

# vRealize Operations Manager 6.7 Release Notes

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VMware vRealize Operations Manager Appliance 6.7 | 12 April 2018 | Build 8183617

VMware vRealize Operations Manager 6.7 PAK Updates | 12 April 2018 | Build 8183616

VMware vRealize Operations Manager 6.7 Endpoint Operations Agents | 12 April 2018 | Build 7947327

VMware vRealize Operations Manager 6.7 Endpoint Operations Agents PAK Updates | 12 April 2018 | Build 8104506

VMware vRealize Operations Manager 6.7 Pre-Upgrade Assessment Tool | 12 April 2018 | Build 8342851

Check frequently for additions and updates to these release notes.

## What's in the Release Notes?

The release notes cover the following topics:

- What's New?
- System Requirements
- Installing and Updating vRealize Operations Manager
- Product Support Notices
- Resolved Issues
- Known Issues

## What's New?

### **New** Patch to Address a Security Advisory

vRealize Operations Manager has a local privilege escalation vulnerability because of improper permissions of support scripts. On a machine that has vRealize Operations Manager installed, attackers with shell access of the admin user may exploit this issue to elevate their privileges to root. The Common Vulnerabilities and Exposures project ([cve.mitre.org](http://cve.mitre.org)) has assigned the identifier [CVE-2018-6978](https://cve.mitre.org/cve/2018/6978) to this issue. For more information, see [VMSA-2018-0031](#). To address this issue, install the public patch documented in [KB 60301](#).

### Product Enhancements

The vRealize Operations Manager 6.7 release focuses on continuous performance optimization, predictive capacity management and planning, and providing App monitoring capabilities. It also provides several usability improvements, analytics advancements, content enhancements, and better integration. Here are the key features and capabilities:

## Pre-Upgrade Assessment Tool:

There are changes in metrics, alerts, and dashboards in this release, and the [vRealize Operations 6.7 Discontinued/Disabled Content and Replacement Recommendations](#) page provides you all the recommended replacements for the content (such as Metrics, Properties, Dashboards, Alerts etc.).

Before upgrading to vRealize Operations Manager 6.7, run the Pre-Upgrade Assessment Tool. The tool generates a report detailing the precise impact on your environment and gives recommended replacements that will help you to evaluate & mitigate the impact to existing alerts and dashboards. You can use these recommendations to make appropriate changes to the content post upgrade to vRealize Operations Manager 6.7. For more information, see [KB 53545](#).

## Analytics Advancements:

- Predictive real-time analytics, that allow for continuous performance optimization of workloads based on business and operational intent, such as running gold clusters at 60% utilization.
- Software license optimization, that lets you optimize placement and balancing of workloads based on software license. For example, Windows VMs on Windows clusters, Oracle VMs in Oracle Cluster via tag based placement.
- New capacity overview, reclamation and planning UI workflows powered by new real time capacity analytics, resulting in quick time to value.
- Native cost visibility in capacity overview, reclamation and planning with cost comparison of adding workloads across different clouds including private cloud, VMware Cloud on AWS and Amazon.
- Recommendation to densify clusters by consolidating workloads and freeing up ESXi hosts, allowing you to defer hardware purchases.
- OOTB Allocation based Capacity dashboard to assess clusters with capacity risk based on how much capacity is allocated to the VMs. Cell coloring highlights which clusters by target Tiers are over-allocated and may be at capacity risk.

## Platform Improvements:

- 30% footprint reduction, lets you monitor more objects with the same footprint and better performance. Also provides the options to shrink your installation to a smaller size.

## Refreshed vSAN support natively in vRealize Operations Manager and in vCenter Server via a vRealize Operations Manager plugin in vCenter Server:

- Refreshed vSAN troubleshooting by adding new metrics/properties to quickly pinpoint problems across VMs, hosts, and vSAN layers.
- Operational dashboards in vCenter Server via a vRealize Operations Manager plugin in vCenter Server that ships with vCenter Server 6.7 and can connect to an existing instance of vRealize Operations Manager or deploy a new trial version. Provides out of the box dashboards in vCenter Server, for vSphere and vSAN inventory, health, and alerts with

the ability to launch in context, to the connected instance of vRealize Operations Manager for more detailed operations.

