

VMware SDDC Health Management Pack 5.0

vRealize Operations Manager



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VMware, Inc.
3401 Hillview Ave.
Palo Alto, CA 94304
www.vmware.com

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VMware SDDC Health Management Pack

The documentation for the *VMware SDDC Health Management Pack* for vRealize Operations Manager includes information about the installation, configuration, alerts, and provides details of a dashboard, which gives a graphical explanation of health of SDDC management components.

The VMware SDDC Health MP monitors the SDDC Management stack and provides badges for health and alerts related to configuration and compliance of SDDC product components.

Intended Audience

The information in this guide is intended for operations personnel who set up and support the VMware vRealize Operations Manager infrastructure.

VMware Technical Publications Glossary

VMware Technical Publications provides a glossary of terms that might be unfamiliar to you. For definitions of terms as they are used in VMware technical documentation, go to <http://www.vmware.com/support/pubs>.

Introduction to VMware SDDC Health Management Pack

1

The VMware SDDC Health MP monitors the SDDC management stack and provides color coded metrics for health and efficiency of different components present as part of the SDDC management stack. With the dashboard, you can track SDDC management stack status and monitor the overall health and configuration of the SDDC management stack.

The health of a product is organized into the following categories:

- Availability** Indicates that the necessary set of services are up and in running state in the product boundaries.
- Usability** Indicates the consumption of product functions in terms of configuration, performance, security, and compliance.

Installing the VMware SDDC Health Management Pack

2

You can download the VMware SDDC Health MP from the VMware Solution Exchange web site.

Install the VMware SDDC Health Management Pack

The VMware SDDC Health Management Pack consists of a PAK file that contains default dashboards for the objects that the solution identifies.

Prerequisites

- Download the VMware SDDC Health MP from VMware Solutions Exchange.
- Log in to vRealize Operations Manager and install the VMware SDDC Health Management Pack.
- If you have an instance of vRealize Automation 7.3 or earlier configured on your environment, then ensure that the End Point Operations Management agents are installed on all nodes on vRealize Automation applications and also on any new node added to a vRealize Automation cluster. For more information on End Point Operations Management agent, see *vRealize Operation Manager*.

Procedure

- 1 Log in to the vRealize Operations Manager user interface with the administrator privileges.
- 2 In the menu, click the **Administration** icon, and then in the left pane click **Solutions**.
- 3 From the **Solutions**, click **Add**.
- 4 Browse to the folder where you downloaded the PAK File and select the PAK file.
- 5 Click **Upload**.
The upload might take several minutes.
- 6 Read and accept the EULA, and click **Next**.
Installation details appear in the window during the process.

7 When the installation is complete, click **Finish**.

Note

- SDDC adapter instances are added by default per collector nodes. Once VMware SDDC Health Management Pack is installed, vRealize Operations Manager automatically creates adapter instance and start collecting objects. Therefore, you need not configure the adapter instance separately.
 - When you install the SDDC Health Management pack and try adding a data node to the vRealize Operations Manager cluster, SDDC Health Adapter instance is not created. To fix, create a SDDC Health Adapter instance manually from the UI after adding the node.
 - At some cases, when the adapter instance is not created after installation, then you have to manually create a SDDC Health Adapter instance after adding the node. For example, when there are four data nodes, and one of them does not have the SDDC health adapter instance then you can manually create the SDDC health adapter instance to such cluster.
-

Upgrading to SDDC Health Solution 5.0

3

You can update your existing SDDC Health Solution deployments to a newly released version.

Upgrade to SDDC Health Solution 5.0

You can upgrade to the new version of SDDC Health Solution 5.0.

Prerequisites

Ensure that you have the VMware vRealize Operations Manager 7.0 installed on your system or you have upgraded the older version of VMware vRealize Operations Manager to 7.0.

Procedure

- 1 In the menu, click the **Administration** icon, and then in the left pane click **Solutions**.
- 2 From the **Solutions**, click **Add**.
- 3 Browse to the folder where you have downloaded the latest PAK file and select the file.
- 4 Click **Upload**.
- 5 Select the **Reset Default Content** check box.

Note If you do not select **Reset Default Content** check box, the health status of the child node is not rolled up to the parent node and content such as dashboards, alerts, and symptom definitions are duplicated.

- 6 Read and accept the EULA, and click **Next**.
- 7 When the installation is complete, click **Finish**.

You have to re-apply the policy for the SDDC health group after the upgrade. For more information, see [Apply Policy to SDDC Health Group](#).

Dashboards in the VMware SDDC Health MP

4

With the dashboards in the VMware SDDC Health MP, you can monitor the following components:

- vRealize Operations Manager
- vRealize Automation
- NSX for vSphere
- vRealize Business for Cloud
- VMware vSAN
- vRealize Log Insight
- vCenter Server
- VMware Site Recovery Manager
- vRealize Orchestrator
- VMware NSX-T

Note The VMware NSX-T configuration is available as part of the VMware SDDC Health Solution 5.0.

The SDDC Health Overview dashboard is added to the default vRealize Operations Manager dashboards.

This chapter includes the following topics:

- [Access Dashboards](#)
- [Apply Policy to SDDC Health Group](#)
- [SDDC Management Health Overview Dashboard](#)
- [SDDC Health Historic Trend Dashboard](#)
- [SDDC vRealize Operations Manager Sizing Dashboard](#)
- [Monitor Health of SDDC Management Stack Components](#)

Access Dashboards

You can use the dashboards to view, monitor, and troubleshoot objects in your SDDC cloud infrastructure.

To access the dashboards, select the **Dashboard List > SDDC Management Health Overview** menu from the vRealize Operations Manager menu bar.

Procedure

- 1 In the menu, click **Dashboards**.
- 2 To view a different dashboard, click **All Dashboards** drop-down menu to select the required dashboard.

Apply Policy to SDDC Health Group

You have to select the SDDC Health policy from the SDDC Health Group to display the alerts related to the SDDC Health Management Pack.

Prerequisites

Verify that you have installed the VMware SDDC Health MP.

