Hewlett Packard Enterprise

CSA-OO Virtual Appliance

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Installation Guide

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About CSA-OO Virtual Appliance

HPE CSA-OO Virtual Appliance provides cloud management software that makes it easy for your business to benefit from secure and compliant cloud services. It orchestrates the deployment of complex multi-tier application architectures. With HPE CSA-OO virtual appliance, you can automate and simplify the deployment and management of hybrid IT services according to your requirement.

Products

Name	Version
HPE Cloud Service Automation	4.5.0001
HPE Operations Orchestration	10.22
PostgreSQL	9.4.4

System Configuration

Server	Configuration	Default
Virtual Appliance	RAM	16GB
	vCPU	8
	Operating System	CentOS 6.7
	Disk Space	150GB
	Ports	CSA-8444, OO-8443, MPP-8089, PostgreSQL-5432
	Swap	8GB

Installing the Appliance

To install the HPE CSA-OO Virtual Appliance, you will perform the following steps:

- Install the VMware vSphere client
- Browse and choose the appliance OVF file and select import option
- Deploy the OVF file
- Start the appliance so that it completes its first time setup and is ready to use

Caution: HPE recommends that you take a virtual machine snapshot before starting the appliance for the first time. Also, before taking a snapshot, powering on HPE CSA-OO Virtual Appliance, verify if the date and time are set properly on your VM host system. Be sure to maintain accurate time on the host system as with NTP, because the VM guest will synchronize with that time.

Deploy the OVF file

The next procedure is to start the VMware vSphere client and then deploy the OVF (Open Virtual Machine Format) template within your ESXi environment as described below.

1. Start the VMware vSphere client.
2. On the menu bar, select File→Deploy OVF Template.
3. Browse to the CSA-OO_VA201601.ova file.
4. Click Next

The vSphere Client Deploy OVF Template installer will now take you sequentially through the following installation steps, which are visible on the left sidebar of the installer:

- OVF Template Details
- End User License Agreement
- Name and Location
- Host / Cluster
- Resource Pool
- Storage
- Disk Format
- Properties
- Ready to Complete.

5. OVF Template Details: This screen shows details of the template such as Product, Version, Vendor, Publisher, Download Size, Size on Disk available (based on how the application is provisioned), and the template Description.
6. Read the End User License Agreement. Click Accept, then click Next.
7. On the Name and Location screen: Specify the Name and Location for the deployed template.
    a. Select an Inventory location.
    b. Select the text in the Name window, which defaults to CSA-OO Virtual Appliance, and re-name the appliance.
    c. Click Next.
8. On the Host/Cluster screen: select a cluster in which you want to run the deployed template and click on Next.
9. On the Resource Pool screen, select a Resource Pool within which you want to deploy the template and then click on Next.
10. On the Storage screen, select a storage location where you want to store the virtual machine files and click on Next.
11. On the Disk Format screen, there are three options: Thick Provision, Lazy Zeroed; Thick Provision, Eager Zeroed; and Thin Provision. It is recommended that you select Thin Provision, then click Next.

Note: For maximum performance, you may choose a Thick Provisioning option, however this will require more system resources.

12. On the Network Mapping screen, select the Network for the deployed template, then click Next.

13. The Properties screen has several selections to complete:

    a. Enter the Host Name.

    b. Enter the IP Address.

    c. Enter the Gateway.

    d. Enter the Subnet Mask.

    e. Enter the DNS Servers, with multiple server addresses separated by a comma.

    f. Click Next.

14. On the Ready to Complete tab, review your configuration, then click Finish to start the deployment.

Note: The selection box 'Power on after deployment' is un-checked. Do not check this box as you should take a snapshot first before you power on the virtual machine.

15. A status window will appear during deployment showing progress.

16. You will get a status message, 'Deployment Completed Successfully' once the deployment is successful.

17. Click Close

18. Locate the deployed appliance; (NOTE: vSphere will show it under Home →Inventory →VMs and Templates.)

19. This concludes the deployment phase. You are now ready to run the HPE CSA-OO Virtual Appliance.

Virtual Snapshot

Before turning the appliance on for the first time, it is important to capture a system snapshot. This creates a backup duplicate IP on the network.