### **Automated Agent Lifecycle Management to Enable Application Monitoring in Wavefront:**

- vRealize Operations Manager Integration with Wavefront allows you to send the OS and Application metrics from a VM with an agent installed to Wavefront via VMware Application Proxy.
- vRealize Operations Manager offers smart agent lifecycle management by discovering what applications services are installed on the VMs. It provides a simple user interface to automatically install Telegraf agent on multiple VMs with the ability to track install status.
- Telegraf agent supports monitoring a rich and diverse set of application services by collecting and sending the relevant metrics via VMware Application Proxy to Wavefront. This enables fast on-boarding of Wavefront for Enterprise Applications.

### **User Experience Improvements:**

- New Quickstart page that lays out the key areas to launch into the functionality- optimize performance, capacity, troubleshoot or assess configuration
- Ability to customize the vRealize Operations Manager home page to something other than the default
- vRealize Operations Quick Start provides you functional based, easy to access workflows.
- New and simplified workflows are available to assess, optimize and plan capacity.
- Enhanced workflows for continuous performance optimization of workloads is possible by using workload rebalancing
- Richer visibility into vSphere DRS is available with simple configuration options.
- Smarter dashboard, widgets, and views are available with new colorized palettes and new data transformation capabilities such as percentile, conditional formatting, cell coloring, and so on.
- Color schemes can be changed to display the interface in dark theme.
- New compliance workflow is added for complete vSphere infrastructure compliance against vSphere Security Configuration Guide, PCI and HIPAA benchmarks.

### **Content Enhancements:**

- New in-product videos provide step by step instructions on using the new workflows and features.
- New out of box dashboards are provided to optimize performance & cost.
- Enhanced vSAN dashboards with vSAN key performance indicators and costing capabilities are available.
- Refreshed out of box reports cover multiple use cases of reporting health, performance, inventory, capacity, utilization, reclamation, and so on.
- Enhanced views and symptoms lead to simplified troubleshooting and analysis.

- Optimized metrics with new metric groups and quick metric descriptions are in the interface.

### Changed and Retired Features:

This release of vRealize Operations Manager has capabilities that have been retired or changed in the areas listed below. Please carefully evaluate this list before you upgrade:

- What-if planning scenarios to add capacity- this functionality has been removed, along with the ability to reserve capacity at a cluster level for a given project.  
New simplified What-if planning workflow has been added to forecast capacity shortfalls and compare costs across clouds when planning new workloads. These can be saved and rerun.
- Option to calculate Capacity Remaining and Time Remaining based on demand vs allocation model is not available. By default, the product shows capacity analytics based on VM demand. If latest version of VMware Tools are installed, the VM demand takes into account the memory metrics from within the Guest OS for increased accuracy.
- Management Pack for VMware Configuration Manager has been retired. New simplified compliance pages and refreshed dashboards have been added to assess compliance against vSphere Security, PCI, HIPAA benchmarks.

### Supported Management Packs:

- The VMware Management Packs and adapters supported with vRealize Operations Manager 6.7 are:
  - **New** VMware vRealize Operations for Horizon 6.6
  - VMware vRealize Operations Management Pack for VMware vRealize Orchestrator 1.0
  - VMware SDDC Health Monitoring Solution 4.0
  - VMware OpenStack Management Pack 4.1 for VMware vRealize Operations
  - VMware vCloud Director 4.5 Management Pack for VMware vRealize Operations
  - vRealize Operations Management Pack for Service Discovery 2.0
  - vRealize Operations Management Pack for NSX for vSphere 3.5.2
- The 3rd party authored Management Packs that are supported with 6.7 are listed in the [VMware Compatibility Guide](#).
- The vRealize Operations for Published Applications adapter is not supported in vRealize Operations Manager 6.7.

