

Power Management Application vSphere Plug in

Installer/User Guide

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Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit https://www.vertiv.com/en-us/support/ for additional assistance.

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1 Product Overview

vSphere Plug in is a power management application that enables you to administer the UPS and PDU data of Power Insight in vSphere. It also provides alarms alerts from Power Insight.

1.1 Features and Advantages

Following are the features and advantages of plug in:

- Simple deployment and convenient operation
- Centralized access to power readings
- Upload power equipment alarms to vSphere, and users can configure related measures to protect the server
- Monitoring

1.2 Compatible vSphere Version

Above vSphere 6.7.

1.3 Compatible Power Insight Version

Above Power Insight 2.4.

1.4 System Requirements

The hardware and software pre-requisites for the installation of vSphere plug in are:

1.4.1 Hardware

- A normal vSphere environment, with at least one cluster and three servers under vSphere.
- At least one server to run a virtual machine with 2CPU, 2GB memory, and 8GB hard disk.

1.4.2 Network

- Plug in network to access Power Insight.
- Plug in to run in the vSphere network environment.

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2 Installation

The following instructions will help you to download and install the vSphere plug in:

2.1 User Account Registration

If the power management vSphere plug in is the first Vertiv[™] software you want to download, then you need to register on the Vertiv[™] software download portal. After registration, you can download and install the latest version of the application.

To do user registration:

- 1. Please navigate to www.Vertiv.com in the web browser and hover your mouse over the Support tab.
- 2. Click *Get Software Downloads*, and then click the *Software Product Downloads*, menu option. The Software Download page appears.
- 3. Click View Details and then click the Register menu option.

NOTE: Do not close the web page. The web page will refresh automatically and display the "Create an Account for Infrastructure Management Software" registration form, where you can enter your account activation code.

- 4. Enter the mandatory field details, agree to the terms of use, and then click the *Create Account*.
- 5. Visit the email account you provided during the registration process and obtain the activation code from the *"Welcome to Vertiv Software Downloads"* email.
- 6. Type the activation code in the Code field on the Create an Account for Infrastructure Management Software registration form and click *Submit*.

To download the vSphere Plug in application:

- 1. In the Software Download page, type the application name in the Search box that you want to download.
- 2. Click the *Download* option. Once the application is downloaded, you can install the power management application. For more information on account registration and application download, refer section 2.2 Software Download of Power Insight User Manual.

2.2 Power Management vSphere Plug in Installation

Install Plug in in vSphere to generate a virtual machine and set the virtual machine IP address manually or automatically.

1. Type vSphere (1). Select a Host (2). Deploy the Plug in service (3). Upload the Plug in package (4).

NOTE: Ensure that you have downloaded the Plug in installation package from the www.Vertiv.com website.

Figure 2.1 Upload Installation Package

↔ ở ŵ	🛈 🔏 https://10.146.100.15/u	i/app/host;nav=h/urn:vmomi:HostSysten	n:host-14:76b4ff61-9fec-4	le27-93b7-36e1d7f782a8/summary		
vm vSphere Client	Menu 🗸 🛛 🔍 Search in all	environments				C
		10.146.1	00.12 Actions	Ý		
 ♥ I 10.46.100.15 ♥ II XIAN, JUAN_SA ♥ III XIAN, JUAN_SA ♥ III VIANARE, TEST, DELL 1 ● III 046.100.13 III 046.100.13 IIII 046.100.13 III 046.100.14 III 046.100.14 III 046.100.14<td>2 Dep 1 2 4 1 3 4 2 (10.146.100.15) 0.146.100.22) 0.146.100.22) 0.146.100.23) 0.146.100.24)Python</td><td>loy OVF Template elect an OVF template select a name and folder select a compute resource evenew details select storage Ready to complete</td><td>Select an OV Select an OVF templab Enter a URL to downk computer, such as a k O URL http://tem © Local file 3 UPLOAD FILES \$ Check a template to \$ X(A_L)(A \$ Select a template to \$ Check a template to</td><td>F template te from remote URL or local file system bad and install the OVF package from the Internet, or b cocal hard drive, a network share, or a CD/DVD drive. oteserver-address/filetodeploy.ovf ova io files selected. io files selected. ideploy Use multiple selection to select all the files associated with his PC → Local Disk (C;) ⇒ intall ⇒ der Name notepa++ power-insight-installer-2.40-piwin R tobe 31 1.1.1 a firefox setup 67.02 MoboXtem_Installer-2.40-piwin a firefox setup 67.02 MoboXtem_Installer.2.40-piwin</td><td>th an OVF template (ovf, vmdk, etc. v 0 Search intall 4/28/2021 5/20 PM Fi 5/20/2021 9/46 AM Fi 5/27/2021 11:06 AM Fi 6/13/2021 11:07 PM Fi 5/27/2021 11:06 AM Fi 6/13/2021 11:04 PM C 6/27/2021 9/36 AM Fi</td><td>x from your</td>	2 Dep 1 2 4 1 3 4 2 (10.146.100.15) 0.146.100.22) 0.146.100.22) 0.146.100.23) 0.146.100.24)Python	loy OVF Template elect an OVF template select a name and folder select a compute resource evenew details select storage Ready to complete	Select an OV Select an OVF templab Enter a URL to downk computer, such as a k O URL http://tem © Local file 3 UPLOAD FILES \$ Check a template to \$ X(A_L)(A \$ Select a template to \$ Check a template to	F template te from remote URL or local file system bad and install the OVF package from the Internet, or b cocal hard drive, a network share, or a CD/DVD drive. oteserver-address/filetodeploy.ovf ova io files selected. io files selected. ideploy Use multiple selection to select all the files associated with his PC → Local Disk (C;) ⇒ intall ⇒ der Name notepa++ power-insight-installer-2.40-piwin R tobe 31 1.1.1 a firefox setup 67.02 MoboXtem_Installer-2.40-piwin a firefox setup 67.02 MoboXtem_Installer.2.40-piwin	th an OVF template (ovf, vmdk, etc. v 0 Search intall 4/28/2021 5/20 PM Fi 5/20/2021 9/46 AM Fi 5/27/2021 11:06 AM Fi 6/13/2021 11:07 PM Fi 5/27/2021 11:06 AM Fi 6/13/2021 11:04 PM C 6/27/2021 9/36 AM Fi	x from your

2. Select the name and folder of the Plug in virtual machine.

Figure 2.2 Set Plug in Virtual Machine Name

4

Deploy OVF Template	Select a name an	nd folder		×
	Specify a unique name and t	target location		
1 Select an OVF template	Virtual machine name:	pi-vcenter-plugin-Test		
2 Select a name and folder	Select a location for the virtu	ual machine.		
3 Select a compute resource	✓ 🗗 10.146.100.15			
4 Review details	XIAN_JUAN_SA Discovered virtu	ual machine		
5 Select storage	VCLS			
6 Ready to complete				
			CANCEL	BACK

3. Select the host name on which the virtual machine is deployed.

Figure 2.3 Select the Host

Deploy OVF Template	Select a compute resource ×
1 Select an OVF template 2 Select a name and folder 3 Select a compute resource 4 Review details 5 Select storage 6 Ready to complete	Select the destination compute resource for this operation
	Compatibility Compatibility checks succeeded. CANCEL BACK NEXT