1. Right click on deployed HPE CSA-OO Virtual Appliance to open the context menu.

2. Navigate to Snapshot, then click on Take Virtual Snapshot when you start the appliance for the first time.

3. In the Take Virtual Machine Snapshot window, enter a snapshot name, then click OK. You can also enter a short description of the snapshot.

4. Once you click OK, vSphere will create a snapshot.

5. In the vSphere Task and Events window, click on Create VM Snapshot to check that the snapshot has been created successfully.

Starting the Appliance

Tip: Before powering on HPE CSA-OO Virtual Appliance. for the first time, verify that the date and time are properly set on the VM host system. Maintain accurate time on the host system, such as Network Time Protocol (NTP), as the VM synchronizes with that time.

Right click again on the deployed HPE CSA-OO Virtual Appliance to open the Context menu.

1. Select Open Console to display the console window.
2. Click on the green Play button to start the appliance. The appliance starts, configures the networking and starts its first time setup configuration.

The appliance will now run through a series of checks, self-tests and first boot scripts during initialization. This will take between 5 and 10 minutes.

First boot scripts will perform the following configurations:

a) Network configuration

b) CSA and OO configurations

Standard output of script execution is shown on the VM console, please wait till you see configuration completion message as shown in the image below.

```
HP Cloud Management Appliance configuration.

DNS :
Gateway:
Hostname :   csaappliance.example.com
IPAddress:
Netmask:
Timezone:   US/Pacific


Configuring Network...

Configuring HP Cloud Service Automation, it may take few minutes to complete. Pl
ease wait...

Configuring HP Operations Orchestration...

Configuring other services...

Completed HP Cloud Management Appliance configuration.

****************************************************************************
Press any key to continue...
_
```

Once initialized, the appliance is ready to be used.

Login Credentials

Account	Credentials (User name/ Password)
Server	root/Cl0ud@pp1iance
Server (CSA User)	csauser/csauser
HPE CSA Portal	admin/cloud
HPE MPP Portal	consumer/cloud
HPE OO	admin/admin

Note: HPE recommends you to change the root user password during the first time you login to the CSA-OO Virtual Appliance.

Post installation tasks

After the completion of 'First Time Setup', the following processes must be performed:

Launching CSA Management Console

To launch CSA Management Console, complete the following steps:

1. Launch web browser and use URL as given below:

https://<csaProductionAppliance.domain.com>:8444/csa

> **Note:** Replace <csaProductionAppliance.domain.com> with the current FQDN of CSA-OO Virtual Appliance. If DNS is not configured for hostname resolution, you may need to add an entry in hosts file on the server from where web browser is launched.

Example:

10.10.10.10 csaProductionAppliance.domain.com csaProductionAppliance

2. Login using CSA admin credentials.

Default: admin/cloud

Configure CSA resource providers

Resource providers must be created in CSA.

To create a resource provider:

1. Log on to the Cloud Service Management Console as an administrator.
2. Click Providers.
3. Select a provider type in the panel on the left.
4. Click Create on the Providers Tab
5. Enter the Display name, User ID, Password, and Service Access Point in the respective fields in the 'Create Resource Provider' pop up screen
6. Click Create to complete the process
7. Click Cancel to exit

You should see the new resource providers on the Providers tab.

The following table lists sample resource providers required for this implementation and the service access points. You may need to change them to reflect your environment.

Provider Type	Provider name	Service access point
VMware vCenter	vCenter	https://<vcenter-prod>:443
Amazon EC2	EC2	https://< ec2.amazonaws.com>:443
HPE Helion OpenStack	OpenStack	https://<openstack-prod>:443

Associate Resource offerings with Providers

New resource offerings that were imported with the design archive must be associated with providers

1. Log on to the Cloud Service Management Console as an administrator.
2. Click Providers.
3. Select the provider that you want to associate with the offering.
4. Select the Resource Offerings tab for the provider.
5. Click Select.
6. Add all the resource offerings which you want to associate

After you have created the resource provider, to view the proxy properties, click the Providers tab.

Publish service designs

To publish a service design in CSA:

1. Log on to the Cloud Service Management Console as an administrator.
2. Click Designs > Sequenced > Designer
3. Select appropriate Service Design
4. Click Version tab
5. Select the service design version and then click Publish.

