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VMware vRealize Orchestrator 7.5 Release Notes

vRealize Orchestrator Appliance 7.5 | 20 September 2018 | Build 10110089

Check frequently for additions and updates to these release notes.

What's in the Release Notes

The release notes cover the following topics:

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What's New in vRealize Orchestrator 7.5

vRealize Orchestrator 7.5 introduces a number of improvements, bug fixes, and extends the automated configuration with new options:

- With the updated Orchestrator Operations Client you can:
  - Run and re-run workflows
  - Monitor performance data and real time tracking of the workflow execution
  - Import and export packages
  - Create and edit scheduled workflow runs
- Updated virtual appliance architecture to reduce deployment footprint and improve operability
  - The embedded Postgres database is now clusterable and supports automated failover
  - New Migration wizard available in VAMI
  - Cluster and Database Management is now moved to the VAMI interface
- Troubleshooting
  - Export vRealize Orchestrator plug-in configuration with log bundle
  - Inspect inputs and outputs of the nested workflows after run is completed
  - The API to get filtered list of script actions by datatype given

Feature and Support Notice

- **[IMPORTANT]** You can no longer upgrade to the Orchestrator appliance 7.5, you can only migrate to it.
- You can no longer configure clusters and perform migration through the Orchestrator Control Center. Use the VAMI interface to perform these tasks.
- **[IMPORTANT]** You can only use the embedded PostgreSQL database that comes with vRealize Orchestrator 7.5. The following features are removed in vRealize Orchestrator 7.5.
  - Support for Microsoft SQL Server and Oracle Database as external database servers.
  - Support for SNMPv3.

Deploying the VMware vRealize Orchestrator Appliance 7.5

VMware vRealize Orchestrator 7.5 is available as a preconfigured virtual appliance.

The Orchestrator Appliance is distributed as an OVA file. It is prebuilt and preconfigured with Novell SUSE Linux Enterprise Server, PostgreSQL, and it can be deployed with vCenter Server 5.5 and later.

The Orchestrator Appliance is a fast, easy to use, and more affordable way to integrate the VMware cloud stack, including vRealize Automation and vCenter Server, with your IT processes and environment.

Migrating to vRealize Orchestrator 7.5

For instructions about deploying and using the Orchestrator Appliance, seeMigrating VMware vRealize Orchestrator.

NOTE: Upgrading vRealize Orchestrator Appliance from version 5.5.x to 7.5 is not supported. You must upgrade your vRealize Orchestrator Appliance 5.5.x to 6.0.x first and then migrate to 7.5.

Important: For security reasons, the password expiry of the root account of the Orchestrator Appliance is set to 365 days. To increase the expiry time for an account, log in to the Orchestrator Appliance as root, and run the following command:

passwd -x *number_of_days name_of_account*

To make your Orchestrator Appliance root password last forever, run the following command:

passwd -x 99999 root

Plug-Ins Installed with vRealize Orchestrator 7.5

The following plug-ins are installed by default with vRealize Orchestrator 7.5:

- vRealize Automation Center Infrastructure Administration Plug-In 7.5.0

- vRealize Automation Plug-In 7.5.0
- vRealize Orchestrator vCenter Server Plug-In 6.5.0
- vRealize Orchestrator Mail Plug-In 7.0.1
- vRealize Orchestrator SQL Plug-In 1.1.4
- vRealize Orchestrator SSH Plug-In 7.1.0
- vRealize Orchestrator SOAP Plug-In 2.0.0
- vRealize Orchestrator HTTP-REST Plug-In 2.2.2
- vRealize Orchestrator Plug-In for Microsoft Active Directory 3.0.7
- vRealize Orchestrator AMQP Plug-In 1.0.4
- vRealize Orchestrator SNMP Plug-In 1.0.3
- vRealize Orchestrator PowerShell Plug-In 1.0.13
- vRealize Orchestrator Multi-Node Plug-In 7.5.0
- vRealize Orchestrator Dynamic Types 1.3.1
- vRealize Orchestrator vCloud Suite API (vAPI) Plug-In 7.5.0
- vRealize Orchestrator Plug-In for vRealize Automation 7.5.0

Internationalization Support

vRealize Orchestrator 7.5 provides a multi-language support for Control Center and supports internationalization level 1 for the Orchestrator Java client.

How to Provide Feedback

Your active feedback is appreciated. Provide your feedback by using one of the following methods:

- Support Requests (SRs)
- Orchestrator Discussion Forum

Support Requests

File all issues that you find as Support Requests (SRs), even if you report them to VMware by other means.

You can find the VMware Support's commitment to SRs filed by customers and instructions on how to file an SR at https://www.vmware.com/support/services

Include log files in your SRs.

