DCLTechnologies

Technical Whitepaper

PDU support in OpenManage Enterprise Power Manager

Within the scope of Dell EMC OpenManage Enterprise console and Power Manager plugin

Abstract

This whitepaper provides guidance to use Power Distribution Unit (PDU) devices by monitoring them in Power Manager plugin.

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Acronyms

Acronym	Expansion
OME	Open Manage Enterprise
PMP	Power Manager Plugin
ОМЕРМ	Open Manage Enterprise Power Manager
iDRAC	Integrated Dell Remote Access Controller
CMC	Chassis Management Controller
MSM	Modular System Management
МСМ	Multi Chassis Management
MM	Management Module
REST	REpresentational State Transfer
GUI	Graphical User Interface
EPR	Emergency Power Reduction
PDU	Power Distribution Unit
API	Application Programming Interface
CSV	Comma-separated values
SNMP	Simple Network Management Protocol

Executive summary

Use this whitepaper to monitor Power Distribution Units (PDUs) of supported brands in OpenManage Enterprise using Power Manager plugin. This also covers the inventory and alert management of PDU devices. It also covers methods for associating PDU to rack physical groups.

1

PDU Devices

Power Distribution Units are devices used to supply power to devices like server, storage and network equipment mounted on a datacenter rack. Smart PDUs are power distribution units which are having remote management capabilities. Power Manager 2.0 adds the ability of monitoring PDU devices from the following manufacturers on OpenManage Enterprise 3.6.1 and above.

- Vertiv Geist
- APC by Schneider Electric

1.1 Discovering PDU(s)

This section explains how Power Distribution Units can be discovered on OpenManage Enterprise where Power Manager Plugin is installed.

scovery Job Name	Discovery-2021052412043939 PDU		
evices to Discover			
Add Import	O Global Exclude		
Device Type	IP/Hostname/Range 🛈	Settings SNMP Cre	edentials
		SNMP Version	Version 1 / Version 2
		Community	public
		Addition	al Settings tocol(s) Selected
nedule Discovery Job			
un Now 🗸			

Figure 1 Discovery of PDU

Discovery of PDU devices are very similar to discovery of other devices which are monitored over SNMP. SNMP version v1 or v2c are used for discovering PDU.

- 1. Create a new discovery job by clicking Create button from Discovery page.
- 2. Select PDU from Device Type dropdown.
- 3. Enter IP address of the PDU in IP/Hostname/Range field.
- 4. Enter community string in **SNMP Credentials** section.
- 5. Click Finish button.

The PDU is discovered after the discovery job is completed.

Note: PDUs discovered in OME is deleted automatically when Power Manager is uninstalled. Hence, ensure that Power Manager is installed and enabled to work with all PDU related features.

1.2 PDU devices built-in group

A new built-in group named PDU Devices is displayed under SYSTEM GROUPS on Devices page in OME. All PDU devices discovered in OpenManage Enterprise are automatically listed under PDU Devices group.

			Q 9 1	3 🏲 3 🗟 0 👗 admin ? 🌩 🕚
📅 Home 🔲 Devices 🗇 Configuration 🧹 🚩 Alerts 🗸 🖾 Mor	nitor 🗸 🗢 Application Settings 🗸 🛛 🛱 Plugins 🗸			
ALL DEVICES	B PDU Devices			
V SYSTEM GROUPS	Power Distribution Unit Devices			
Hypervisor Systems	Devices 2 Normal	Alera		
Modular Systems A Network Devices	Devices (2) Group Details			
Z 🛔 PDU Devices	Group Actions Discovery Inventory Refresh Health More Actions			
Storage Devices	> ▼ Advanced Filters			
▼ ≜ CUSTOM GROUPS		NUU3EGM0-12P027 PDU	CHASSIS NAME	
🛔 Query Groups	n 🖸 🙆 🖌	P8659 PDU		
Static Groups				2 100.96.23.19
 ▼ S ≗ PLUGIN GROUPS ▶ S ≗ Physical Hierarchy 				View Details



1.3 PDU device inventory information

View detailed inventory of PDU devices by navigating to the device details page of a PDU.