The confirmation message displayed informs the user that after publishing the service design, no modifications can be made.

6. Click Yes to publish the design.

Creating the service offering

A service offering must be created in HPE CSA before subscribers can request services based on this service design.

To create a service offering in CSA:

1. Log on to the Cloud Service Management Console as an administrator.
2. Click Offerings.
3. Click Create. The Create New Service Offering dialog will open.
4. Enter a name for the new service offering. This is the name of the offering that will be visible to the subscribers of this service.
5. Click on the appropriate Service design from the drop down and then click on Select.
6. Enter the Description (optional) in the provided field and change the image if desired
7. Click the Pricing tab and set the price for your service, if required.
8. Click Create.
9. Click Cancel, select 'Yes' to confirm cancellation/ 'No' to continue creation process

After the offering is created, you can modify the pricing information, associate documents and subscriber options.

Publishing service offering to a Catalog

Global Shared Catalog is installed by default when CSA is installed. When you publish a service offering to this catalog, that service offering will be visible in every organization's Marketplace Portal.

To publish the service offering to Global Shared Catalog:

1. Log on to the Cloud Service Management Console as an administrator.
2. Click Catalogs.
3. Select the appropriate Catalog
4. Click the Offerings tab, and then click Add Offering.
5. Select the service offering you created.
6. Click the In Category drop down, and then select the category from the list. In the Marketplace Portal, the service offering will appear under this category.
7. Click Publish.

A service offering published to a catalog will be available to the user for subscription.

> **Note:** HPE recommends that you set an approval policy for your organization to ensure proper use of expensive physical server usage. Approval policies cannot be set when services are published to the Global Shared Catalog.

Requesting published service from Market Place Portal (MPP)

After the service offering is published to a catalog, you can subscribe it from the CSA Marketplace Portal. If you have configured multiple organizations in CSA or published your service to a catalog other than the Global Shared Catalog, log on to the appropriate Marketplace Portal for your organization.

To subscribe service:

1. Log on to Cloud Service Management Console as an administrator.
2. Click Marketplace.
3. Log on to the Marketplace portal with user credentials.
4. Click the Sidebar Menu, and then click Browse Catalog.
5. Select a service offering, and enter the values of the offering as required.
6. Click Checkout.
7. Enter the details such as the subscription name and end date.
8. Click Submit Request

Open the Subscriptions tab to monitor the status of your subscription.

Cancel subscription

To cancel a subscription:

1. Log on to Cloud Service Management Console as an administrator.
2. Click Marketplace.
3. Log on to the Marketplace portal with user credentials.
4. On the Sidebar Menu, click Subscriptions.
5. Identify the subscription that you want to cancel.
   a. Click the subscription to view its details
   b. Click View Linked Service to view the details of the service offering you subscribed.
   c. Click Cancel Subscription to cancel the subscription.
6. Click Yes to confirm.
7. Click OK to close the confirmation message.
8. The Subscriptions tab opens with all of your subscriptions displayed.

Confirm that the status for the subscription is canceled.

CSA/OO appliance Workload Profile

Description for a Deployment Profile	50 % of regular CSA Small Load
Concurrent Deploy users	3
Concurrent Deployments /hr	10
Subscriptions	5000
SMC concurrent users	5 Ops Console users: 3 SMC Offerings CRUD: 1 SMC Service Design CRUD: 1
MPP Browse concurrent users	15
Deployment workload profile	Sequenced
Postgres Settings	max_connections : 200 shared_buffers: 1 GB effective_cache_size: 4 GB

Import OOTB content into the appliance

Complete the following steps to import CSA OOTB content:

1) Navigate to Content installer location

```
cd "/usr/local/hp/csa/Tools/CSLContentInstaller"
```

2) Switch to csauser by running following command

```
su csauser
```

3) Run content installer in silent mode

```
java -jar csl-content-installer.jar -silent
```

4) Content installer execution is shown as standard output. Once the execution is complete, please login to CSA Management console as admin user and verify if CSA OOTB content is imported.

