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Please update your bookmark.

Virtual Hardware Resource Setting for CPU and Memory

To enable the virtual hardware resource reservation for Unified CVP VMs, the setting for CPU and memory should to be modified as shown in the following table.

For Unified CVP 11.5(1) version

	CPU			Hard disk	Hard disk		
	Sockets	Cores	Memory	Disk 1	Disk 2	CPU speed reservation	Memory reservation
CVP VXML	4	1	10 GB	250 GB	NA	3000	10 GB
OAMP	2	1	4 GB	80 GB	NA	400	4 GB
Reporting Server	4	1	6 GB	80 GB	438 GB	1800	6 GB

For Unified CVP 11.0(1) version

	CPU			Hard disk	Hard disk		
	Sockets	Cores	Memory	Disk 1	Disk 2	CPU speed reservation	Memory reservation
CVP VXML	4	1	6 GB	150 GB	NA	1800	6 GB
OAMP	2	1	2 GB	80 GB	NA	400	2 GB
Reporting Server	4	1	4 GB	72 GB	438 GB	1800	4 GB

For Unified CVP 9.0(1), 10.0(1), and 10.5(1) versions

	CPU			Hard disk	Hard disk		
	Sockets	Cores	Memory	Disk 1	Disk 2	CPU speed reservation	Memory reservation
CVP VXML	2	2	4 GB	146 GB	NA	2200	4 GB
OAMP	1	2	2 GB	40 GB	NA	400	2 GB
Reporting Server	2	2	4 GB	72 GB	438 GB	1800	4 GB

Performance Requirements

- ◊ CPU usage (average) should not exceed 60% for the ESXi Server and for each of the individual processors, and for each VM.
- ◊ Memory usage (average) should not exceed 80% for the ESXi Server and for each of the VMs.
- ◊ VM snapshots are not supported in production since they have significant impact on system performance.
- ◊ The SAN must be able to handle the following Unified CVP application disk I/O characteristics.
- ◊ Enable hyperthreading on all ESXi servers.

Unified CVP-Specific VM Installation Information

Migrating Unified CVP Installation from Physical to Virtual Server

Migration of Unified CVP from physical (MCS) server to any virtual server (UCS or non-UCS) server is not supported.

UCS Network Configuration

IMPORTANT: For instructions on performing the network configuration needed to deploy Cisco Unified Customer Voice Portal (Unified CVP) on a virtualized platform, please see below.

1) Network adapter setting modification on Reporting Server -The customers must modify the "Number of Receive Buffers" setting on the Reporting server to maximize full reporting and call load on the virtualized platform. If this setting is not modified after installing the OS, messages will get backed up on the CallServer and Message Queues will fill up resulting in a sharp drop in cps rate.

- Set the "Number of Receive buffers" on the Reporting Server TCP settings to 4096 (max).

Instructions:

1. On Reporting server, click on Control Panel->Network Connection.
2. Right click on Network Connection.
3. Click on advanced tab.
4. Under property tab, select "Number of Receive Buffers".
5. In the Value pulldown, enter 4096.
6. Restart the Reporting Server.

2) The following table provides the transport protocols supported by different CVP versions on virtual and non-virtual (bare metal or MCS servers) deployments. The same transport protocol must be used on all call legs of the SIP comprehensive call flow deployments.

SIP transport protocols supported across various deployments:

Type of Hardware	Releases prior to CVP 8.5(1) ES6	CVP 8.5(1) ES6 or later releases
UCS C Series Virtualized*	TCP	TCP & UDP**
UCS B Series Virtualized*	TCP	TCP UDP***
Non Virtualized (bare metal)	TCP & UDP	TCP & UDP

The session transport protocol can be set to tcp or udp in the POTS dialpeer.
Any other combinations of the transport protocols other than the ones listed above can cause call setup failures or abnormally long call setup times under heavy load.

Footnote:
* Check the Docwiki supported Application page for the Cisco UCS B-series and C-series hardware models supported by the Unified CVP.
** To avoid CPU utilization spikes under load conditions, the time synchronization between virtual machine and the ESX server must be disabled. To disable it, install VMware Tools in the virtual machine, in the Windows task bar, double click on the VM icon, in VMware Tools Properties window, uncheck **Time synchronization between the virtual machine and the ESX Server** checkbox.
*** All the UCS servers listed on the Unified Communications Virtualization Supported Applications page support UDP on both VMWare ESXi 4.1 and ESXi 5.0.
3) Cisco VLAN trunking to VMWare For information on best practices for Cisco VLAN trunking to VMware, refer to the VMware website

Install Unified CVP Components on Virtual Machines

Follow the steps and references below to install or migrate the Unified CVP components on Virtual Machines.

