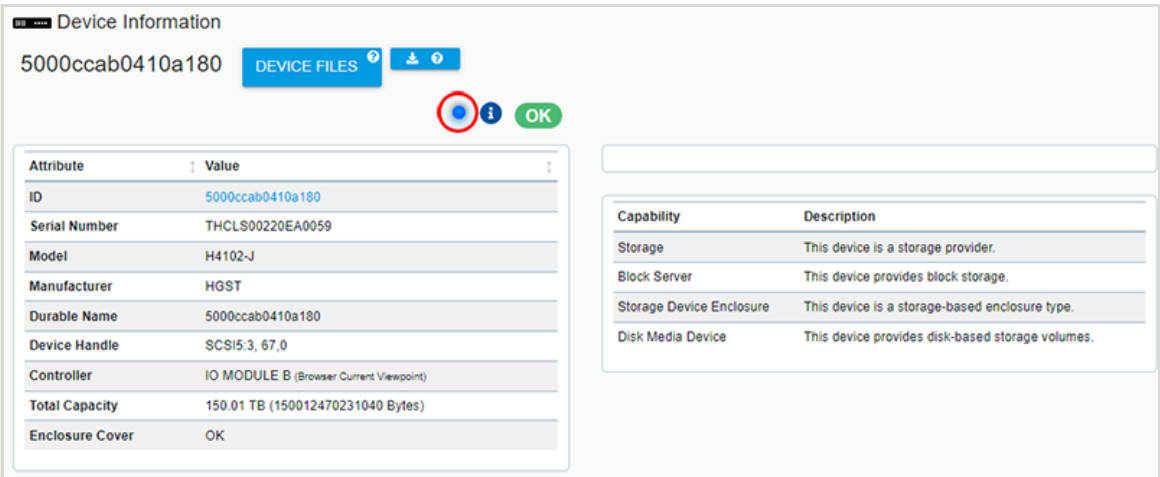
Step 2: Click the **Locator LED** button.

Figure 600: Locator LED Button



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

Figure 601: Identification LED Enabled



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

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

8.2.2 Viewing & Downloading Device Files

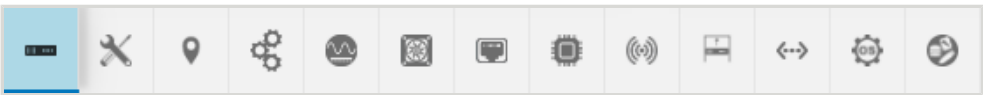
This procedure provides instructions for viewing or downloading device files from the Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

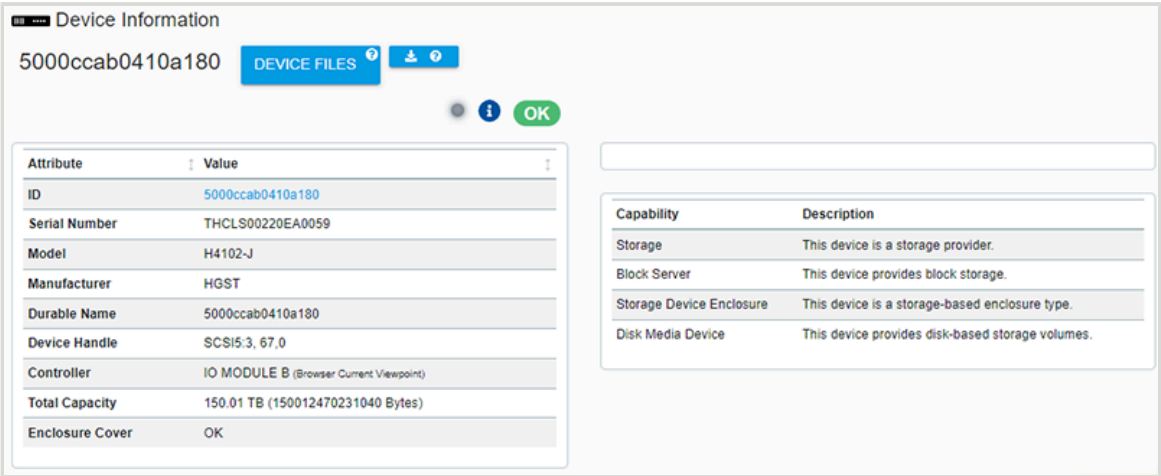
Step 1: From the enclosure dashboard, click the **Device Information** tab.

Figure 602: Device Information Tab



The **Device Information** page will appear:

Figure 603: Device Information Page



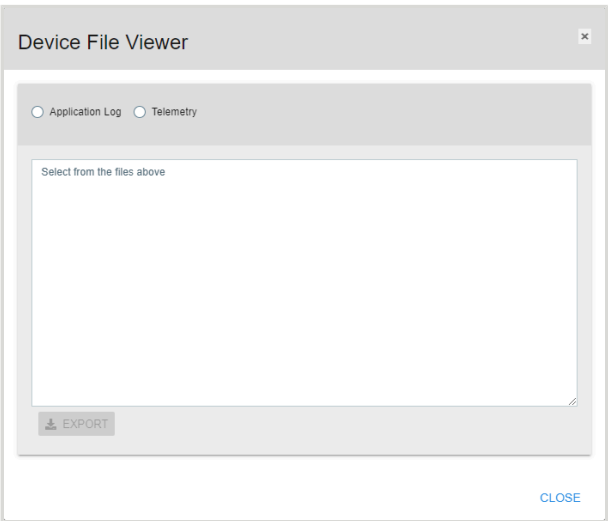
Step 2: Click the **Device Files** button.

