VMware vRealize Operations for Horizon Administration

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VMware vRealize Operations for Horizon Administration

VMware vRealize Operations for Horizon Administration describes how to monitor VMware Horizon® environments through VMware vRealize® Operations Manager™.

Intended Audience

This information is intended for users who monitor the performance of objects in Horizon environments in vRealize Operations Manager and administrators who are responsible for maintaining and troubleshooting a vRealize Operations for Horizon deployment.

Monitoring Your Horizon Environment

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The vRealize Operations for Horizon solution includes Horizon-specific dashboards and report templates that appear in the vRealize Operations Manager user interface. You can use these dashboards and reports along with the standard vRealize Operations Manager object monitoring features to monitor your Horizon environment.

This chapter includes the following topics:

- Using the Horizon Dashboards
- Using the Horizon Reports

Using the Horizon Dashboards

You can use preconfigured Horizon dashboards to view metrics and information about your environment and the objects in it.

The preconfigured Horizon dashboards are listed in the following table.

Table 1-1. Horizon Dashboards

Dashboard	What It Shows	When to Use It
Horizon Overview Dashboard	Status of your Horizon environment, including the top Horizon-related alerts.	- Assess Horizon pod usage, client performance, and overall user experience. - View the top alerts.
Horizon Help Desk Dashboard	Detailed information about all connected sessions in your environment.	- View detailed information about connected sessions. - View all alerts for the environment.
Horizon Infrastructure Dashboard	Information about the health, workload, and connectivity of infrastructure hosts, remote desktops, datastores, and RDS hosts in your environment.	- Understand the relationships between objects in your Horizon infrastructure. - Assess the underlying vSphere and Horizon infrastructure.
Horizon User Sessions Dashboard	Metrics and performance information for all types of sessions, including VDI desktop sessions, RDS desktop sessions, and application sessions.	Identify and troubleshoot poorly performing user sessions.
Horizon VDI Pools Dashboard	Metrics and performance information for VDI pools.	Troubleshoot poorly performing desktop virtual machines and sessions.

Table 1‑1. Horizon Dashboards (Continued)

Dashboard	What It Shows	When to Use It
Horizon RDS Pools Dashboard	Metrics and performance information for RDS pools.	■ Identify the RDS hosts that are using the most resources. ■ Troubleshoot poorly performing RDS desktop and application sessions.
Horizon Applications Dashboard	Status and performance information for application pools and their associated farms, RDS hosts, application sessions, applications, and Horizon clients.	■ Understand the relationships between objects in your application infrastructure. ■ Troubleshoot remote applications.
Horizon Desktop Usage Dashboard	Usage data for all desktop pools in your environment.	■ View connected and disconnected sessions for all desktop pools. ■ View top alerts and resource trends for selected desktop pools. ■ Collect in-guest process data from desktop sessions.
Horizon User Session Details Dashboard	Detailed information about all types of sessions running in your environment, including VDI desktop sessions, RDS desktop sessions, and application sessions.	■ Troubleshoot poorly performing sessions. ■ Identify when session problems occurred. ■ Collect in-guest process data from desktop sessions.
Horizon RDS Host Details Dashboard	Detailed information about the RDS hosts in your Horizon environment.	■ View desktop and application sessions currently running on selected RDS hosts. ■ Identify when RDS host problems occurred. ■ Collect and view in-guest process data from RDS hosts.
Horizon Adapter Self Health Dashboard	License compliance information and health information for your Horizon Adapter instances and broker agents.	■ Troubleshoot Horizon Adapter problems. ■ Monitor license usage.
Horizon End User Experience Dashboard	Health information for your resources.	■ Troubleshoot problems related to end-user experience.
Horizon Root Cause Analysis Dashboard	Detailed information on specific metrics, including performance over time.	■ Troubleshoot problems related to specific object-related metrics.

The colored rectangles in certain widgets are representations of specific objects. You can point to any of these rectangles to view basic information about the object it represents. In the **Configurations** drop-down menu in the widget toolbar, you can select how the system arranges these objects by size and color.

The Horizon dashboards are created from standard vRealize Operations Manager widgets. If your user account has the necessary permissions, you can create or modify dashboards and widgets that use Horizon objects.

For more information about configuring dashboards and widgets, see "Configuring Data Display" in the *vRealize Operations Manager Configuration Guide*.

Horizon Overview Dashboard

Use the **Horizon Overview** dashboard to visualize your end-to-end Horizon environment, its underlying environment, and alerts.