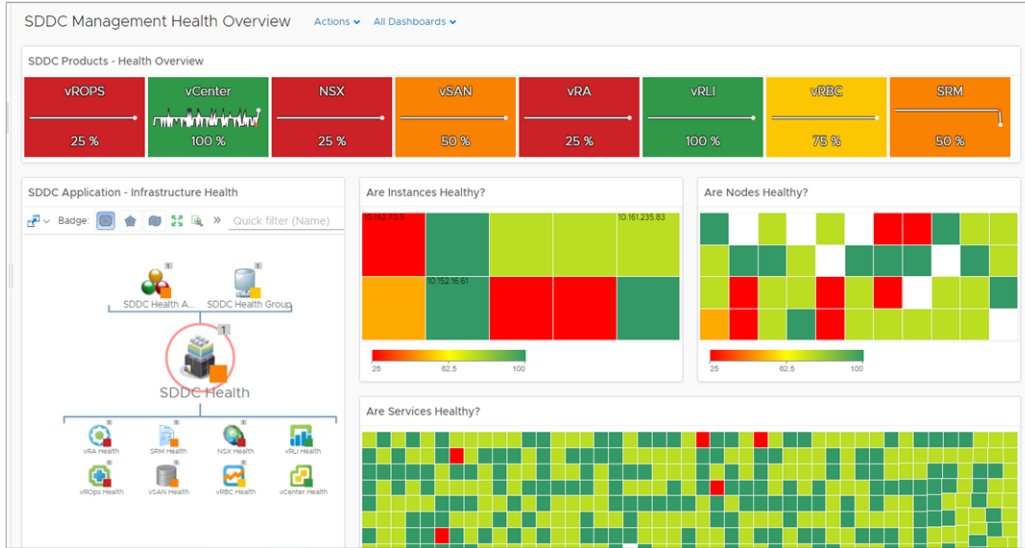
Procedure

- 1 To select the policy, click **Administration > Policies**, and select **SDDC Health Group**.
- 2 Click **Set Default Policy**.
- 3 To apply the policy for the SDDC Health Group objects, select the Plus icon under **Active Policy > Related Objects** tab.
- 4 Click **Save**.

SDDC Management Health Overview Dashboard

You can use **SDDC Management Health overview** dashboard to view and analyze the application-specific problems in the SDDC components. The SDDC Health Dashboard provides the health information for each of the components in the SDDC stack. You can select the component in the SDDC stack from the widgets available in the dashboard. The widgets help in rendering the infrastructure health of that component with its service health and associated configuration alerts, if any.

Figure 4-1. Widgets in SDDC Health Dashboard



The dashboard displays several widgets.

Table 4-1. Widgets in SDDC Management Health Overview Dashboard

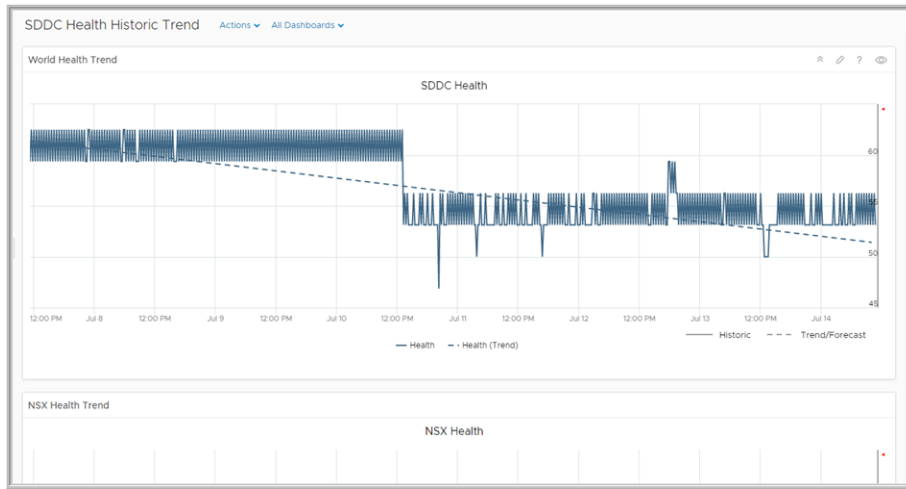
Widget	Description
SDDC Products - Health Overview	This widget provides the health of all the products and are represented in the form of badges. The widget displays the different components and its health that are available in the SDDC health dashboard.
SDDC Application: Infrastructure Health	This widget displays the associated cluster nodes for a selected product group. When you select a product group from the SDDC health overview, the corresponding graphical representation of that group appears in this widget. You can double-click a node in a cluster of a product group. When you select a node, the associated health is populated in the next widget.
Are Instances Healthy?	This widget displays a heatmap that displays the health of all the instances in a component from the SDDC Application: Infrastructure Health widget.
Are Nodes Healthy?	This widget displays a heatmap that displays the health of all the nodes in an instance from the SDDC Application: Infrastructure Health widget.
Are Services Healthy?	This widget displays a heatmap that displays the health of all the services in an node from the SDDC Application: Infrastructure Health widget.
Critical Alerts	This widget provides two types of critical alerts of a product instance: <ul style="list-style-type: none"> Health. This describes the critical or immediate alerts that impacts the health of the resource in the VMware vRealize Operations Manager. The alert defines the state of a component or a cluster instance that has an alert based on the availability and performance. Config Assessment. The alert defines the state when a component or a cluster instance that has alerts based on compliance and configuration of an instance. However, these alerts does not impact the health.

SDDC Health Historic Trend Dashboard

The VMware SDDC Health Management Pack consists of SDDC health historic trend dashboard, which displays the health trend for each component in the SDDC stack.

The dashboard provides an overall trend of the SDDC health components that are monitored for the last seven days.

Figure 4-2. SDDC Health Historic Trend



SDDC vRealize Operations Manager Sizing Dashboard

The SDDC vRealize Operations Manager Sizing Dashboard provides vRealize Operations Manager cluster capacity to process object and metrics. The dashboard displays information of whether the vRealize Operations Manager deployment is within the sizing guideline of vRealize Operations Manager. It provides sizing indication for a vRealize Operations Manager cluster, data nodes, and remote collector nodes. It also provides the maximum number of nodes that can be added in the vRealize Operations Manager cluster for a deployed node type.

For details on vRealize Operations Manager Sizing, see KB article [57903](#).

The dashboard displays several widgets.

Note This dashboard indicates an issue by displaying an alert and coloring the numbers in red. However, before going ahead with further actions and cluster resize, check the Audit page metrics/objects collection against the sizing guideline.

Table 4-2. Widgets in the Sizing Dashboard

Widgets	Description
vRealize Operations Manager Objects/Metrics Load	This widget provides deployment information of vRealize Operations Manager is within the sizing guideline.
Is HA enabled?	The widget checks if HA is enabled for a deployed cluster.

Table 4-2. Widgets in the Sizing Dashboard (Continued)

Widgets	Description
See the Cluster Analytics Load	The widget provides information of the number of nodes in the cluster, with the percentage of nodes in metric load and object load. It displays the load calculation for analytic nodes.
If you have Remote Collector, see collecting objects/metrics	This widget provides information of object load and metric load in vRealize Operations Manager. The widget displays load calculation for remote collectors.
Any Alerts?	The widget provides alerts pertaining to sizing, node recommendations, metric, and object load for analytic and remote collector nodes.
Max Recommended Number of Analytics Nodes	The widget provides the maximum number of nodes that can be added in the vRealize Operations Manager cluster for a deployed node type.

