



Free 16-core version

Preparation Guide

How to prepare your environment before you install

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1. Introduction & important notes

OnApp Cloud requires some specific networking and hardware configurations to ensure your cloud runs smoothly and reliably. This guide describes how to prepare your environment before you get a license key from the OnApp dashboard, and begin your install.

When you get your license key you'll also get access to the Installation Guide for your software, which includes the information in this document, plus the scripts and configuration steps needed to complete the installation itself.

*① Please note that you can't order your free license through the dashboard until you know what **external IP** your OnApp Controller server will use. You must provide an external IP address to get a license and proceed with the install.*

1.1 Install process overview

The installation process is relatively straightforward, though you will need a fair amount of Linux and networking knowledge.

1. Complete the [OnApp Cloud free version sign-up form](#)
2. Activate your [OnApp Dashboard](#) account (you'll receive an email with instructions after completing the sign-up form)
3. Prepare your servers and network (see this guide)
4. Choose an external IP for your license
5. Log into the [dashboard](#) and select the free 16 core license, using that IP
6. Grab the installation guide from the dashboard, and follow the instructions

1.2 Getting help

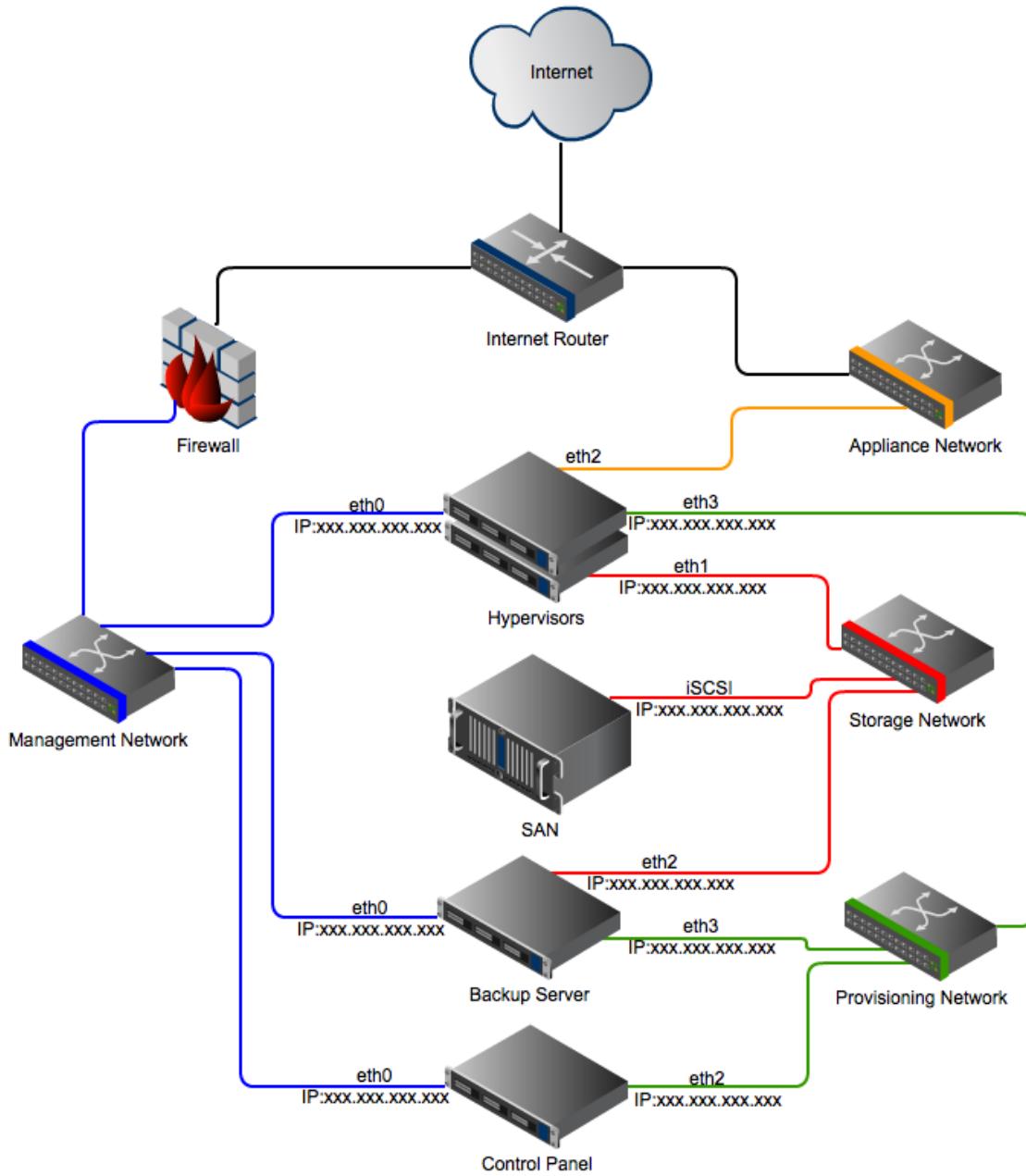
The free version of OnApp Cloud is self-install only, with support provided by the OnApp Community. To get help with your cloud deployment you can:

- Visit the OnApp Community Forum at <http://forum.onapp.com>: once you've set up your free license you can use your OnApp dashboard account details to log in.
- Use the Admin Guide and other pdfs at <http://onapp.com/docs>
- Use the OnApp knowledge base and online manuals at <https://help.onapp.com> (there's an online version of the Admin Guide there, among other resources)

You also have the option of purchasing one month's support to help with your cloud deployment, or upgrading to the full version of OnApp Cloud, which includes free 24x7 telephone and email support.

