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Important Tasks Before You Install

Before you can start working in the HP Cloud OS for Moonshot Operational Dashboard, you must:

- Plan the Infrastructure for a Cloud
- Review the Checklist of Values You'll Need in Advance

Plan the Infrastructure for a Cloud

This section defines the minimum infrastructure requirements to make the cloud environment up and running. You will need support from your IT administrator to correctly capture information about your environment.

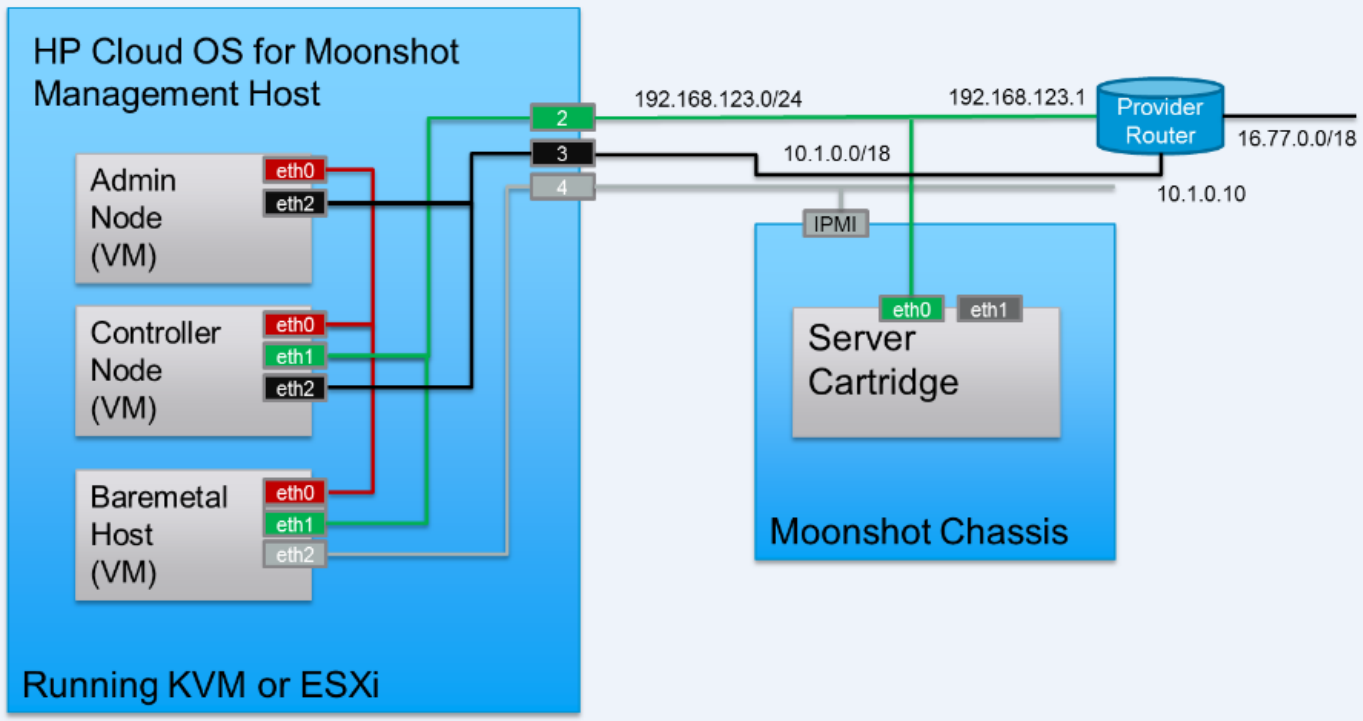
- Deployment Architecture
- Server Infrastructure
- Network Infrastructure

Deployment Architecture

A simple cloud environment would include:

- A Cloud Administration Node (Admin Node)
- A Controller Node
- A Baremetal Host

The following diagram depicts a simplified deployment scenario.