Monitor Health of SDDC Management Stack Components

You can monitor the health of each component in the SDDC management stack using the widgets present in the dashboard.

- Download the VMware SDDC Health Management Pack from VMware Solutions Exchange.
- Log in to vRealize Operations Manager and install the VMware SDDC Health MP.

Prerequisites

- Ensure that you have installed and configured End Point Operations solution on your environment for a vRealize Automation instance that is 7.3 and earlier.
- Ensure that you have configured the latest version of Management Pack for NSX for vSphere. For more information on configuring NSX management pack, see the *vRealize Operations Management Pack for NSX for vSphere* from the VMware Solution Exchange website.
- For a VMware vCenter[®] Server 6.0 U1/U2/U3 latest patch, ensure that it is a self-managed VC.

Note The VMware SDDC Health Solution 5.0 does not support the vCenter 5.5/6.0 GA.

- Ensure that you have configured vCenter Server using vSphere solution.
- Ensure that the time between vRealize Operations Manager and vCenter Server is synchronized.
- Ensure that VMware Tools 10.1 or later for VMware vCenter[®] Server 6.0 U1/U2/U3 latest patch is installed and running in the guest operating system of the virtual machines on which the vCenter server runs.
- Ensure that all the endpoint adapter instances are configured and are in the data collection state.
- SDDC Health Adapter uses a vRealize Operations Management Pack for vSAN adapter to monitor VMware vSAN health.

- Verify that you have installed VMware Site Recovery Manager and configured your vCenter Server, where you have VMware Site Recovery Manager enabled site as an instance under VMware Site Recovery Manager adapter.
- Verify that you have installed and configured vRealize Orchestrator.
- Verify that you have configured your vCenter Server, where you have VMware vSAN enabled clusters as an instance under VMware vSAN adapter.
- Verify that you have configured the NSX-T adapter instance to retrieve NSX-T health.

Note

- If VMware Tools 10.1 is not installed or is of an earlier version, VMs cannot discover services.
- For a vCenter service monitoring 6.0 U1/U2/U3 latest patch, the VMware SDDC Health Management Pack does not support the Open VMware Tool.
- When you upgrade to the latest version of VMware SDDC Health Management Pack, ensure that the SDDC group policy is applied. For more information, see [Apply Policy to SDDC Health Group](#).
- For a vRealize Automation 7.3 or an earlier version component, Microsoft SQL plugin must have SQL permissions to connect to SQL server. Under the Server Properties of MS SQL, select the following check box:
 - Under Permissions, select CONNECT SQL, VIEW any definition, and VIEW any database.

Procedure

- 1 The **SDDC Products - Health Overview** widget contains a set of product that is represented in the form of badges.
- 2 Select a cluster instance or double-click to access a node of the product from the **SDDC Application: Infrastructure Health** widget.
- 3 You can view the health of the selected instances, nodes, and services in the next three widgets.
- 4 From the **Health Alerts (Performance and Availability)** widget, view the list of alerts related to performance and availability.
- 5 From the **Health Alerts (Config and Compliance)** widget, you can track the active alerts to understand the configuration and compliance of an alert.

Support for Monitoring health for a vCenter Server

5

You can monitor vCenter Server instance health in your SDDC solution.

This chapter includes the following topics:

- [Configure vCenter Server Health](#)
- [vCenter Services](#)
- [Permissions Required to Discover vCenter Services](#)

Configure vCenter Server Health

Before you monitor the health for a vCenter Server instance, you have to configure the vCenter Server in your SDDC health solution.

Prerequisites

Verify that you have configured vCenter Server adapter and is running.

Procedure

- 1 Under Inventory Explorer, search for a vCenter object and click the edit icon.
- 2 Edit the required text boxes or click the plus icon to add new credentials.
- 3 In **Manage Credential**, enter the OS credentials.

For a Windows vCenter, enter the OS user name. For example, administrator. For a VCSA, enter the local OS user name. For example, root or any user with a shell access.

- 4 Click **OK**.

vCenter Services

Once you configure the vCenter Server, the SDDC health solution starts collecting the health of the following vCenter services.

- VMware Image Builder Manager
- VMware Component Manager
- VMware vSphere Profile-Driven Storage Service

- VMware Service Control Agent
- VMware HTTP Reverse Proxy
- VMware vAPI Endpoint
- VMware vService Manager
- VMware Service Lifecycle Manager API
- VMware Performance Charts
- VMware Syslog Collector
- VMware VSAN Health Service
- VMware vSphere Web Client
- VMware vCenter Server
- VMware Postgres
- VMware ESX Agent Manager
- VMware vSphere Authentication Proxy
- VMware Message Bus Configuration Service
- VMware vSphere Client
- VMware Content Library Service
- VMware Authentication Framework
- VMware Service Lifecycle Manager
- VMware vSphere ESXi Dump Collector
- VMware vCenter-Services
- VMware vSphere Auto Deploy Waiter
- vCenter NTP Server
- vCenter Backup Jobs

Note

- The list of available services differ based on the type of Operating System and the version of vCenter.
 - The NTP and Backup Jobs services are available only for VCVA 6.5 version and above.
-

Permissions Required to Discover vCenter Services

A user must have certain privileges to discover the services of vCenter 6.5 and above.

The user should be a member of the 'SystemConfiguration.Administrator' group or have the administrator permissions to discover the services.

Support for Monitoring Health for vCenter HA

6

You can use the vCenter HA functionality to support vCenter 6.5 HA.

This component supports two new resources:

- Passive Node
- Witness Node

All the services are discovered in active nodes and are monitored by witness nodes. When ever the node fails, the passive nodes become active and starts discovering services. In such cases, the idle active node becomes passive.

Note Only IP address of the active node should be configured at the vCenter adapter.

Support for Monitoring Health for a HA Enabled vRealize Automation

7

When vRealize Operations Manager uses a HA enabled vRealize Automation 7.3 or earlier, only four objects can use a load balancer.

vRealize Automation now uses APIs to retrieve data to monitor vRealize Automation health. You need not install vRealize Automation nodes separately.

The four objects of the HA enabled vRealize Automation are:

- vRealize Automation Server
- vRealize Automation Manager Server
- vRealize Orchestrator App Server
- vRealize IaaS Web

The individual objects paths are.

- /vcac
- /vco
- /WAPI/api/status
- /VMPS2

User can access these objects individually in the Inventory Explorer and edit the object to enter the load balancer FQDN, IP address, port, and the path.

Note For a distributed vRealize Automation application, you can enter the vRealize Automation virtual server FQDN in the vRA. fqdn text box to access vRealize Automation. You can access the objects in the Inventory Explorer and edit the object in the loadbalancer.hostname and hostname for vRealize Orchestrator App Server.