Table 1-2. Horizon Overview Widgets

Widget	What It Shows
Top Horizon Alerts	Alerts of the greatest significance to Horizon objects. You can click an alert to see details.
Horizon Pods	All Horizon pods in your environment. Select a pod to see related information in the other widgets.
Pod Session Metrics	Session-related statistics and metrics, including logon time, latency, and bandwidth, for the selected pod.
vCenter Server Instances	CPU, memory, and disk usage for each vCenter Server instance.
Capacity Remaining	Percentage of total vCenter Server instance resources that can still be used.
Reclaimable Capacity	Percentage of vCenter Server instance resources that you can reclaim from oversized, idle, and powered off objects.
Unified Access Gateways	Information about Unified Access Gateway appliances configured for the selected pod.

Horizon Help Desk Dashboard

Use the **Horizon Help Desk** dashboard to view detailed information about all connected sessions running in your Horizon environment.

The objects displayed on this dashboard can be used for root cause analysis. Click an object and select **Dashboard Navigation > Navigate > Horizon Root Cause Analysis** in the widget toolbar to view information about the object in the **Horizon Root Cause Analysis** dashboard.

Note vGPU widgets are not installed by default. To obtain them, see "Import vGPU Dashboards" in *vRealize Operations for Horizon Installation*.

Table 1-3. Horizon Help Desk Widgets

Widget	What It Shows
Horizon Connected Sessions	All connected VDI desktop sessions, RDS desktop sessions, and application sessions in your environment. Select a session to see related information in the other widgets.
Session Related Metrics	Health, alerts, workload, and other metrics related to the object selected in the **Select Session Related Objects** widget. **Note** **TX Bandwidth** is not displayed for Horizon 7.3 Blast sessions.

Table 1-3. Horizon Help Desk Widgets (Continued)

Widget	What It Shows
VM Metrics	Health, workload, and other metrics for the virtual machine associated with the selected session.
Session Processes	Information about in-guest desktop processes and their resource usage. To display information, select an action from the drop-down menu in the toolbar and click **Go**.
Session Logon Breakdown	AppStack attachment time, profile and shell loading time, and session interaction time for the logged-in user.
User Desktop Application Launch History	Desktop applications launched by users.
Host Metrics	Health, workload, and other metrics for the ESXi host of the virtual machine associated with the session.
All Environment Alerts	All alerts on the system. You can click an alert to see details.
Selected User Session Alerts	Alerts for the selected session. You can click an alert to see details.
Selected Session Related Objects	Objects related to the selected session. Select an object to see related information in the **Session Related Metrics** widget.
Horizon Client Details	IP addresses and the name and type of machine for the selected session.
Virtual Desktop	Adapter type, object type, policy, collection state, and collection status of the virtual desktop.
vGPU	vGPUs for the selected session.
Selected vGPU Related Objects	Objects related to the selected vGPU.
User	Adapter type, object type, policy, collection state, and collection status of the user.
VM Host	Adapter type, object type, policy, collection state, and collection status of the ESXi host of the virtual machine associated with the session.

Horizon Infrastructure Dashboard

Use the **Horizon Infrastructure** dashboard to quickly assess the health, workload, and connectivity of the infrastructure that supports your Horizon environment.

Table 1-4. Horizon Infrastructure Widgets

Widget	What It Shows
Horizon Infrastructure Hosts	Hosts in your Horizon environment.
Horizon Datastores	Datastores in your Horizon environment.
Horizon VDI Desktop VMs	VDI desktop virtual machines in your Horizon environment.
Horizon RDS Hosts	RDS hosts in your Horizon environment.

Horizon User Sessions Dashboard

Use the **Horizon User Sessions** dashboard to obtain an overview of all sessions running in your Horizon environment.

Table 1-5. Horizon User Sessions Widgets

Widget	What It Shows
VDI Desktop Sessions	All VDI desktop sessions in your environment. Point to any session for details.
Top VDI Desktop Session PCoIP Latency	VDI desktop sessions with the highest PCoIP latency.
Top VDI Desktop Session PCoIP TX Bandwidth	VDI desktop sessions with the highest PCoIP transfer bandwidth.
Top VDI Desktop Session PCoIP Packet Loss	VDI desktop sessions with the highest PCoIP packet loss rate.
Top VDI Desktop Session Logon Time	VDI desktop sessions with the longest logon time.
RDS Desktop Sessions	All RDS desktop sessions in your environment. Point to any session for details.
Top RDS Desktop Session PCoIP Latency	RDS desktop sessions with the highest PCoIP latency.
Top RDS Desktop Session PCoIP TX Bandwidth	RDS desktop sessions with the highest PCoIP transfer bandwidth.
Top RDS Desktop Session PCoIP Packet Loss	RDS desktop sessions with the highest PCoIP packet loss rate.
Top RDS Desktop Session Logon Time	RDS desktop sessions with the longest logon time.
Application Sessions	All application sessions in your environment. Point to any session for details.
Top Application Session PCoIP Latency	Application sessions with the highest PCoIP latency.
Top Application Session PCoIP TX Bandwidth	Application sessions with the highest PCoIP transfer bandwidth.
Top Application Session PCoIP Packet Loss	Application sessions with the highest PCoIP packet loss rate.
Top Application Session Logon Time	Application sessions with the longest logon time.