For more information on these enhancements, see the [vRealize Operations Manager 6.7 VMware product page](#).

## System Requirements

Review this section before you install or update vRealize Operations Manager.

### Sizing and Scaling

The CPU, memory, and disk requirements that meet the needs of a particular environment depend on the number and type of objects in your environment and data collected. This includes the number and type of adapters installed, the use of HA (High Availability), the duration of data retention, and the quantity of specific data points of interest. VMware updates [Knowledge Base article 2093783](#) with the most current information about sizing and scaling. The Knowledge Base article includes overall maximums and spreadsheet calculations that provide a recommendation based on the number of objects and metrics you expect to monitor.

## Deployment Formats

You can deploy vRealize Operations Manager 6.7 with VMware virtual appliance.

**Note:** vRealize Operations Manager 6.5 was the final version of the product to support RHEL installations. If you are running Linux-based vRealize Operations Manager 6.5, you can upgrade to vRealize Operations Manager 6.7.

If you are deploying a vRealize Operations Manager virtual appliance, use a VMware vSphere Client to connect to a VMware vCenter Server, and deploy the virtual appliance through the vCenter Server instance. The vRealize Operations Manager virtual appliance must be deployed on hosts that are ESX/ESXi 5.5 or later and managed by VMware vCenter Server 5.5 or later.

## Linux Requirements

You can upgrade the standalone version of vRealize Operations Manager on Red Hat Enterprise Linux (RHEL) 6.5, 6.6, and 6.7 operating systems. In order to collect inter-node communication statistics (ping latency and packet loss) on RHEL, follow the instructions in [KB 52360](#).

## Applying License Keys

In addition to the existing per operating system instance (OSI) licensing, vRealize Operations Standard edition is also available on a per processor (CPU) basis. Licensing for other editions of vRealize Operations is unchanged and continues to be available on a per OSI metric.

You can install multiple Advanced and Enterprise editions in the same vRealize Operations Manager deployment. You can deploy single choice and suite licenses together. License counting for individual license keys is handled through licensing groups. You can mix editions or licensing models in one of the following ways:

- Deploy vSphere with Operations Management (any edition) and vRealize Operations Standard together in one deployment.
- Deploy vCloud Suite/vRealize Suite Standard, Advanced or Enterprise and vRealize Operations Advanced or Enterprise edition together in one deployment.

**Note:** You cannot deploy a vRealize Operations Standard edition license with either an Advanced or Enterprise license in the same deployment.

A license key assigned to a vRealize Operations Manager instance only counts towards virtual machines that are powered on. To be compliant, you need enough licenses to cover average powered-on VMs over trailing 365 days.

**New** The vRealize Operations Standard edition does not entitle you to create or edit views, dashboards, super metrics and reports. This functionality was enforced by EULA in previous editions of vRealize Operations. With vRealize Operations 6.7, this functionality is enforced through the user interface and not just the EULA. For more details on entitlement, please see the Edition Compare table on the following link: <https://www.vmware.com/products/vrealize-operations.html>.

## Compliance Alerts

To ensure compliance of your vSphere 6.0 and 5.5 objects, vRealize Operations Manager 6.7 includes compliance alerts for [VMware vSphere Hardening Guide versions 6.0 and 5.5](#). These hardening guide alerts are based on object type.

## Solutions Support

In addition to the VMware solutions (vSphere, Endpoint Operations Management, and vRealize Log Insight), see the [Solution Exchange](#) marketplace for many more solutions. These solutions work with Virtual Appliance single or multiple node, and RHEL single or multiple node.

## TLS Support

Transport Layer Security (TLS) 1.0 is enabled by default in vRealize Operations Manager. TLS 1.0 is a superseded version of TLS and is enabled for vRealize Operations Manager compatibility with external products. To disable TLS 1.0, see [KB 2138007](#).