Figure 7-1. Editing an Object

The screenshot shows the 'Edit Object' dialog box with the following fields and values:

Field	Value
Display Name	cava-p-12-042.eng.vmware.com vRealize Auton
Description	[Empty text box]
Adapter Type	EP Ops Adapter
Adapter Instance	EP Ops adapter - fb10ecd4-b73c-4202-acd3-8e3915d4de2e
Object Type	vRealize Automation Server
Basic Settings	[Section header]
Agent ID	1497368332745-2017863831829732511-4611785
vRA.fqdn	[Red underline and warning icon]
Install Path	/usr/java/jre-vmware/bin/java
> Advanced Settings	[Section header]

When you have an external load balancer, then the FQDN, IP, and Port should be provided. The relationship of the load balancer with its respective objects is created under the same group. A load balancer resource is created and grouped against which the HTTP check is performed. This helps in collecting Availability, Response Time, and Response Code of the call. For the load balancer FQDN and IP, you have to provide the management IP of the load balancer.

Note If you are using NSX for vSphere as a load balancer for a vRealize Automation component, provide the vCenter IP to a load balancer IP while configuring objects. For a third-party load balancer, you can provide the management pack IP address of the load balancer as it contains the management console.

Support for vRealize Automation Health Through API



If you have vRealize Automation 7.3 or earlier configured on your environment, then end-point Management agents must be installed on all nodes on vRealize Automation. vRealize Automation 7.4 or later uses the vRealize Health Broker that is used to expose APIs through which you can monitor vRealize Automation health. From vRealize Automation 7.4, SDDC Health Adapter collects metric using Health Broker and vRealize Automation API. vRealize Automation application object has to be modified to provide credentials and the credentials should be root credentials.

Configure vRealize Automation Health

Before you monitor the health for a vRealize Automation instance using vRealize Health Broker, configure the vRealize Automation appliance.

Prerequisites

- Verify that the vRealize Automation adapter is configured and is running.
- Verify that the vRealize Automation system health monitoring is enabled in the vRealize Automation UI.
- Verify that the tests are configured and are running in vRealize Automation appliance for vRealize Automation 7.4 and later.

Procedure

- 1 From the vRealize Automation appliance, log in with tenant details and click **Administration**.
- 2 On the left pane, click the **Health** tab and click **NEW CONFIGURATION**.
- 3 For **vRA test Configuration**, select the product name as vRealize Automation and enter the required details.
- 4 Select a schedule to run the test requirement.
- 5 Enable System Tests for vRealize Automation and Tenant Tests for vRealize Automation.
- 6 In **vRO test configuration**, select the product name as vRealize Orchestrator and provide required details and set a schedule to run the tests.
- 7 On the vRealize Operations Manager page, click **Solutions** and select **VMware vRealize Automation**.

- 8 Enable the **vRA system health monitoring** from the drop-down menu and provide details in the **vRA VA FQDN** text box.

Note By default, this option is disabled. If you have a distributed vRealize Automation instance, enter the FQDN of a cafe node.

Credentials are collected from the vRealize Automation NMP adapter endpoint and vRealize Automation application server resource is created. The object collection takes about five minutes and then a message indicating that the credentials are missing is prompted.

- 9 Click **Administration**, and click **Inventory Explorer**.
- 10 Select a vRealize Automation application object of an SDDC adapter instance and click **Edit**.
- 11 Select the add credentials icon, to add the credentials.
- 12 In the **Manager Credential**, provide the root credentials.
- 13 Enter `qe` for the **tenant** text box.

`qe` is the tenant information on which the health broker configurations are made.

Support for Monitoring Health for NSX-T

9

You can monitor the health for NSX-T with the SDDC solution.

This chapter includes the following topics:

- [Configure NSX-T Adapter Instance](#)
- [Resources Monitored from NSX-T](#)

Configure NSX-T Adapter Instance

Before you monitor the health of NSX-T, you have to configure the NSX-T adapter instance in your SDDC health solution.

You can configure the NSX-T adapter instance by providing the following details:

- NSX-T IP Address
- NSX-T Manager Administrator Credentials

Resources Monitored from NSX-T

After you configure the NSX-T adapter instance, you can monitor the following resources.

Table 9-1. Resources Monitored from NSX-T

Resource	Description
Logical Switches	Monitors admin state of the logical switches
Controller Cluster	Monitors the deployed cluster node count for HA and maintains quorum
Controller Nodes	Monitors node connectivity with controller cluster and manager node
Edge Nodes	Monitors edge node running state and its connectivity with controller cluster and manager node

Table 9-1. Resources Monitored from NSX-T (Continued)

Resource	Description
NSX-T Management Services	Monitors the following services: <ul style="list-style-type: none"> ■ nsx-message-bus ■ liagent ■ ntp ■ snmp ■ install-upgrade ■ search ■ http ■ syslog ■ mgmt.-plane-bus ■ ssh ■ nsx-uprade-agent ■ node-mgmt ■ cm-inventory ■ manager
T0 Router Service	Monitors static route, NAT, BGP, BFD, and route redistribution services
T1 Router Service	Monitors static route, NAT, and route advertisement services

Metrics in the VMware SDDC Health Management Pack

10

The plug-ins in the VMware SDDC Health MP collect metrics for object types contained in the plug-ins.

You can view these metrics from the vRealize Operations Manager user interface.

This chapter includes the following topics:

- [vCenter Server Health Metrics](#)
- [Management Pack for NSX for vSphere Health Metrics](#)
- [vRealize Automation Health Metrics](#)
- [vRealize Operations Manager Health Metrics](#)
- [vRealize Business for Cloud Metrics](#)
- [vRealize Log Insight Metrics](#)
- [VMware Site Recovery Manager Metrics](#)
- [vCenter HA Metrics](#)
- [VMware vSAN Health Metrics](#)
- [Services in vCenter Server Appliance](#)
- [vRealize Operations Manager Sizing Metrics](#)
- [vRealize Orchestrator Health Metrics](#)
- [NSX-T Health Metrics](#)

vCenter Server Health Metrics

The vCenter Server health collects metrics for the object within its plug-in.