Figure 604: Device Files Button



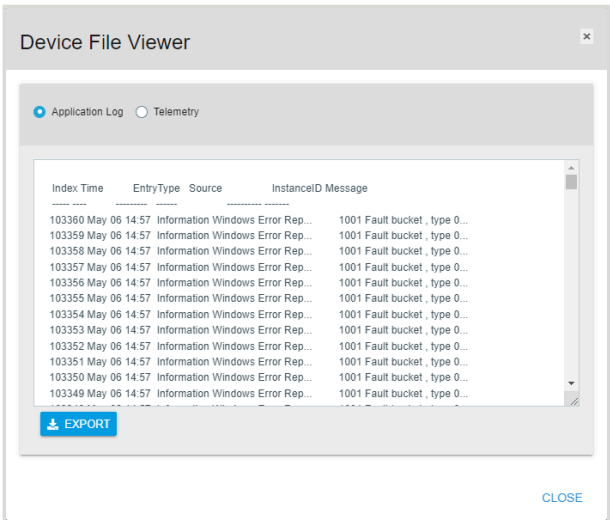
A **Device File Viewer** window will appear:

Figure 605: Device File Viewer



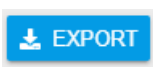
Step 3: Use the radio buttons at the top to select the file to be viewed/downloaded. The Resource Manager Data Center Edition will retrieve the selected information.

Figure 606: Selecting Files



Step 4: Use the viewer window to view the file, or if needed, click the **Export** button to download the selected file.

Figure 607: Export Button



The appropriate file type will be downloaded to your **Downloads** directory.

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

Result: The device files have now been downloaded from the enclosure.

8.3 Administration

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

8.3.1 Rebooting the Enclosure

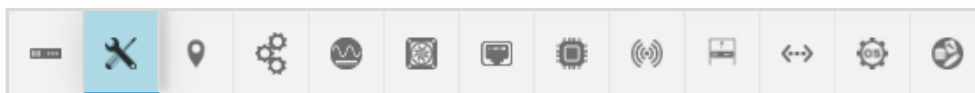
This procedure provides instructions for rebooting an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

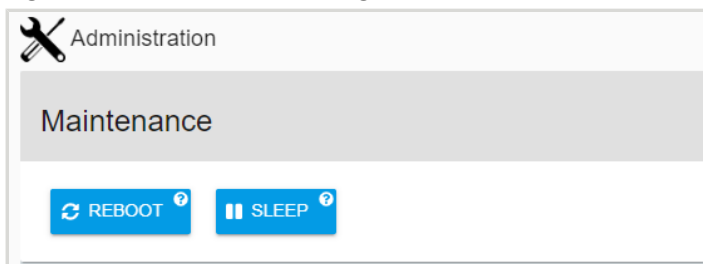
Step 1: From the enclosure dashboard, click the **Administration** tab.

Figure 608: Administration Tab



The **Administration** page will appear:

Figure 609: 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.

Figure 610: 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.

8.4 Location

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

8.4.1 Setting Location Attributes

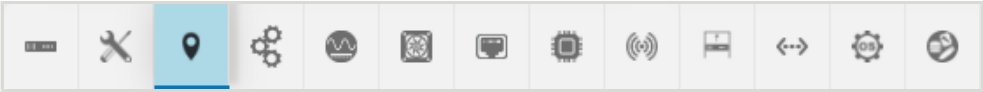
This procedure provides instructions for setting the location attributes of an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 611: Location Tab



The **Location** page will appear:

Figure 612: Location Page

Location

1

Attribute	Value
Address 1	Click to Edit
Address 2	Click to Edit
Address 3	Click to Edit
Building	Click to Edit
City	Click to Edit
Country	Click to Edit
Device	Click to Edit
GPS Coords	Click to Edit
Item	Click to Edit
Other Location Info	Click to Edit
Pod	Click to Edit
Postal Code	Click to Edit
Rack	Click to Edit
Room	Click to Edit
Row	Click to Edit
Shelf	Click to Edit
Site Name	Click to Edit
State	Click to Edit
Territory	Click to Edit

Step 2: To edit a location attribute, click the attribute's edit icon.

Figure 613: Edit Icon

The screenshot shows a 'Location' management interface. At the top, there is a 'Location' header with a location pin icon, a 'CLEAR ALL' button, and an information icon. Below this is a table with two columns: 'Attribute' and 'Value'. The table lists various location attributes, each with a 'Click to Edit' link and an edit icon (pencil). The 'Address 1' row is highlighted, and its edit icon is circled in red.

Attribute	Value
Address 1 ?	Click to Edit 
Address 2 ?	Click to Edit 
Address 3 ?	Click to Edit 
Building ?	Click to Edit 
City ?	Click to Edit 
Country ?	Click to Edit 
Device ?	Click to Edit 
GPS Coords ?	Click to Edit 
Item ?	Click to Edit 
Other Location Info ?	Click to Edit 
Pod ?	Click to Edit 
Postal Code ?	Click to Edit 
Rack ?	Click to Edit 
Room ?	Click to Edit 
Row ?	Click to Edit 
Shelf ?	Click to Edit 
Site Name ?	Click to Edit 
State ?	Click to Edit 
Territory ?	Click to Edit 

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

Figure 614: Attribute Text Field

The screenshot shows the 'Location' management interface with the 'Address 1' attribute selected. The 'Value' column now contains a text input field. Below the input field, it shows '0 / 256' characters and a red 'X' icon, indicating the character limit.

Attribute	Value
Address 1 ?	

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

Figure 615: Saving Attribute Information

The screenshot shows the 'Location' management interface with the 'Address 1' attribute selected. The text 'Test' has been entered into the input field. Below the input field, it shows '4 / 256' characters, a green checkmark icon, and a red 'X' icon, indicating the character limit and successful save.

Attribute	Value
Address 1 ?	Test

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.