4. Verify the details of the plug in upload package.



Deploy OVF Template	Review details		
1 Select an OVF template	The OVF package contains a configuration options below.	idvanced configuration options, which might pose a security risk. Review Click next to accept the advanced configuration options.	the advanced
2 Select a name and folder			
3 Select a compute resource	Publisher	No certificate present	
	Download size	1.1 GB	
4 Review details	Size on disk	Unknown (thin provisioned) 8.0 GB (thick provisioned)	
5 Select storage	Extra configuration	nvram = pi-vcenter-plugin.nvram	
5 Select networks			
7 Ready to complete			
		CANCEL	

5. Select the storage device where the virtual machine is installed. Typically, it is installed on vsan storage.

Figure 2.5 Virtual Machine Storage Selection

Deploy OVF Template	Select storage						\times
1 Select an OVF template	Select the storage for the c	onfiguration and dis hine (Requires Key N	k files lanagement Serve	er)			
2 Select a name and folder	Select virtual disk format:			As defined in the V	'M storage policy	/ ~	_
3 Select a compute resource	VM Storage Policy:	Capacity	Provisioned	Free	Type	Cluster]
4. Review details	datastore1	989.75 GB	3.71 GB	987.43 GB	VMFS 6		
5 Select storage							
7 Ready to complete							
	Compatibility						
	 Compatibility checks s 	ucceeded.					
					CANCEL	ВАСК	т

6. Set up the virtual machine network.

Specify the correct network configuration as follows:

NOTE: Do not enter the network configuration if the DHCP service is available.

NOTE: The IP Address, Netmask Prefix, Gateway and DNS parameters is effective only when the Hostname is specified.

- a. Hostname- Type the host name if you need to set the IP statically.
- b. IP Address- Type the IP address If you need to set the IP statically.
- c. Netmask Prefix- Type the Netmask Prefix If you need to set the IP statically.
- d. Gateway- Type the network gateway if you need to set the IP statically.
- e. Specify the DNS and DNS Domain details if DNS service is available.
- f. Root Password- Modify the password corresponding to root used by ssh.

NOTE: If password is not provided, the default password "vertiv" will be used.

Deploy OVF Template	Select networks Select a destination network for each se	ource network.	×
1 Select an OVF template	Source Network	Destination Network	
2 Select a name and folder	workload-pg	VM Network	
3 Select a compute resource			1 items
4 Review details	IP Allocation Settings		
5 Select storage	IP allocation:	Static - Manual	
6 Select networks	IP protocol:	IPv4	
7 Ready to complete			
			CANCEL BACK NEXT

Figure 2.6 Virtual Machine Network Selection



Deploy OVF Template	Customize template	ties of this software solution.
1 Select an OVF template	All properties have valid values	×
2 Select a name and folder	✓ Networking	6 settings
3 Select a compute resource	Hostname	Hostname of system.Leave blank if DHCP is desired.
4 Review details	IP Address	IP Address of the system.Leave blank if DHCP is desired.
5 Select storage		
6 Select networks	Netmask Prefix	CIDR notation (e.g. 24 for 255.255.255.0, 28 for 255.255.255.240).Leave blank if DHCP is desired.
7 Customize template		
8 Ready to complete	Gateway	Gateway of the system.Leave blank if DHCP is desired.
	DNS	DNS Server
	DNS Domain	DNS Domain
		CANCEL BACK NEXT

Deploy OVF Template	Ready to com	plete	×
1 Select an OVE template	Template name	pi-vcenter-plugin	Ŷ
	Download size	1.1 GB	
2 Select a name and folder	Size on disk	8.0 GB	
3 Select a compute resource	Folder	XIAN_JUAN_SA	
4 Review details	Resource	10.146.100.12	
	Storage mapping	1	
5 Select storage	All disks	Datastore: vsanDatastore; Format: As defined in the VM storage policy	
6 Select networks	Network mapping	1	
7 Customize template	VM Network	VM Network	
	IP allocation settings		
8 Ready to complete	IP protocol	IPV4	
	IP allocation	Static - Manual	
	Properties	Hostname = IP Address = Netmask Prefix = Gateway = DNS = DNS Domain = Debugging = False	~
		CANCEL BACK FINIS	н

Figure 2.8 Virtual Machine Information View

NOTE: If the user does not enter the host name and other information in the network configuration process, the system uses the DHCP service to obtain the IP address and DNS server address by default. Otherwise, the network parameters set by the user are used. After the virtual machine is turned on, the user can also manually modify the IP address. For the steps, refer to the following link: <u>https://vmware.github.io/photon/assets/files/html/3.0/photon_</u> admin/setting-a-static-ip-address.html

Figure 2.9 Virtual Machine IP Address

vm vSphere Client Menu v Q Search in all environments		C	?~
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	pi-vcenter-plugin-beta-1 ▶ ■ ♥ ▷ ◎ summary Monitor Configure Permissions Datastores	ACTIONS ~	
	Guest OS. VMware Photon OS (Compatibility. VmHardware HWVer VMware Tools: Running, version:1133	Power Guest OS Grand Control C	
(D. Wolf Occ.) (D. Wolf	M Powered On DNS Name: photon IP Addresses 10.166.103.155 LAUNCH WEB CONSOLE View ALL 4 IP ADDRE LAUNCH REMOTE CONSOLE ↓	Gone Fault Tolerance VM Policies	
다 WindowServer 2016(0.145.100.23) 급 WindowServer 2016(0.145.100.23) 급 WindowServer 2016(0.146.100.24)Python 급 WindowServer 2019	VM Hardware > CPU 2.CPU(s)	Template Compatibility Expect future loss	
	> Memory 2 GB, 0.38 GB memory active > Hard disk 1 8 GB	e Export system Logs m Attributes Move to folder write	
	Network adapter 1 VM Network (connected) CD/DVD drive 1 Disconnected Video card 4 MB	Rename Edit Notes	
	VMCI device Device on the virtual machine PC	Ct Add Permission	

7. Log in to the Plug in registration interface.

After starting the Plug in virtual machine, enter the IP address of the Plug in in the browser and enter the Plug in service web interface for registration and authentication.

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3 Application Usage

The following instructions describe the screen elements of the user interface.

3.1 Register vSphere and Power Insight

3.1.1 Overview

To complete the registration of Plug in and vSphere, as well as the registration of Plug in and Power Insight, first you need to install the plug in virtual service, and then access the Web interface of the Plug in service to perform bilateral authentication; The registration process of the plugin and vSphere will install the preset Power Insight alarms in Plug in to vSphere and all interfaces for data interaction with vSphere will be installed successfully. The authentication process of Plug in and Power Insight will authenticate the interfaces of both parties to ensure that the data is normal Interactive.

3.1.2 Plug in Login Page

Once you complete the registration process, you can log in to Plug in.

Login steps:

- 1. Open a web browser and enter the Plug in IP address to access Web service. For example: <u>https://1.1.3/#/</u> The Plug in Login page appears.
- 2. Enter the UserName and Password and then click Login. The default login credentials are:
 - User Name: admin
 - Password: vertiv-pi

Figure 3.1 Plugin Login Page

User Name	
admin	
Password	
••••••	
Login	
Restore Password	

NOTE: When logging in for the first time, the web interface prompts you to change the default password. See **Figure 3.2** on the facing page .