1. Install, setup, and configure the UCS Hardware.
2. Configure the UCS Network. See reference at UCS Network Configuration for Unified CCE.
3. Install and Boot VMWare ESXi. For UCS B seriees, refer to the Cisco UCS B-Series Blade Servers VMware Installation Guide.
4. Create the Unified CVP Virtual Machines from the OVA template available.
5. Install Windows OS and Websphere Application Server (if using VXML Server with WAS) on the created Virtual Machines.
6. Install Unified CVP Software components on the configured Virtual Machines. See install reference for installing Unified CVP Components in the CVP Install and Upgrade guide

Create Virtual Machines from OVA VM Templates

Open Virtualization Format (OVF) is an open standard for packaging and distributing virtual appliances. Files in this format have an extension of .ova. The naming convention for the template is PRODUCT_COMPONENT_USER COUNT_VERSION_VMVER.ova

Follow the instructions in the Downloading OVA Templates section below to download the OVA templates from cisco.com to a local datastore that vSphere Client can access.

Downloading OVA Templates

◊ Proceed to the Cisco Download Page for CVP.

◊ To download a single OVA file, click the **Download File** button next to that file. To download multiple OVA files, click the **Add to Cart** button next to each file that you want to download, then click on the **Download Cart** link. A Download Cart page appears.

◊ Click the **Proceed with Download** button on this page. A Software License Agreement page appears.

◊ Read the Software License Agreement, then click the **Agree** button
◊ On the next page, click on either the **Download Manager** link (requires Java) or the **Non Java Download Option** link. A new browser window appears.
◊ If you selected Download Manager, a Select Location dialog box appears. Specify the location where you want to save the file, and click **Open** to save the file to your local machine.
◊ If you selected Non Java Download Option, click the **Download** link on the new browser window. Specify the location and save the file to your local machine.

Expand the Virtual Machines Disk Space

Before You Begin
Shut down the virtual machine.

Ensure that no snapshots are taken for the virtual machine.

Procedure
1. From the **ESXi Console Configuration** window, enable remote console access and ssh for remote console.
2. Log in to the ESXi host using a SSL shell client tool such as PuTTy/SecureCRT.

3. To obtain the <vm.vmdk> information from the vSphere client, right-click on the virtual machine, and choose **Edit Settings > Hard Disk**.

4. Navigate to the *vmfs/volumes/<datastore>/ VM folder*.
5. From the command prompt, run the following command:
   vmkfstools -X 80G <vm.vmdk>

Note: Use the *virtualmachine.vmdk* descriptor file as the parameter in the above command.

6. The script runs and expands the virtual machine disk space.
7. Exit the SSH shell client and power on the virtual machine.
8. To launch the Disk Management tool, choose **Start** and type **partition** in the search box.
9. Right-click on the C drive, choose **Extend Volume**, and click **Finish**.

10. Restart the server.
Note: Ensure that the disk space increased to 80 GB.

Creating Virtual Machines by Deploying the OVA Templates

In the vSphere client, perform the following steps to deploy the Virtual machines.

1. Highlight the host or cluster to which you wish the VM to be deployed.
2. Select **File > Deploy OVF Template**.
3. Click the **Deploy from File** radio button and specify the name and location of the file you downloaded in the previous section **or** click the **Deploy from URL** radio button and specify the complete URL in the field, then click **Next**.
4. Verify the details of the template, and click **Next**.
5. Give the VM you are about to create a name, and choose an inventory location on your host, then click **Next**.
6. Choose the datastore on which you would like the VM to reside - be sure there is sufficient free space to accommodate the new VM, then click **Next**.
7. Choose a virtual network for the VM, then click **Next**.
8. Verify the deployment settings, then click **Finish**.

Notes

- ◊ VM CPU affinity is not supported. You do not need to set CPU affinity for the VMs that are running Unified CVP applications on the VMware ESXi on UCS platform.
- ◊ You cannot change the computing resource configuration of your VM at any time.
- ◊ Ensure you enable only one NIC.
- ◊ You can never go below the minimum VM computing resource requirements as defined in the OVA templates.
- ◊ It is required that hyperthreading be enabled by default when running CVP on ESXi. ESXi Server hyperthread is enabled by default and this setting should not be modified. Please ensure all VM's with CVP servers has hyperthreading enabled.

Remote Control of the Virtual Machines

For administrative tasks, you can use either Windows Remote Desktop or the VMware Infrastructure Client for remote control.

Installing VMware Tools

The VMware Tools must be installed on each of the VMs and all of the VMware Tools default settings should be used. Please refer to the VMware documentation for instructions on installing or upgrading VMware Tools on the VM with Windows operating system.