

Moving to Oracle Cloud VMware Solution using VMware HCX

Pre-flight checklist before migrating your on-premises workloads

v4.0 January 2022

Introduction

VMware HCX is a great way to migrate your on-premises workloads from your existing VMware vSphere environment to Oracle Cloud VMware Solution. HCX can move many types of virtual machines together with their network connectivity, without having to make changes to their configuration (unless you need to do so). There are a few important considerations before getting started which are outlined in this document, but for more detailed information, please check out the full HCX documentation at the link below.

Compute & Storage

In order to connect to the HCX services in the Cloud, you will need to deploy some HCX components inside your vSphere environment where your VMs currently run. You'll need:



Enough storage capacity and performance to host the HCX Manager, Interconnect, Network Extension and WAN Acceleration appliances. That last one needs to cache VM data, so can be pretty big and drive high storage performance requirements of 2500 IOPS or greater. It can also slow down transfers if its performance is limited.



Enough spare compute capacity to run the appliances. As you migrate your VMs you can free up capacity, but you will need enough to get the process started.

Your environment needs to be running a version of vSphere which is under "General Support". HCX can also be used to migrate **from** versions of vSphere under "Technical Guidance". Earlier versions of vSphere are not supported. See lifecycle.vmware.com

Virtual Machines

HCX can migrate your VMs exactly "as-is", but it can also make changes to the VMDK storage type, the IP address, or update the VM hardware or its version of VMware Tools during a move to your Cloud.



You can bulk migrate VMs with Hardware version 7 or later and use HCX vMotion on VMs with Hardware version 9 or later. If you're running vSphere 7.0, check the HCX release notes for Hardware versions 18 and 19. You can bulk migrate VMs up to 62TB and use HCX vMotion on VMs up to 30TB in size.



Some of the modifications are carried out during a migration, but some, like VM hardware updates, are flagged during the migration, but then require a subsequent reboot to take effect.

If you already use a replication-based tool for backup or resilience, you might need to pause or remove this while you're using HCX to migrate your workloads.

Networking

HCX uses your existing networks to collect your VMs in order to migrate them to your Cloud. It can also extend your existing vSphere networks into your Cloud SDDC if you want to maintain your on-prem networks.



You don't need to be running VMware NSX@Data Center in your current environment, but if you do, that's great.

You can migrate VMs connected to vSphere Standard Switches, but if you want HCX to extend a network to your Cloud, you'll need to be running vSphere Distributed Switches (or NSX-T Networking).



The Network Extension appliances can currently extend 8 networks. If you need to extend more, multiple appliances may be needed. Similarly, if you need more throughput than a single appliance can provide, you might need multiple appliances.

Connectivity

HCX uses network bandwidth to migrate VMs and to extend networks. You can control the bandwidth used during migration, but the bandwidth required for network extension will depend upon the traffic to and from your Cloud.



The HCX appliances in your Cloud SDDC do not support NAT and need to be routable from your on-premises appliances. You'll need FastConnect or a VPN for this. Your connection must meet the [HCX Network Underlay Minimum Requirements](#) to be fully supported.



HCX sites are connected in pairs. HCX Manager supports multiple remote sites, but any site, on-prem or Cloud, which needs to connect to multiple other sites will need at least one set of interconnect, WAN acceleration and Network Extension appliances per remote site.

VMware HCX is updated regularly. Please check the release notes, which you'll find through the link below, for the latest information.