Follow the steps to gather **log files and configuration** from Orchestrator:

1. Go to Control Center at https://*orchestrator_server_ip_address*:8283/vco-controlcenter.
2. Log in as an **root**.
3. Navigate to **Export Logs**.
4. Click **Export Logs** button.
5. Save the generated ZIP file.
6. Upload the saved ZIP file to VMware Support.

Follow the steps to gather the **appliance** logs:

1. Go to VAMI at https://*orchestrator_server_ip_address*:5480/
2. Login as **root.**
3. Navigate to **Admin -> Logs** page
4. Click **Save Log Files.**
5. Upload the saved files to VMware Support.

Earlier Releases of vRealize Orchestrator

Features and issues from previous releases of vRealize Orchestrator are described in the release notes for each release. You can review release notes for the previous release of vRealize Orchestrator at the following link:

- [vRealize Orchestrator 7.4.0](#)

PDFs for earlier releases of vRealize Orchestrator are available for download in a ZIP archive format. The archive can be found under the Archived Documentation heading in the table of contents on the left.

Resolved Issues

- **A package is exported as a folder structure and then imported from the folder but the imported state has a different category structure.**
  Importing a package from a folder structure can lead to a different than the exported category structure of the elements. The issue can occur if the category name/s contain dot character - '.'

  1/ Export the package as a file instead of a folder.

  2/ Remove any dot characters - "." - from the package name.

- **Unable to install plug-ins with a large file size.**
  The vRO configuration server is limited to 512MB max size (not vRO service itself, rather the vRO configurator service). For the plug-in, this is a major inconvenience for users to have to manually tune vRO configuration server before they can successfully install the plug-in due to its large size.
  vRO configuration service memory size is changed to 768MB.

- **Workflow run logs are not shown in Java Client**
  Workflow run logs might be missing in the Orchestrator Java Client.

  To see the workflow logs, restart the Orchestrator server service.

- **When you deep dive in a workflow run with workflows as items, an error about Duplicate Keys is shown in Java Client**
  For workflows that contain other workflows, you might encounter a Duplicate keys error when you attempt to view the embedded workflows in the workflow run.

- **When you restart the Orchestrator server service, the server might not start because of an error with reading the log configuration.**
  When you restart the Orchestrator server service, the server might not start because of an error with reading the log configuration.

- **The Orchestrator Operations Client dashboard might display an error about Comparison methods violating the general contract.**
  When you log in to the vRealize Orchestrator Operations Client, an error might be shown about Comparison method violates the general contract . This can lead to the dashboard not updating.

Known Issues

The known issues are grouped as follows.

- [Installation Issues](#)
- [Configuration Issues](#)
- [Client Issues](#)
- [Miscellaneous Issues](#)

Installation Issues

- **Uninstalling a plug-in in vRealize Orchestrator does not work as described in documentation topic [Uninstall a Plug-in](#).**

  Workaround: Run the steps below to uninstall the plug-in. If you have more than one Orchestrator node in a cluster, run the steps on all nodes.

  1. Log in to the Orchestrator Appliance over SSH as **root**.
  2. Stop the Orchestrator server service and the Control Center service.
     service vco-server stop && service vco-configurator stop

  3. Open the /etc/vco/app-server/plugins/_VSOPluginInstallationVersion.xml file with a text editor and delete the line of code that corresponds to the plug-in that you want to remove.
  4. Under the /var/lib/vco/app-server/plugins directory, delete the .dar archives that contain the plug-in that you want to remove.
  5. Delete all records under from the VMO_VroConfiguration table in the Orchestrator database.
     For example, if you use Microsoft SQL Server, the delete statement is DELETE FROM [database_name].[dbo].[VMO_VroConfiguration].

  6. Start the Orchestrator server service and the Control Center service.
     service vco-server start && service vco-configurator start

  7. Delete the packages and folders that are related to the plug-in as described in **Step 5** of documentation topic [Uninstall a Plug-in](#).

- **During the installation of a plug-in in Control Center, an error message appears.**
  When you install a plug-in from the Manage Plug-Ins page in Control Center, the error message Plug-in 'name_of_the_plug-in' (plug-in_file_name) is not compatible with the current platform version. Supported platform versions are ''. Clicking on the 'Install' button will install it anyway appears. You

can safely ignore this error and proceed with the installation of the plug-in.

Configuration Issues

- **The Orchestrator authentication configuration might become invalid, if the authentication provider certificate changes or regenerates.**
  When the SSL certificate of the vRealize Automation or vSphere instance that is configured as the authentication provider in Control Center is changed or regenerated, the Orchestrator authentication configuration becomes invalid and the Orchestrator server cannot start.