Figure 3.2 First Login Password Modification

Prompt			
Please change your pass	word when logging in for the first	time!	
		SURE	
	Password		
	Login		
	Restore Password		

Changing the Password

After a successful login, you can change your password

- 1. Click the user drop-down menu at the upper right corner of the interface.
- 2. Click the Change Password option.
- 3. Enter a new vSphere Password and then click Update. The interface resets the default password. See Figure 3.3 below .

Once the password is changed successfully, make sure to use the new password at next login.

NOTE: You cannot change the default User Name.

Figure 3.3 Change Password

😵 Vertiv Power Insig	ht - vCenter Plugin					admin ^
						About
						Change Password
						Log Out
	vCenter Installation					
	vCenter Host Name/IP	vCenter UserName	vCenter Password		Plugin Host Name/IP	
	VTCNXIA-vCenter-D01.II	administrator@vsphere.l			vtcnxla-pl-plugin-d01.int	
	UPDATE					
	Power Insight Installation					
	Power Insight Host Name/IP	Power Insight Api Key		Power Insight Api Secr	et	
	VICNXIA-Powernsight-	GEKSYCOP				
	UPDATE					

Restoring the Default Password

If you forgot your login password, it is recommended to restore the default password (vertiv-pi) to access the Plug in application. Click Restore Password in the Login page to reset the password to default password. See **Figure 3.4** below.

Figure 3.4 Reset Password



3.1.3 Register Plug in to vSphere and Complete Plug in and Power Insight Certification

Register Plug in to vSphere and Complete Plug in and Power Insight certification.

To register Plug in to vSphere:

- 1. Follow the prompts on the Plug in service web interface
- 2. Enter the vSphere IP address, login user name, login password and the Host Name/IP of the plug in.
- 3. Click Install.

To Plug in and Power Insight registration certification:

- 1. Enter the Power Insight IP address, Power Insight API Key, Power Insight API Secret according to the interface prompts.
- 2. Click *Install*. The Power Insight API Key and API Secret is obtained from Power Insight's system settings— >Integrated management menu. For more details, refer to the Vertiv[™] Power Insight User Manual.

Figure 3.5 Plug in Registration

😯 Vertiv Power Insig	ht - vCenter Plugin						admin ^
	vCenter Installation						
	vCenter Host Name/IP VTCNXIA-vCenter-D01.II	vCenter UserName administrator@vsphere.l	vCenter Password		Plugin Host Name/IP vtcnxia-pi-plugin-d01.int		
	UPDATE						
	Power Insight Installation						
	Power Insight Host Name/IP VTCNXIA-PowerInsight-	Power Insight Api Key QEK3yQop		Power Insight Api Sec	ret		
	UPDATE						



CAUTION: Plug in registration may fail due to these situations:

- If incorrect authentication information is entered. In this case, confirm the information and try again.
- Plug in has been registered before. When the Plug in is uninstalled, the warning information of the Vertiv power supply is left in vSphere. You need to enter vSphere to manually delete the global alarms and custom alarms of the Vertiv power supply.

3.2 Enabling Power Insight Plugin

1. VMware vSphere V7.0 and above-After users register PI Plugin to vSphere, re-enter the vSphere interface, a "Plugin has been successfully deployed" prompt will appear at the top of the page, click "Refresh Browser" to refresh the browser, as shown in **Figure 3.6** below.

Figure 3.6 Plugin has been Successfully Deployed Prompt

	Plugin Power Insight:1.0.1.0 has been successfully deployed. Refresh the browser to enable. REFRESH BROWSER		
vm vSphere Client Menu ∨ Q s		C	?`
1 D C C C C C C C C C C C C C C C C C C	XIAN1F_SA_Cluster ACTIONS ~ Summary Monitor Configure Permissions Hosts VMs Datastores Networks Updates		
✓	Total Processors: 24 Total vMotion Migrations: 1348 Fault Domains:		

2. VMware vSphere V6.7 Version- After users register PI Plugin to vSphere, you need to log out and log in to vSphere again, and after that the blue prompt will appear in the vSphere interface, click "Refresh Browser" to enable the PI Plugin.

3.3 Associate Server and Power Supply Equipment

1. On specifying the vSphere interface, click Menu at the top of the page, and then select the Host and Clusters option, as shown in **Figure 3.7** below .

Figure 3.7 Device Association Entrance

vm vSphere Client	Menu V Q Search in all environmen									٢
Home Shortcuts	Image: Book of the state of the s									
Hosts and Clusters Ms and Templates Storage Vetworking Content Libraries Workload Management Global Inventory Lists	It Hosts and Clusters ctrl + alt + 2 VMs and Templetes ctrl + alt + 3 Storage ctrl + alt + 4 Networking ctrl + alt + 5 Content Libraries ctrl + alt + 6 Workshad Management ctrl + alt + 7 Global Inventory Lists ctrl + alt + 8	Storage	Networking	Content Libraries	Global Inventory Lists	Workload Management	DRaaS			
Policies and Profiles Auto Deploy Hybrid Cloud Services Developer Center	Policies and Profiles Policies and Profiles Auto Deploy Hybrid Cloud Services Developer Center Reveloper Center Reveloper Center	VM stomization vecifications	VM Storage Policies	Host Profiles	Lifecycle Manager					
Administration Tasks Events Tags & Custom Attributes Lifecycle Manager	Tasks Tasks Control Tasks Tags & Custom Attributes Tags & Custom Attributes Cutfecycle Manager Cutfur – Power Insight									
 Vertiv – Power Insight DRaaS vRealize Operations 	 ORaaS vRealize Operations 									
	Licensing									
Recent Tasks Alarms										*

2. Now, select a host under the cluster and click to enter the current host summary interface. For example, 10.146.100.12 is a host name, as shown in **Figure 3.8** below.

Figure 3.8 Host Summary Interface

vm vSphere Client Menu									
10.146.100.15	■ 10.146.100.12 ACTIONS ✓ Summary Monitor Configure Perr	issions VMs Datastores	Networks Updates						
	Hypervisor VMwarei Mode: Powető Docessor Type Docessor Type Docessor Type Docessor 16 Virtual Machines: 6 State: Connecte Uptime: 6 days DOCLEMOR @	SXI, 7.01, 17325551 e R540 on(?i) Silver 4208 CPU @ 2.10GHz d						CPU Used: 2.63 GHz Memory Used: 23 GB Storage Used: 507.77 GB	Fre: 14.13 GHz Capacily: 16.76 GHz Fre: 8.63 GB Capacily: 31.62 GB Fre: 7.02 TB Capacily: 7.52 TB
Wiware vCenter Server(1 WSL8 WindowsServer 2016(10.1	Hardware			^	Configuration				^
WindowsServer 2016(10.1	Manufacturer	Dell Inc.			Image Profile	(Updated) ESXi-7.0U1c-1732555	l-standard	
WindowsServer 2016(10.1	Model	PowerEdge R540			> vSphere HA State		ected (Secondary)		
WindowsServer 2019(10.1	> CPU	8 CPUs x 2.1 GHz			> Fault Tolerance (Legacy)	Unsupported			
	Memory	23 GB / 31.62 GB		> Fault Tolerance Unsuppr		ted			
	> Virtual Flash Resource	0 B / 0 B			> EVC Mode	Disabled			
	> Networking	localhost.							
	> Storage	2 Datastore(s)			Related Objects				^
					Cluster		1F_SA_Cluster		
	Vertiv – Power Insight			^					
	> UPS_TEST1_ITA2	UPS			Custom Attributes				~
	> Geist IMD3	PDU			Attribute		Value		
					AutoDeploy.Machineldentity				
Recent Tasks Alarms									*

3. After entering the summary interface, since the current host is not connected to the device, the user can see the Vertiv-Power Insight interface prompts that the device is not connected, as shown in **Figure 3.9** below .