List of contents available in CSA OOTB

1. Amazon EC2 Compute in VPC
2. Amazon EC2 Compute with ELB
3. MOE Infrastructure Compute
4. OpenStack - Multi-Tenant Support v2.0
5. Provider Communication Test
6. Provision JBoss on vCenter Compute
7. Provision VLAN using Network Automation
8. SA Software Policies Deployment on vCenter Compute
9. vCenter Compute Custom Pool Selection
10. vCenter Compute Modify
11. vCenter Compute with Basic Options
12. vCenter Compute-Monitoring and Configuration Management
13. Amazon EC2 (Topo)
14. OpenStack Basic Compute, Storage and Network (Topo)
15. OpenStack Swift Container (Topo)
16. vCenter Simple Compute (Topo)
17. Deploy Server with HP OneView Profile

HPE CSA-OO Virtual Appliance and RAS

This section describes how to install and configure an OO Remote Action Server (RAS) on a Windows Virtual machine in order to run Microsoft .NET workflows in HPE Operations Orchestration

HPE CSA-OO Virtual Appliance is a Linux-based appliance. For the integrated HPE Operations Orchestration (OO) to run .NET workflows, a Windows Virtual machine with an OO Remote Action Server must be configured to process the workflows. (The OO RAS is different than a Microsoft Windows Remote Access Server)

Prerequisites

- HPE CSA-OO Virtual Appliance should be deployed.
- A Windows virtual server should be available to host the RAS.

Install and configure RAS

1. Log on to the Windows virtual server, where you plan to install RAS.

   Note: This Windows virtual server should be dedicated for the Remote Action Server purpose. If the server is taken offline, OO will be unable to perform remote actions and cloud provisioning on Windows servers will fail.

2. Download the HPE CSA-OO Virtual Appliance CA root certificate:
   a. Open the browser and login to the OO URL (use complete FQDN OO URL).

   Note: If DNS is not configured for host name resolution, you have to add an entry in hosts file on the server, from where web browser is launched.

b. Open the **browser certificate** details.
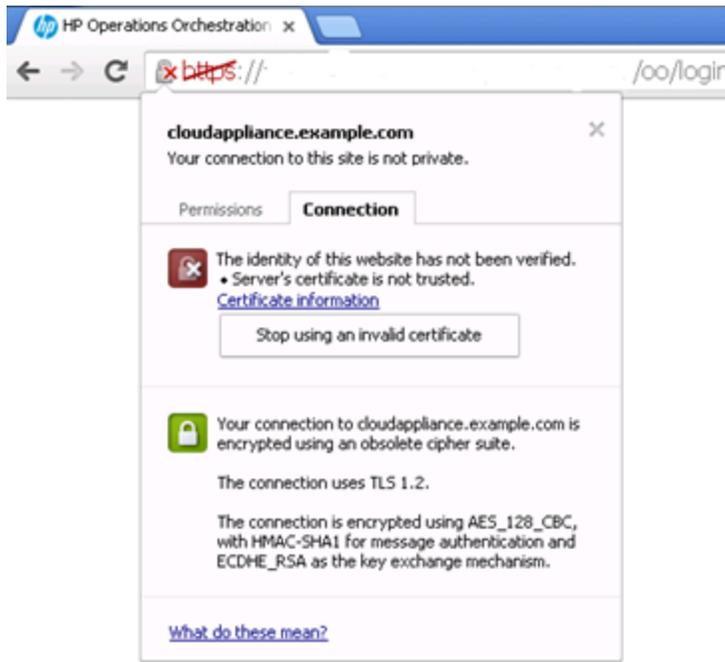
c. Open the certificate information.