Table 10-1. vCenter Server Metrics

Product Instance	Metric Key	Metric Value
vCenter Node	<ul style="list-style-type: none"> ■ applmgmt ■ cis-license ■ cm ■ content-library ■ software-packages ■ eam ■ imagebuilder ■ mbcsc ■ netdumper ■ perfcharts ■ rbd ■ rhttpproxy ■ sca ■ sps ■ statsmonitor ■ updatemgr ■ vapi-endpoint ■ vcha ■ vmcam ■ vmware-vpostgres ■ vpxd ■ vpxd-svcs ■ vsan-health ■ vsm ■ vsphere-client ■ vsphere-ui ■ vCenter NTP Server ■ vCenter Backup Jobs 	STARTED/STOPPED
vCenter Node	<p>Note These services are optional.</p> <ul style="list-style-type: none"> ■ vmware-mbcsc ■ mbcsc ■ vmware-netdumper ■ vmware-network-coredump ■ VMWareNetworkCoredumpWebserver ■ vmware-rbd-watchdog ■ vmware-autodeploy-waiter <p>Note</p> <ul style="list-style-type: none"> ■ The list of available services differ based on the type of Operating System and the version of vCenter. ■ The NTP and Backup Jobs services are available only for VCVA 6.5 version and above. 	STARTED/STOPPED

Table 10-1. vCenter Server Metrics (Continued)

Product Instance	Metric Key	Metric Value	
Embedded Platform Service Controller (PSC) Node	<ul style="list-style-type: none"> ■ applmgmt ■ database-storage ■ load ■ mem ■ software-packages ■ storage ■ swap ■ system 		
	Note		
	<ul style="list-style-type: none"> ■ Appliance services collection from the external PSC node is supported in vCenter server 6.5 and later. ■ For external PSC, if the credentials are not same as the vCenter credentials, then go to Object, click Edit, and provide the required credential. ■ For a windows vCenter, appliance services are not present. 		
	Appliance Mgmt Service	applmgmt health	
	License Service	cis-license health	
	Component Manager	cm health	
	Content Library Service	content-library health	
	Endpoint Application Mgmt Service	eam health	
	Image Builder Service	imagebuilder health	
		mbscs health	
netdumper health			
perfcharts health			
rbd health			
rhttpproxy health			
sca health			
sps health			
statsmonitor health			
updatemgr health			
vapi-endpoint health			
vcha health			
vmcam health			

Table 10-1. vCenter Server Metrics (Continued)

Product Instance	Metric Key	Metric Value
	vmonapi health	
	vmware-vpostgres health	
	vpxd health	
	vpxd-svcs health	
	vsan-health health	
	vsm health	
	vsphere-client health	
	vsphere-ui health	

Management Pack for NSX for vSphere Health Metrics

The Management Pack for NSX for vSphere collects metrics for the object.

Table 10-2. Management Pack for NSX for vSphere Metrics

Product instance	Metric Key	Metric Value
Controller Node	<ul style="list-style-type: none"> ■ VM Power Status ■ diskLatencyAlertDetected ■ Connectivity - Ping Status 	<ul style="list-style-type: none"> ■ ON/OFF ■ true/false ■ success/failure
NSX Manager Node	<ul style="list-style-type: none"> ■ Status ■ Enabled ■ CPU Usage ■ Memory Usage ■ Storage Usage 	<ul style="list-style-type: none"> ■ Running/started/Stopped ■ True/False
Edge	<ul style="list-style-type: none"> ■ EdgeStatus 	<ul style="list-style-type: none"> ■ RED/GREEN

vRealize Automation Health Metrics

The vRealize Automation health collects metrics for the object within its plug-in. This metrics is applicable only for avRealize Automation 7.3 or earlier version .

Table 10-3. vRealize Automation Health Metrics

Product instance	Metric Key	Metric value
vRealize Automation Database	Resource Availability	0/1
vRealize Automation IaaS Web	Resource Availability	0/1
vRealize Automation Proxy Agent	Resource Availability	0/1
vRealize Automation DEM	<ul style="list-style-type: none"> ■ vRealize Automation DEM Worker : Resource Availability ■ vRealize Automation DEM Orchestrator: Resource Availability 	<ul style="list-style-type: none"> ■ 0/1 ■ 0/1

Table 10-3. vRealize Automation Health Metrics (Continued)

Product instance	Metric Key	Metric value
vSphere SSO	VMware Identity Manager: Resource Availability	0/1
vRealize Automation Manager Server	Resource Availability	0/1
vRealize Automation Application Services	status	RED/GREEN/ORANGE/GREY
vRealize Automation Server	<ul style="list-style-type: none"> ■ Resource Availability ■ Service availability <ul style="list-style-type: none"> ■ advanced-designer-service availability ■ approval-service availability ■ branding-service availability ■ catalog-service availability ■ component-registry availability ■ iaas-proxy-provider availability ■ identity availability ■ management-service availability ■ notification-service availability ■ shell-ui-app availability ■ vRealize Automation Logon page availability ■ vRealize Automation Process availability ■ vRealize Automation UI availability ■ workitem-service availability 	<ul style="list-style-type: none"> ■ 0/1 ■ service availability (%) ■ service availability (%) ■ service availability(%) ■ service availability (%) ■ registry availability (%) ■ provider availability (%) ■ identity availability (%) ■ service availability (%) ■ service availability (%) ■ app availability (%) ■ Logon page availability (%) ■ Process availability (%) ■ UI availability (%) ■ service availability (%)
Edge Feature	Enabled	0/1

vRealize Operations Manager Health Metrics

The vRealize Operations Manager health collects metrics for the object within its plug-in.

Table 10-4. vRealize Operations Manager Metrics

Product instance	Metric Key
<ul style="list-style-type: none"> ■ Data Node ■ Remote Collector 	Availability
<ul style="list-style-type: none"> ■ Analytics ■ Collector ■ Suite-api ■ Watchdog ■ Product-UI ■ Persistence ■ Controller ■ Admin-UI ■ CASA 	Availability

vRealize Business for Cloud Metrics

The vRealize Business for Cloud health collects metrics and is integrated with the VMware SDDC Health MP 5.0 solution by default.

You can edit the object by specifying the following fields.

Fields	Description
Adapter type	SDDC Health adapter
Adapter instance	Configured SDDC adapter instance
Object Type	vRealize Business for Cloud Server
vRBC Host	IP/Host name of vRealize Business for Cloud

The following table provides the metrics for vRealize Business for Cloud.

Table 10-5. vRealize Business for Cloud Metrics

Product instance	Services	Values and Metric Status
vRealize Business for Cloud Global System	vRBC Service Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
	vRBC Sync Job Status	0 - IN_PROGRESS 1 - COMPLETED 2 - ERROR 3 - WARNING 4 - WAITING_FOR_DEPENDENCIES
vRealize Business for Cloud individual data collector status		
dcModule (vCenter collection job)	Health Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
		0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
ccModule (Cost Calculation job)	Health Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
		0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
awsModule (AWS collection job)	Health Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
		0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES

Table 10-5. vRealize Business for Cloud Metrics (Continued)

Product instance	Services	Values and Metric Status
vcaModule (vCloud Air collection job)	Health Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
azureModule (Azure collection job)	Health Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
vcacModule (vRA collection job)	Health Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
vcdModule (vCloud Director collection job)	Health Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES
storageModule (EMC SRM collection job)	Health Status	0 - SUCCESS 1 - ERROR 2 - WARNING 3 - WAITING_FOR_DEPENDENCIES

vRealize Log Insight Metrics

The vRealize Log Insight health collects metrics. This is a default component that is integrated with VMware SDDC Health MP 5.0 for vRealize Operations Manager 6.5 and later.