Horizon VDI Pools Dashboard

Use the **Horizon VDI Pools** dashboard to view the performance of VDI desktop pools and sessions in your Horizon environment. VDI desktop pools include linked-clone, instant-clone, automated, and manual desktop pools.

Table 1-6. Horizon VDI Pools Widgets

Widget	What It Shows
VDI Desktop Pools	All VDI desktop pools in the environment and their type, health, capacity used, and number of sessions. Select a desktop pool to see related information in the other widgets.
Desktop Applications	All configured applications hosted by a VDI desktop. **Note** You must manually configure applications that you want to appear in the **Desktop Applications** widget. For more information, see Configure Desktop Applications.

Table 1-6. Horizon VDI Pools Widgets (Continued)

Widget	What It Shows
VDI Desktop Pool VMs	All virtual machines in the selected desktop pool. Point to any virtual machine for details.
Top VDI Desktop VM CPU Workload	VDI desktop virtual machines with the highest CPU workload.
Top VDI Desktop VM Memory Workload	VDI desktop virtual machines with the highest memory workload.
Top VDI Desktop VM Datastore IO Workload	VDI desktop virtual machines with the highest datastore I/O workload.
Top VDI Desktop VM Network IO Workload	VDI desktop virtual machines with the highest network I/O workload.
VDI Desktop Pool Indicator Metrics	Metrics for the selected desktop pool and a graph of how they have changed over time.
Desktop Application Users	History of user logon information for the selected application.
VDI Desktop Sessions	All desktop sessions in the selected desktop pool. Point to any session for details.
Top VDI Desktop Session PCoIP Latency	VDI desktop sessions with the highest PCoIP latency.
Top VDI Desktop Session PCoIP TX Bandwidth	VDI desktop sessions with the highest PCoIP transfer bandwidth.
Top VDI Desktop Session TX Packet Loss	VDI desktop sessions with the highest transfer packet loss rate.
Top VDI Desktop Session Logon Time	VDI desktop sessions with the longest logon time.

Horizon RDS Pools Dashboard

Use the **Horizon RDS Pools** dashboard to view the performance of the RDS farms, hosts, desktop pools, and application pools in your Horizon environment.

Table 1-7. Horizon RDS Pools Widgets

Widget	What It Shows
Farms	RDS farms, their health and type, and the number of sessions, desktops, and applications. Select a farm to see related information in the other widgets.
RDS Hosts	All RDS hosts. Point to a host for details.
Top RDS Host CPU Workload	RDS hosts with the highest CPU workload.
Top RDS Host Committed Bytes In Use	RDS hosts with the most committed bytes in use.
Top RDS Host Disk Transfers Per Second	RDS hosts with the most disk transfers per second.
Top RDS Host Bytes Sent Per Second	RDS hosts that send the most bytes per second.
RDS Desktop Pools	RDS desktop pools and their health and session information.

Table 1-7. Horizon RDS Pools Widgets (Continued)

Widget	What It Shows
RDS Desktop Sessions	All RDS desktop sessions. Point to a session for details.
Top RDS Desktop Session PCoIP Latency	RDS desktop sessions with the highest PCoIP latency.
Top RDS Desktop Session PCoIP TX Bandwidth	RDS desktop sessions with the highest PCoIP transfer bandwidth.
Top RDS Desktop Session PCoIP Packet Loss	RDS desktop sessions with the highest PCoIP packet loss rate.
Top RDS Desktop Session Logon Time	RDS desktop sessions with the longest logon time.
Application Pools	Application pools and their health and number of instances.
Application Sessions	All application sessions in your environment. Point to any session for details.
Top Application Session PCoIP Latency	Application sessions with the highest PCoIP latency.
Top Application Session PCoIP TX Bandwidth	Application sessions with the highest PCoIP transfer bandwidth.
Top Application Session PCoIP Packet Loss	Application sessions with the highest PCoIP packet loss rate.
Top Application Session Logon Time	Application sessions with the longest logon time.

Horizon Applications Dashboard

Use the **Horizon Applications** dashboard to view the status and performance of application pools and their associated farms, hosts, instances, and users.

Table 1-8. Horizon Applications Widgets

Widget	What It Shows
Application Pools	All application pools in the environment. Select an application pool to see related information in other widgets.
Application Instances	Running instances of the selected application pool, including the user name, session state, duration, server, virtual machine, and collection status of each instance.
Application Users	Users that launched the selected application during the specified time period. You can click the **Date Controls** icon in the toolbar to configure up to three time periods. The default setting is the past hour.
Application Pool Relationship	Parent and children objects of the selected application pool.
Application Instance Resource Trend	Usage of application instance resources over time. You can click the **Time Range** icon in the toolbar to set the period of time in which you want to see trends. The default setting is the past hour.