## VMware Product Compatibility

The [VMware Product Interoperability Matrix](#) provides details about the compatibility of vRealize Operations Manager with other VMware products.

## Browser Support

This vRealize Operations Manager release supports all current Web browsers, although only the following browsers were tested with this release:

- Google Chrome: Version 65 and 64
- Mozilla Firefox: Version 59 and 58
- Microsoft Internet Explorer: Version 11
- Microsoft Edge 16
- Safari 10 and 11

## Installing and Updating vRealize Operations Manager

Before upgrading vRealize Operations Manager, run the pre-upgrade assessment tool to scan your content for metrics that have been disabled or replaced. A pre-upgrade assessment report that is generated will provide you the recommended replacements. For more details on using the the Pre-Upgrade Assessment Tool, see [KB 53545](#).

Refer the [vRealize Operations Upgrade Center](#) that has information about upgrading vRealize Operations.

When upgrading vRealize Operations Manager, you might need to use a two-step upgrade sequence. See the following list for details on upgrade approaches for different versions:

- From version 6.0 or 6.1, first upgrade to version 6.3.1, and then upgrade to version 6.7.
- From version 6.2 or 6.2.1 with EPOPs installed on the source version, upgrade to version 6.3.1, and then upgrade to version 6.7.
- From version 6.2 or 6.2.1 without EPOPs installed, or any of versions 6.3, 6.3.1, 6.4, 6.5, 6.6, or 6.6.1, directly upgrade to version 6.7.

After upgrading, it is necessary to update Endpoint Operations agents. For more information, see [KB 2137709](#) and [KB 2138748](#).

The vRealize Operations Manager Information Center has detailed information about installation and software updates.

Refer the vRealize Operations Manager vApp Deployment and Configuration Guide that provides guidance for a vRealize Operations Manager virtual appliance, before you install or update vRealize Operations Manager:

Upgrading to vRealize Operations Manager 6.7, resets out-of-the-box content as part of the software upgrade process even if the **Reset Default Content** button is unchecked during the upgrade. This implies that the user modifications made to default content such as alert definitions, symptom definitions, recommendations, policies, views, dashboards, widgets, and reports are overwritten. You need to clone or backup the content before you upgrade to vRealize Operations Manager 6.7.

**Note:** See the Installation and Upgrade Issues section for issues related to installing vRealize Operations Manager or updating the software.

## Product Support Notices

### Dashboards, Metrics, Reports, Views, and Widgets Support Notice

vRealize Operations Manager 6.7 includes new out-of-the-box data display elements, such as dashboards, metrics, reports, views, and widgets, to meet frequent operational use cases. They have improved functionality and better use case coverage. As a result, several old data display elements have been removed or disabled. See the [vRealize Operations 6.7 Defunct/Disabled](#)

[Content and Replacement Recommendations](#) page for information in the metrics that have been removed or disabled.

## Resolved Issues

- **Linux Kernel is updated as a precautionary measure to protect against [CVE-2017-5753](#), [CVE-2017-5715](#) (Spectre), and [CVE-2017-5754](#) (Meltdown).**  
For more information on Meltdown and Specter Effects on vRealize Operations Manager 6.7, see [KB 53431](#).
- **Multiple open source components are updated to resolve [CVE-2017-1000364](#), [CVE-2017-1000365](#), and [CVE-2017-1000367](#).**
- **Apache Struts updated to version 2.5.14.1 to resolve [CVE-2017-15707](#).**
- **The Network Share plug-in is updated to support SMB version 2.**
- **vRealize Operations Manager calculates workloads for data center and custom data center objects differently from cluster objects, based on provisioned capacity instead of entitlement.**
- **Alert Details summary links below the top link do not link to objects**
- **User Interface screens appear blank or with old components after an upgrade due to conflicts with the current browser cache.**
- **Default values for the Object History global setting has changed from 300 to 90 days.**  
This default setting is effective only for new vRealize Operations 6.7 installations.
- **The remote collector nodes in the administration interface might appear online even if collectors might not be collecting data**

The status in the administration interface displayed the collector process status, which didn't imply that data collection is taking place. The status of the remote collector nodes in the administration interface now reflects the status of data collection. Status of the node is Online if data is being collected, and Offline if it is not.