d. Save the root certificate on the virtual server by selecting the **Copy to File** option under **Details** Tab.
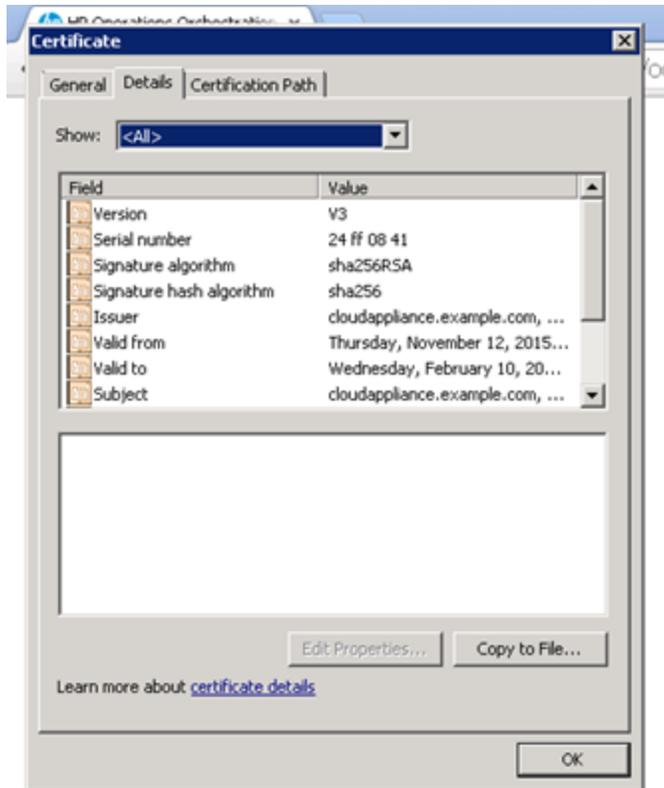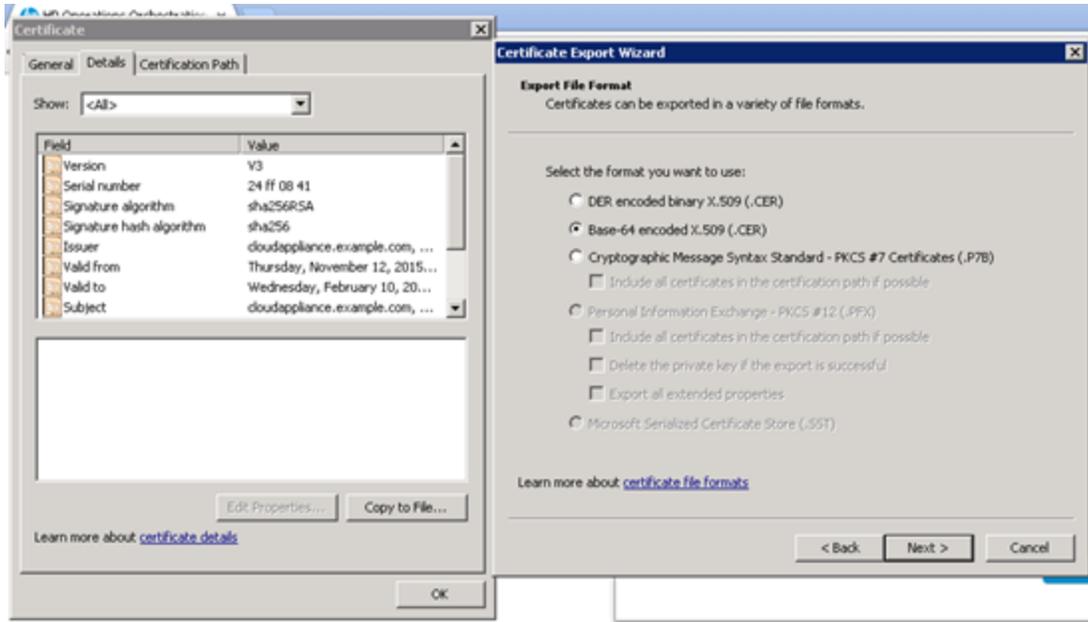
Note: Save the certificate using the "Base64 encoded X.509 (.CER)" option.