Figure 3.9 Summary Interface of Unbound Device

Vertiv – Power Insight		^
	① Unbound Device	

 The user can switch to the configuration interface by clicking the Configure tab. Select Vertiv-Power Insight -> Connected Power Device in the left menu bar to enter the vertiv configuration interface, as shown in Figure 3.10 below.

Figure 3.10 Vertiv Device Association Interface

vm vSphere Client Meni			
10.146.100.15	I0.146.100.12 Act Summary Monitor Config	iONS∨ re Permissions VMs Datastores Networks Updates	
 TAF_Test_DataCenter XIANIF_SA_Cluster 10.146.100.12 10.146.100.13 10.146.100.14 	Default VM Compatibility Swap File Location System	Connected Power Devices APPLY UPS Equipment List	Checked 0
centos7.6(10.146.100.25)	Host Profile		JUNC II
pi-vcenter-plugin-beta-29	Time Configuration	UPS_TESTI_ITA2	10.169.82.82
pi-vcenter-plugin-EULA	Authentication Services Certificate	PDU Equipment List	Checked 0
VMware vCenter Server(1	Power Management	Device name	Device IP
WindowsServer 2016(10.1	Advanced System Settings System Resource Reservation	Geist IMD3	10.163.236.144
WindowsServer 2016(10.1	Firewall	Geist IMD3	10.163.236.148
WindowsServer 2019(10.1	Services Security Profile	Geist IMD3	10.163.236.143
	System Swap	Geist IMD3	10.163.236.142
	Packages	Geist IMD3	10.163.236.149
	Hardware V		
	Overview		
	PCI Devices		
	Firmware		
	Virtual Flash 🗸 🗸		
	Virtual Flash Resource Mana		
	Virtual Flash Host Swap Cac		
	Alarm Definitions		
	Vertiv - Power Insight		
	Connected Power Devices		
	Connected Alarms		
Recent Tasks Alarms			*

5. In the configuration interface, you can view the UPS Equipment List and the PDU Equipment List. Click the check box against the UPS and PDU devices that need to be configured, and then click the APPLY in the upper left corner. The prompt "*Power Devices connected with ESXI host successfuly*" is displayed which indicates that the selected UPS and PDU equipments are connected to the server, as shown in **Figure 3.11** on the next page.

Figure 3.11 Device Binding Successfully

To associate devices to other hosts, repeat Step 2, Step 3, Step 4 and Step 5.

3.4 Setting Alarms for a Single Server

3.4.1 Overview

For the Host level, we provide two types of alarms:

- Global alarms: These are the default Vertiv[™] power supply alarms installed by Plug in to all hosts under vSphere when it is registered and installed in vSphere. These alarms need not be set manually by the user.
- **Custom alarms:** These alarms need to be selected from the list according to the power supplied by the device to the Host. Only the custom alarms installed on the device can be triggered on vSphere, and the linkage actions preset in the alarm definition can be executed.

3.4.2 Function Module

View the global alarms of vSphere-level installations. When the Plug in is installed, the global alarm gets installed on all Hosts in vSphere.

Figure 3.12 Host Installed Global Alarm

vm vSphere Client Menu ∨ Q S		
	10.146.100.13 ACTIONS Y	
10.146.100.15	Summary Monitor 2 Configure Permissions VMs Datastores Networks Updates	
	Swap File Location System Licensing Host Profile Time Configuration Authentication Services Certificate Power Management Advanced System Settings System Resource Reservation System Resource Reservation Firmewoil	Enabled ▼ Last modified ↓ Enabled 07/23/2021, 2.4013 PM Enabled 07/23/2021, 2.4013 PM
 WindowsServer 2016(10.146.100.22) WindowsServer 2016(10.146.100.24)Python WindowsServer 2019(10.146.100.23)Python 	O UPS Bypass mode Host Image: 1014610015	Enabled 07/23/2021, 24:012 PM Enabled 07/23/2021, 24:012 PM Enabled 07/23/2021, 24:012 PM Enabled 07/23/2021, 24:012 PM
	Hardware V O > UPS REPO Host Ø 10146.100.15 O Overview O > VPS Battery aging Host Ø 10146.100.15 O 0	Enabled 07/23/2021, 2:40:12 PM Enabled 07/23/2021, 2:40:12 PM
	Firmware O Ors in classes Host O In classical Virtual Flash O > UPS Output disabled Host O 10 146 100 15 In 1046 100 15	Enabled 07/23/2021, 2:40:12 PM Enabled 07/23/2021, 2:40:12 PM
	Virtual Rash Resource Mana Virtual Rash Resource Mana Virtual Rash Host Swap Cac Vi	Enabled 07/23/2021, 2:40:12 PM Enabled 07/23/2021, 2:40:12 PM
	Scheduled Tasks O UPS input Neutral Lost Host Ø 1014610015 Vertity - Power insight O UPS System overtemp Host Ø 1014610015 Conserted Revea Devices O UPS System Vertem Mark Host Ø 1014610015	Enabled 07/23/2021, 2:4012 PM Enabled 07/23/2021, 2:4012 PM Enablert 01/21/2021, 413/46 AM
	Connected Alarms	1 - 20 of 63 items K < 1 / 4

Associate Custom Alarms on Host

- 1. Select Host in the left pane. Click the *Configure tab*, and then select Vertiv-Power Insight -> Connected Alarms menu option.
- 2. In the Connected Alarms page, list of custom alarms is displayed., select the alarm that needs to be installed on the Host, and then click *Apply*.