8.5 Controllers

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

8.5.1 Checking the Health of IOMs

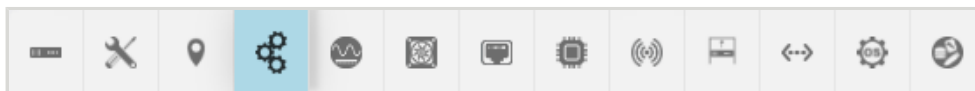
This procedure provides instructions for checking the health status of the I/O modules for an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 616: Controllers Tab



The **Controllers** page will appear:

Figure 617: Controllers Page

Controllers (2)										
Name	Identifier	Durable Name	Part Number	Serial Number	Protocol	Version	Locator LED	Health	Details	Removal Conditions
IOModuleAFRU	IOModuleAFRU	5000ccab0410a1bc	1EB1049-A2	THCLS00220EG0061	SAS Serial SCSI Protocol				None	Removable when on or off
IOModuleBFRU	IOModuleBFRU	5000ccab0410a1fc	1EB1049-A2	THCLS00320EG0029	SAS Serial SCSI Protocol				None	Removable when on or off

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

Figure 618: IOM Health Indicators

Controllers (2)										
Name	Identifier	Durable Name	Part Number	Serial Number	Protocol	Version	Locator LED	Health	Details	Removal Conditions
IOModuleAFRU	IOModuleAFRU	5000ccab0410a1bc	1EB1049-A2	THCLS00220EG0061	SAS Serial SCSI Protocol				None	Removable when on or off
IOModuleBFRU	IOModuleBFRU	5000ccab0410a1fc	1EB1049-A2	THCLS00320EG0029	SAS Serial SCSI Protocol				None	Removable when on or off

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

8.5.2 Rebooting the IOMs

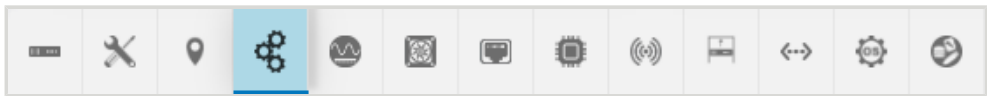
This procedure provides instructions for rebooting the I/O modules of an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 619: Controllers Tab



The **Controllers** page will appear:

Figure 620: Controllers Page

Controllers (2)										
Name	Identifier	Durable Name	Part Number	Serial Number	Protocol	Version	Locator LED	Health	Details	Removal Conditions
  IOModuleAFRU	IOModuleAFRU	5000ccab0410a1bc	1EB1049-A2	THCLS00220EG0061	SAS Serial SCSI Protocol			 OK	None	Removable when on or off
  IOModuleBFRU	IOModuleBFRU	5000ccab0410a1fc	1EB1049-A2	THCLS00320EG0029	SAS Serial SCSI Protocol			 OK	None	Removable when on or off

Step 2: Click the **Reboot** button.

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

Figure 621: 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.

8.6 Power Supplies

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

8.6.1 Checking the Health of PSUs

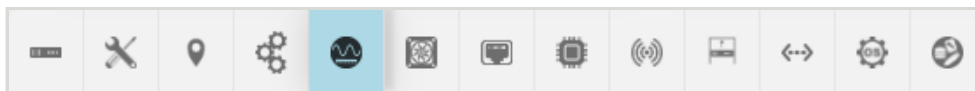
This procedure provides instructions for checking the health of the power supplies for an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 622: Power Supplies Tab



The **Power Supplies** page will appear:

Figure 623: Power Supplies Page

Power Supplies (2)								
Name	Identifier	Part Number	Serial Number	Locator LED	Health	Details	Removal Conditions	
PSU A	PSU_A	DPS-1600AB-12	IQHD1939009335		OK	None	Removable when on or off	
PSU B	PSU_B	DPS-1600AB-12	IQHD1939009888		OK	None	Removable when on or off	

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

Figure 624: PSU Health Indicators

Power Supplies (2)								
Name	Identifier	Part Number	Serial Number	Locator LED	Health	Details	Removal Conditions	
PSU A	PSU_A	DPS-1600AB-12	IQHD1939009335		OK	None	Removable when on or off	
PSU B	PSU_B	DPS-1600AB-12	IQHD1939009888		OK	None	Removable when on or off	

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

8.7 Fans

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

8.7.1 Checking the Health of Fans

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

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 625: Fans Tab



The **Fans** page will appear:

Figure 626: Fans Page

Fans (8)				
Name	Identifier	Current Speed	Health	Removal Conditions
FAN ENCL 1	FAN_ENCL_1	2990 RPM	OK	Removable when on or off
FAN ENCL 2	FAN_ENCL_2	2950 RPM	OK	Removable when on or off
FAN ENCL 3	FAN_ENCL_3	2970 RPM	OK	Removable when on or off
FAN ENCL 4	FAN_ENCL_4	2960 RPM	OK	Removable when on or off
FAN IOM 1	FAN_IOM_1	3240 RPM	OK	Removable when on or off
FAN IOM 2	FAN_IOM_2	210 RPM	OK	Removable when on or off
FAN PSU A	FAN_PSU_A	5040 RPM	OK	Removable when on or off
FAN PSU B	FAN_PSU_B	4830 RPM	OK	Removable when on or off

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

Figure 627: Fan Health Indicators

Fans (8)				
Name	Identifier	Current Speed	Health	Removal Conditions
FAN ENCL 1	FAN_ENCL_1	2990 RPM	OK	Removable when on or off
FAN ENCL 2	FAN_ENCL_2	2950 RPM	OK	Removable when on or off
FAN ENCL 3	FAN_ENCL_3	2970 RPM	OK	Removable when on or off
FAN ENCL 4	FAN_ENCL_4	2960 RPM	OK	Removable when on or off
FAN IOM 1	FAN_IOM_1	3240 RPM	OK	Removable when on or off
FAN IOM 2	FAN_IOM_2	210 RPM	OK	Removable when on or off
FAN PSU A	FAN_PSU_A	5040 RPM	OK	Removable when on or off
FAN PSU B	FAN_PSU_B	4830 RPM	OK	Removable when on or off

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

8.8 Ports

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

8.8.1 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 Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 628: Ports Tab



The **Ports** page will appear:

Figure 629: Ports Page

Ports

Controllers: 2

Adapter	Identifier	Health / Cable / Link / Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
 IOModuleAFRU	00_0c_ca_08_37_57_inet	OK / Connected / Up / 1 Gbps	None	1500	IPv4 Network	10.202.237.233/22	10.202.236.1	00:0c:ca:08:37:57	STATIC
 IOModuleBFRU	00_0c_ca_08_39_3c_inet	OK / Connected / Up / 1 Gbps	None	1500	IPv4 Network	10.202.238.31/22	10.202.236.1	00:0c:ca:08:39:3c	STATIC

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

Figure 630: Fan Health Indicators

Ports

Controllers: 2

Adapter	Identifier	Health / Cable / Link / Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
 IOModuleAFRU	00_0c_ca_08_37_57_inet	OK / Connected / Up / 1 Gbps	None	1500	IPv4 Network	10.202.237.233/22	10.202.236.1	00:0c:ca:08:37:57	STATIC
 IOModuleBFRU	00_0c_ca_08_39_3c_inet	OK / Connected / Up / 1 Gbps	None	1500	IPv4 Network	10.202.238.31/22	10.202.236.1	00:0c:ca:08:39:3c	STATIC

Result: The status of the Ultrastar ports has now been checked.