OpenManage Enterprise			Search Everything	Q 🖸1	s 🕨 S	B0	占 admin	?	> 0
📸 Home 🔳 Devices 🔗 Configuration 🧹 🚩 Alerts 🗸 🖂 Monitor 🗸 🏟 Application	n Settings 🗸 🛛 🦊 Plugins 🗸								*
100.96.23.19 Health: ☑ 0k State: O 0n IP: 100.96.23.19 Identifier: ZY2008	82297								
Overview Hardware Alerts									
Refresh Status Refresh Inventory Export Inventory						Last Up	lated: May 26, 20	21 11:34:19	ЭРМ С
Information	Recent Alerts	😮 o 🛕 o 💟 o 🕕 1 🚸 o	_						
Model MUU3EGM0-12P027-2C20A9A00-S Identifier	Power Configuration Test SNMP Trap	May 26, 2021 10:26:08 PM							
		114 20, 2021 10:20:0011							
		View A							
PDU Information									
Manufacturer Vertiv Firmware Version 5.6.1									
Hardware Revision gmmb Serial Number ZY20082297	C Recent Activity								
Power Rating N/A									
		View All							

Figure 3 PDU device overview

Overview page shows all basic inventory details of the PDU.

OpenManage Enterprise		Search Everything C	C 13	⋫ 3	B 0	🔒 admin	0	•	0
🕈 Home 🗏 Devices 🔗 Configuration 🧹 🚩 Alerts 🗸 🖂 Monitor 🗸 🌣 Application Setting									*
11) Health: 🔽 Ok State: 🔿 On IP: 11 Identifier: 3									
Overview Hardware Alerts									
					Last Up:	lated: May 24, 20	1 12:17:5	7 PM (
Device Management PDU Outlet									
Device Management Info									
IP ADDRESS MAC ADDRESS	URL	NAME							
		Geist IMD:							

Figure 4 Hardware: Device Management Info

Device Management Info show IP address and name of the device.

OpenManage Enterprise			S 13	₩3	B 0	💄 admin	0	٠	0
🕈 Home 🔳 Devices 🗇 Configuration 🧹 🏲 Alerts 🗸 🖂	Monitor 🗸 🗢 Application Settings 🗸 👎 Plugins 🗸								×
1 Health: 🗹 Ok State: 🔿 On IP: 1	Identifier: Z								
Overview Hardware Alerts									
Device Management PDU Outlet					Last Up	dated: May 24, 2	021 12:17:	:57 PM	c
PDU Outlet Information									
NUMBER	NAME	POWER RATING							
1	Outlet 1	N/A							
2	Outlet 2	N/A.							
3	Outlet 3	N/A							
4	Outlet 4	N/A.							
5	Outlet 5	N/A							
6	Outlet 6	N/A							
7	Outlet 7	N/A							
8	Outlet 8	N/A							
9	Outlet 9	N/A							
10	Outlet 10	N/A							
11	Outlet 11	N/A							
10	Outlat 12	NZA							

Figure 5 Hardware: PDU Outlet Information

PDU Outlet Information lists the number and name of outlets.