3. Download HPE OO 10.20 package into the **Windows virtual server**.

   Refer Cloud Orchestration Suite 'At A Glance Guide' for download

4. Launch the installer and complete the following steps:

   a. On **Options** tab, check **Remote Action Server** (RAS).
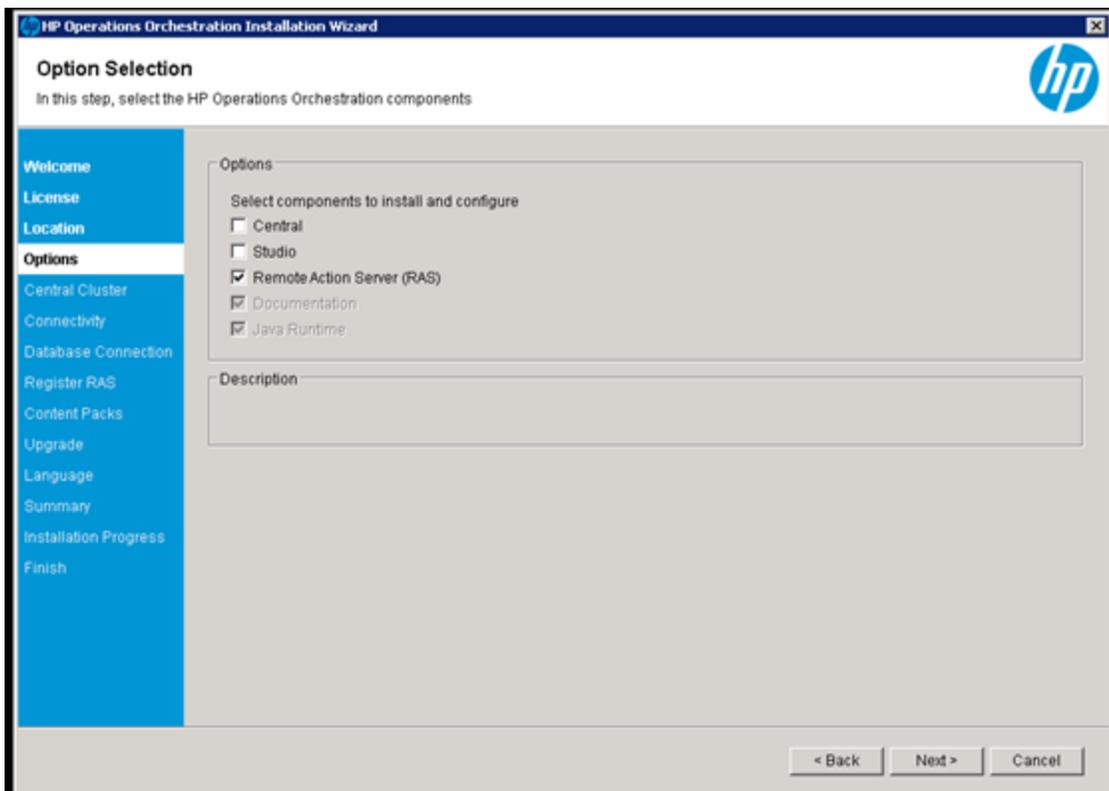
    b. In Register RAS, the CentralURL should be the HPE CSA-OO Virtual Appliance OO URL (use complete FQDN OO URL).

- Make sure to check **Central capable of register a RAS** (optional) and enter OO Central credentials (admin/admin).
- Check **Provide the CA root certificate of Central** and browse to the path, where the certificate was exported in step 2.
- Click **Test connection** to check the configuration and enable the **Next** button.
- Click **Next** to continue.