8.8.2 Configuring Port Settings

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

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 631: Ports Tab



The **Ports** page will appear:

Figure 632: Ports Page

Ports

Controllers: 2

Adapter	Identifier	Health	Cable	Link	Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
 IOModuleAFRU	00_0c_ca_08_37_57_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	10.202.237.233/22	10.202.236.1	00:0c:ca:08:37:57	STATIC
 IOModuleBFRU	00_0c_ca_08_39_3c_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	10.202.238.31/22	10.202.236.1	00:0c:ca:08:39:3c	STATIC

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

Figure 633: Edit Port Icon

Ports

Controllers: 2

Adapter	Identifier	Health	Cable	Link	Speed	Details	MTU Bytes	Network Type	IP Address	IP Gateway	MAC Address	Address Origin
 OModuleAFRU	00_0c_ca_08_37_57_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	10.202.237.233/22	10.202.236.1	00:0c:ca:08:37:57	STATIC
 IOModuleBFRU	00_0c_ca_08_39_3c_inet	OK	Connected	Up	1 Gb/s	None	1500	IPv4 Network	10.202.238.31/22	10.202.236.1	00:0c:ca:08:39:3c	STATIC

An **Update Port** window will appear:

Figure 634: Update Port Window

The screenshot shows a window titled "Update Port: IOModuleAFRU" with a close button (X) in the top right corner. Below the title bar is a progress indicator with two steps: "1 Address Type, IP, Gateway" (active) and "2 Confirmation". The main content area is divided into two columns. On the left, there is a dropdown menu currently set to "DHCPv4" with a refresh icon. Below it, the "MTU Bytes" is set to "1500" and a note states "Management Port setting is fixed". On the right, the "IPv4 Address / CIDR" is "192.168.239.206/22", the "Netmask" is "255.255.252.0", and the "IPv4 Gateway (optional)" is "192.168.236.1". There are help icons (question marks) next to the address and gateway fields. At the bottom left is a "NEXT" button, and at the bottom right is a "CANCEL" link.

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.

Figure 635: Static Option

This screenshot is identical to Figure 634, but the dropdown menu is now set to "STATIC". The "NEXT" button is now highlighted in blue, indicating it is the active or recommended action.

Step 4: Click the **Next** button.

Figure 636: Next Button



The **Update Port** window proceeds to the confirmation step:

Figure 637: Confirming Port Settings

The screenshot shows a window titled "Update Port: IOModuleAFRU". At the top, there is a progress bar with two steps: "1 Address Type, IP, Gateway" (completed) and "2 Confirmation" (active). Below the progress bar, the "Address Origin" is set to "STATIC". A checkbox labeled "Please Confirm" is present and unchecked. To the right of the checkbox is a warning icon (yellow triangle) and a message: "Port changes can result in new/different IP addresses. Backend services will automatically restart which may cause a communication interruption." At the bottom of the window, there are three buttons: "UPDATE" (disabled, grey), "BACK" (blue), and "START OVER" (orange). A "CANCEL" link is located at the bottom right of the window.

Step 5: To complete the changes to the port settings, click the **Please Confirm** checkbox and then click the **Update** button.

Figure 638: Complete Port Setting Changes

Backend services will automatically restart, which may cause a communication interruption.

Result: The port settings have now been configured.

8.9 Expanders

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

8.9.1 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 Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 639: Expanders Tab



The **Expanders** page will appear:

Figure 640: Expanders Page

 Expanders (6)

Name	Identifier	Durable Name	Version	Health	Details
EXP IOMA 0	PrimaryA	5000CCAB0410533D	3010-007	OK	None
EXP IOMA 1	Sec1A	5000CCAB0410533F	3010-007	OK	None
EXP IOMA 2	Sec2A	5000CCAB0410537F	3010-007	OK	None
EXP IOMB 0	PrimaryB	5000CCAB0410537D	3010-007	OK	None
EXP IOMB 1	Sec1B	5000CCAB04105379	3010-007	OK	None
EXP IOMB 2	Sec2B	5000CCAB0410537B	3010-007	OK	None

ACTIONS

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

Figure 641: Expander Health Indicators

 Expanders (6)

Name	Identifier	Durable Name	Version	Health	Details
EXP IOMA 0	PrimaryA	5000CCAB0410533D	3010-007	OK	None
EXP IOMA 1	Sec1A	5000CCAB0410533F	3010-007	OK	None
EXP IOMA 2	Sec2A	5000CCAB0410537F	3010-007	OK	None
EXP IOMB 0	PrimaryB	5000CCAB0410537D	3010-007	OK	None
EXP IOMB 1	Sec1B	5000CCAB04105379	3010-007	OK	None
EXP IOMB 2	Sec2B	5000CCAB0410537B	3010-007	OK	None

ACTIONS

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

8.10 Sensors

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

8.10.1 Checking the Health of Sensors

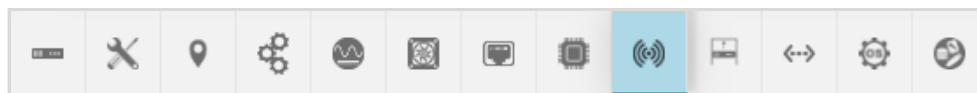
This procedure provides instructions for checking the health of sensors in an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 642: Sensors Tab



The **Sensors** page will appear:

Figure 643: Sensors Page

Sensors (102)						
Name	Identifier	Type	Current Reading	Health	Details	
TEMP SLOT 00	TEMP_SLOT_00	Temperature	26 Degrees C	OK	None	
TEMP SLOT 01	TEMP_SLOT_01	Temperature	26 Degrees C	OK	None	
TEMP SLOT 02	TEMP_SLOT_02	Temperature	27 Degrees C	OK	None	
TEMP SLOT 03	TEMP_SLOT_03	Temperature	26 Degrees C	OK	None	
TEMP SLOT 04	TEMP_SLOT_04	Temperature	26 Degrees C	OK	None	
TEMP SLOT 05	TEMP_SLOT_05	Temperature	27 Degrees C	OK	None	
TEMP SLOT 06	TEMP_SLOT_06	Temperature	26 Degrees C	OK	None	
TEMP SLOT 07	TEMP_SLOT_07	Temperature	27 Degrees C	OK	None	
TEMP SLOT 08	TEMP_SLOT_08	Temperature	26 Degrees C	OK	None	
TEMP SLOT 09	TEMP_SLOT_09	Temperature	26 Degrees C	OK	None	
TEMP SLOT 10	TEMP_SLOT_10	Temperature	26 Degrees C	OK	None	
TEMP SLOT 11	TEMP_SLOT_11	Temperature	26 Degrees C	OK	None	
TEMP SLOT 12	TEMP_SLOT_12	Temperature	34 Degrees C	OK	None	
TEMP SLOT 13	TEMP_SLOT_13	Temperature	34 Degrees C	OK	None	
TEMP SLOT 14	TEMP_SLOT_14	Temperature	34 Degrees C	OK	None	
TEMP SLOT 15	TEMP_SLOT_15	Temperature	34 Degrees C	OK	None	
TEMP SLOT 16	TEMP_SLOT_16	Temperature	33 Degrees C	OK	None	
TEMP SLOT 17	TEMP_SLOT_17	Temperature	32 Degrees C	OK	None	
TEMP SLOT 18	TEMP_SLOT_18	Temperature	31 Degrees C	OK	None	
TEMP SLOT 19	TEMP_SLOT_19	Temperature	32 Degrees C	OK	None	
TEMP SLOT 20	TEMP_SLOT_20	Temperature	33 Degrees C	OK	None	

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

Figure 644: Sensor Health Indicators

 Sensors (102)

Name	Identifier	Type	Current Reading	Health	Details
TEMP SLOT 00	TEMP_SLOT_00	Temperature	  26 Degrees C		None
TEMP SLOT 01	TEMP_SLOT_01	Temperature	  26 Degrees C		None
TEMP SLOT 02	TEMP_SLOT_02	Temperature	  27 Degrees C		None
TEMP SLOT 03	TEMP_SLOT_03	Temperature	  26 Degrees C		None
TEMP SLOT 04	TEMP_SLOT_04	Temperature	  26 Degrees C		None
TEMP SLOT 05	TEMP_SLOT_05	Temperature	  27 Degrees C		None
TEMP SLOT 06	TEMP_SLOT_06	Temperature	  26 Degrees C		None
TEMP SLOT 07	TEMP_SLOT_07	Temperature	  27 Degrees C		None
TEMP SLOT 08	TEMP_SLOT_08	Temperature	  26 Degrees C		None
TEMP SLOT 09	TEMP_SLOT_09	Temperature	  26 Degrees C		None
TEMP SLOT 10	TEMP_SLOT_10	Temperature	  26 Degrees C		None
TEMP SLOT 11	TEMP_SLOT_11	Temperature	  26 Degrees C		None
TEMP SLOT 12	TEMP_SLOT_12	Temperature	  34 Degrees C		None
TEMP SLOT 13	TEMP_SLOT_13	Temperature	  34 Degrees C		None
TEMP SLOT 14	TEMP_SLOT_14	Temperature	  34 Degrees C		None
TEMP SLOT 15	TEMP_SLOT_15	Temperature	  34 Degrees C		None
TEMP SLOT 16	TEMP_SLOT_16	Temperature	  33 Degrees C		None
TEMP SLOT 17	TEMP_SLOT_17	Temperature	  32 Degrees C		None
TEMP SLOT 18	TEMP_SLOT_18	Temperature	  31 Degrees C		None
TEMP SLOT 19	TEMP_SLOT_19	Temperature	  32 Degrees C		None
TEMP SLOT 20	TEMP_SLOT_20	Temperature	  33 Degrees C		None

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

Figure 645: Sensor Thresholds

 Sensors (102)

Name	Identifier	Type	Current Reading	Health	Details
TEMP SLOT 00	TEMP_SLOT_00	Temperature	  27 Degrees C		None
TEMP SLOT 01	TEMP_SLOT_01	Temperature	  28 Degrees C		None
TEMP SLOT 02	TEMP_SLOT_02	Temperature	  28 Degrees C		None
TEMP SLOT 03	TEMP_SLOT_03	Temperature	  27 Degrees C		None
TEMP SLOT 04	TEMP_SLOT_04	Temperature	  27 Degrees C		None

Sensor: TEMP_SLOT_00

- HighThresholdFatal: 59
- HighThresholdCritical: 56
- LowThresholdCritical: 8
- LowThresholdFatal: 6

Result: The health status of the Ultrastar enclosure's sensors has now been checked.

8.11 Slots

The Ultrastar enclosure's **Slots** tab provides information about the enclosure's drive slots, including IDs, power states, and health status.

8.11.1 Checking the Status of Slots

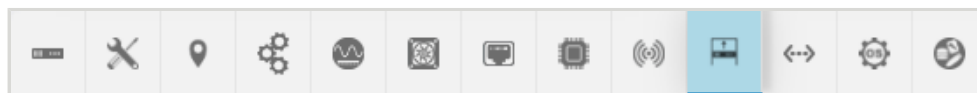
This procedure provides instructions for checking the health status of drive slots on an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 646: Slots Tab



The **Slots** page will appear:

Figure 647: Slots Page

Slots (102)			
Identifier	Power State	Health	Locator LED
SLOT_000_7PGL4LXG	ON	OK	
SLOT_001_7PGL4EBG	ON	OK	
SLOT_002_7PGL7YHG	ON	OK	
SLOT_003_7PGL6K0G	ON	OK	
SLOT_004_7PG21NSR	ON	OK	
SLOT_005	ON	OK	
SLOT_006_7PG212XR	ON	OK	
SLOT_007	ON	OK	
SLOT_008	ON	OK	
SLOT_009	ON	OK	
SLOT_010	ON	OK	
SLOT_011	ON	OK	
SLOT_012_7PGL2EAG	ON	OK	
SLOT_013_7PGL27MG	ON	OK	
SLOT_014_7PGL3UHG	ON	OK	
SLOT_015_7PGL2LUG	ON	OK	
SLOT_016_7PGL3WSG	ON	OK	

Step 2: The third column provides health status indicators for the slots. Check the indicators to ensure that the slots aren't reporting any faults.