Figure 3.13 Host Association Custom Alarm

vm vSphere Client Menu ∽ Q S	earch in all environments		C () v Administrator@VSPHERELOCAL v ()
	🔓 10.146.100.13 🕴 Асті	NS Y	
 ✓ ☐ 10.146 100.15 ✓ ☐ TAF_Test_DataCenter ✓ ☐ XAN.PE_SA_Cluster ☐ 10.146 100.12 1 ☐ 10.146 100.013 	Summary Monitor 2 Configur Swap File Location System Y Licensing	Permissions VMs Datastores Networks Updates Connected Alarms APPLY Custom Alarm List	Checked 1
0.146.100.14 Centos7.6(10.146.100.25)	Time Configuration	Alarm Name	Delay / Second
pi-vcenter-plugin-beta-29	Authentication Services	UPS Rectifier fault - host-20	15
Di pi-vcenter-plugin-EULA	Power Management	UPS Charger fault - host-20	15
Wware vCenter Server(10.146.100.15)	Advanced System Settings System Resource Reservation	UPS Inverter fault - host-20	15
WindowsServer 2016(10.146.100.21)	Firewall	UPS Battery EOD - host-20	15
WindowsServer 2016(10.146.100.22)	Services Security Profile	UPS has no output - host-20	15
WindowsServer 2019(10.146.100.23)Python	System Swap	UPS Input abnormal - host-20	15
	Packages	UPS System battery low pre-warning - host-20	15
	Overview	UPS Input Phase Reversed - host-20	15
	PCI Devices	UPS Rectifier overload - host-20	15
	Virtual Flash	UPS Battery cabinet not connected - host-20	15
	Virtual Flash Resource Mana	UPS Inverter overload - host-20	15
	Virtual Flash Host Swap Cac	UPS LBS abnormal - host-20	15
	Scheduled Tasks	UPS Bypass abnormal - host-20	15
	Vertiv – Power Insight 🗸 🗸 🗸	UPS Bypass abnormal in ECO mode - host-20	15
	Connected Power Devices	UPS Bypass phase reversed - host-20	15
Recent Tasks Alarms	[*

Cancel the Connected Custom Alarm

You can cancel the associated custom alarms in any of the following ways:

- Delete the associated custom alarm in the Alarm Definitions page.
- Uncheck the associated custom alarms in the Connected Alarms page, and then click Apply.

Figure 3.14 Host Delete Custom Alarm

n vSphere Client Menu ∽ Q s	Search in all environments					(Administrator@VSPHERE	LOCAL 🗸
	T0.146.100.13	ions 🗸						
10.146.100.15	Summary Monitor 2 Configu	re Permis	sions VMs Datastores	Networks Updates				
TAF_Test_DataCenter	Swap File Location		D - (1-11)					
XIAN1F_SA_Cluster	Australia Coccasion	Alarm I	Definitions					
10.146.100.12	a system v	ADD	EDIT DISABLE5 DELETE					
1 6.146.100.13	Licensing							
10.146.100.14	Host Profile		Alarm Name T	Object type	T Defined In T	Enabled	▼ Last modified	Ŷ
centos7.6(10.146.100.25)	Time Configuration	£ 💿 >	UPS has no output - host-20	Host	This Object	Enabled	07/28/2021, 11:37:42 AM	
pi-vcenter-plugin-beta-29	Authentication Services	\circ	UPS has no output	Host	10.146.100.15	Enabled	07/23/2021, 2:40:13 PM	
Diplovcenter-plugin-beta-5-22	Certificate Rower Management	\circ	UPS Battery EOD	Host	10.146.100.15	Enabled	07/23/2021, 2:40:13 PM	
VMware vCenter Server(10.146.100.15)	Advanced System Settings	\bigcirc	UPS Inverter fault	Host	10.146.100.15	Enabled	07/23/2021. 2:40:13 PM	
B VSI_8	System Resource Reservation	0	LIDE Charger fault	Host	- 10 146 100 1E	Enabled	07/02/0021 0:40:12 PM	
WindowsServer 2016(10.146.100.21)	Firewall		OF5 charger radic	HUSI	10.140.100.15	Enabled	07/23/2021, 2:40:13 PM	
WindowsServer 2016(10.146.100.22)	Services	0,	UPS Rectifier fault	Host	10.146.100.15	Enabled	07/23/2021, 2:40:13 PM	
WindowsServer 2016(10.146.100.24)Python	Security Profile	\circ	UPS Bypass mode	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
WindowsServer 2019(10.146.100.23)Python	System Swap	\circ	UPS Battery mode	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	Packages	\circ	UPS On maintenance bypass	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	Hardware 🗸	\circ	UPS System overload	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	Overview	\circ	UPS REPO	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	PCI Devices	\bigcirc	UPS Battery aging	Host	10.146.100.15	Enabled	07/23/2021 2:40:12 PM	
	Firmware	0 >	UPS No hatten/	Host	- 10 146 100 15	Enabled	07/23/2021 2:40:12 PM	
	Virtual Flash 🗸			liest		Endoired	07/02/2021 2:40:12 714	
	Virtual Flash Resource Mana		OPS Battery low pre-warning	HOSE	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	Virtual Flash Host Swap Cac	0 >	UPS Output disabled	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	3 Alarm Definitions	\circ	UPS Output pending	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	Scheduled Tasks	\circ	UPS Input Ground Lost	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	Vertiv – Power Insight 🗸 🗸	\circ	UPS Input Neutral Lost	Host	10.146.100.15	Enabled	07/23/2021, 2:40:12 PM	
	Connected Power Devices	\cap \cdot	LIDE System overtemp	Wort	10 146 100 15	Enabled	07/32/2021 3:40-12 0M	
	Connected Alarms						1 - 20 of 64 items 🛛 🤘	< 1 / 4

- When an alarm occurs on the power device connected the Host, it must be pre-installed on the Host to trigger the alarm in vSphere, and then execute the alarm preset action. The alarms installed on the host can be global alarms or manually associated custom alarms.
- The custom alarms also include some alarms with the same name as the global alarms, but their scope of action is different. By default, the global alarms are installed on all hosts and are effective for all hosts. Custom alarms are only effective for the associated Host.
- If the global alarm and custom alarm installed by a Host have the same name, it is recommended to disable the global alarm manually on the Host to avoid conflicts.

Figure 3.15 Host Alarm

vm vSphere Client Menu ∽ Q s	earch in all environments	C ⑦ v Administrator@VSPHERE_LOCAL v ③
Vm VSphere Client Menu Q_ S Image: Client Image: Client Menu Q_ S Image: Client Image: Clien	Aurch nall environments	C C Administrator@VSPHERELOCAL V C abled Y Last modified V Y abled 07/28/2021, 103.17 PM abled 07/28/2021, 103.35 PM abled 07/28/2021, 240.13 PM abled 07/28/2021, 240.13 PM
 Whater vCenter Server(10.146.100.15) ↓ VsL_u ↓ WindowsServer 2016(10.146.100.21) ↓ WindowsServer 2016(10.146.100.22) ↓ WindowsServer 2019(10.146.100.23)Python ↓ WindowsServer 2019(10.146.100.23)Python 	Advanced system Settings > UPS Battery EDD Hott 10146.100.15 Ena System Meacure Reservation > UPS inverter fault Hott 10146.100.15 Ena Security Profile > UPS charger fault Hott 10146.100.15 Ena System Swap > UPS charger fault Hott 10146.100.15 Ena Packages > UPS becifier fault Hott 10146.100.15 Ena Hardware > UPS Battery mode Hott 10146.100.15 Ena Overview > UPS Battery mode Hott 10146.100.15 Ena PC Devices > UPS Battery aging Hott 10146.100.15 Ena Virtual Flash > UPS Battery aging Hott 10146.100.15 Ena Virtual Flash > UPS Battery aging Hott 10146.100.15 Ena Virtual Flash > UPS Battery aging Hott 10146.100.15 Ena Virtual Flash > UPS Battery low pre-warming Hott 10146.100.15 Ena Virtual Flash > UPS Output disabled Hott 10146.100.15 Ena Virtual Flash > UPS Output pervaning Hott 10146.100.15 Ena <	abled 07/23/2021, 24.013 PM abled 07/23/2021, 24.012 PM
Perent Tasks Alarms	Vertiv - Dower Insight Connected Power Devices Connected Alarms	abled 07222020; 2:40:2 PM 07/22/2021 2:40:2 PA 1-20 of 65 items K < 1 / 4 > X

3.5 Power Equipment Alarm

3.5.1 Alarm Definition

After the Plug in is registered to vSphere, the pre-installed alarms is displayed under the vSphere -> Configure -> Alarm Definitions page.