> **Note:** The **Next** button is enabled only if the above configuration process is successful
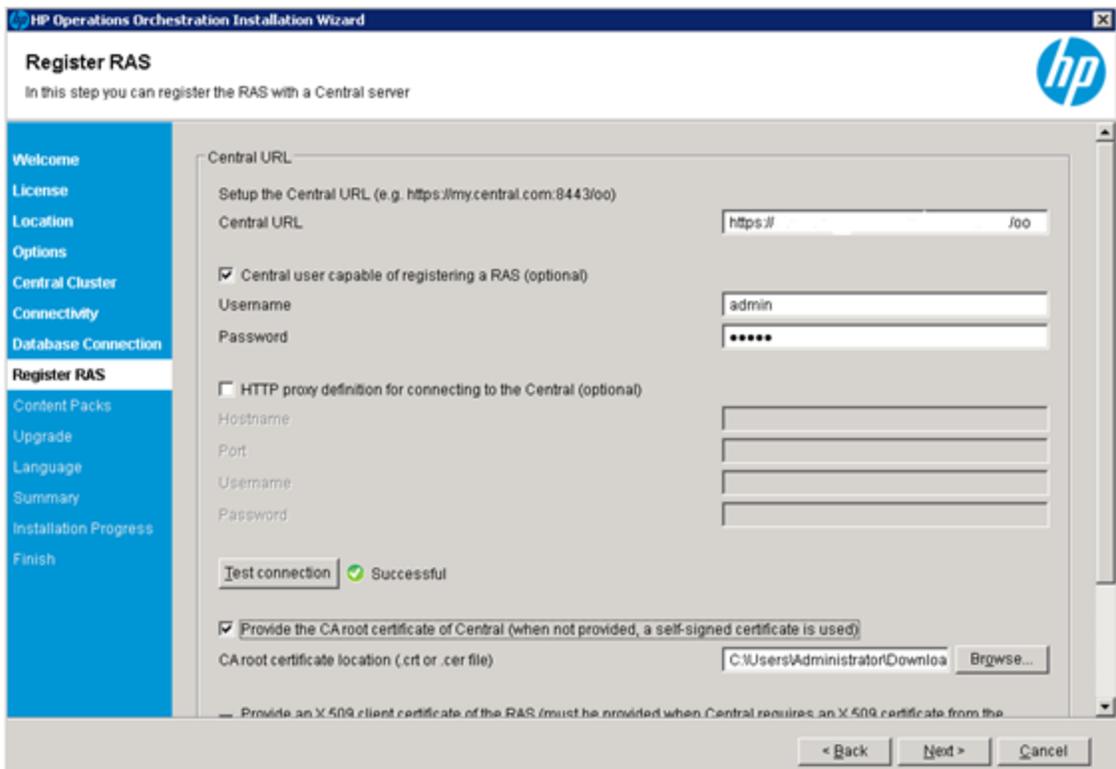
    c. The RAS installer can communicate with HPE OO Central, then you will see a screen with all installation items checked.

Install .NET and configure OO

1. On the Windows OO RAS Server, install .NET Framework 4.5 Full

> **Note:** Click (dotNetFx45_Full_x86_x64.exe) to Download .Net Framework

2. Open OO Central. On the System Configuration screen, Topology tab, move the Windows RAS to its own worker group called RAS_Windows.

> **Note:** Create this group if not available.
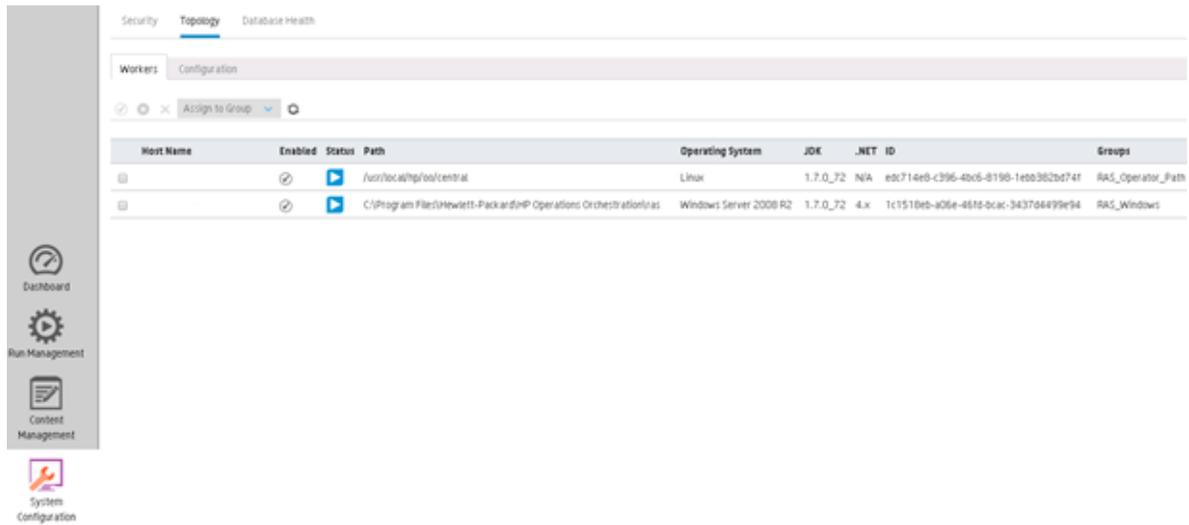
Enable the new registered worker

When you log in to HPE OO Central and access the System Configuration panel, you should see two registered workers in the Topology section.

The default Linux worker and the Windows RAS worker you created in the previous steps.