  Workaround: Import the new authentication provider certificate:

  1. Log in to Control Center as **root**.
  2. Click **Certificates**.
  3. Click the **Import on the Trusted Certificates** tab.
  4. Load the SSL certificate from a URL or a file.
  5. Click **Import**.

- **The vRealize Orchestrator SQL plug-in cannot connect to a MySQL database.**
  When you run the Add a database workflow against a MySQL database, the workflow fails with a The driver 'com.mysql.jdbc.Driver' for 'MySQL' database cannot be found! error message.
  NOTE: The support for MySQL databases was removed in vRealize Orchestrator 7.0.

  Workaround: To enable support for MySQL database, you must install the JDBC driver for MySQL on the Orchestrator platform.

  chown vco:vco mysql-connector-java-x.x.x.jar

  chmod 644 mysql-connector-java-x.x.x.jar

  service vco-server restart

  1. Download the latest JDBC driver for MySQL from
     http://dev.mysql.com/downloads/connector/j/.
  2. Extract the downloaded archive.
  3. In the extracted folder, locate the mysql-connector-java-x.x.x.jar file, where x.x.x is the current subminor version.
  4. Copy the mysql-connector-java-x.x.x.jar to the /usr/lib/vco/app-server/lib directory on the Orchestrator server.
  5. Change the ownership of the mysql-connector-java-x.x.x.jar file.
  6. Change the permissions of the mysql-connector-java-x.x.x.jar.
  7. Restart the Orchestrator server service.
- **The SOAP plug-in cannot connect through an authenticated proxy server.**
  When you run the Add a SOAP host workflow, use a proxy server that does not require authentication.
- **The Orchestrator Java client does not run on versions of Java earlier than Java 8.**
  You need Java 8 to run the Orchestrator Java client.

- **If you experience issues connecting to a SOAP or a REST host, or importing a certificate, you might have to explicitly enable certain versions of SSL or TLS.**
  For information about this issue, see
  https://docs.oracle.com/javase/8/docs/technotes/guides/security/jsse/JSSERefGuide.html.

  Workaround: For information about explicitly enabling SSLv3 and TLSv1 for outgoing HTTPS connections, see Enable TLSv1 for outgoing HTTPS connections in vRealize Orchestrator 6.0.4 and 7.0.x manually (KB 2144318).

- **vCenter Server objects are not accessible in the vSphere Web Client**
  Orchestrator cannot access vCenter Server objects in the vSphere Web Client, if the vCenter Server instance that you are attempting to access is registered in Orchestrator by IP address.

  Workaround: Register the vCenter Server instance by host name.

- **Connecting to an Oracle database by using TNSNames is not supported**.
  You cannot use TNSNames to connect to an Oracle database. You can connect to an Oracle database by using an IP address or a DNS name.

  Workaround: See Add support for RAC and TNS configuration for Oracle 11g Database instances to vRealize Orchestrator (KB 1022828).

- **The Delete button in the VAMI Cluster page, doesn't remove the node from vRO cluster nodes**
  When you remove a cluster node from Cluster page in VAMI using the Delete button, the node is not removed from Control Center Cluster page.

  Remove the node from Control Center - Cluster management tab. For more information, see Removing a Node from an Orchestrator Cluster.

Client Issues

- **The SSH plug-in cannot connect to a Cisco Adaptive Security Appliance (ASA) firewall.**
  The SSH plug-in for vRealize Orchestrator 7.1 does not support connectivity to a Cisco Adaptive Security Appliance (ASA) firewall.
- **Problems handling non-ASCII characters in certain contexts**.
  Using non-ASCII characters in input parameters results in incorrect behavior in the following situations:
    - If you run the SCP put or SCP get workflows from the SSH folder on a file with a name that contains non-ASCII characters, the workflow runs, but name of the resulting file on the destination machine is unreadable.
    - If you try to insert non-ASCII characters into attribute names, the characters do not appear. This issue occurs for workflow attributes and action attributes.
- **Slow login times to vRO client**
  After supplying correct credentials - username/password during initial login in the Orchestrator Smart Client(Java Client) and/or Operations Client, there is a delay before the authorization is completed.
  During the login process Orchestrator displays either - "Login, please wait..." in the case of

the Smart Client
or login indicator page - in the case of the Operations Client.

Reduce the group membership of the users. This will decrease the number of checks to be done during the authorization phase.