Figure 3.16 Alarm Definition

10.146.100.15	ΑΟΤΙΟ	ns 🗸											
Summary Monitor	Configure	Permissions	Datacenters	Hosts & Clusters	VMs	Datastores	Networks	Linked vCer	nter Ser	rver Systems	Extensions	Updates	
Settings 🗸 🗸	Alarm	Definitions											
General Licensing	ADD	EDIT ENABLE	E/DISABLE D	ELETE									
Message of the Day		Alarm Name	т	Object type		▼ Defin	ed In 🔻	Enabled	Ŧ	Last modified			ψ τ
Advanced Settings	\bigcirc >	UPS UPS has no o	utput	Host		ø	This Object	Enabled		06/02/2021, 6	5:40:31 PM		
Authentication Proxy	\bigcirc >	UPS Battery EOD		Host		ø	This Object	Enabled		06/02/2021, 6	5:40:31 PM		
Converter HA	\bigcirc >	UPS Inverter fault		Host		ø	This Object	Enabled		06/02/2021, 6	5:40:31 PM		
Security V	\bigcirc >	UPS Charger fault		Host		e i	This Object	Enabled		06/02/2021, 6	5:40:31 PM		
Key Providers	\bigcirc >	UPS Rectifier fault		Host		e l	This Object	Enabled		06/02/2021, 6	5:40:31 PM		
Alarm Definitions	\bigcirc >	UPS Bypass mode		Host		ø	This Object	Enabled		06/02/2021, 6	5:40:31 PM		
Scheduled Tasks	\bigcirc >	UPS Battery mode	}	Host		e l	This Object	Enabled		06/02/2021, 6	5:40:31 PM		
Storage Providers	\bigcirc >	UPS On maintenar	nce bypass	Host		ø	This Object	Enabled		06/02/2021, 6	5:40:30 PM		
vSAN 🗸	\bigcirc >	UPS System overle	bad	Host		e l	This Object	Enabled		06/02/2021, 6	5:40:30 PM		
Update	\bigcirc >	UPS REPO		Host		ø	This Object	Enabled		06/02/2021, 6	5:40:30 PM		
Internet Connectivity	\bigcirc >	UPS Battery aging		Host		ø	This Object	Enabled		06/02/2021, 6	5:40:30 PM		
	\bigcirc >	UPS No battery		Host		ø	This Object	Enabled		06/02/2021, 6	5:40:30 PM		
	\bigcirc >	UPS Battery low p	re-warning	Host		æ	This Object	Enabled		06/02/2021, 6	5:40:30 PM		
	\bigcirc >	UPS Output disabl	ed	Host		ø	This Object	Enabled		06/02/2021, 6	5:40:30 PM		

- For the newly added alarm definition, the object type is the host, and the definition scope is the entire vSphere.
- 10.146.100.15 represents the name of vSphere.
- You can edit, disable/enable, and delete alarm definitions.

You can add some advanced operations to the alert rule when editing alarm rule. These operations are:

- Entering the maintenance mode
- Adding the maintenance mode
- Exiting the maintenance mode

NOTE: Do not modify the IF rules. Otherwise, alarms will not be triggered.

Edit Alarm Definition	Alarm Rule 1	×
1 Name and Targets	IF	
2 Alarm Rule 1	alm_sys_outOff	
3 Reset Rule 1	AND message is equal to \checkmark active REMOVE	
4 Review	THEN Trigger the alarm and * Show as Critical Send email notifications Send sNMP traps Run script Enter maintenance mode RDD ADVANCED ACTIONS	
	ADD ANOTHER RULE DUPLICATE RULE REMOVE RULE	
	CANCEL BACK	NEXT

Figure 3.17 Edit Alarm Definition

After configuring the alarms for a single server, the corresponding alarms will be displayed under the selected server -> Configure -> Alarm Definitions list.

Figure 3.18 Single Server Alarm Definition List

асті ∎ 10.146.100.13 асті	ons 🗸				
Summary Monitor Configu	re Permissions VMs Datastores Ne	tworks Updates			
Default VM Compatibility Swap File Location	Alarm Definitions				
System 🗸	ADD EDIT ENABLE/DISABLE DELE	TE			
Licensing	Alarm Name T	Object type	▼ Defined In ▼	Enabled T	Last modified
Host Profile	O > Host connection and power state	Host	10.146.100.15	Enabled	01/21/2021, 4:13:42 AM
Authentication Services	O > Host TPM attestation alarm	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Certificate	O > Host error	Host	10.146.100.15	Enabled	01/21/2021, 4:13:42 AM
Power Management	O > Host Requires Encryption Mode En	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Advanced System Settings	O > Host processor status	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
System Resource Reservation	O > Host memory status	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Firewall	○ > Host hardware fan status	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Security Profile	Host hardware voltage	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
System Swap	○ > Host hardware temperature status	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Packages	○ > Host hardware power status	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Hardware 🗸 🗸	○ > Host hardware system board status	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Overview	O ➤ Host battery status	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
PCI Devices	Status of other host hardware obj	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Firmware	O > Host storage status	Host	10.146.100.15	Enabled	01/21/2021, 4:13:45 AM
Virtual Flash 🗸 🗸	Host hardware sensor state	Host	10.146.100.15	Enabled	01/21/2021, 4:13:46 AM
Virtual Flash Resource Mana	Trusted Infrastructure Host Not Co	Host	10.146.100.15	Enabled	01/21/2021, 4:13:46 AM
Virtual Flash Host Swap Cac	Host connection failure	Host	10 146 100 15	Enabled	01/21/2021 4:13:42 AM
Scheduled Tasks	Trusted Infrastructure Host Decom	Host	10 146 100 15	Enabled	01/21/2021 413:46 AM
Scheduled Tasks	 Husted initastructure Host Decont 	1030	GP 10.146.100.15	LINGUIEU	01/21/2021, 4.15.40 MM

For newly added alarm definitions, the Object Type is Host, and the Definition Scope is the current server.

NOTE: You can edit, disable/enable, and delete alarm definitions.

While editing, you can add advanced operations to the alert rule. These operations are:

- Entering the maintenance mode
- Adding the maintenance mode
- Exiting the maintenance mode.

NOTE: You cannot edit the alarm definitions at the vSphere level. You can only disable/enable the alarm definitions at vSphere level. However, you can edit the alarm definitions at Host level.

NOTE: All operations on this interface are only applicable to the selected server.

3.5.2 Trigger an Alarm

Once the device is connected as mentioned in section Associate Server and Power Supply Equipment on page 16, vSphere displays the alarm information received from Power Insight.

Figure 3.19 Summary



The alarm name is displayed in the Summary tab.