1. Select the Windows RAS worker and then click the enable ⊘ button
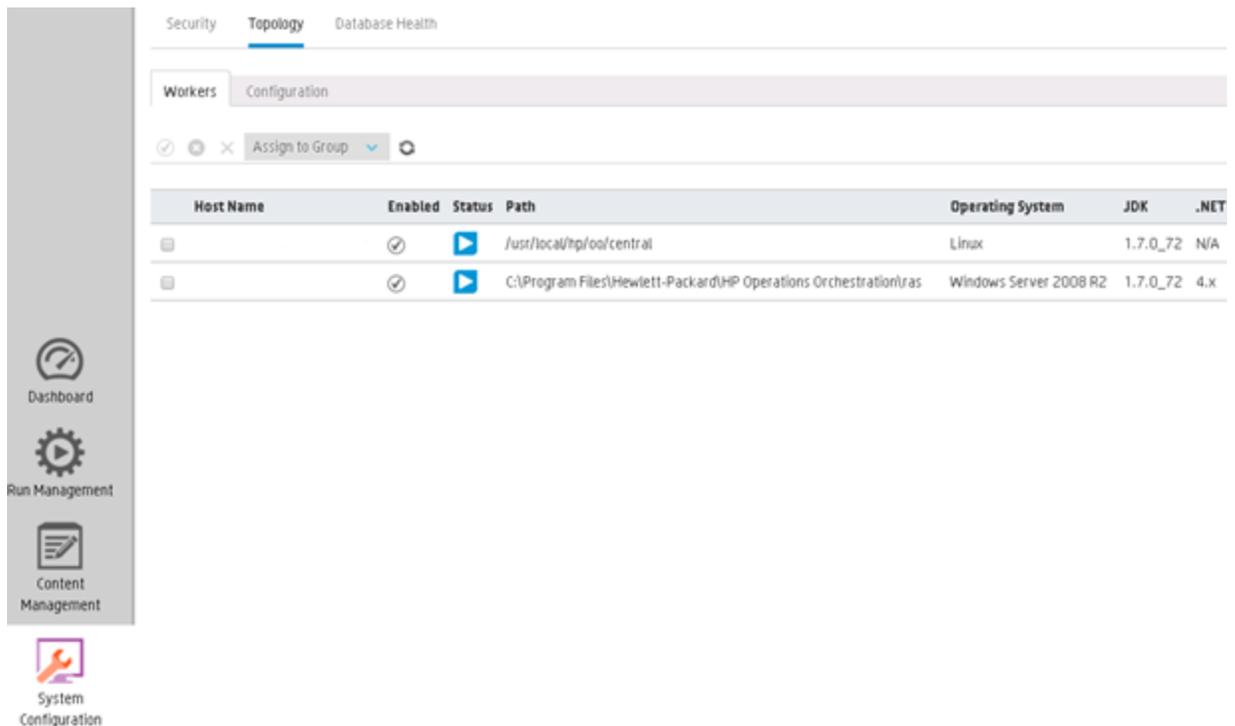
Additional information

See Worker Groups in OO10 for information about using different RAS servers when you want to run remote actions based on specific requirements, for example, isolated networks or remote datacenters.

Click https://hpln.hp.com/content/worker-groups-oo-10 for Worker Groups in OO10 from the HPE Live Network

Some workflows require special setup on the target machine where they are executed.Review the specific workflow requirements on each workflow description before running the flow.

Appendix A-Databases and User Accounts

Product	Database name	Username/ password
HPE CSA	csadb	csa/csa
IDM DB name	idmdb	idm/idm
CSA reports DB name	csa_reports_ db	csa_reports_user/ csa_reports_user
OO DB name	oodb	oouser/oouser

Note: The PostgreSQL is configured only on localhost within the appliance. To communicate with Postgres server from outside the appliance, you may need to edit the PostgreSQL configuration manually.

Appendix B – CentOS and open–vmtool Licenses

This product includes code licensed under the GNU General Public License, the GNU Lesser General Public License, and/or certain other open source licenses. A complete machine-readable copy of the source code corresponding to such code is available upon request. This offer is valid to anyone in receipt of this information and shall expire three years following the date of the final distribution of this product version by Hewlett-Packard Company.

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Hewlett-Packard Company

Attn: General Counsel

3000 Hanover Street

Palo Alto, CA 94304

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