OpenManage Enterprise			Search Everything	۹	C 13	۶	0	💄 admin	0	٠	0
🕈 Home 🔳 Devices 🗇 Configuration 🗸 🚩 A	lierts 🗸 🖂 Monitor 🗸 🌼 Application Settings 🗸	♥ Plugins ↓									¥
10 Health: ☑ Ok State: Ở On	IP: 10 Identifier: 2										
Overview Hardware Alerts											
Acknowledge Unacknowledge Ignore ✓▼Advanced Filters Clear All Filters Severity	Export Delete Archived Alerts Acknowledge	Start Date Et	nd Date	0	Power	Configu	ration				
All	Unacknowledged ~	=	=	5	Ner	oomigu	ation				
Category	Subcategory	Message	ser	Source	se Name.						
All	All ~			Devic PDU	e Type:						
SEVERITY ACKNOWLEDGE TIME	CATEGORY SUBCATEGORY MESSAGE ID	MESSAGE		Subc	ategory:	ation					
May 26, 2021 10: item(s) found, 0 item(s) selected. Displaying items 1 - 1.	26:08 System Health Power Configu	Test SNMP Trap		Detai Instru event	led Descri umentation	ption: h didn't pro	vide any de	tailed descrip	tion for t	this	
				Reco	mmended imentation	Action: h didn't pro	vide any re	commended a	action for	r this	



Alerts tab lists alerts received from the PDU.

Alerts or MIB 1.4

OpenManage Enterprise			Search Everything	0, 💭 19 🕨 1 🗟 0 🔓 admin 🧿 🌩
🕈 Home 🔳 Devices 🗇 Configuration 🗸 💌	Alerts 🗸 🖙 Monitor 🗸 🗳 Application Settings 🗸	🛡 Plugins 🗸		
Alerts	G			
Alert Log Alert Policies Alert Definitions				
Acknowledge Unacknowledge Ignore	Export - Deleta Archived Alerts			
✓ ▼ Advanced Filters Clear All Filters				
Severity	Acknowledge	Start Date	End Date	A CDEV6175
All ~	Unacknowledged ~	=	#	Pourse Name:
Source Name	Category	Subcategory	Message	Source Marine.
	All ~	All ~		Device Type:
User				PDU
				Subcategory:
				Devices
SEVERITY ACKNOWLEDGE TIME	SOURCE NAME CATEGORY SUBCATEGORY	MESSAGE ID MESSAGE		Detailed Description: The device health status has changed.
🔲 🛕 [] Mar 2, 2021 10.5	6:11 System Health Devices	Device health has deteriorated.		Recommended Action:
1 item(s) found, 0 item(s) selected. Displaying items 1 - 1.				Check the device subsystems for components that require immediate attention. For information about device health statuses, see the Online Help by clicking the help icon. Also see the User's





Alerts page in OME also lists alerts received from all PDU devices.

The details of traps that are supported by the discovered PDUs are visible under MIB tab under Monitor page. The table lists the traps that are supported by Vertiv Geist and APC PDUs.

OpenManage Enterprise		Search Everything	Q 8	13 🏲 5	B 0	🛓 admin	8	•	0
🏠 Home 🗏 Devices 🗇 Configuration 🗸 🎓 Alerts 🗸 🖙 Monitor 🗸 🍄 Application Settings 🗸 븆 Plugins 🗸									×
Monitor									
Audit Logs Jobs Discovery Server Initiated Discovery Inventory Warranty Reports MIB									
Import MIB Remove MIB Download MIB									
□ ↓ MIB FILENAME ALERT CATEGORY	TRAP NAME	SEVERITY	MESSAGE		TRAP	DID			
0 VMWare (454)									
Vertiv Geist (127)									
SNMPv2-MIB (3)									
RFC1215(1)									
Power Manager (3)									
C OpenManage Essentials (8)									
OpenManage Enterprise (11)									
OMSA(148)									
Networking (212)									
C Internal (230)									
C IF-MIB (2)									
IDRAC (325)									
Dell Storage (1065)									
C APC (790)									

14 item(s) found. Displaying items 1 - 15.

Figure 8 MIB

You can create alert policies for associating actions such as trap forwarding or sending emails upon receipt of traps from PDU. In **Create Alert Policy** wizard, under **Category** selection step, choose the category and subcategory under desired PDU models, either **APC** or **Vertiv Geist**.