Line	Network Type	Details	DHCP Provider
	Admin	Host Only	HP Cloud OS for Moonshot
	Nova_Flat	Private network	HP Cloud OS for Moonshot
	IPMI	Accessing HP Moonshot Chassis Manager	Customer
	Public	Accessing Admin Dashboard	Customer

* **Note**: You can add multiple Baremetal Hosts with the same type of network connectivity shown in the diagram.

See the sections below for more information.

Server Infrastructure

The following sections identify the server requirements for your cloud environment, in terms of memory, processors, and disk space for each component. This information is repeated from the Support Matrix as a convenience to the reader.

- General recommendation
- Hypervisor recommendations for HP Cloud OS for Moonshot
- Node requirements for HP Cloud OS for Moonshot
- Moonshot chassis firmware version
- Moonshot cartridges supported
- Operating systems supported
- Workloads supported
- Supported deployment scenario
- Software requirements

General recommendation {#general}

We recommend that your server contains the following:

- Quad Core Processor
- Hard disk drive with a minimum of 500 GB of space

Hypervisor recommendations {#hypervisor}

Hypervisor	Version
KVM	qemu-kvm1.0 and above

VMWare	ESXi 5.1 and above

Node requirements {#nodereq}

Node Type	Virtual?	CPU Cores	Memory	Internal Storage	NICs	OS (incl. as part of ISO)	Virtualized Platforms Supported
Admin Node	Yes	4	12 GB	40 GB	2	Ubuntu Server 12.04 LTS (64-bit)	VMWare ESXi 5.1 and above KVM qemu-kvm-1.0 and above
Controller Node	Yes	4	32 GB	60 GB	3	Ubuntu Server 12.04 LTS (64-bit)	VMWare ESXi 5.1 and above KVM qemu-kvm-1.0 and above
Baremetal Host	Yes	4	32 GB	60 GB	3	Ubuntu Server 12.04 LTS (64-bit)	VMWare ESXi 5.1 and above KVM qemu-kvm-1.0 and above

Moonshot chassis firmware version {#firmware}

Software / Firmware	Version
m300 BIOS	H02 2013.11.13
ProLiant Moonshot Cartridge BIOS	H01 2013.11.15
iLO CM	1.11
Satellite FW	2013.10.18
Carbondale 8	4.3
Switch FastPath FW	2.0.0.13
CMU	7.2
Moonshot Windows Deployment Packs	2013.12.1

Moonshot cartridges supported {#cartridges}

Cartridge Type	CPU Cores	Memory	Internal Storage
HP ProLiant Moonshot Server Cartridge	2	8 GB	500 GB or 1 TB
HP ProLiant m300 Server Cartridge	8	32 GB (4x8 GB)	240 GB, 500 GB or 1 TB

Note: You must have an IPMI driver version 2.0 or above, and an external Internet connection, if you are using a public or hybrid cloud.

Operating systems supported {#ossupp}

Cartridge Type	OS / Version Supported
HP ProLiant Moonshot Server Cartridge	Ubuntu 12.04 LTS **OR** Redhat Enterprise Linux 6.4
HP ProLiant m300 Server Cartridge	Ubuntu 13.10 **OR** Redhat Enterprise Linux 6.5

Workloads supported {#workloads}

Cartridge Type	Top Workloads
HP ProLiant Moonshot Server Cartridge	Static web
HP ProLiant m300 Server Cartridge	Static web
	Caching/dynamic web
	NoSQL
	Analytics

Network Infrastructure

The following networks are utilized in the HP Cloud OS for Moonshot infrastructure:

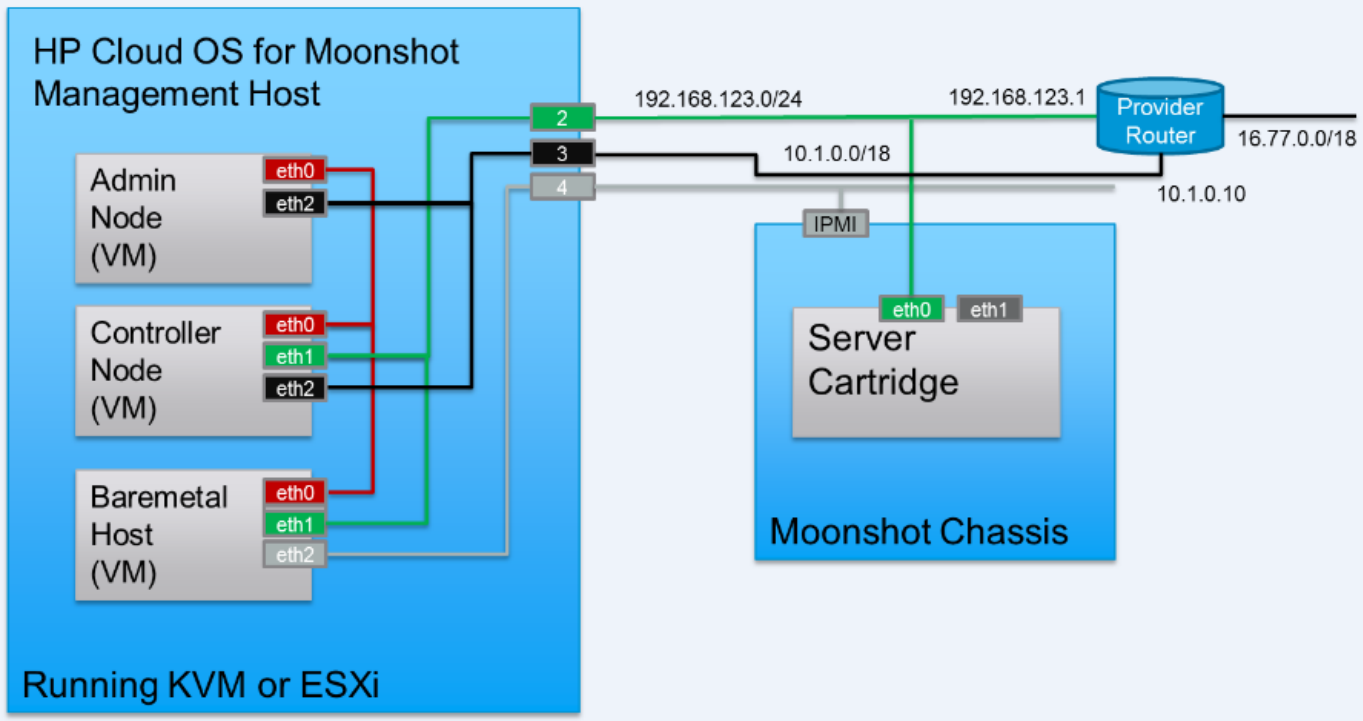
- **Admin Network**: Provides connectivity between the Admin node, the Controller node and the Baremetal host. The Admin node provides DHCP and PXE services on this network.
- **Nova_Flat network**: Utilized for connectivity between the Controller and Baremetal hosts and the Moonshot cartridges. The Controller node provides DHCP and PXE services for this network. Workloads are provisioned to the Moonshot cartridges using this network.
- **IPMI Network**: Utilized for communication between the Baremetal host and the Moonshot Chassis Manager. This includes chassis and cartridge discovery, power control of cartridges and nodes, and monitoring of the health of the Moonshot systems.
- **Public Network**: Provides public access to the HP Cloud OS for Moonshot Administration Dashboard and external access to the internet for the Admin node and Controller node.

Notes:

- The Admin node and the Controller node utilize internet access to obtain updates and workload content from HP. If Internet access is not feasible from your datacenter, then it is possible for updates and workloads to be downloaded locally and then uploaded to your cloud environment.
- The Controller node will require a static IP address on the Public network. Please consult with your network administrator to obtain the required static IP address.