- **The Memory|Usage (%) metric of Virtual Machines considers memory usage from Guest OS perspective and not from hypervisor perspective.**

In previous releases, the Memory|Usage (%) metric of virtual machines referred to the amount of memory that is actively used, as estimated by VMkernel based on recently touched memory pages. This was different from what you would see inside the Guest OS as a memory usage.

The formula of metric Memory|Usage (%) is now changed to  $(\text{Memory|Utilization (KB)} / \text{Memory|Total Capacity (KB)}) * 100$ . Here the newly introduced Memory|Utilization (KB) metric depends on the Guest OS metric, which is provided through VMware Tools, and is available since vCenter Server 6.0 Update 1, ESXi 6.0 Update1, and VMware Tools 9.10.5. If these versions of vCenter Server, ESXi, and VMware Tools are not met, the Memory|Utilization (KB) metric will fallback to "Memory|Consumed (KB)" which shows usage from hypervisor perspective and not Guest OS perspective.

**Note:** If interested in the older Memory|Usage (%) metric of virtual machines, which was based on active memory, use the Memory|Guest Active Memory (%) replacement metric. This out of the box metric is disabled and first needs to be enabled in the corresponding policy of a virtual machine.

## Known Issues

The known issues are grouped as follows.

- Installation and Upgrade Issues
- General Issues
- User Interface Issues

### Installation and Upgrade Issues

- **Upgrade might fail if any of the nodes are running on VMs with US/Pacific-New timezone**

PostgreSQL database systems no longer support the US/Pacific-New timezone, which was just an alias for America/Los\_Angeles timezone. If any of the vRealize Operations Manager nodes are running on VMs with US/Pacific-New timezone, upgrade might fail.

**Workaround:** Change VM timezones from US/Pacific-New to America/Los\_Angeles, and then upgrade.

- **Inaccurate numbers of member objects in custom groups after upgrading.**  
The preview count of the members of a custom group is inconsistent with the actual number of members if the group has any Endpoint Operations objects when you upgrade vRealize Operations Manager. This will only occur during upgrades, not for new installations.

**Workaround:** Customers need to use a VMware script to delete the Postgres self-relationship for the Endpoint Operations objects. Contact Technical Support to obtain the script.

- **Some object alerts not enabled after upgrading to the current release of vRealize Operations Manager.**  
After users upgrade to version 6.7 from an earlier version that had vSphere Hardening Guide alerts enabled, users will not see alerts related to distributed port groups, distributed virtual switches, or vCenter objects as these alerts are not enabled by default on upgrade.

**Workaround:** Choose one of the following:

- Enable hardening guide alerts from the adapter configuration.
- Go to the policy library, edit the active policy to enable alerts for these three objects.

- **vRealize Operations Manager alerts trigger when the Management Pack for vCenter Configuration Manager (VCM) is integrated**  
When the Management Pack for VCM is installed and the vSphere Hardening Guide alerts are enabled for 5.5 or 6.0 objects, some of the

native compliance alerts inadvertently trigger in vRealize Operations Manager. The compliance score for a selected object displays the violated native compliance rules in the Compliance tab, which results in an incorrect compliance badge score.

**Workaround:** Disable the native compliance alerts with these steps:

1. To see the native compliance alerts that are enabled in the policy, click **Content > Alerts**.
2. Click **Administration > Policies > Policy Library**.
3. Edit the policy applied to the objects and disable the native compliance alerts.