Create Alert Policy		0 ×
Name and Description	- all	
Category	V 🖻 Built-in	
Target	✓ Z APC	
Date and Time	✓ Z System Health Z Power Configuration	
Severity	 Application Dell Storage 	
Actions	> IF-MIB	
Summary	Networking OMSA OperManage Enterprise OperManage Essentials Power Manager RFC1215 SMMPv2-MB Overtiv Geist Overtiv Geist	
itep 2 of 7	Previous Next	Cancel

Figure 9 Alert Policy: Category selection

1.5 Scale support

Power Manager 2.0 supports monitoring of 8000 nodes including servers, chassis, PDUs and Virtual Machines. The maximum recommended number of PDUs are one thousand.

2 PDU metrics

In Power Manager plugin, the PDU(s) must be associated to rack physical groups to monitor rack-level power consumption. Associating a PDU to a rack automatically adds that PDU to the Power Manager monitoring list.

2.1 Associating PDU(s) to rack

Ensure that the PDU(s) are associated to a rack (or rack group) to monitor rack-level power consumption. Associating a PDU to a rack automatically adds that PDU to the Power Manager monitoring list.

This sub-section explains how to associate a PDU device to a rack group.

1. Right-click on any rack physical group and select **Manage Rack** menu option.

OpenManage Enterprise		Search Everything Q	🖸 26 🏲 10 🗟 0 💄 admin 😗 🌩 🕕	
🗎 Home 🔳 Devices 🔗 Configuration 🗸	➤ Alerts		ر	÷
S 🚔 ALL DEVICES	福 RACK			*
▼ 😫 🚢 SYSTEM GROUPS	RACK			I
 HCI Appliances 	2 Prices 0 1 Critical	Aieta S 1 Critica	al	I
 Hypervisor Systems 	I Normal		01	I
 Modular Systems 				I
Network Devices	Devices (2) Group Details			I
PDU Devices	Group Actions • Discovery • Inventory • Refresh H	Health - More Actions -		I
🕨 😫 🛔 Servers	> TAdvanced Filters			I
 Storage Devices 	🗆 🛃 븆 🕂 NAME IP ADDRESS	IDENTIFIER MODEL	ТҮРЕ	I
		PowerEdge R940	Compute Compute	I
Ouerv Groups	□ 3 ◊ ✓	PowerEdge R740xd	Compute	I
Good Static Groups				I
				I
▼ 😌 🚔 PLUGIN GROUPS			View Details	I
🔻 😣 🛔 Physical Hierarchy			Outlet Antioner	I
👻 😫 🚊 DATA CENTER			Launch iDRAC Console	I
▼ 😂 🚢 ROOM			Launch Virtual Console	
👻 😫 ASILE			Device Type:	
S 🚔 RACK	1		Compute	
	Create New Physical Group		Identifier:	
	Manage Rack			
	Delete Group		Model: DowerEdge D040	
	Attributes		POwerEuge R940	

Figure 10 Manage rack physical group

2. In Manage Rack, go to Associated Devices page and click on Associate to Rack button.

ack Details Associated Devices					
ssociate to Rack Remove Device(s)					
₩ NAME	IDENTIFIER	MODEL	TYPE	POWER RATING	OUTLET COUNT

Figure 11 Associate devices to rack

3. Select the required PDU(s) to be associated to the rack and click **Next**.

Note: When there are many devices, *use Advanced Filters* to make PDU device selection easy by filtering the PDU devices.

	×	> T Ad	vanced F	lters			
ssociate device(s) with rack	~		ψ	+ NAME	SIZE OF DEVICE (U)	IDENTIFIER	MODEL
		•	0	×	N/A		MUU3EGM0-
		•	0 I		N/A		AP8659
		4					
		2 item(s)	found. I	iisplaying items 1 - 2.			

Figure 12 Device selection

4. Click **Finish** button. The **Slot** and **Size of Device (U)** are always *N/A* for PDU devices because, PDU devices doesn't occupy any rack slots.