Horizon Desktop Usage Dashboard

Use the **Horizon Desktop Usage** dashboard to view usage data for the VDI desktop pools in your Horizon environment.

Table 1-9. Horizon Desktop Usage Widgets

Widget	What It Shows
All Desktop Pools	All VDI desktop pools in the environment along with session and connection information. RDS and application pools are not included. Select a pool to see related information in the other widgets.
Pool Desktop Sessions	All sessions for the selected desktop pool and logon information.
Running Application/Process	Information about in-guest desktop processes and their resource usage. To display information, select an action from the drop-down menu in the toolbar and click **Go**.
Pool Events	Timeline of events and alerts for the selected pool. You can set filtering criteria on the widget toolbar.
Top Pool Alerts	The most significant active alerts for the selected pool.
Desktop Resource Trend	Resource workload and metrics for the selected pool over time. You can click the **Time Range** icon in the toolbar to set the period of time in which you want to see trends. The default setting is the past hour.
User VDI Desktop Resource Consumption	Pool resources consumed by each VDI desktop user.

Horizon User Session Details Dashboard

Use the **Horizon User Session Details** dashboard to view detailed information about all types of sessions running in your Horizon environment.

Table 1-10. Horizon User Session Details Widgets

Widget	What It Shows
Horizon Remote Sessions	All VDI desktop sessions, RDS desktop sessions, and application sessions in your environment.
Session Indicator Metrics	Session health, workload, logon time, latency, frame rate, and PCoIP and Blast metrics.
Session Logon Breakdown	Time metrics for AppStack attachment, profile and shell loading, and session interaction.
Session Processes	Session processes.
Session Health & Events	Timeline of health and alerts for the selected session. You can set filtering criteria on the widget toolbar.
Users	All active users in the current environment.
Applications Launched By User	Users that opened the selected application in the specified time period.
Session Related Objects	Objects related to the selected session.
Desktop Application Launched By User	Users that opened the selected desktop application in the specified time period.

Horizon RDS Host Details Dashboard

Use the **Horizon RDS Host Details** dashboard to view detailed information about RDS hosts in your Horizon environment, including host health, PCoIP-related data, detailed session data, and user resource consumption.

Table 1-11. Horizon RDS Host Details Widgets

Widget	What It Shows
RDS Hosts	All RDS hosts in the environment with their collection status, health, and other metrics. Select a host to show information in the other widgets.
RDS Host Indicator Metrics	Key host metrics, including health, workload, sessions, and PCoIP latency, bandwidth, and packet loss.
RDS Host Processes & Users	Information about in-guest host processes and their resource usage. To display information, select an action from the drop-down menu in the toolbar and click **Go**.
RDS Host Sessions	Desktop and application sessions running on the selected host. The collection state and status, health score, workload, session state, protocol, and latency are displayed in sortable columns.
User Resource Consumption	Host resources consumed by each user, including CPU and storage metrics.
RDS Host Health and Events	Timeline of host health and alerts. You can set filtering criteria on the widget toolbar.

Horizon Adapter Self Health Dashboard

Use the **Horizon Adapter Self Health** dashboard to view health and licensing information for vRealize Operations for Horizon adapter instances and the broker agents that are connected to them.

Table 1-12. Horizon Adapter Self Health Widgets

Widget	What It Shows
Horizon Adapter	All Horizon Adapter instances and their collection status and number of desktops reporting. Select an adapter instance to see related information in the **Horizon Adapter Status** and **Horizon Adapter Statistics** widgets.
Horizon Adapter Status	Length of the last collection period, number of desktops that sent data samples during that period, and the total number of objects that the adapter instance received during that period.
Horizon Adapter Statistics	Key adapter instance metrics over time. You can click the **Time Range** icon in the toolbar to set the period of time in which you want to see trends. The default setting is the past hour.
License Usage History	License usage over time. You can click the **Date Controls** icon in the toolbar to configure up to three time periods. The default setting is the past hour. You can also click the **Options** icon in the upper right corner to save a snapshot of the chart, download its data as a CSV file, or change the position of the chart in the widget.
Active License Alerts	License-related alerts for the selected adapter instance. You can click an alert to see details.
Horizon Broker Agent	All broker agents and their collection status and time. Select a broker agent to see related information in the other widgets.
Horizon Broker Agent Status	Collection time, number of user sessions, and number of events for the selected broker agent.