Figure 3.20 Monitoring-All Problems

10.146	5.100. <mark>1</mark> 2	ACTIONS 🗸					
Summary	Monitor	Configure Permissions VMs Data	astores Networks Updates				
lssues and A	larms 🗸	All Issues					
All Issues							
Triggered	Alarms	Issue T	Туре	Trigger Time	Ŧ	Status	Ŧ
Performance	e v	UPS Bypass mode - host-14	Triggered Alarm	06/03/2021, 07:20 PM		4 Alert	
Overview		UPS Bypass mode	Triggered Alarm	06/03/2021, 07:20 PM		4 Alert	
Advanced							
Tasks and Ev	vents 🗸						
Tasks							
Events							

Figure 3.21 Monitoring-Triggered Alarm

10.146.100.12	actions ~
Summary Monitor	Configure Permissions VMs Datastores Networks Updates
lssues and Alarms 🗸	Triggered Alarms
All Issues Triggered Alarms	ACKNOWLEDGE RESET TO GREEN
Performance V	Alarm Name Y Object Y Object type Y Severity Y Triggered Time Y Acknowledged Time Y Acknowledged By Y
Overview	UPS Bypass mode - host-14 🔄 10.146.100.12 Host O CRITICAL 06/03/2021, 7:20.18 PM
Advanced	UPS Bypass mode 10.146.100.12 Host 0 CRITICAL 06/03/2021, 7:20.18 PM
Tasks and Events	Host hardware power status 10.146.100.12 Host 0 CRITICAL 02/11/2021, 10.29.33 PM 02/11/2021, 10.33.12 PM VSPHERELOCAL\Administrator
Events	3 items
Hardware Health	

Monitoring Triggered Alarms

To view the details of triggered alarms:

- 1. Click Monitor tab, and then select Issues and Alarms menu option.
- 2. In the All Issues list, select Triggered Alarms option.

Figure 3.22 Alarm Rule

Edit Alarm Definition	Alarm Rule 1 ×
1 Name and Targets	IF I
2 Alarm Rule 1	alm_sys_outOff V ADD ARGUMENT
3 Reset Rule 1	AND message is equal to v active REMOVE
4 Review	THEN Trigger the alarm and * Send email notifications Send SNMP traps Run script ADD ADVANCED ACTIONS
	ADD ANOTHER RULE DUPLICATE RULE REMOVE RULE CANCEL BACK NEXT

Alarm Rule

When an alarm occurs, the alarm rules will be executed, as shown in Figure 3.22 above .

For example, An Alarm operation is set for sending emails, SNMP traps, run scripts etc. It indicates that you have configured these options in advance.

NOTE: In this example, the Maintenance mode is selected. Entering the maintenance mode will migrate the virtual machines running on the server, and then shuts down the server. For more details on the migration strategy of virtual machines, please read https://www.vmware.com/products/vsphere/drs-dpm.html

NOTE: Entering and exiting the maintenance mode requires a time duration. If alarms are frequently generated and ended, it prevents the maintenance mode from completing and ending normally. It is strongly recommended not to set the warning rule to "enter maintenance mode" and to "exit maintenance mode" as well.

3.5.3 End of Alarm

When the alarm is over, the alarm information in the Triggered Alarms page will no longer be displayed.

Figure 3.23 Summary Window: After the Alarm Ends

10.14	6.100.12 Астю	NS ¥						
Summary	Monitor Configure	Permissions VI	Ms Datastores	Networks	Updates			
	Hypervisor: Model: Processor Type: Logical Processors: NICS: Virtual Machines: State: Uptime:	VMware ESXI, 7.0.1, 1732 PowerEdge R540 Intel(R) Xeon(R) Silver 42 16 5 5 Connected 5 days	5551 08 CPU @ 2.10GHz				CPU Used: 272 MH Memory Used: 21.38 G Storage Used: 422.11 G	Free: 16.49 GHz z Capacity: 16.76 GHz Free: 10.24 GB 8 Capacity: 31.62 GB Free: 7.1 TB 38 Capacity: 7.52 TB
Hardware					^	Configuration		^
Manuf	acturer	Dell Inc.				Image Profile	(Updated) ESXI-7.0U1c-17325551-stand	lard
Model		PowerEdge R540	D			> vSphere HA State	 Connected (Secondary) 	
> CPU		8 CPUs x 2.1 G	ЭНz			> Fault Tolerance (Legacy)	Unsupported	
Memo	ry	21.38 GB / 31.6	52 GB			> Fault Tolerance	Unsupported	

Figure 3.24 Monitor->All Issues: After the Alarm Event

10.146	6.100.14	ACTION	15 🗸									
Summary	Monitor	Configure	Permissions	VMs	Datast	tores Networks	Updates					
Issues and J	Alarms 🗸	All Iss	ues									
All Issues												
Triggered	I Alarms	Issue			т	Туре	Ŧ	Trigger Time	Ŧ	Status	٣	r
Performanc	e 🗸											
Overview												
Advanced	i											
Tasks and E	Events 🗸											
Tasks												
Events												
Hardware H	lealth											
Vertiv	~											
UPS Statu	IS											
PDU Statu	JS											. 11
vSAN	~										No items to displ	lay

The "Monitor->All Issues" window after the alarm is over. The figure do not show the UPS PDU alarms.

Figure 3.25 Monitor->All Issues: After the Alarm is Over

10.146.1	00.14		ACTIONS	~															
Summary M	Ionitor	Con	figure	Permis	ssions	VMs	Datasto	res N	letworks	Upd	ates								
Issues and Ala	rms 🗸	Tr	igger	ed Al	arms														
All Issues Triggered Ala	arms	Α	.CKNOWI	EDGE	RESET	TO GRE	EN												
Performance	~		Alarr	m Name		Ŧ	Object	т	Object t	type	т	Severity	Ŧ	Triggered Time	т	Acknowledged Time	т	Acknowledged By	т
Overview			Host	hardwar	re power	status	10.14	6.100.14	Host				AL	01/29/2021, 4:05:32	AM	02/07/2021, 11:33:52 PM		VSPHERE.LOCAL\Admin	istrator
Advanced																			1 items
Tasks and Even	nts 🗸																		
Events																			
Hardware Heal	th																		
Vertiv	~																		
UPS Status																			
PDU Status																			
vSAN	~																		

vSphere will execute the "Reset Rule" in the "Alarm Definition".

Figure 3.26 Reset Rules

Edit Alarm Definition	Reset Rule 1 ×
1 Name and Targets	Reset the alarm to green
2 Alarm Rule 1	alm_sys_outOff V ADD ARGUMENT
3 Reset Rule 1	AND message is equal to v cleared REMOVE
4 Review	THEN Reset the alarm to * Normal Send email notifications Send SNMP traps Run script Exit maintenance mode REMOVE ADD ADVANCED ACTIONS
	ADD ANOTHER RESET RULE DUPLICATE RULE REMOVE RULE
	CANCEL BACK NEXT

If the user is configured to send emails or scripts, it implies that these actions are executed when the alarm is triggered.

3.6 Displaying the Power Insight Device Information

3.6.1 Host Level Summary Interface

Once the device is connected, click Summary to return to the summary interface. The Summary area lists all the devices that are connected to Power Insight.

Figure 3.27 Summary Window

tiv – Power Insigni		^
UPS_TEST1_ITA2	UPS	
Geist IMD3	PDU	

NOTE: Click the '>' sign on the left of the device name view the detailed information of device.