Associate device(s) with rack Power Manager automatically places th	ne devices in the empty slo	ts or you can select a rack slot fo	or each device and click Finish.				0 X
Select Device(s)	SLOT	NAME	SIZE OF DEVICE (U)	IDENTIFIER		MODEL	
Associate device(s) with rack	✓ ● N/A		N/A		2	AP8659	*
	1 item(s) found. [Displaying items 1 - 1.					•
Step 2 of 2				Previous	Finish	Car	icel

Figure 13 Device selection

5. The PDU is associated to the rack and is shown in **Associated Devices** page.

Manage Rack Add devices to specific rack slots, rearrange d	evices within a rack, remove devi	ces from a rack, and asso	ociate supported devices with	a rack.	0 ×
Rack Details Associated Devices					
Associate to Rack Remove Device(s)	IDENTIFIED	MODEL	TVDE	DOWER DATING	
	IDENTIFIER	AP8659	PDU	N/A	24
4					•
1 item(s) found, 0 item(s) selected. Displaying	items 1 - 1.				
					Close

Figure 14 Associated devices

6. The associated PDU is now part of the given rack physical group.



Figure 15 Group membership

Note: Multiple PDUs can be associated to a rack, but multiple racks cannot be associated to the same PDU.

2.2 View monitored PDU(s)

This sub-section explains how to view the monitored PDU devices.

- Launch OpenManage Enterprise, and then click Plugins > Power Management > Power Manager Devices. The Power Manager Devices tab is displayed.
- 2. Click **All Monitored Devices** tab. All the PDU Devices (along with other monitored devices) are listed on the **All Monitored Devices** tab.

OpenManage Enterprise		Search Everything	Q 😂 26	🚩 10 📑 0 🚨 ad	min 😢 🍽 🚺
🛉 Home 🔳 Devices 🔗 Confi	guration 🧹 🔰 Alerts 🗸 🔤 Monitor 🗸 🌼 Application Settings 🗸 👎	🛱 Plugins 🗸			*
Power Manager					
Overview Power Manager Devi	ces Policies Emergency Power Reduction Rack View Setti	ings About			
	All Monitored Devices				
Static Groups	Refresh				
Physical Groups	> T Advanced Filters				
Individual Devices	🔀 🛱 🕂 NAME IDENTIFIE	ER MODEL 1	YPE	MANAGED STATE	PART LOCA RAC
inaniaaa borrooo	8 🙆 🖉 🖌 🕐 🖓	PowerEdge R740xd 0	Compute	Managed	Yes DAT 14
All Monitored Devices	🗹 Ó 🖌 1	PowerEdge M630 0	Compute	Managed	No
UNMONITORED	🗹 🔿 🖌 1	AP8659 F	PDU	Monitored	Yes DAT
VIRTUAL MACHINES	4 3 item(s) found. Displaying items 1 - 3.				Þ

Figure 16 View Monitored PDU

Note: If you are logging in as a Device Manager, only the device groups and devices that are in your scope are available for viewing and management. For example, if you are logging in as a Device Manager DM1 user, you can only view the PDU devices that are part of the group that is assigned to a Device Manager DM1 user.

2.3 View PDU metrics

To view PDU metrics for any rack physical group, go to **Metrics and Monitoring history** page in **Group Details**.