In addition, assigning the Administrator role to individual users and/or groups, which are direct parents of the expected users, is going to significantly decrease the login times of administrator level users. (Assign roles through the role management interface) (Applicable for Administrator users)

- **When you first run the workflow "Add a vCenter instance", there are two fields in the workflow presentation: "URL of PBM endpoint (the default vSphere 6.5 PBM endpoint URL is https://vSphereHostName:443/pbm) " and "URL of SMS endpoint (the default vSphere 6.5 SMS endpoint URL is https://vSphereHostName:443/sms/sdk)" . These fields are automatically populated with URL data, if you add the host name of the vCenter instance (IP or host name of the vCenter Server instance to add).**
  In this case, if you want to reuse the workflow and want to add another vCenter instance, you will change the host name/ip address to the one belonging to the new vCenter instance, but the fields will keep the old URLs. if you forget to change these fields manually, the workflow execution will fail.

  Update the endpoint URLs of the new vCenter instance manually.

- **In the "Add SSH Host" workflow there is the field "The Root Folders", that is used to configure an entry path on the server. This is an optional field.**
  Using "**Add SSH Host**" workflow and adding a root folder in the field "The Root Folders" can lead to this folder not appearing in the Inventory.

  If the user wants to add a root folder, they can use "**Add a Root Folder to SSH Host**" as well.

- **In the vRealize Orchestrator Operations Client, you see tags containing underscore characters in the name.**
  The vRealize Orchestrator Operations Client doesn't support tag names with less than three characters or names containing white-space characters. All tags auto-generated from objects with shorter names will be suffixed with "underscore". All white-space characters will also be replaced with "underscore".

  Example: The workflow located in "/Library/project A/app/DR/backup" in the vRO Java Client, will have the following auto-generated tags in the vRO Operations Client: "Library", "project_A", "app", "DR_"

- **Importing a package in vRO client fails with a server error.**
  Error:

  Transaction was marked for rollback only; cannot commit; nested exception is

  org.hibernate.TransactionException:

Transaction was marked for rollback only; cannot commit

Transaction was marked for rollback only; cannot commit; nested exception is org.hibernate.TransactionException: Transaction was marked for rollback only; cannot commit

vRO server log contains : "ERROR: duplicate key value violates unique constraint"

Workaround:: For information about removing duplicate entries in Orchestrator, follow the relevant steps in [Upgrading vRA from 6.2.5/7.x to 7.4 fails due to duplicate entities in vRO DB](#) (KB: 54982)

- **Wrong presentation when executing workflows from a remote Orchestrator server (multi-node plugin) from the Orchestator Operations Client .**
On execution of workflows on a remote Orchestrator environment (in multi-node plug-in) , you should be able to reach and browse through attached inventory-plugins like the vCenter plug-in.

  You can encounter an issue when browsing through the remote-plugin in tree-view where you cannot expand the vCenter plug-in folder to view nested elements.

  Workflows run on the remote Orchestrator server might not display correctly.

- **Using the Orchestrator Java client through Java WebStart is not supported, if the Orchestrator Appliance is behind Network Address Translation (NAT).**
- **vRealize Orchestrator actions are not recognized as custom properties by vRealize Automation if the action modules that contain space characters.**
After an upgrade from any version of Orchestrator earlier than 7.0, action modules that contain spaces in their names are no longer visible by any vRealize Automation installations running on version 7.x. As a result, the actions in these modules cannot be associated to property definitions in vRealize Automation.

  Workaround: Verify that action modules do not have space characters in their names. Before upgrading vRealize Orchestrator, replace any space characters from your action module names with an underscore character (_) or a dot (.).

Miscellaneous Issues

- **The Orchestrator service cannot recover after a back up and restore procedure**
When you back up and restore Orchestrator, the server is not accessible from vRealize Automation and an Unable to establish a connection to vCenter Orchestrator server error appears. This results in Orchestrator being unable to start, while having a STARTED status, missing tasks and policies, and workflows that must be re-run.

  Workaround: Re-create the missing scheduled tasks and policies, re-run the scheduled workflows that did not start, and restart the Orchestrator service.

- **When you have more than one Orchestrator instances in a cluster, the workflow tokens are visible only on the Orchestrator node on which the workflow has run.**
- **The Storage VSAN workflows of the vCenter Server plug-in do not support adding Solid-State Drive (SSD) disks to an ESXi host.**
The Add disks to disk group and Remove disks from disk groups workflows do not support adding SSD disks as capacity disks to ESXi hosts.

- **The vCenter Server plug-in does not support policies.**
  The vCenter Server plug-in for vRealize Orchestrator does not support using policies to monitor for events that are issued by the managed vCenter Server instance.
- **Compiling a custom model-driven plug-in fails if you use an extension method that contains lambda expressions.**
  When you use model-driven to create plug-ins and you add extension methods to a certain extension, the plug-in does not compile if the extension method contains lambda expressions. The plug-in compilation fails with an error message, similar to the following:
  Caused by: java.lang.ArrayIndexOutOfBoundsException: 52789.