Table 10-6. vRealize Log Insight Metrics

Service	Metrics
vRealize Log Insight network accessibility	Service Availability

VMware Site Recovery Manager Metrics

The VMware Site Recovery Manager health collects metrics for the object within its plug-in.

Table 10-7. VMware Site Recovery Manager Metrics

Product instance	Metric Name
Recovery Plan	Recovery Plan Folder
	Recovery Plan name
	Recovery Plan status
Protection Group	Protection group folder
	protection group name
	protection status
	protection group type

vCenter HA Metrics

The vCenter HA collects metrics for the object within its plug-in.

Table 10-8. vCenter HA metrics

Metric Name
PostgreSQL replication mode
PostgreSQL replication mode
Appliance configuration
Appliance State
Appliance sqlite db
Cluster health
Cluster State

The vCenter High Availability metrics contains two nodes:

- Passive Node
- Witness Node

VMware vSAN Health Metrics

The VMware vSAN health adapter collects metrics for the object within its plug-in.

Table 10-9. VMware vSAN Metrics

Metric Name	API
clusterOverallHealth	clusterOverallHealth class
vSanConfig(Compression is enabled, DeDup is enabled)	VsanConfigInfoEx
getClomdLiveness	VsanHostClomdLivenessResult class
ClusterStatus	clusterOverallHealth class
vsanHealthIsRebalanceRunning	clusterOverallHealth class
ClusterNetworkLoadTestResult	VsanClusterNetworkLoadTestResult class

Services in vCenter Server Appliance

When a vCenter is just a node, you can render many services. When the vCenter Server node is not an appliance, fewer services are available.

Table 10-10. Service Name for an appliance

Service Name
applmgmt
database-storage
load
mem
software-packages
storage
swap
system

vRealize Operations Manager Sizing Metrics

The vRealize Operations Managersizing dashboard collects metrics for the object within its plug-in.

Table 10-11. vRealize Operations Manager Sizing Metrics

Metric Key	Metric Value	Product Key	Product Value
SDDC vROps Sizing Metrics Nodes Object Load (%) (Cluster Metrics)	-1 to indicate that at least one analytic nodes not following the sizing guidelines, >=0 to indicate the load	SDDC Health HA Enabled	True/False
SDDC vROps Sizing Metrics Nodes Metric Load (%) (Cluster Metrics)	-1 to indicate that at least one analytic nodes not following the sizing guidelines, >=0 to indicate the load		
SDDC vROps Sizing Metrics Object Load (%) (Remote Collector Metrics)	-1 to indicate that nodes not following the sizing guidelines, >=0 to indicate the load		
SDDC vROps Sizing Metrics Metric Load (%) (Remote Collector Metrics)	- 1 to indicate that nodes not following the sizing guidelines, >=0 to indicate the load		

vRealize Orchestrator Health Metrics

The vRealize Orchestrator collects metrics for the object within its plug-in.

There are two metrics stated for vRealize Orchestrator:

- Heath State
- Health Status

Metrics for vRealize Orchestrator Certificates

- IdentityCertificatenotValidAfter
- IdentityCertificatenotValidBefore
- initialized
- serviceInitializationStatus
- SSLCertificatenotValidAfter
- SSLCertificatenotValidBefore

NSX-T Health Metrics

Table 10-12. NSX-T Health Metrics

Resource	Metric Key	Metric Value
Management Service	Service State	RUNNING STOPPED
Controller Cluster	Controller Node Count	Non-negative Integers
Controller Node	<ul style="list-style-type: none"> ■ Cluster Connectivity ■ Manager Connectivity 	<ul style="list-style-type: none"> ■ CONNECTED DISCONNECTED UNKNOWN ■ CONNECTED DISCONNECTED UNKNOWN
Logical Switch	Admin State	UP DOWN

Table 10-12. NSX-T Health Metrics (Continued)

Resource	Metric Key	Metric Value
Edge Node	■ Host Node Status	■ *Check the last page
	■ Cluster Connectivity	■ DEGRADED DOWN UNKNOWN UP
	■ Manager Connectivity	■ DOWN UNKNOWN UP
Router Service	■ Service Key BGP Neighbor Count	■ Non-negative Integers
	■ Service Key ECMP Status	■ Non-negative Integers
	■ Service Key Redistribution Rule Count	■ Non-negative Integers
	■ Service Key Status	■ Boolean
	■ Service Key Route Advertisement Count	■ Non-negative Integers
	■ Service Key Static Route Count	■ Non-negative Integers
	■ Service Key NAT Rule Count	■ Non-negative Integers
	■ Service Key BFD Neighbor Count	■ Non-negative Integers

Note

- All the metrics except Service Key|Route Advertisement Count and Service Key|Static Route Count are applicable only for Tier0.
- Service Key|Route Advertisement Count is available only for the Tier1 router.
- Service Key|Static Route Count is common for both Tier0 and Tier1 routers.

VMware SDDC Health MP Alert Definitions

11

VMware SDDC Health MP provides alerts from different SDDC components that are already installed and configured. If you install these components, it adds alert definitions that you can use to monitor and troubleshoot the components in your storage area network.

This chapter includes the following topics:

- [Alerts in vRealize Operations Management Pack for vSAN](#)
- [Alerts and Notifications in vCenter Server](#)
- [Alerts in VMware Site Recovery Manager](#)
- [Alerts in vCenter High Availability](#)
- [Alerts in NSX for vSphere Health Monitor](#)
- [Alerts in vRealize Business for Cloud](#)
- [Alerts in vRealize Log Insight](#)
- [Alerts in vRealize Automation](#)
- [Alerts in vRealize Orchestrator](#)
- [Alerts in SDDC vRealize Operations Manager Sizing](#)
- [Alerts in NSX-T](#)

Alerts in vRealize Operations Management Pack for vSAN

vRealize Operations Manager generates an alert if a problem occurs in the SDDC product components in the storage area network that the VMware vSAN adapter is monitoring.

An alert that is related to config compliance and health is passed through VMware SDDC Health Solution management pack from VMware vSAN management pack.

Alerts and Notifications in vCenter Server

If a problem occurs, general alerts and notifications are generated.