Figure 648: Slot Health Indicators

Slots (102)			
Identifier	Power State	Health	Locator LED
SLOT_000_7PGL4LXG	ON	OK	
SLOT_001_7PGL4EBG	ON	OK	
SLOT_002_7PGL7YHG	ON	OK	
SLOT_003_7PGL6K0G	ON	OK	
SLOT_004_7PG21NSR	ON	OK	
SLOT_005	ON	OK	
SLOT_006_7PG212XR	ON	OK	
SLOT_007	ON	OK	
SLOT_008	ON	OK	
SLOT_009	ON	OK	
SLOT_010	ON	OK	
SLOT_011	ON	OK	
SLOT_012_7PGL2EAG	ON	OK	
SLOT_013_7PGL27MG	ON	OK	
SLOT_014_7PGL3UHG	ON	OK	
SLOT_015_7PGL2LUG	ON	OK	
SLOT_016_7PGL3WSG	ON	OK	

Result: The status of the Ultrastar ports has now been checked.

8.12 Connectors

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

8.12.1 Checking the Status of Cables

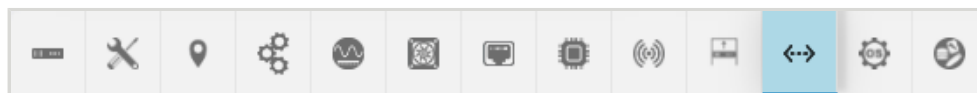
This procedure provides instructions for checking the health and connection status of data cables on an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 649: Connectors Tab



The **Connectors** page will appear:

Figure 650: Connectors Page

Connectors (12)				
Name	Identifier	Cable	Health	Details
CONN HOST 00	1	Disconnected	Not installed	None
CONN HOST 01	2	Disconnected	Not installed	None
CONN HOST 02	3	Connected	OK	None
CONN HOST 03	4	Disconnected	Not installed	None
CONN HOST 04	5	Disconnected	Not installed	None
CONN HOST 05	6	Disconnected	Not installed	None
CONN HOST 06	7	Disconnected	Not installed	None
CONN HOST 07	8	Disconnected	Not installed	None
CONN HOST 08	9	Connected	OK	None
CONN HOST 09	10	Disconnected	Not installed	None
CONN HOST 10	11	Disconnected	Not installed	None
CONN HOST 11	12	Disconnected	Not installed	None

ACTIONS

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.

8.13 Device OS

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

8.13.1 Updating Enclosure Firmware

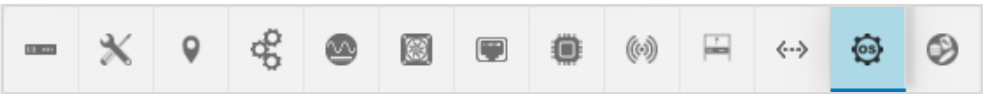
This procedure provides instructions for updating the firmware on an Ultrastar enclosure using the Resource Manager Data Center Edition Compute Service.

Before you begin:

-  **Caution:** Updating firmware requires rebooting the Ultrastar enclosure.
- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

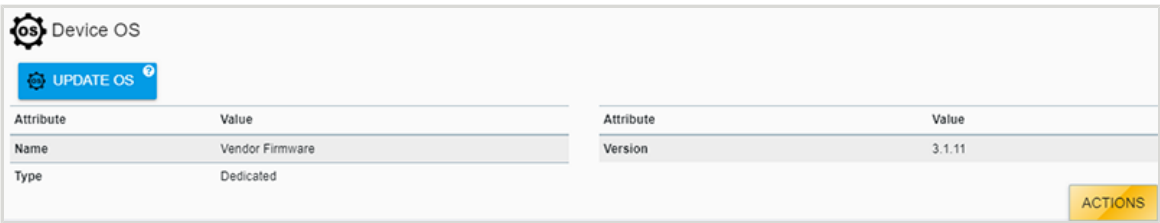
Step 1: From the enclosure dashboard, click the **Device OS** tab.

Figure 651: Device OS Tab



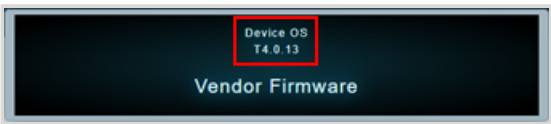
The **Device OS** page will appear:

Figure 652: Device OS Page



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.