OpenManage Enterprise		Search Everything Q 💭 29 🏲 16 🗟 0 🌲 admin 🥹 🎓 🕚
🕆 Home 🔳 Devices 🔗 Configuration 🗸 🕐 Alerts 🗸 📼 Monitor	↓ 🌣 Application Settings ↓ 🛛 🛡 Plugins ↓	×
S 🛔 ALL DEVICES	RACK	
T S 🛔 SYSTEM GROUPS	ACK	
▶ ≗ HCI Appliances		9 3 Oritical
 Hypervisor Systems 	Devices 0 1 Oritical	Alers S Normal
 Modular Systems 		
Network Devices	Devices (3) Group Details	
PDU Devices		
▶ 😢 🛔 Servers	Metrics and Monitoring History Alert Thresholds Policies and EPR	Headroom
Storage Devices		
▼ @ ≜ CUSTOM GROUPS	Y Power History (Watt)	
A Query Groups	Duration 6 House	C
Ø Å Static Groups		
	1710	PDU Instant Power Maximum Average Minimum
V S APPLIER GROUPS	1600	
O A Physical Hierarchy	1400	
V G A DATA CENTER	1200	
	1000	
V to A ASILE	800	
G A RACK :	600	
	400	
	200	
	120 17;01 17:30 18:30 18:30 19:00 19:30 20:	20.00 20.30 21.00 21.30 22.00 22.30 22.36
	> Thermal History (Celsius)	
	> System Airflow History (CFM)	
	Thermal History (Celsius) > System Airflow History (CFM)	'a₀ 21a₀ 21a₀ 21a₀ 22a₀ 22a₀ 22a₀

Figure 17 View PDU Metrics

Note: If you are logging in as a Device Manager, only the device groups and devices that are in your scope are available for viewing and management. For example, if you are logging in as a Device Manager DM1 user, you can view all the PDU devices that are part of the group that is assigned to a Device Manager DM1 user.

2.4 Calculation of metrics for physical groups including PDU devices

Following is an example of how the metrics is calculated for physical groups including PDU devices.

Consider the following physical group hierarchy-



Figure 18 Example physical hierarchy

The graphs in **Metrics and Monitoring History** of *Rack-1* show the following data:

- all the metrics of pdu-1
- sum of all the metrics of *r1-dev-1* And *r1-dev-2*

The graphs in **Metrics and Monitoring History** of *Rack-2* show the following data:

- all the metrics of pdu-2
- all the metrics of r2-Dev-1

Graphs in **Metrics and Monitoring History** of *Rack-3* is similar to graphs of *Rack-2*.

The graphs in **Metrics and Monitoring History** of *Aisle-1* show the following data:

• sum of all the metrics of all devices (including PDU devices) in all the three rack groups (such as *Rack-1*, *Rack-2* and *Rack-3*).

3 PDU reports

This section focuses on Power Manager reports which are extended to support the PDU specific information.

3.1 Device overview report

Type: Built-In

Description: This report contains general device information including name, type, model, identifier, and other essential fields.

Advantages: The benefit of this report is that you get a consolidated report of general information of all the devices.

This report is extended to support the PDU devices as well.

The following image is a snippet of the report run:

Reports > Device Overview Report 7 Download Email

evice Overvie	w Report							May 26, 2021 11:2	27:39 A
oup: All escription: Th	Devices is report contains g	general device informat	ion including nar	ne, type, model, se	rvice tag, and oth	er essential field	s.		
DEVICE NAME	DEVICE TYPE	DEVICE MODEL	DEVICE IDENTIFIER	DEVICE ASSET TAG	DATACENTER	AISLE	RACK		
	SERVER	PowerEdge T640			CBzFQQnxBhpvXKe	TE RkgMjdBhkIRKvh	ırIMR EZQjZ		-
	SERVER	PowerEdge R940							
	SERVER	PowerEdge M630			BDC-Dell	a1	r1		
	SERVER	PowerEdge R740xd							
	SERVER	PowerEdge R7525							
	PDU	AP8659							
	PDU	MUU3EGM0-12P027-2	ž						-

Figure 19 Device Overview Report

3.2 NIC report

Type: Built-In

Description: This report contains NIC summary information including IP, MAC, etc.

Advantages: The benefit of this Report is user will get a consolidated report of NIC information of all the devices.

This report is extended to support the PDU devices as well.