Figure 3.28 Summary Expand

ertiv – Power Insight		
V UPS_TEST1_ITA2	UPS	
Device Name	UPS_TEST1_ITA2	
Device Model	ITA2	
IP Address	10.169.82.82	

3.6.2 Host-Level Monitoring Page

You can view the UPS device status. Click the Monitor tab and select Vertiv-Power Insight -> UPS Status menu option on the left side of the monitoring page, as shown in **Figure 3.29** below.

Figure 3.29 UPS Status



- The UPS Status page displays the Output Voltage and Output Current trend through the line chart.
- Click the PDU status option to view the PDU device status.

Figure 3.30 PDU Status Page



The PDU Status area displays the Total Power and Total Energy trend through the line chart.

3.6.3 Cluster Level Summary Interface

Since the same device can be connected by multiple hosts, users can view the entire cluster-level host-bound devices on the Cluster-level Summary Page, as shown in **Figure 3.31** below.

Figure 3.31 Cluster Level Summary Page

vm vSphere Client Menu	V Q. Search in all environments	C ③ × Administrator@VSP4ERELOCAL × ⑤
III ■ ● ● > ● 10.146.100.15	XIAN1F_SA_Cluster ACTIONS ∨ Summary Monitor Configure Permissions Hosts VMs Datastores Networks Update	odates
▼ TAF_Test_DataCenter ▼ XAATe_SA_cutter ● XAA_0F_SA_cutter ● No 46 00.0 x ● 10.46 100.1 x ● 10.46 100.1 x ● 10.46 100.2 x ● VindowsServer 2016(0.1. ● WindowsServer 2016(0.1. ● WindowsServer 2016(0.1. ● WindowsServer 2016(0.1. ● WindowsServer 2016(0.1.	VSphere HA Protected CPU Memory O% 50% 100% CPU reserved for failover: 33 % Proactive HA: Automated Host Monitoring: Disabled VM Monitoring: Disabled	0.20% 0.40% 0.40% 0.40% 1VM 0.40% 0.40%
	Cluster Services	~
	Learn More	Cluster Consumers
	Custom Attributes Attribute Value comvmwre.vcenter.cluster.edi's upgrsdeHostAdded	Resource pools 0 vApps 0 > Virtual machines 13
		Tags Assigned Tag Caregory Description
Recent Tasks Alarms		*

Users can view the summary of all host-bound devices on the current page.

3.6.4 Cluster-Level Monitoring Page

You can view the UPS and PDU operation status at cluster level when the current host device is connected. Select the cluster in the left pane, and then click the Monitor tab. Now, select Vertiv-Power Insight -> UPS Status menu option, as shown in Figure 3.32 below.



Figure 3.32 Cluster-Level Monitoring UPS Status Page

To view the Output Voltage and Output Current line graph of other host connected to the UPS device, select a host name in the drop-down box displayed on the top-right corner of the page. Click the PDU Status menu option to view the cluster-level PDU status, as shown in **Figure 3.33** below.

Figure 3.33 Cluster-Level Monitoring PDU Status Page



3.7 Alarm Delay

The alarm delay function triggers the alarm rules and prompts the alarm based on the delay time. For unnecessary impact on vSphere, avoid the short interval between the generation and end of the alarm (for example, thunderstorms may cause fluctuations in the power supply network and UPS generates an alarm with a very short duration. In this situation, the time interval between Alarm occurrence and end of alarm is very short and hence it is not recommended to trigger safety action.) You can view the alarm delay interface in the menu-"Vertiv-Power Insight".

Figure	3.34	Vertiv-Power	Insight	Window
iguic	0.0+		margine	*****

vm vSphere Client	Menu V Q Search in all environ	ments			C (?) × Administrator@VSPHERE_LOCAL × (:)
Vertiv – Power Insight INS	Home ctrl + alt + hom Shortcuts ctrl + alt +	1			
Configuration of Al	Image: Strategy of the	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			SAVE
	Content Libraries ctrl + alt + Workload Management ctrl + alt +	6 3 System overtemp	Global Alarm	15	
	Global Inventory Lists ctrl + alt + 4	8 Sinput Neutral Lost	Global Alarm	15	
	Policies and Profiles	S Input Ground Lost	Global Alarm	_15	
	Auto Deploy	S Output pending	Global Alarm	15	
	A Developer Center	5 Output disabled	Global Alarm	15	
	22 Administration	5 Battery low pre-warning	Global Alarm	15	
	Tasks	5 No battery	Global Alarm	15	
Di Events ⊘ Tags & Cus ◇ Lifecycle M. ○ Vertiv – Por ⊘ DRas ⑧ VRealize Or	To Events	5 Battery aging	Global Alarm	15	
	Tags & Custom Attributes Lifecycle Manager	S REPO	Global Alarm	15	
	 Vertiv - Power Insight DRaaS vRealize Operations 	\$ System overload	Global Alarm	15	
		\$ On maintenance bypass	Global Alarm	15	
		\$ Battery mode	Global Alarm	15	
_		UPS Bypass mode	Global Alarm	15	
		UPS Rectifier fault	Global Alarm	15	
		UPS Charger fault	Global Alarm	15	
		UPS Inverter fault	Global Alarm	15	
		UPS Battery EOD	Global Alarm	15	
		UPS has no output	Global Alarm	15	
Recent Tasks Alarms					*

3.7.1 Alarm Classification

Alarms are classified as:

- Global alarms: These are the default alarms which gets installed when the plug in is registered to vSphere.
- Custom alarms: These are extended alarms. It is used to configure special alarms for a single server.

The alarm data displayed in three columns indicates the alarm name, alarm type, and delay time (in seconds).

3.7.2 Modify Delay

To modify the alarm time, enter the delay time (in seconds)in the text box, and then click Save.

Figure 3.35 Vertiv Window

n seconds	5			
	Global Alarm			
	UPS System overtemp	Global Alarm	15	
	UPS Input Neutral Lost	Global Alarm	15	
	UPS Input Ground Lost	Global Alarm	<u>a</u>	
	UPS Output pending	Global Alarm	15	

As shown in the figure, the delay time of the UPS Input Ground Lost alarm is modified to 0 seconds. It indicates that the alarm will trigger immediately and the "warning rule" will be executed.

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4 Common Problem

- 1. To uninstall the Plug in from vSphere and Power Insight:
 - Click Uninstall on the Plug in Management interface.
 - Shut down the virtual machine on the vSphere interface and delete the virtual machine.
- 2. If you need to use two plug ins, it may happen that the IP addresses of the two virtual machines running the plugins are the same. Please run the following command to reset the IP address.
 - echo -n> /etc/machine-id
 - systemd-machine-id-setup
- 3. The vSphere version used in the example picture of this document is v7.0, if you use other versions (such as v6.7), the vSphere interface function menu order may not be consistent with the document, the specific menu path and differences are as follows:
 - Host > Configuration > Vertiv Power Insight > [Associated Alarms], [Associated Power Devices]: Order may be different
 - Host > Monitor > Vertiv Power Insight > [UPS Status], [PDU Status]: Order may be different
 - Menu > [Vertiv Power Insight]: Location may be different

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