Table 1-12. Horizon Adapter Self Health Widgets (Continued)

Widget	What It Shows
Horizon Broker Agent Topology Collection Statistics	Key metrics for topology collection on the selected broker agent.
Horizon Broker Agent Metric Collection Statistics	Key metrics for metric collection on the selected broker agent.
Horizon Broker Agent Event DB Collection Statistics	Key metrics for event collection on the selected broker agent.

Broker Agent Metrics

Metric collection metrics are sent every five minutes, topology collection metrics are sent every hour, and event database collection metrics are sent when there are relevant events. For this reason, broker agent metrics might be outdated when compared with the metrics on other dashboards. In addition, if no events have been received during the past six hours, event-related metrics might display **No Data** even though data has been collected.

Horizon End User Experience Dashboard

Use the **Horizon End User Experience** dashboard to monitor infrastructure performance that might negatively impact user session experience.

The objects displayed on this dashboard can be used for root cause analysis. Click an object and select **Dashboard Navigation > Navigate > Horizon Root Cause Analysis** in the widget toolbar to view information about the object in the **Horizon Root Cause Analysis** dashboard.

Note vGPU widgets are not installed by default. To obtain them, see "Import vGPU Dashboards" in *vRealize Operations for Horizon Installation*.

Table 1-13. Horizon End User Experience Widgets

Widget	What It Shows
vCPU Experience	Virtual machines and hosts in order of specified CPU metric. You can specify a metric in the **Configurations** drop-down menu in the widget toolbar. Select an object to display related information in the **vCPU Relationship** and **vCPU Ready% Chart** widgets.
vCPU Relationship	Parent and child objects of the selected virtual machine or host.
vCPU Ready% Chart	Changes over time for a metric associated with the selected virtual machine or host. The metric selected in the **Configurations** drop-down menu in the **vCPU Experience** widget is used to create this chart.
Session Experience	User sessions in order of specified metric. You can specify a metric in the **Configurations** drop-down menu in the widget toolbar. Select a session to display related information in the **Session Relationship** and **Session Chart** widgets.
Session Relationship	Parent and child objects of the selected session.
Session Chart	Changes over time for a metric associated with the selected session. The metric selected in the **Configurations** drop-down menu in the **Session Experience** widget is used to create this chart.

Table 1-13. Horizon End User Experience Widgets (Continued)

Widget	What It Shows
vGPU 3D Utilization Experience	vGPUs in order of percentage of computing resources used. You can specify a metric in the **Configurations** drop-down menu in the widget toolbar. Select an object to display related information in the **vGPU 3D Utilization Relationship** and **vGPU 3D Utilization Chart** widgets.
vGPU 3D Utilization Relationship	Parent and child objects of the selected vGPU.
vGPU 3D Utilization Chart	Changes over time for a metric associated with the selected object. The metric selected in the **Configurations** drop-down menu in the **vGPU 3D Utilization Experience** widget is used to create this chart.
vGPU Memory Utilization Experience	vGPUs in order of percentage of memory used. You can specify a metric in the **Configurations** drop-down menu in the widget toolbar. Select a session to display related information in the **vGPU Memory Utilization Relationship** and **vGPU Memory Utilization Chart** widgets.
vGPU Memory Utilization Relationship	Parent and child objects of the selected object.
vGPU Memory Utilization Chart	Changes over time for a metric associated with the selected object. The metric selected in the **Configurations** drop-down menu in the **vGPU 3D Utilization Experience** widget is used to create this chart.
vDisk Experience	Virtual machines and datastores in order of specified latency metric. You can specify a metric in the **Configurations** drop-down menu in the widget toolbar. Select an object to display related information in the **vDisk Relationship** and **vDisk Latency Chart** widgets.
vDisk Relationship	Parent and child objects of the selected virtual machine or datastore.
vDisk Latency Chart	Changes over time for a metric associated with the selected virtual machine or datastore. The metric selected in the **Configurations** drop-down menu in the **vDisk Experience** widget is used to create this chart.
vRAM Experience	Virtual machines in order of specified RAM metric. You can specify a metric in the **Configurations** drop-down menu in the widget toolbar. Select an object to display related information in the **vRAM Relationship** and **vRAM Chart** widgets.
vRAM Relationship	Parent and child objects of the selected virtual machine.
vRAM Chart	Changes over time for a metric associated with the selected virtual machine. The metric selected in the **Configurations** drop-down menu in the **vRAM Experience** widget is used to create this chart.
Active Session Alerts	All alerts for active Horizon sessions.
Pool Critical Alerts	Number of critical alerts for VDI desktop pools.

Horizon Root Cause Analysis Dashboard

Use the **Horizon Root Cause Analysis** dashboard to obtain a detailed view of an object's metrics for use in further analysis.