2. Network configuration

OnApp Cloud requires a specific network configuration to ensure maximum stability. There are four core networks: storage, management, provisioning and appliance. The recommended config is shown below:



It is very important to separate the four core networks. In the configuration illustrated this is done physically, using different switches. However, it is also possible to isolate the networks using VLANs if your network supports it.

2.1 Storage network

This network provides the connection between the SAN and the hypervisors. It handles the iSCSI, Fibre Channel or ATAoE traffic. It must be a local network.

- We recommend this network runs at least 1Gbit; however, you may want to consider 10Gbit to achieve maximum performance.
- To achieve better performance and redundancy over 1Gbit you should consider NIC teaming/bonding and LACP or MPIO over multiple subnets.
- It is important that the switch connecting the hypervisors to the SAN supports jumbo frames: the storage network on the hypervisors and the SAN(s) must have MTU set to 9000.

2.2 Management network

This network connects the various elements of the cloud together. OnApp Cloud uses this network for internal communication between the Control Panel server and the hypervisors, so its stability is crucial to the cloud.

- This network should be Internet-facing to enable remote access to the server for installation and ongoing maintenance. We recommend firewalls it down to your sysadmin team once the installation is complete, allowing only access to the OnApp web interface on port 80/http or 443/https.
- It is also possible to use a local network here if you have the necessary NAT rules in place on your network to get in and out.
- We recommend this network runs at least 1Gbit.
- The IP addresses that are assigned to each node should not overlap with the IP addresses range for public networking: see the Appliance Network section for more information.

ⓘ If your management network is behind a firewall, please make sure that ports 22/80/5555/30000-40000 are open to the world for the Control Panel server, and port 22 for all other servers.

2.3 Provisioning network

This network connects the backup SAN to the Control Panel and the hypervisors. It is used for the OnApp backup service that backs up VMs.

- This network is recommended for optimum performance within the cloud, but is optional: backups can also be performed over the management network if required.
- We recommend this network runs at least 1Gbit.

2.4 Appliance network

The appliance network interface is used for VM networking only. It is assigned a pool of external IP addresses, which OnApp Cloud then assigns to VMs as they are provisioned.

It is important to understand that this interface will not provide the actual hypervisor OS installation with an Internet connection, since the public interface is managed fully by OnApp Cloud and so by default requires a blank config - for example:

```
/etc/sysconfig/network-scripts/ifcfg-ethX  
ONBOOT=no  
BOOTPROTO=none
```

OnApp Cloud will bridge this port and assign virtual interfaces to it as VMs are provisioned and/or additional network interfaces are added to VMs from the Web UI, or via the OnApp API.

You will also need an Internet-facing IP address range for use on the public interfaces. Addresses in this range will be allocated to Virtual Machines you create within OnApp.

***I**Note that all hypervisors will have this public interface, so the IP address range must be portable between hypervisors.*

If you lease hosted servers, it is worth double-checking with your host that there are no limitations on the transfer of IP addresses between servers. Some hosting companies do have limitations and IP address transfer may require manual interventions.

3. Server configuration

This section lists the server configurations needed for an OnApp Cloud installations – the Controller server, hypervisors, backup and SAN servers.

① PLEASE NOTE:

- *Servers require a base installation of CentOS 5.X x64 with the standard repositories enabled.*
- *If you have additional repositories enabled, please disable them before installing OnApp Cloud.*
- *Full root access: please do not create the user ‘onapp’ since this is created as part of the RPM installation.*

3.1 1 x Control Panel server (OnApp Controller)

- 8GB RAM (16GB+ recommended)
- Dual or Quad Core 2Ghz+
- 100GB Raid 1
- 2x Gig NIC
 - NIC1 - management network
 - NIC2 – provisioning network
- CentOS 5.X x64

3.2 2+ hypervisor servers

- 8GB+ RAM
- Quad Core 2Ghz+
- 30GB HD (SSD recommended)
- 3/4 NICs (depending on provisioning network):
 - NIC1 - management network
 - NIC2 - storage network
 - NIC3 - appliance network
 - NIC4 - provisioning network
- CentOS 5.X x64

3.3 1 x backup server

- 1 x locally connected SAN
- 2 NICs:
 - NIC1 - management network
 - NIC2 - provisioning network
- An empty storage array available over NFS
- CentOS 5.X x64

(I) While a separate backup server is recommended, the OnApp Controller server can be used for backups if required.

3.4 1+ SAN

- 2 NICs (recommended configuration):
 - NIC1 - management network
 - NIC2 - storage network
- An empty storage array

Appendix: document revisions

v1.4, 5th September 2012

- Updated [recommended network configuration](#) for v2.3.3a of OnApp Cloud.

v1.3, 26th July 2012

- Removed outdated reference to new backup scheme in the [Provisioning Network](#) section (the future functionality it referred to is now available the free and full versions of OnApp Cloud)

v1.2, 16th April 2012

- Updated to reflect changes in latest OnApp Cloud release (v2.3.2):
 - Network naming
 - Recommended network config

v1.1, 2st March 2012

- Added short section that details the [sign-up and install process](#).

v1.0, 21st March 2012

- First release