  Workaround: Do not use lambda expressions in the body of the extension methods.

- **The RESTOperation ID does not initialize properly if the REST host instance is created by using a Swagger spec.**
  In the HTTP-REST plug-in, when the REST host instance is created by a Swagger spec, the RESTOperation ID does not initialize properly and the getOperation of the RESTHost object does not work.
- **Restricted access to vCenter Server inventory can cause errors if you select Session per user**.
  If you select the **Session per user** option when adding a vCenter Server instance to Orchestrator, attempting to access the vCenter Server inventory might result in some errors for users with restricted access rights to inventory objects.
- **vCenter Server plug-in does not have valid credentials after upgrading from an Orchestrator version 6.0.2 or earlier.**
  If you upgrade from an Orchestrator version before 6.0.3, the vCenter Server plug-in does not have valid credentials.

  Workaround: After upgrading Orchestrator, update the vCenter Server instance and configure a password for the user.

- **The Convert disks to thin provisioning workflow does not handle virtual machines with snapshots correctly and does not convert the thick-provisioned disks.**
  On completion, the Convert disks to thin provisioning workflow reports that the thick-provisioned disks of virtual machines with snapshots are successfully converted to thin-provisioned, but they are not.

  Workaround: Do not include virtual machines with snapshots in the workflow.

- **Adding values to vCenter Server data object properties of the Array type is not possible.**
  When Orchestrator runs scripts, the vCenter Server plug-in converts JavaScript arrays to Java arrays of a fixed size. As a result, you cannot add new values to vCenter Server data objects that take arrays as property values. You can create an object that takes an array as a property if you instantiate that object by passing it a pre-filled array. However, after you instantiate the object, you cannot add values to the array.
  For example, the following code does not work:

```
var spec = new VcVirtualMachineConfigSpec();
spec.deviceChange = [];
spec.deviceChange[0] = new VcVirtualDeviceConfigSpec();
```

```
System.log(spec.deviceChange[0]);
```

In the above code, Orchestrator converts the empty spec.deviceChange JavaScript array into the fixed-size Java array VirtualDeviceConfigSpec[] before it calls setDeviceChange(). When calling spec.deviceChange[0] = new VcVirtualDeviceConfigSpec(), Orchestrator calls getDeviceChange() and the array remains a fixed, empty Java array. Calling spec.deviceChange.add() results in the same behavior.

Workaround: Declare the array as a local variable:

```
var spec = new VcVirtualMachineConfigSpec();
var deviceSpec = [];
deviceSpec[0] = new VcVirtualDeviceConfigSpec();
spec.deviceChange = deviceSpec;
System.log(spec.deviceChange[0]);
```

- **Passing a VcSnapshotInfo object as an attribute of type Any between two workflow elements causes an exception during serialization**
  In the vCenter Server plug-in, passing a VcSnapshotInfo object or an array of VcSnapshotInfo objects as an attribute of type Any between two workflow elements triggers a serialization that fails with a Can not set long field com.codahale.metrics. error message.

  Workaround: Change the workflow to omit passing a VcSnapshotInfo object or an array of VcSnapshotInfo objects between the workflow elements.

The following items or corrections did not make it into the documentation for this release.

- **Uninstalling a plug-in in vRealize Orchestrator does not work as described in documentation topic Uninstall a Plug-in.**

  Workaround: Run the steps below to uninstall the plug-in. If you have more than one Orchestrator node in a cluster, run the steps on all nodes.

  1. Log in to the Orchestrator Appliance over SSH as **root**.
  2. Stop the Orchestrator server service and the Control Center service.
     service vco-server stop && service vco-configurator stop

  3. Open the /etc/vco/app-server/plugins/_VSOPluginInstallationVersion.xml file with a text editor and delete the line of code that corresponds to the plug-in that you want to remove.
  4. Under the /var/lib/vco/app-server/plugins directory, delete the .dar archives that contain the plug-in that you want to remove.
  5. Delete all records under from the VMO_VroConfiguration table in the Orchestrator database.
     For example, if you use Microsoft SQL Server, the delete statement is DELETE FROM [database_name].[dbo].[VMO_VroConfiguration].

  6. Start the Orchestrator server service and the Control Center service.
     service vco-server start && service vco-configurator start

  7. Delete the packages and folders that are related to the plug-in as described in **Step 5** of documentation topic Uninstall a Plug-in.