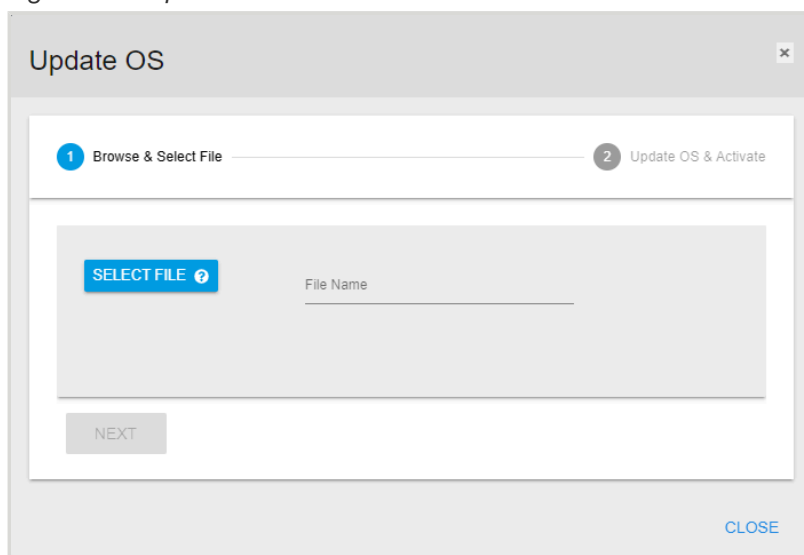
Figure 653: Starting Firmware Version



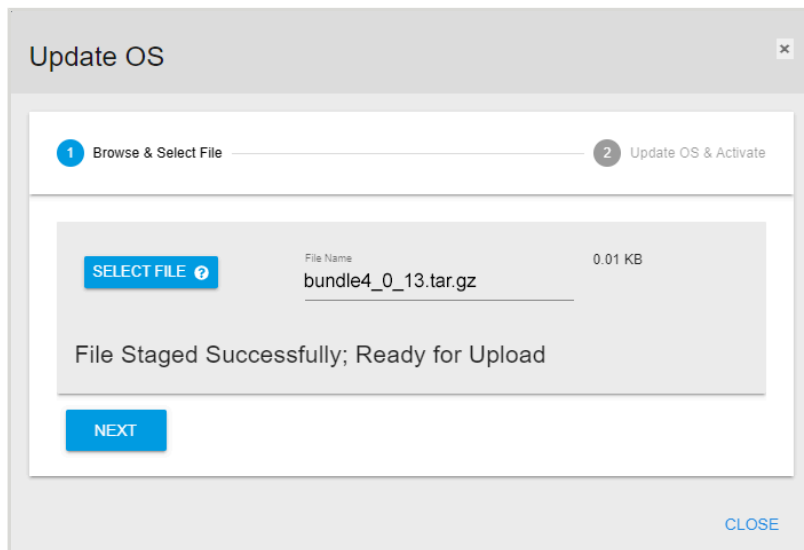
Step 3: Click the **Update OS** button.

Figure 654: Update OS Button

An **Update OS** window will appear:

Figure 655: Update OS Window

Step 4: Click the **Select File** button to browse to the desired firmware file and select it.

Figure 656: Selected FW File

Step 5: Click the **Next** button.

Figure 657: Next Button



The **Update OS** window will proceed to the confirmation step:

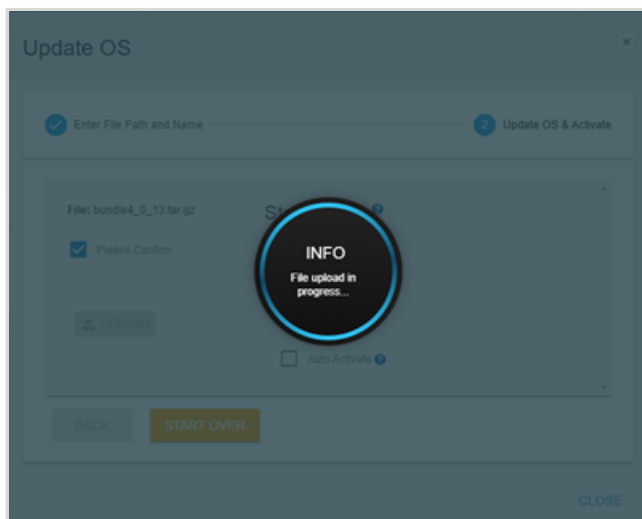
Figure 658: Confirm OS Update

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 659: Confirm OS Update

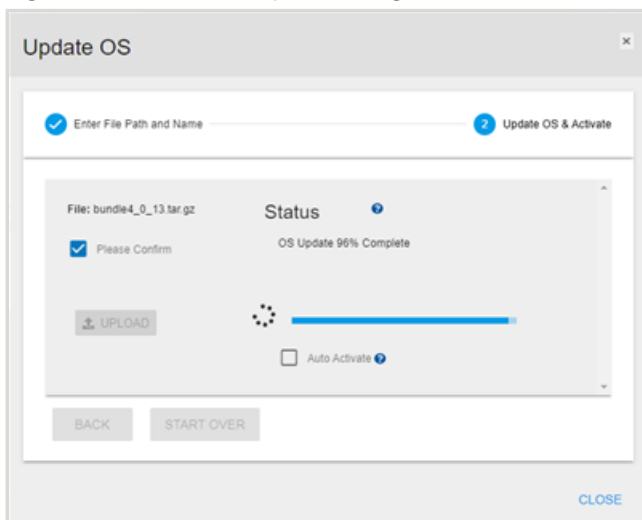
A window will appear to show the file upload progress:

Figure 660: File Upload Progress



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

Figure 661: Firmware Update Progress

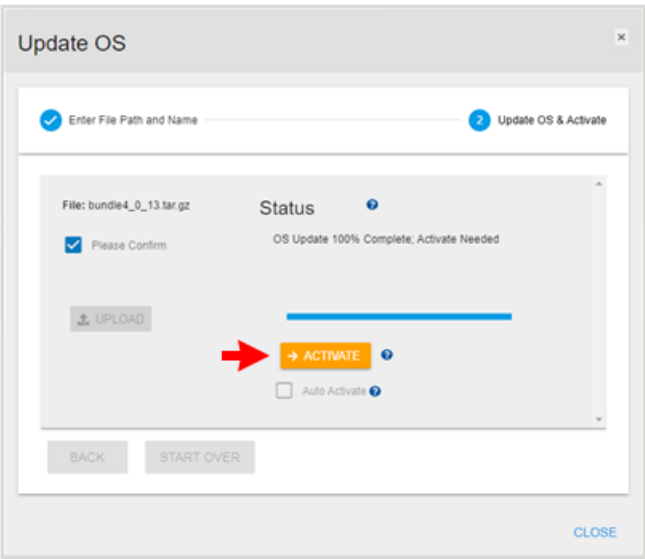


Step 7: If you did **not** select the **Auto Activate** checkbox in step 6 (page 323), an **Activate** button will appear after the enclosure firmware has been updated. Click the **Activate** button to activate the firmware.



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

Figure 662: Activate Firmware



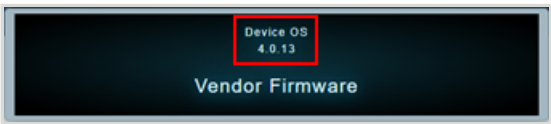
The enclosure will reboot to activate the firmware:

Figure 663: 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 664: Updated Firmware Version



Result: The Ultrastar enclosure firmware has now been updated.