Network Configuration

Again referring to this simplified deployment scenario:



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* **Note**: You can add multiple Baremetal Hosts with the same type of network connectivity shown in the diagram.

As shown in the diagram, HP Cloud OS for Moonshot will have the following network configuration:

- **Admin Node**: 2 NICs - Admin Network and Public Network
- **Controller Node**: 3 NICs - Admin Network, Nova_Flat Network, and Public Network
- **Baremetal Host**: 3 NICs - Admin Network , Nova_Flat Network, and IPMI Network

The NICs per node/host NIC are as follows:

	eth0	eth1	eth2
Admin Node	Admin Network	Public Network	
Controller Node	Admin Network	Nova_Flat Network	Public Network
Baremetal Host	Admin Network	Nova_Flat Network	IPMI Network

Review the Checklist of Values You'll Need in Advance {#review-checklist}

In addition to the information presented already in this topic, please review the following checklist before starting the installation. You'll need to specify the following types of information during the installation and configuration process.

Operation Dashboard Checklist

- In **Environment** > **Prerequisites**, the dialogs will prompt for your external DNS IP details.
- In **Edit Prerequisites** > **Admin Node Internet Access** > **Network**, you will need to specify your:
  - NIC details for the public interface

    - Http Proxy information:
    - Host
    - Port-8080
    - Non-Proxy Hosts: 10.|*192.*|127.0.*|localhost
- In **Environment** > **Networks**, for your **Public** network:
    - On the **Edit Network** dialog, you will need to specify your Subnet, Netmask, and Router IP values.
    - On the **Edit Network Ranges** dialog, you will need to specify your Node Type, IPV4 Start Address, and IPV4 End Address values.
- In **Environment** > **Networks**, for your **IPMI** network:
    - On the **Edit Network** dialog, you will need to specify your Subnet, Netmask, and Router IP values.
    - On the **Edit Network Ranges** dialog, you will need to specify your Node Type, IPV4 Start Address, and IPV4 End Address values.
- In **Environment** > **Networks**, for your **Nova_Flat** network:
    - On the **Edit Network** dialog, you will need to specify your Subnet, Netmask, and Router (mandatory) IP values.
    - On the **Edit Network Ranges** dialog, you will need to specify your Node Type, IPV4 Start Address, and IPV4 End Address values.
- **Note**: You will be able to skip the Edit options for the Admin Node.
- In **Cloud** > **Manage Clouds** > **Create Cloud**, you will only need to enter a **Name** for your cloud. You can use default values for other options; however, plan ahead to specify new, non-default passwords for the Admin user, Arch user, and Trash user.
- In **Cloud** > **Manage Clouds** > **Create Compute Region** dialog, you will need to enter a **Name** for your region. Recommended: create multiple regions. On each Create Compute Region dialog, on the Controller & Compute Nodes tab, you will need to enter the number of nodes that participate in the region.

Administration Dashboard Checklist

- In **Project** > **Access and Security** > **Create Keypair**, you will just need to enter the Keypair name.
- **Note**: You will not need to define flavors to complete the post-install steps. As explained later in Launch Administration Dashboard for Post-Deployment Tasks, a flavor will be generated automatically for you based on your Moonshot server cartridge type: hp*moonshot*server (for an HP ProLiant Moonshot Server Cartridge) and hp*moonshot*m300 (for an HP ProLiant m300 Server Cartridge).
- In **Project** > **Infrastructure** > **Images**, you will need to create images, and the associated Kernel and RAM disk images. You will not need to specify the Description, Minimum Disk, and Minimum RAM values.
- In **Project** > **Moonshot Management**, you will need to specify the chassis display name, Chassis Manager IP, Chassis Manager password, and Managing Host Name.
- In **Project** > **Infrastructure** > **Images** > **Launch** > Launch Instance dialog, you will need to specify the image, instance name, networking, and (pre-defined) flavor.

Next Step

Proceed to the next topic, Install and Set Up the Admin Node.

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