Table 11-1. Alerts in vCenter Server

Alert
Passive Node is Down
vCenter HA health is degraded
vCenter License is Overused
vCenter NTP Status is Failed/Down
vCenter Backup Job failed
vCenter Server is Down
Services are down in vC server
External PSC is Down
Witness Host Node is Down

Table 11-2. Notification in vCenter Server

Notification	Symptoms
SDDC Availability Notification	Not able to retrieve the list of services. (Guest Auth Failed) May be vCenter is DOWN or some of the Critical services are not running.
The SDDC Config Notification	vCenter OS Credentials Missing, Services might not be discovered for this vCenter. Configure the VC HOST OS Credential in Inventory Explorer.
SDDC Availability Notification	Some of the vCenter Services is either not running or not healthy on vCenter <vCenterName> and the Service name is <serviceName>.
SDDC Availability Notification	Host has lost connection to vCenter Server for <Host IP>.
SDDC Config Notification	vCenter OS VM Tools Version is below 10.1.

Note A general notification is generated by the SDDC MP when any adapter instance fails with a symptom SDDC Availability Notification - Adapter Instance.

Alerts in VMware Site Recovery Manager

vRealize Operations Manager generates an alert if a problem occurs in the site recovery area that the VMware Site Recovery Manager adapter is monitoring.

Table 11-3. Alerts in VMware Site Recovery Manager

Alert
SRM Server Host is Down
Recovery Plan Has Errors
SRM Site Has Object(s) With Issues
Site Not Paired

Table 11-3. Alerts in VMware Site Recovery Manager (Continued)

Alert
Protection Group Is Not Configured
Is Pair Site Not Connected

Alerts in vCenter High Availability

vRealize Operations Manager generates an alert when a problem occurs in the vCenter high availability.

Table 11-4. Alerts in vCenter high Availability

Alert
Availability Alert for Passive Node
Availability Alert for Witness Node
Alert for vCenter Cluster bad Health

Alerts in NSX for vSphere Health Monitor

The NSX for vSphere adapter generates alerts to monitor health for the SDDC stack component.

An alert is generated when related to a config compliance and the health is sent through the VMware SDDC Health MP from the NSX for vSphere NP.

Alerts in vRealize Business for Cloud

vRealize Operations Manager generates an alert if a problem occurs in the vRealize Business for Cloud area that the adapter is monitoring.

Table 11-5. Alerts in vRealize Business for Cloud

Alerts
vRBC synchronization job status is not healthy, it is degrading the vRBC health
vRBC vCenter collection module is not healthy, it is degrading the vRBC health
vRBC cost calculation module is not healthy, it is degrading the vRBC health
vRBC AWS collection module is not healthy, it is degrading the vRBC health
vRBC vCloud air collection module is not healthy, it is degrading the vRBC health
vRBC Azure collection module is not healthy, it is degrading the vRBC health
vRBC vRA collection module is not healthy, it is degrading the vRBC health
vRBC vCloud director collection module is not healthy, it is degrading the vRBC health
vRBC EMC SRM collection module is not healthy, it is degrading the vRBC health

Recommendations in vRealize Business for Cloud

Table 11-6. Recommendations in vRealize Business for Cloud

Alerts
Check the availability of vRBC global system.
Check the availability of vRBC synchronization jobs.
Check the status of vCenter cost collection module.
Check the status of cost calculation service.
Check the status of AWS cost collection service.
Check the status of vCloud air cost collection service.
Check the status of Azure cost collection service.
Check the status of vRA cost collection service.
Check the status of vCloud director cost collection service.
Check the status of EMC SRM cost collection service.

Alerts in vRealize Log Insight

There is only one alert generated by the vRealize Log Insight adapter.

The following alert is raised when the vRealize Log Insight server host is not reachable.

vRLI Server Host is down.

Alerts in vRealize Automation

vRealize Operations Manager generates an alert if a problem occurs in the vRealize Automation area that the vRealize Automation adapter is monitoring. These alerts are generated by the vRealize Automation 7.3 or earlier.

Table 11-7. Alerts in vRealize Automation

Alert
vRealize Automation Application availability degraded
vRealize Automation Application Services Group availability degraded
vRealize Automation DEM Group availability degraded
vRealize Automation Databases Group availability degraded
vRealize Automation IaaS Web Availability Degraded
vRealize Automation IaaS Web Group availability degraded
vRealize Automation Manager Server Group availability degraded
vRealize Automation Manager Server More than one active
vRealize Automation Proxy Agent Group availability degraded

Table 11-7. Alerts in vRealize Automation (Continued)

Alert
vRealize Automation Server Group availability degraded
vRealize Automation Server Availability Degraded
vRealize Business Group availability degraded
vRealize Orchestrator Availability Degraded
vRealize Orchestrator Group availability degraded
vSphere SSO Availability Degraded
vSphere SSO Critical services are not available
vSphere SSO Group availability degraded
vRealize Orchestrator UI is unavailable
vRealize Orchestrator API is unavailable
vRA IaaS Web certificate is about to expire
RA IaaS Web certificate is about to expire
vRealize IaaS Web Server disk usage is high

Note New licensing group introduced for vRealize Operations Manager instances provides vRealize Operations Manager license. If the license is expired or overused, the alert "vCenter License is Overused" is generated.

Alerts through vRealize Automation Health Broker API

The vRealize Automation 7.4 or later generates alerts that are generated by the Health Broker API.

Alert Definition	Symptom
Check vRealize Automation Dem Orchestrator Memory Utilization	This test checks if Dem Orchestrator Memory utilization is less than 90%.
Check vRealize Automation Dem Orchestrator CPU Utilization	This test checks if Dem Orchestrator CPU utilization is less than 90%.
Check vRealize Automation Dem Worker CPU Utilization	This test checks if Dem Worker CPU utilization is less than 90%.
Check vRealize Automation Dem Worker Memory Utilization	This test checks if Dem Worker Memory utilization is less than 90%.
Check vRealize Automation IaaS Web (WAPI) Memory Utilization	This test checks if IaaS Web Memory utilization is less than 90%.
Check vRealize Automation IaaS Web (WAPI) CPU Utilization	This test checks if IaaS Web CPU utilization is less than 90%.
Check vRealize Automation IaaS Web (WAPI) Disk Utilization	This test checks if IaaS Web Disk utilization is less than 90%.
Check vRealize Automation Manager Service Memory Utilization	This test checks if Manager Service Memory utilization is less than 90%.

Alert Definition	Symptom
Check vRealize Automation Manager Service CPU Utilization	This test checks if Manager Service CPU utilization is less than 90%.
Check vRealize Automation Proxy Agent CPU Utilization	This test checks if Proxy Agent CPU utilization is less than 90%.
Check vRealize Automation Proxy Agent Memory Utilization	This test checks if Proxy Agent Memory utilization is less than 90%.
Check vRealize Automation Proxy Agent Availability	This test checks if vRA Proxy Agent is in Started state.
Check that vRA disk space usage is below the critical threshold	Verifies that the percentage of disk space used by the VA does not exceed the critical threshold.
Identity VA Connection Test	Verifies that the vIDM is correctly connected.
vRealize Automation License Check - Is License Expired?	Verifies that the vRA license has not expired.