The following image is a snippet of the report run:

NIC Report						Jun 15, 2021 11:30:08	AM
Group: All De Description: This r	vices eport contains NIC	summary informati	ion including IP, MA	AC, etc.			
DEVICE NAME	DEVICE TYPE	DEVICE MODEL	DEVICE IDENTIFIER	DEVICE IP ADDRESS	DEVICE MAC ADDRESS		
	PDU	AP8659			28:29:86:1b:d8:9b		^
Ubuntu18ERI	SERVER	PowerEdge M620			f8:bc:12:fb:00:72		
1	SERVER	PowerEdge M620			f8:db:88:5d:d3:c0		
WIN-5IHBQVR56PU.w.	SERVER	AX-640			4c:d9:8f:0e:88:36		
WIN-C064BTRT76M	SERVER	AX-640			4c:d9:8f:0e:8a:2e		
1	SERVER	PowerEdge R630			b8:2a:72:fc:2f:0c		

Figure 20 NIC Report

3.3 Power and Thermal Report of Groups

Type: Built-in and custom

Description: This report captures power and thermal data of all groups that are monitored by Power Manager over a certain time period. The groups contain different types of devices as per your preferences.

Advantages: The benefit of this report is that you get a consolidated report of the power and thermal data of all devices being monitored in Power Manager based on the report duration and granularity configured in Power Manager settings. You can further use this consolidated report for statistical analysis for all devices data in a single report.

This report is extended to support the PDU metrics as well.

In this report two new columns have been introduced to display the PDU metrics over a period for a group.

- **Instant Power Metering through PDU(s) (Watt)** This column displays the instant power consumption by the PDUs for a group.
- Energy Consumption through PDUs (KWH) This column displays the energy consumed by the PDU for a group.

Note: These columns are also introduced in group power and thermal metrics section of custom reports.

The following image is a snippet of the report run:

Reports > Power Manager: Power and Thermal Report of Groups 4

ower I	Manager: Power and Ther	mal Report of Groups	N	May 25, 2021 10:37:0	3/
escript	ion: This report contains po	wer and thermal information of groups coll	ected by Power Manager		
.SIUS)	AVERAGE TEMPERATURE (CELSIUS)	INSTANT POWER METERING THROUGH PDU(S) (WATT)		DATE ADDED	
.SIUS)	AVERAGE TEMPERATURE (CELSIUS) 26.022	1623.333	25952.700	2021-05-25 05:01:15.0	
.SIUS)	AVERAGE TEMPERATURE (CELSIUS) 26.022 26.022	1623.333 1623.333	25952.700 25952.700	2021-05-25 05:01:15.0 2021-05-25 05:01:15.0	
.SIUS)	AVERAGE TEMPERATURE (CELSIUS) 26.022 26.022 26.022	1623.333 1623.333 1623.333	25952.700 25952.700	2021-05-25 05:01:15.0 2021-05-25 05:01:15.0 2021-05-25 05:01:15.0	

Figure 21 Power and Thermal Report of Groups

Note: If you are logging in as a Device Manager, only the device groups and devices that are in your scope are available for viewing and management. For example, if you are logging in as a Device Manager DM1 user, and a group G1 is assigned to the Device Manager DM1 user, you can view only those devices which are part of G1 group in these reports.

4

Conclusion

Using this white paper one can easily discover PDU(s) and monitor the PDU metrics. Also, it helps you understand the benefits of these features.

5 Technical support and resources

Dell.com/support is focused on meeting customer needs with proven services and support.

5.1 Related resources

- Knowledge Base for Dell EMC OpenManage Enterprise Link.
- Knowledge Base for Dell EMC OpenManage Enterprise Power Manager Link.
- Dell EMC OpenManage Enterprise Power Manager Version 2.0 User's Guide Link.
- Dell EMC OpenManage Enterprise Power Manager RESTful API Guide version 2.0 Link.
- Dell EMC OpenManage Enterprise Power Manager 2.0 Release Notes Link.