To use this dashboard, first locate an object on the **Horizon Help Desk** or **Horizon End User Experience** dashboard that you want to analyze. Click the object and select **Dashboard Navigation > Navigate > Horizon Root Cause Analysis** in the widget toolbar. The object is displayed in the **Selected Object Relationship** widget, and metrics and alerts for the object are displayed in the other widgets. You can also select another object in the **Selected Object Relationship** to view its metrics.

In the **Selected Object Analysis Snapshot** widget, you can select one or more metrics to display charts showing their changes over time in the **Selected Metric Chart** widget. The widget can contain metrics from more than one object.

In the **Selected Metric Chart** widget toolbar, you can click the **Time Range** icon in the toolbar to set the period of time in which you want to see trends. You can also click the **Options** icon in the upper right corner to save a snapshot of the chart, download its data as a CSV file, or change the position of the chart in the widget.

Using the Horizon Reports

You can use predefined templates to generate reports about your Horizon objects. These reports provide information about remote desktop and application usage, desktop and application pool configuration details, and license compliance.

You can see a list of all report templates and generated reports by clicking **Dashboards** in the main menu and then **Reports** in the left pane. Enter `Horizon` in the **Quick filter** text box to display only Horizon reports. You can also double-click a Horizon object and select the **Reports** tab to view all report templates available for the object and all generated reports associated with it.

Table 1-14. Horizon Reports

Template Name	Objects	Report Content
Horizon Application Instance Usage	■ Hosted application	CPU and memory usage.
Horizon Application Pool Details	■ Application pool ■ Pod pools tier ■ Horizon pod	Application pool configuration and application pool, RDS farm, and RDS host usage information.
Horizon Application Pool Usage	■ Application pool ■ Pod pools tier ■ Horizon pod	Application instances running, session durations, and last logon timestamps.
Horizon Application Usage Report	■ Horizon pod ■ Application pool	Pool name, farm name, times launched, peak concurrent instances, and total usage time over the past seven days.
Horizon Desktop Application Instance Usage	■ Desktop application instance	CPU and memory usage.
Horizon Desktop Application Usage	■ Desktop application ■ Horizon pod ■ Desktop applications tier	Times a desktop application was launched, peak concurrent instances, and total usage time.

Table 1-14. Horizon Reports (Continued)

Template Name	Objects	Report Content
Horizon Desktop Pool Usage	▪ VDI desktop pool ▪ RDS desktop pool ▪ Pod pools tier ▪ Horizon pod	Number of connected and disconnected sessions, session durations, and last logon timestamps.
Horizon Pod License Compliance	▪ Horizon pod	Current license usage, highest daily usage, and trends over the past 30 days.
Horizon Pool Usage Overview	▪ Pod pools tier ▪ Horizon pod	Desktop and application pool session usage.
Horizon RDS Desktop Pool Details	▪ RDS desktop pool ▪ Pod pools tier ▪ Horizon pod	Session and instance information for RDS pools.
Horizon User Session Statistics	▪ User	Session and instance duration over the past seven days.
Horizon VDI Desktop Pool Details	▪ VDI desktop pool ▪ Pod pool tier	Usage, configuration, source, sessions, desktops, users, connection time, PCoIP latency, errors, and desktop status.
Horizon VDI Desktop Session Statistics	▪ VDI desktop pool ▪ Pod pool tier	Connection, logon, PCoIP, and workload statistics.

Maintaining vRealize Operations for Horizon

2

You can modify your vRealize Operations for Horizon configuration at any time to respond to changes in your Horizon environment.

This chapter includes the following topics:

- Modify Broker Agent Settings
- Stop or Restart the Broker Agent Service
- Configure Desktop Applications
- Clean Up Objects
- Uninstall vRealize Operations for Horizon

Modify Broker Agent Settings

If your Horizon environment changes after the initial configuration of the broker agent, you can modify the broker agent settings on the Horizon Connection Server host where the broker agent is installed.

Procedure

1   Log in to the Horizon Connection Server host using a domain account that is part of the local administrators group.

2   Select **Start > VMware > vRealize Operations for Horizon Broker Agent Settings**.

3   Click through each page of the wizard and make any necessary changes.

- Pair the broker agent to a different adapter instance or use a different credential.

- Update Horizon Connection Server or event database credentials.

- Add or remove desktop pools from the scope of monitored objects.

- Add or remove App Volumes Manager installations and Unified Access Gateway appliances from the scope of monitored objects.

- Modify collection interval, timeout, and logging settings.

4   On the **Ready To Complete** page, review your settings and click **Finish**.

The **Broker Agent Config Utility for Horizon** wizard closes, and the broker agent service is restarted.

Stop or Restart the Broker Agent Service

You can stop, start, and restart the broker agent service on the Horizon Connection Server host where the broker agent is installed.