Note The value 90% is the threshold set during the Test configuration that can be altered.

Objects through EP ops vRA Plugin
vRealize Automation Application
vRealize Automation Server
vRealize Automation IaaS Web
vRealize Automation Server Load Balancer
vRealize Automation IaaS Web Load Balancer
vRealize Automation DEM Worker
vRealize Automation Manager Server
vRealize Automation Manager Server Load Balancer
vRealize Automation DEM Orchestrator
vRealize Automation Proxy Agent
Database
vSphere SSO
VMware Identity Manager
vRealize Orchestrator App Server
vRealize Orchestrator Configurator
vRealize Automation Application Services
vRealize Automation Server or Load Balancer
advanced-designer-service
approval-service
branding-service
catalog-service
component-registry

Objects through EP ops vRA Plugin
eventlog-service
iaas-proxy-provider
management-service
notification-service
workitem-service
vRealize Automation Health configuration
vRealize Automation Health Broker service

Alerts in vRealize Orchestrator

If a problem occurs in the vRealize Orchestrator adapter, and the SSL certificates and Identity Certificate expire then vRealize Operations Manager generates an alert.

Alert
vRO SSL Certificate is Expired on Server.
vRO Identity Certificate is Expired on Server.

If the vRealize Orchestrator instance is bad, then an alert "vRO instance is up but Health status is bad" is generated.

Alerts in SDDC vRealize Operations Manager Sizing

Alerts are generated from the SDDC vRealize Operations Manager sizing dashboard.

Alerts
Current Sizing of the vRealize Operations Manager nodes are not sufficient for given Load.
Cluster node configuration does not follow the vRealize Operations Manager Sizing guideline.
Current Sizing of the Remote Collector is not sufficient for given Load.
Remote Collector configuration does not follow the vRealize Operations Manager Sizing guideline.
vRealize Operations Cluster has exceeded the recommended number of analytic nodes.

Alerts in NSX-T

The following alerts are triggered when any of the monitoring resource in NSX-T displays unexpected behaviour.

Table 11-8. Alerts in NSX-T

Alert
NSX-T Management service has failed
Logical Switch's admin state is not UP

Table 11-8. Alerts in NSX-T (Continued)

Alert
Edge Node Controller/Manager Connectivity is not UP
Edge Host node is in Failed/Error state
BFD service is disabled
NAT rule not configured
Static Route not configured
Route Advertisement service is disabled
Route Redistribution service is disabled
ECMP service is disabled for Logical Router
Controller Node Connectivity is broken
Less than 3 controller nodes are deployed

Troubleshooting General Problems in SDDC Health Management Pack

12

You can troubleshoot general problems that might occur when using the VMware SDDC Health MP.

This chapter includes the following topics:

- [vRealize Automation IAAS group does not list IAAS Web object](#)
- [External vRealize Orchestrator object does not appear under vRealize Orchestrator object list](#)
- [New Postgres User Authentication Fails](#)

vRealize Automation IAAS group does not list IAAS Web object

After you install End Point Operations agent on vRealize Automation 7.0 or later, you cannot see the IaaS Web Object configured in the vRealize Automation IaaS Web Group.

Problem

The IaaS Web relationship is not displayed for vRealize Automation 7.0 and later.

Cause

If an IaaS node and manager server are on different nodes, you cannot see the IaaS Web object configured in the IaaS Web group. If the IaaS node is not installed with a Management server, the IaaS relationship between IaaS Web group and Web object is not built.

Solution

- 1 Enter the IaaS node fully qualified domain name (FQDN) on the IaaS Web object.
- 2 From the **Inventory Explorer**, select the **vRealize Automation IAAS Web** object.
- 3 Click the **Edit** icon to edit the object.
- 4 Click **Advanced Settings** and enter the FQDN for the **vra.cafe.fqdn** text box.
- 5 Click **OK**.

After 30 minutes, the IaaS Web object and the relationship between vRealize Automation IaaS Web group and vRealize Automation IaaS Web object is formed.

External vRealize Orchestrator object does not appear under vRealize Orchestrator object list

An external vRealize Orchestrator object that is configured in the vRealize Orchestrator group is not displayed under the vRealize Orchestrator object list.

Problem

Even after installing an End Point Operations agent on an external vRealize Orchestrator, the external vRealize Orchestrator object configured in the vRealize Orchestrator group does not appear under the object list.

Cause

When an external vRealize Orchestrator FQDN is not specified in the vRealize Automation Server object, then the object is not listed in the vRealize Orchestrator group.

Solution

- 1 From the **Inventory Explorer**, select the **vRealize Automation Server** object.
- 2 Click the **Edit** icon to edit the object.
- 3 Click **Advanced Settings** and enter the FQDN of an external vRealize Orchestrator in the **vro.external.fqdn** text box.
- 4 Click **OK**.

After 30 minutes, the vRealize Orchestrator object appears in the vRealize Orchestrator group.

New Postgres User Authentication Fails

User cannot collect data from vRealize Automation Postgres database.

Problem

You can collect data from vRealize Automation Postgres database using End-Point operation.

Cause

When user credentials are mismatched for postgres database.

Note This is applicable for vRealize Automation 7.3 and below along with End-Point Operations agents.

Solution

- 1 To retrieve the correct user credentials of the postgres database, login to vRealize Automation appliance.
- 2 Copy the encrypted password from the file `/etc/vcac/server.xml`.

- 3 To decrypt the password obtained as a parameter from the older set-up, run the following command
`vcac-config prop-util -d --p {password}`.
- 4 From the **Inventory Explorer** in vRealize Operations Manager edit the object and use the password to copy the decrypted password and configure the Postgres object.
 - a To configure agent and update postgres object settings, login to each virtual machine where Postgres is installed.
 - b To verify whether the agent is running, run the command - `./ep-agent.sh status`.
 - c Delete the data folder from End-Point installation directory.
 - d Go to `/etc/epops` and delete `epops-token` file.
 - e Go back to agent installation directory and restart the agent `./ep-agent.sh start`.
 - f Add this to the "`pg_hba.conf`" : `host postgres vcac 127.0.0.1/32 trust`
 - g Restart `vpostgres`: `service vpostgres restart`
 - h In vRealize Operations Manager UI, change the value of `postgresql.host` to `localhost` by editing the discovered PostgreSQL data base.
 - i Set up the user name and password. Use `vcac` as user.