## General Issues

- **Memory|Usage % metric might show as 97-100%**

If vRealize Operations Manager is upgraded to version 6.7, the Memory|Usage % might show as 97-100% on some or all applicable objects.

**Workaround:** In the case of Windows VMs, the VMware Tools version needs to be updated to version 10.3.x or later. For more information, see [KB 55675](#).

- **Server Hardware Cost Driver page might not load**

If you use Firefox, Internet Explorer 11, or Safari browser and navigate to Administration -> Configuration -> Cost Settings -> Cost Drivers -> Server Hardware, the Server Hardware Cost page might not load and continue to show a loading image.

**Workaround:** Use Google Chrome or Internet Explorer Edge to access the interface.

- **Custom vSphere tags are not displayed in vRealize Operations Manager for vSphere versions 6.0 and higher**  
Custom tags set in vSphere version 6.0 and higher, fail to appear in vRealize Operations Manager. The issue is applicable for both newly deployed and upgraded vCenter Servers.

**Workaround:** See [KB 2144602](#).

- **The Delete Unused Snapshots for VM action appears to have failed due to timeout in vRealize Operations Manager.**

When users perform the Delete Unused Snapshots for VM action through vRealize Operations Manager, and the snapshot removal process lasts for more than 120 seconds, the status of this actions appears as failed.

**Workaround:** Not required. The snapshot removal process continues to progress to completion on vCenter Server.

- **vRealize Automation Env Overview dashboard continues to display vCenter cluster data even after the vRealize Automation adapter instance is removed.**

When a vRealize Automation adapter instance is removed or deleted, the relationships that the adapter built between the vCenter cluster compute resource managed by vRealize Automation and the managed resource entities are not deleted. The vRealize Automation Env Overview dashboard continues to displays vCenter cluster data.

**Workaround:** Manually delete the relationship between vCenter clusters managed by the particular vRealize Automation adapter instance and the managed resource entity.

- **PDF reports generated from the Log Insight dashboard display a login screen image**

When you generate PDF reports with the Log Insight dashboard, the PDF report file instead of displaying dashboard related content, always shows login screen image.

**Workaround:** None

- **When using Internet Explorer 11 to access the Log Insight and Business Management tab pages and dashboards, the data is blocked**

When using Internet Explorer 11 to access the new Log Insight and Business Management tab pages and dashboards, the data is blocked and the page remains blank.

**Workaround:** Use the Firefox or Chrome browser.

- **Generated reports may be blank**

If you log in to vRealize Operations Manager with vCenter Server credentials and generate a report, the generated report is always blank.

**Workaround:** None.

- **VVOL datastores are masked**

If a VM, host, cluster, datacenter, or vCenter Server object with VVOL datastores is selected, an incorrect datastore count appears on the Environment Objects Map or the Troubleshooting All Metrics page. And if a VM is deployed on a VVOL datastore, raw or derived metrics may be missing.

**Workaround:** None. The VVOL datastores are masked because vRealize Operations Manager does not yet implement the VVOL datastore metrics. However, the VVOL datastores are included in the count.

## User Interface Issues

- **Error messages might appear during initial setup of nodes**

During vRealize Operation Manager installation, when performing operations that involve initial setup of nodes, such as new installation, expanding an existing installation, or enabling HA for the first time, an error message similar to `Error:Permission denied to access property"timeStamp"` might appear. There is no impact of this error on the cluster. This is an user interface issue.

**Workaround:** None.

- **The filter menus in Policies workspace step Collect Metrics and Properties do not work correctly**  
When you deselect an option from the State, KPI, or DT drop-down menus, the filter hides all attributes no matter of their settings.

**Workaround:** Save and reopen the policy.

- **A PDF report file might not include all data from a widget that has a scrollbar**  
When you generate a report that contains a custom dashboard with a widget that has a scrollbar, the downloaded PDF file might not include all data of the widget.

**Workaround:** Increase the height of the widget in the dashboard to fit all the data.