Procedure

1   Log in to the Horizon Connection Server host using a domain account that is part of the local administrators group.

2   Select **Start > VMware > vRealize Operations for Horizon Broker Agent Settings**.

3   Click **Next** until the **Broker Agent Service** page is displayed.

4   Click the **Start**, **Stop**, or **Restart** button to make the necessary change.

    The status of the broker agent service is shown next to **Current Status**.

5   Click **Next** and click **Finish** to exit the wizard.

Configure Desktop Applications

You manually configure desktop applications that you want to appear on dashboards and reports.

Procedure

1   Open the `/usr/lib/vmware-vcops/user/plugins/inbound/V4V_adapter3/conf/v4v-desktop-app-config.properties` file on the vRealize Operations Manager master node.

2   Add entries for the desktop applications that you want to monitor.

    Use the *name*,*full-path*,*pod-name* format for application entries. If you do not specify a pod name, the application is monitored on all pods.

    For example, the following entry monitors Microsoft Notepad on a pod named Cluster-SERVER621:

    ```
    myapp,c:\windows\notepad.exe,Cluster-SERVER621
    ```

3   (Optional) Enable application instance monitoring. If you do not enable this feature, the system displays only the desktop applications tier and desktop applications objects.

    a   Open the `/usr/lib/vmware-vcops/user/plugins/inbound/V4V_adapter3/conf/v4v.properties` file on the vRealize Operations Manager master node.

    b   Change the value of `enableDesktopApplicationInstance` to `true`.

4   Restart all nodes that collect data from the affected pods.

    ```
    service vmware-vcops --full-restart
    ```

    These nodes might be remote collector nodes or the master node. You can also choose to restart the entire cluster.

The configured desktop applications are displayed on vRealize Operations for Horizon dashboards and reports.

Clean Up Objects

Some objects might continue to appear on the dashboards even after agents have stopped collecting data about them. You can set a time after which such objects will be cleaned up.

Procedure

1   Open the `/usr/lib/vmware-vcops/user/plugins/inbound/V4V_adapter3/conf/v4v.properties` file on the vRealize Operations Manager master node.

2   Modify the value of parameters whose cleanup time you want to change.

The value is given in days. Enter a floating-point number for a period of time less than one day. For example, 0.5 is twelve hours and 0.0417 is one hour. An empty value indicates that the object is never cleaned up.

Parameter	Default Value	Description
timeToExpire.VirtualMachine	30	Virtual machines
timeToExpire.UserDesktop	30	VDI sessions
timeToExpire.RDSSession	30	RDS sessions
timeToExpire.AppSession	30	Application sessions
timeToExpire.RDSApplication	30	Hosted applications
timeToExpire.ViewNetwork	30	View network objects
timeToExpire.DesktopApplicationInstance	30	Desktop application instances
timeToExpire.User		Users
timeToExpire.ViewPool		VDI pools
timeToExpire.AppPool		Application pools
timeToExpire.RDSPool		RDS pools
timeToExpire.RDSFarm		RDS farms
timeToExpire.RDSServer		RDS servers

3   Log in to the vRealize Operations Manager user interface as an administrator.

4   In the menu, click the **Administration** tab and in the left pane click **Solutions**.

5   Select **VMware Horizon** in the upper pane and restart collection on each adapter displayed in the lower pane.

Objects will be cleaned up from the dashboards after one hour and from vRealize Operations Manager after two hours.

Uninstall vRealize Operations for Horizon

If you no longer want to use vRealize Operations for Horizon, you can uninstall the solution and broker agents.

Desktop agents that are installed as part of Horizon Agent cannot be independently uninstalled.

Procedure

1   Uninstall broker agents.

   a   Log in to the Horizon Connection Server host where the broker agent is installed using a domain account that is part of the local administrators group.

   b   Select **Control Panel > Programs > Programs and Features**.

   c   Select **VMware vRealize Operations for Horizon Broker Agent** and click **Uninstall**.

2   Uninstall the vRealize Operations for Horizon solution.

   a   Log in to the vRealize Operations Manager user interface as an administrator.

   b   In the menu, click the **Administration** tab and in the left pane click **Solutions**.

   c   Select **VMware Horizon** and click the **Uninstall solution** icon.

Troubleshooting vRealize Operations for Horizon

3

You can follow troubleshooting procedures to view log files and resolve some problems that might occur after you install and configure vRealize Operations for Horizon.

This chapter includes the following topics:

- Oracle Event Databases
- Logon Duration Missing
- Legacy Agent Connectivity
- Viewing Agent Log Files
- Viewing Horizon Adapter Log Files
- Modify the Logging Level for the Horizon Adapter
- Create a Support Bundle

Oracle Event Databases

You might encounter an error when connecting the vRealize Operations for Horizon broker agent to an Oracle event database.