8.14 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.

8.14.1 Checking the Health of Drives

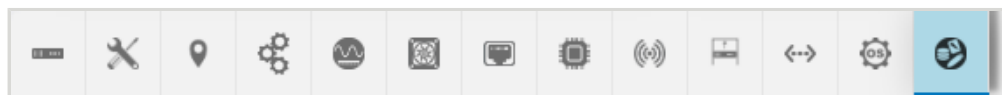
This procedure provides instructions for checking the health status of drives in an Ultrastar enclosure using the Resource Manager Data Center Edition.

Before you begin:

- Follow the instructions for [Navigating to an Enclosure Dashboard \(page 46\)](#).

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

Figure 665: Media Tab



The **Media** page will appear:

Figure 666: Media Page

Media (27)										
Total Capacity: 270.02 TB										
Name	Identifier	Manufacturer	Model	Capacity	Protocol	Version	Serial Number	Durable Name	Device Handle	Health
	5000cca25120ff1	HGST	HUH721010AL4200	10.00 TB	SAS	A9G0	7PGL4LXG	5000cca25120ff1	/dev/sg22	OK
	5000cca25120f41	HGST	HUH721010AL4200	10.00 TB	SAS	A9G0	7PGL4EBG	5000cca25120f41	/dev/sg23	OK
	5000cca25121321d	HGST	HUH721010AL4200	10.00 TB	SAS	A9G0	7PGL7YHG	5000cca25121321d	/dev/sg24	OK
	5000cca251211d0d	HGST	HUH721010AL4200	10.00 TB	SAS	A9G0	7PGL6K0G	5000cca251211d0d	/dev/sg25	OK
	5000cca25103bc09	HGST	HUH721010AL4204	10.00 TB	SAS	C9G0	7PG21NSR	5000cca25103bc09	/dev/sg26	OK
	5000cca25103b365	HGST	HUH721010AL4204	10.00 TB	SAS	C9G0	7PG212XR	5000cca25103b365	/dev/sg28	OK
	5000ccb0410a1c7	HGST	HUH721010AL	10.00 TB	Serial ATA	W9G0	7PH1H1BC	5000ccb0410a1c7	/dev/sg29	OK
	5000ccb0410a1c8	HGST	HUH721010AL	10.00 TB	Serial ATA	W9G0	7GHPSL8K	5000ccb0410a1c8	/dev/sg30	OK
	5000ccb0410a1c9	HGST	HUH721010AL	10.00 TB	Serial ATA	W9G0	7GHPR9NK	5000ccb0410a1c9	/dev/sg31	OK

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

Figure 667: Drive Health Indicators

 Media (27)

Total Capacity: 270.02 TB

Name	Identifier	Manufacturer	Model	Capacity	Protocol	Version	Serial Number	Durable Name	Device Handle	Health	Details
	5000cca25120ff1	HGST	HUH721010AL4200	10.00 TB	SAS	A9G0	7PGL4LXG	5000cca25120ff1	/dev/sg22	OK	None
	5000cca25120f41	HGST	HUH721010AL4200	10.00 TB	SAS	A9G0	7PGL4EBG	5000cca25120f41	/dev/sg23	OK	None
	5000cca25121321d	HGST	HUH721010AL4200	10.00 TB	SAS	A9G0	7PGL7YHG	5000cca25121321d	/dev/sg24	OK	None
	5000cca251211d0d	HGST	HUH721010AL4200	10.00 TB	SAS	A9G0	7PGL6K0G	5000cca251211d0d	/dev/sg25	OK	None
	5000cca25103bc09	HGST	HUH721010AL4204	10.00 TB	SAS	C9G0	7PG21NSR	5000cca25103bc09	/dev/sg26	OK	None
	5000cca25103b365	HGST	HUH721010AL4204	10.00 TB	SAS	C9G0	7PG212XR	5000cca25103b365	/dev/sg28	OK	None
	5000ccab0410a1c7	HGST	HUH721010AL	10.00 TB	Serial ATA	W9G0	7PH1H1BC	5000ccab0410a1c7	/dev/sg29	OK	None
	5000ccab0410a1c8	HGST	HUH721010AL	10.00 TB	Serial ATA	W9G0	7GHPSL8K	5000ccab0410a1c8	/dev/sg30	OK	None
	5000ccab0410a1c9	HGST	HUH721010AL	10.00 TB	Serial ATA	W9G0	7GHPR9NK	5000ccab0410a1c9	/dev/sg31	OK	None

Result: The health status the Ultrastar enclosure's drives has now been checked.



Uninstallation

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

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- Uninstalling Resource Manager Data Center Edition..... 329

9.1 Uninstalling Resource Manager Data Center Edition

This procedure provides instructions for uninstalling the Resource Manager Data Center Edition Compute Service or Central Service from a host server running a Linux or Windows operating system.

Step 1: On the host server, open a terminal/command prompt with administrator privileges and navigate to the installation directory.

Step 2: Run the uninstall script.

Linux Example:

```
# ./uninstall_rmdc.sh
```

Windows Example:

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

The user will be prompted to confirm the uninstall:

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

Step 3: Input Y.

```
Y
```

The user will be prompted to save configuration files.

```
RMDC process stopped.
RMDC process successfully removed from startup.
Do you want to save RMDC configuration files to be restored later [Y,N]?
```

Step 4: Input either Y or N.

```
Y
```

The user will be prompted to delete the log file:

```
RMDC configuration files saved successfully.
Do you want to delete RMDC logfile (C:\rmdc\rmdc.log) [Y,N]?
```

Step 5: Input either Y or N.

```
Y
```

The user will be notified of a successful uninstallation:

```
Removed RMDC logfile.
Removing Elasticsearch service...
Elasticsearch service removed successfully.
Do you want to remove elasticsearch data [Y,N]?
```

Step 6: Input either Y or N.

```
N
```

The user will be notified of a successful uninstallation:


```
Elasticsearch data is retained.  
RMDC uninstalled successfully.
```

Result: Resource Manager Data Center Edition is now uninstalled from the host server.