Problem

During broker agent configuration, testing event database credentials fails with the following error:

```
Event DB username and password cannot be validated. System.Data.OracleClient requires Oracle client
software version 8.1.7 or greater. An Error has Occurred. Operation Validate DB Credentials has Failed.
```

Cause

To use an Oracle event database, you must install a recent version of ODAC and the Oracle Instant Client on the host where the broker agent is installed.

Solution

1   Go to http://www.oracle.com/technetwork/database/windows/downloads/index-090165.html and download the latest Xcopy for Windows x64 ODAC release.

2   Follow the procedure given in the `readme.html` file included in the installation package.

3   Go to http://www.oracle.com/technetwork/topics/winx64soft-089540.html and download the latest version of Oracle Instant Client.

You can choose the Basic or Basic Light edition.

4   Unzip the Instant Client package to a directory and add the directory to the `PATH` environment variable.

If you have multiple versions installed, ensure that the new version occurs first in the path.

Logon Duration Missing

The logon duration for some sessions might be unavailable in vRealize Operations for Horizon. This problem occurs when the time on different components is not synchronized.

Procedure

1   Synchronize all broker agents, desktop agents, and event databases to an NTP server.

2   Restart the broker agent service.

When users log in to new sessions, the duration is displayed correctly.

Legacy Agent Connectivity

Earlier versions of broker and desktop agents are unable to communicate with the Horizon Adapter.

Problem

Broker and desktop agents from vRealize Operations for Horizon 6.1 or earlier cannot communicate with the Horizon Adapter by default.

Cause

vRealize Operations for Horizon 6.2.1 and later enforce TLS 1.2, but earlier versions use TLS 1.0. If you cannot upgrade agents to a newer version, you can disable TLS on the adapter.

Solution

1   Open the `/usr/lib/vmware-vcops/user/plugins/inbound/V4V_adapter3/work/msgserver.properties` file on the vRealize Operations Manager collector node.

2   Add the following command:

```
enforcesslprotocols=false
```

3   Restart the Horizon Adapter.

4   On the Horizon Connection Server host where the broker agent is installed, pair the broker agent with the adapter again.

Viewing Agent Log Files

You can access vRealize Operations for Horizon broker and desktop agent log files for troubleshooting.

- Broker agent log files are located in `C:\ProgramData\VMware\vRealize Operations for Horizon\Broker Agent\logs` on the Horizon Connection Server host where the agent is installed.

- Desktop agent log files are located in `C:\ProgramData\VMware\vRealize Operations for Horizon\Desktop Agent\logs` on the remote desktop being used.

You can also use the `vdmadmin` command to create a Data Collection Tool (DCT) bundle that contains log files from one or more remote desktops. For more information, see the *Horizon Administration* document for your version.

Viewing Horizon Adapter Log Files

You can access Horizon Adapter log files in vRealize Operations Manager to use for troubleshooting.

Procedure

1 Log in to the vRealize Operations Manager user interface as an administrator.

2 In the menu, click the **Administration** tab and in the left pane select **Support > Logs**.

3 In the **Group by** drop-down menu, select **Log Type**.

4 Double-click the **COLLECTOR** folder and then double-click the folder for the node on which the adapter instance is running.

5 Select a log file, enter desired values in the **Starting Line** and **Number of Lines** text boxes, and click **Go**.

The specified section of the log file is displayed in the right pane. You can click the **>** icon to select a minimum level of logs to display or to search for text within the log file.

Modify the Logging Level for the Horizon Adapter

You can modify the level of logs recorded on the collector node that contains a Horizon Adapter instance.

Procedure

1 Log in to the vRealize Operations Manager user interface as an administrator.

2 In the menu, click the **Administration** tab and in the left pane select **Support > Logs**.

3 Double-click the node on which the Horizon Adapter instance is running.

4 Select the **COLLECTOR** folder and click the **Edit Properties** icon.

5 If you have not previously modified the logging level for the Horizon Adapter, add a log class.

    a Click the **Add Log Class** icon.

    b Enter **V4V_adapter3** and click **OK**.

6   In the lower pane, locate **V4V_adapter3** in the **Log Name** column and set a logging level in the drop-down menu in the **Logging Level** column.

Create a Support Bundle

If the Horizon Adapter does not operate as expected, you can create a vRealize Operations Manager support bundle that includes log and configuration files for analysis.

Procedure

1   Log in to the vRealize Operations Manager user interface as an administrator.

2   In the menu, click the **Administration** tab and in the left pane select **Support > Support Bundles**.

3   Click the **Create Support Bundle** icon.

4   Select the type of support bundle and the nodes to include and click **OK**.

5   After the status of the support bundle changes to **Succeeded**, select the support bundle and click the **Download Support Bundle** icon.

6   (Optional) View the files in the support bundle or send the support bundle to VMware for support.